

Environment, Transportation & Public Safety Standing Committee Meeting

Date: Wednesday, March 30, 2022

Time: 4:30 o'clock p.m.

Location: Council Chambers, 1st Floor, Windsor City Hall

All members will have the option of participating in person in Council Chambers or electronically and will be counted towards quorum in accordance with Procedure By-law 98-2011 as amended, which allows for electronic meetings during a declared emergency. The minutes will reflect this accordingly. Any delegations will be participating electronically.

MEMBERS:

Ward 1 – Councillor Fred Francis

Ward 2 – Councillor Fabio Costante

Ward 4 – Councillor Chris Holt (Chairperson)

Ward 8 – Councillor Gary Kaschak

Ward 9 – Councillor Kieran McKenzie

ORDER OF BUSINESS

Item #	Item Description
--------	------------------

1.	CALL TO ORDER
----	----------------------

READING OF LAND ACKNOWLEDGEMENT

We [I] would like to begin by acknowledging that the land on which we gather is the traditional territory of the Three Fires Confederacy of First Nations, which includes the Ojibwa, the Odawa, and the Potawatomie. The City of Windsor honours all First Nations, Inuit and Métis peoples and their valuable past and present contributions to this land.

2.	DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF
----	--

3.	ADOPTION OF THE MINUTES OF THE ETPS STANDING COMMITTEE
----	---

3.1.	Adoption of the Environment, Transportation & Public Safety Standing Committee minutes (excluding Transit Matters) of its meeting held February 23, 2022 (SCM 55/2022)
------	---

Adoption of the Environment, Transportation & Public Safety Standing Committee minutes (Transit Matters only) of its meeting held February 23, 2022 (**SCM 55/2022**)

4.	REQUEST FOR DEFERRALS, REFERRALS OR WITHDRAWALS
----	--

5.	COMMUNICATIONS
----	-----------------------

6.	PRESENTATIONS AND DELEGATIONS
----	--------------------------------------

7.	COMMITTEE MATTERS
----	--------------------------

7.1.	Essex Windsor Solid Waste Authority Regular Board Meeting Minutes of Meeting Held January 12, 2022 (SCM 75/2022)
------	---

8.	ADMINISTRATIVE ITEMS
----	-----------------------------

8.1.	Home Flood Protection Program - City-Wide (S 29/2022)
------	--

8.2. Zero Emission Transit Fund Application for an Electrification Road Map Planning Study - City Wide (**S 30/2022**)

9. **TRANSIT BOARD ITEMS**

10. **ADOPTION OF TRANSIT BOARD MINUTES**

11. **QUESTION PERIOD**

12. **ADJOURNMENT**



Committee Matters: SCM 55/2022

Subject: Adoption of the Environment, Transportation & Public Safety Standing Committee minutes of its meeting held February 23, 2022

Environment, Transportation & Public Safety Standing Committee Meeting

Date: Wednesday, February 23, 2022

Time: 4:30 o'clock p.m.

Members Present:

Councillors

Ward 1 - Councillor Francis

Ward 2 - Councillor Costante

Ward 4 - Councillor Holt (Chairperson)

Ward 8 - Councillor Kaschak

Ward 9 - Councillor McKenzie

Clerk's Note: Members participated via video conference, in accordance with Procedure By-law 98-2011 as amended, which allows for electronic participation during a declared emergency.

ALSO PARTICIPATING VIA VIDEO CONFERENCE ARE THE FOLLOWING FROM ADMINISTRATION:

Chris Nepszy, Commissioner of Infrastructure Services

John Revell, Chief Building Official

Shawna Boakes, Executive Director of Operations / Deputy City Engineer

Tyson Cragg, Executive Director of Transit Windsor

Colleen Middaugh, Manager of Corporate Projects

Jeff Hagan, Transportation Planning Senior Engineer

Sandra Gebauer, Council Assistant

Anna Ciacelli, Deputy City Clerk / Supervisor of Council Services

Minutes

Environment, Transportation & Public Safety Standing Committee

Wednesday, February 23, 2022

Page 2 of 8

1. CALL TO ORDER

The Chairperson calls the meeting of the Environment, Transportation & Public Safety Standing Committee to order at 4:39 o'clock p.m.

2. DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

None disclosed.

3. ADOPTION OF THE MINUTES OF THE ETPS STANDING COMMITTEE

3.1. Adoption of the Environment, Transportation & Public Safety Standing Committee minutes of its meeting held January 26, 2022

Moved by: Councillor Francis

Seconded by: Councillor McKenzie

THAT the minutes of the Environment, Transportation & Public Safety Standing Committee meeting held January 26, 2022 **BE ADOPTED** as presented.

Carried.

Report Number: SCM 33/2022

4. REQUEST FOR DEFERRALS, REFERRALS OR WITHDRAWALS

None requested.

5. COMMUNICATIONS

None presented.

6. PRESENTATIONS AND DELEGATIONS

See Item 8.1.

Minutes

Environment, Transportation & Public Safety Standing Committee

Wednesday, February 23, 2022

Page 7 of 8

7. COMMITTEE MATTERS

7.1. Essex-Windsor Solid Waste Authority - Regular Board Meeting Minutes, November 2, 2021

Moved by: Councillor McKenzie

Seconded by: Councillor Francis

Decision Number: **ETPS 880**

THAT the minutes of the Essex-Windsor Solid Waste Authority of its Regular Board Meeting held November 2, 2021 **BE RECEIVED**.

Carried.

Report Number: SCM 17/2022

Clerk's File: MB2021

7.2. Minutes of the Windsor Bicycling Committee of its meeting held December 2, 2021

Moved by: Councillor Kaschak

Seconded by: Councillor Costante

Decision Number: **ETPS 881**

THAT the minutes of the Windsor Bicycling Committee of its meeting held December 2, 2021 **BE RECEIVED**.

Carried.

Report Number: SCM 38/2022

Clerk's File: MB2021

8. ADMINISTRATIVE ITEMS

8.1. Kildare Road (Ottawa to Tecumseh) Traffic Calming & Bikeway - Ward 4

Councillor Francis inquires about the consultation process and the lack of attendance, and the public not knowing about the process and whether this information can be disseminated to the public prior to this item going to Council. Jeff Hagan, Transportation Planning Senior Engineer, appears via video conference before the Environment, Transportation & Public Safety Standing Committee regarding the administrative report entitled "Kildare Road (Ottawa to Tecumseh) Traffic Calming & Bikeway - Ward 4" and indicates that notifications were delivered to all of the residents in the study area and a well signed petition in the area, with the threshold being met. Mr. Hagan provides a detail of the process. Councillor Holt indicates that this issue has been an ongoing project and has been very well received.

Minutes

Environment, Transportation & Public Safety Standing Committee

Wednesday, February 23, 2022

Page 8 of 8

Councillor Kaschak inquires whether Kildare is a truck route or bus route. Mr. Hagan indicates that it is not a truck route, but it does hold a fair bit of truck traffic.

Councillor Kaschak inquires whether the speed limit fluctuation may confuse the public. Mr. Hagan explains the speed and traffic volume details of the area and that it is a City initiated bike way project.

Councillor McKenzie indicates that the Bicycling Committee also has reviewed and supported this project and inquires about section 1, between Seneca and Ottawa, and whether there is on-street parking in that section. Councillor Holt indicates that there is no on-street parking in that section.

Councillor McKenzie inquires about the specific area between Shepherd to Ottawa, and whether separated bike lanes being continuous in that area. Mr. Hagan indicates that the width of the roadway was considered; in the northern section, it is more narrow and would not have been much road left if separated bike lanes were considered.

Cheryl Roy, Area Resident

Cheryl Roy, area resident, appears via video conference before the Environment, Transportation & Public Safety Standing Committee regarding the administrative report entitled "Kildare Road (Ottawa to Tecumseh) Traffic Calming & Bikeway - Ward 4" and expresses concern with the plan and inquires about the year that the plan was developed as well as whether the plan has been updated as the hospital is moving and does not think that the traffic measures are required right now.

Mary Lou and Bob Taylor, Area Residents

Mary Lou and Bob Taylor, area residents, appear via video conference before the Environment, Transportation & Public Safety Standing Committee regarding the administrative report entitled "Kildare Road (Ottawa to Tecumseh) Traffic Calming & Bikeway - Ward 4" and indicate that they support the plan for the traffic calming which began in 2015 with a petition and are pleased with the plans for traffic calming and bike lanes and this is a step forward for the neighbourhood.

Moved by: Councillor Kaschak

Seconded by: Councillor McKenzie

Decision Number: **ETPS 882**

1. THAT implementation of the proposed traffic calming plan for Kildare Road between Ottawa Street and Tecumseh Road East **BE APPROVED**; and,
2. THAT Administration **BE DIRECTED** to bring forward, at the appropriate time, a report to the Chief Administrative Officer for approval, pursuant to Delegation of Authority By-law 208-2002, of the amendments to Traffic By-law 9148 that will be necessary to implement the traffic calming plan; and further,

Minutes

Environment, Transportation & Public Safety Standing Committee

Wednesday, February 23, 2022

Page 9 of 8

3. THAT the annual operating cost requirements **BE REFERRED** to the 2023 budget.
Carried.

Report Number: S 9/2022
Clerk's File: ST2022

9. TRANSIT BOARD ITEMS

9.1. West End Transit Terminal - Completion Report (Ward 2)

Councillor McKenzie inquires about the e-mail received by several members of Council related to the bus shelter concerns at the West End Terminal site. Tyson Cragg, Executive Director of Transit Windsor, appears via video conference before the Environment, Transportation and Public Safety Standing Committee regarding the administrative report "West End Transit Terminal – Completion Report (Ward 2)" and indicates that he was not aware of the concern and will review the request and determine whether some solution can be reached.

Moved by: Councillor Kaschak

Seconded by: Councillor Costante

Decision Number: **ETPS 883**

- I. THAT the report on the completion of the West End Transit Terminal project **BE RECEIVED** for information; and,
- II. THAT City Council **APPROVE** the creation of a new Reserve Account titled Transit Terminal Maintenance; and,
- III. THAT City Council **APPROVE** a transfer of \$40,000 from the TW (Transit Windsor) – West End Terminal project, 7171037, to a new project, for construction/renovation of a washroom for Transit Windsor employees at the Transit Windsor West End Terminal located at the Hotel-Dieu Grace Healthcare (Tayfour Campus) and at the completion of the works, any surplus funds be transferred to a new Transit Terminal Maintenance Reserve Account; and,
- IV. THAT City Council **APPROVE** the transfer of the remaining project surplus as outlined in the financial matters section, from the TW (Transit Windsor) – West End Terminal project, 7171037, to a new overall reserve account called Transit Terminal Maintenance Reserve Account, and that financial activity be reported to City Council annually as part of the year-end variance report; and,
- V. THAT Administration **BE AUTHORIZED** to amend the existing lease/sub-lease agreement with Hotel-Dieu Grace Healthcare (Tayfour Campus), to include the new interior washroom for Transit Windsor employees, and to engage in any resulting contract negotiations; and further,

Minutes

Environment, Transportation & Public Safety Standing Committee

Wednesday, February 23, 2022

Page 10 of

VI. THAT the CAO and City Clerk **BE AUTHORIZED** to sign the resulting amended lease/sublease agreement subject to approval as to form and legal content by the Commissioner of Legal & Legislative Services, technical content by the Commissioner of Infrastructure Services, and to financial content by the Chief Financial Officer/City Treasurer.

Carried.

Report Number: S 8/2022

Clerk's File: MT/13708

9.2. Transit Windsor Master Plan 2021 Update - Year 1 - City Wide

Councillor McKenzie inquires about the achievements listed and requests some clarification on whether there is any further update, specifically related to the social media timeline and implementation. Mr. Cragg indicates that they anticipate the launch of the social media portion of the plan to be in 2022. Mr. Cragg adds that the project is in the final approvals stage with administration and completing the back end set up. Mr. Cragg indicates that it is a priority for them and anticipates it will be introduced in May or June of 2022, if not sooner.

Councillor McKenzie inquires about the feasibility garage study and whether there is a status update coming soon. Mr. Cragg indicates that this project is part of an overarching implementation plan, which will occur in phases depending on priorities related to costs. Council should see the plan later in the year.

Councillor McKenzie inquires about the success of the 518X implementation and ridership numbers. Mr. Cragg indicates that ridership has dipped during the latest round of pandemic restrictions. Mr. Cragg adds that since January 31 ridership was back up to 1500-1800 riders a week.

Councillor McKenzie inquires about the 1C route realignment and the abandoned red segment and whether there was any feedback from the community. Mr. Cragg indicates that they have not received any negative feedback as it was an overlap with the Ottawa 4, and the feedback has been positive so far.

Councillor McKenzie inquires about the timetable to use the ICIP funding to leverage Federal money prior to 2027. Mr. Cragg indicates that there certainly is a risk although they understand the importance to fully leverage all the funding.

Councillor Kaschak indicates that related to the IC changes the feedback to him has been very positive and the residents are happy with the changes.

Councillor Holt inquires about capacity restrictions and timelines as to when regular service can resume. Mr. Cragg indicates there has been some positive signals related to capacity restrictions with the local Health Unit guidance and he anticipates that Transit is very close to returning to full capacity.

Minutes

Environment, Transportation & Public Safety Standing Committee Wednesday, February 23, 2022

Page 11 of

Moved by: Councillor McKenzie

Seconded by: Councillor Francis

Decision Number: **ETPS 884**

THAT the Environment, Transportation and Public Safety Standing Committee, sitting as the Transit Windsor Board of Directors and City Council **RECEIVE FOR INFORMATION** Transit Windsor's annual Transit Master Plan update for 2021.

Carried.

Report Number: S 10/2022

Clerk's File: MT/13708

9.3. Transit Windsor 2021 Service Performance Update - City Wide

Councillor McKenzie inquires as to what would be involved in returning to full services. Mr. Cragg indicates that there are concerns related to operators/maintenance staff, and that Transit is currently at 80% of regular service. Mr. Cragg adds that recruitment and staffing has been an issue and it is an issue that other municipalities are having in the region also.

Councillor Kaschak indicates that he appreciates the information related to statistics and inquires how the Safe Start funding will be used. Mr. Cragg indicates that the Safe Start funding that the City has received related to transit will be used to cover losses to the end of 2021.

Councillor McKenzie inquires about the fleet replacement process and whether supply chain challenges may impact this process. Mr. Cragg indicates that they are still on schedule for the 2022 arrival of the busses, and he has not had any updates recently. Mr. Cragg adds that he would not be surprised if there were delays as many transit agencies have been taking advantage of the available funding.

Councillor Francis inquires as to the ridership figures and what the plan is moving forward to get back to pre-Covid levels. Mr. Cragg indicates that the expectation pre-omicron was to be back at those levels by mid-2022; now this has been pushed back. When the University/College/High school in-person learning resumes at regular levels, the ridership will be back and should be back to 75-80% by the end of the year.

Moved by: Councillor McKenzie

Seconded by: Councillor Francis

Decision Number: **ETPS 885**

THAT the Environment, Transportation and Public Safety Standing Committee, sitting as the Transit Windsor Board of Directors and City Council **RECEIVE FOR INFORMATION** the 2021 service performance update report for Transit Windsor.

Carried.

Report Number: S 12/2022

Clerk's File: MT/13708

Minutes

Environment, Transportation & Public Safety Standing Committee

Wednesday, February 23, 2022

Page 12 of

10. ADOPTION OF TRANSIT BOARD MINUTES

None presented.

11. QUESTION PERIOD

Councillor McKenzie inquires about the status of the pilot program for the University Ave. separated bike lane program. Mr. Hagan indicates that they do not have an exact date, but it will not begin before the start of the cycling season due to unanticipated delays.

12. ADJOURNMENT

There being no further business, the Environment, Transportation & Public Safety Standing Committee is adjourned at 5:28 o'clock p.m. The next meeting of the Environment, Transportation & Public Safety Standing Committee will be held March 30, 2022.

Ward 4 – Councillor Holt
(Chairperson)

Deputy City Clerk /
Supervisor of Council Services



Committee Matters: SCM 75/2022

Subject: Essex Windsor Solid Waste Authority Regular Board Meeting Minutes of Meeting Held January 12, 2022



Essex-Windsor Solid Waste Authority Regular Board Meeting MINUTES

Meeting Date: Wednesday, January 12, 2022

Time: Regular Session – 4:00 PM

Location: Zoom Meeting

Attendance

Board Members:

Gary Kaschak – Chair	City of Windsor
Fabio Costante	City of Windsor
Kieran McKenzie	City of Windsor
Jim Morrison	City of Windsor
Ed Sleiman	City of Windsor
Aldo DiCarlo – Vice Chair	County of Essex (arrived at 5:10 pm)
Hilda MacDonald	County of Essex
Gary McNamara	County of Essex (Ex-Officio)

EWSWA Staff:

Michelle Bishop	General Manager
Steffan Brisebois	Manager of Finance & Administration
Cathy Copot-Nepszy	Manager of Waste Diversion
Tom Marentette	Manager of Waste Disposal
Teresa Policella	Executive Assistant

City of Windsor Staff:

Anne Marie Albidone	Manager of Environmental Services
Tony Ardovini	Deputy Treasurer Financial Planning
Tracy Beadow	Project Administrator
Natasha Gabbana	Manager of Performance Measurement & Financial Administration
Chris Nepszy	City Engineer/Commissioner of Infrastructure Services
Phong Nguy	Acting Executive Director of Operations

County of Essex Staff:

Mary Birch	Director of Council & Community Services/Clerk
Mike Galloway	County of Essex CAO
Sandra Zwiers	Director of Financial Services/Treasurer

Absent:

Marc Bondy	County of Essex
Drew Dilkens	City of Windsor (Ex-Officio)

Attendance**Others:**

Doug Sweet	CAO, Town of Essex
Mike Muffels	GHD Limited

1. Call to Order

The General Manager called the meeting to order at 4:03 pm as the Board's Chair and Vice Chair have yet to be elected for 2022.

2. Board Composition for 2022

A. Returning to Board for 2022 – Windsor Councillor Fabio Costante

The General Manager thanked Board member Leo Meloche for his service in 2021. She also welcomed back Board member Fabio Costante to the Board for 2022.

3. Roll Call of Board Members Present

The General Manager noted that all Board members were present with the exception of Board member Marc Bondy who sent his regrets. Mr. DiCarlo advised the General Manager before the meeting that he would be late.

4. Election of Chair and Vice Chair for 2022

The General Manager stated that per the agreement between the City of Windsor and the County of Essex that created the Authority, the positions of Chair and Vice Chair rotate between the City and the County on a yearly basis. She noted that for 2022, the Chair will be a City of Windsor Board member and the Vice Chair will be a County of Essex Board member.

The General Manager called for nominations for Chair among the City of Windsor representatives.

Mr. Sleiman nominated Gary Kaschak for Board Chair.

The General Manager asked Mr. Kaschak if he would stand for the position of Board Chair.

Mr. Kaschak accepted the nomination as Board Chair.

The General Manager called three (3) additional times for nominations for the position of Board Chair. There were no other nominations.

The General Manager asked for a motion for the nominations for Chair to be closed.

Moved by Hilda MacDonald

Seconded by Ed Sleiman

THAT Gary Kaschak is named as Board Chair for the period ending December 31, 2022.

**1-2022
Carried**

The General Manager called for nominations for Vice Chair among the County representatives.

Mrs. MacDonald nominated Aldo DiCarlo for Vice Chair.

The General Manager stated that Mr. DiCarlo had communicated with her in writing that he would stand for the nomination.

The General Manager called three (3) additional times for nominations for the position of Vice Chair. There were no other nominations.

The General Manager asked for a motion for the nominations of Vice Chair be closed.

Moved by Gary McNamara

Seconded by Kieran McKenzie

THAT Aldo DiCarlo is named as Vice Chair for the period ending December 31, 2022.

**2-2022
Carried**

The General Manager turned the position of Chair to Mr. Kaschak.

5. Declaration of Pecuniary Interest

The Chair called for any declarations of pecuniary interest and none were noted. He further expressed that should a conflict of a pecuniary nature or other arise at any time during the course of the meeting that it would be noted at that time.

6. Approval of the Minutes

A. November 2, 2021 Regular Meeting Minutes

Moved by Jim Morrison

Seconded by Gary McNamara

THAT the minutes from the Essex-Windsor Solid Waste Authority Regular Meeting, dated November 2, 2021, be approved and adopted.

**3-2022
Carried**

7. Business Arising from the Minutes

No items were raised for discussion.

8. Correspondence

A. City of Windsor

Resolution CR496/2021 CSPPS RE Proposal for Council consideration to provide menstrual hygiene products in select municipal buildings free of charge.

The General Manager stated that the Authority does not offer public facilities to residents and that facilities are designated only for staff members. This request would not pertain to the Authority at this time.

Moved by Jim Morrison

Seconded by Gary McNamara

THAT the Board receive the correspondence from the City of Windsor.

**4-2022
Carried**

B. City of Windsor

Resolution CR485/2019 RE Appointing the City Municipal Auditor General with the powers and responsibilities attributable to this role under the Municipal Act (section 223.19-223.24)

The General Manager stated that the Authority had previously been on the list of agencies, boards and commissions that may be subject to an internal audit by the City of Windsor. The most recent audit was in 2015. Prior to the commencement of that audit, Administration brought forward a report to the Authority Board advising them of the audit request, the scope of the audit and a request for the Board's approval. In the event that the Authority is selected to be audited, a report will be brought forward to the Board to advise the scope of the work and for the Board's approval to participate in the audit.

Moved by Hilda MacDonald

Seconded by Ed Sleiman

THAT the Board receive the correspondence from the City of Windsor.

**5-2022
Carried**

9. Delegations

There are no delegations for January 12, 2022.

10. Waste Diversion

A. **Blue Box Wind-up: REOI Submission to Circular Materials Ontario**

The Manager of Waste Diversion stated that Administration will be submitting data to Circular Materials Ontario (CMO) as a result of their Request for Expressions of Interest (REOI) that was issued across the province of Ontario to assist with the transition of the Blue Box program.

The Manager of Waste Diversion summarized Ontario Regulation 391/21 pertaining to the Blue Box transition to Extended Producer Responsibility (EPR) scheduled to begin in July, 2023.

The transition date for the Essex-Windsor region is scheduled to begin August 28, 2024. To assist with this transition, the Resource Productivity and Recovery Authority (RPR) was created as the regulator by the Government of Ontario to enforce this new regulation. RPR requested submissions from organizations who want to act as PROs. They received five (5) submissions from different organizations including Circular Materials.

Circular Materials, a non-profit organization, is comprised of 15 of Canada's leading food, beverage and consumer products manufacturers, retailers and restaurants. In Ontario, they operate as Circular Materials Ontario. They recently issued an REOI across Ontario to municipalities and the private sector to assess the capacity that is available by these organizations to help them manage the blue box collection system as well as inform them as they sit at the rule creator table to establish rules for the new system.

As a result of the announcement regarding the transition to EPR, the Authority as well as other municipalities have been working together through provincial collaboratives, like the Continuous Improvement Fund (CIF) and the Municipal Resource Recovery and Research Collaborative (M3RC) to stay informed. The Authority is gathering data, history and information around Authority resources, promotion and education programs and will be submitting this information through this REOI. There are no financial implications for this REOI and the Authority is using staff resources to submit this data.

Mr. McKenzie asked what are the next steps.

The Manager of Waste Diversion stated that currently this is an exercise for the Authority. It is expected that there will be questions asked of the Authority. The Authority is looking to have this information available for any

other PROs who are interested in understanding more about the Authority operations in Essex-Windsor. The Authority is working with other provincial municipalities through collaboratives to understand what the Authority can do to prepare for transition.

Moved by Kieran McKenzie

Seconded by Gary McNamara

THAT the Board receive the report as information.

**6-2022
Carried**

B. Regional Food and Organics and Biosolids Waste Management Project – Facility Ownership and Recommended Next Steps

Tracy Beadow, Project Manager from the City of Windsor provided an overview of the report and recommendations. She stated that the Oversight Committee and Technical Working Group had been working towards the preparation of an RFQ that would be as unrestrictive as possible to allow the private sector to propose innovative and cost-effective solutions. During this process, several issues were identified which have been outlined in the report. She stated the report is intended to bring these issues to the Board's attention and provide potential mitigation strategies as well as recommendations on how to proceed. In addition to the recommendations, the consultant GHD, has also provided a roadmap to assist in determining a long-term solution. At the conclusion of the report, Ms. Beadow asked if there were any questions.

Mr. McKenzie asked how critical is it that we know the number of municipalities that will be participating in terms of the creation of the RFP.

Ms. Beadow referred the question to Ms. Albidone.

Ms. Albidone stated that obtaining the most accurate information possible prior to issuing the RFP gives the proponents the best estimate of tonnage required to be processed and will result in the best price. The more open in terms of tonnages, for example from zero tonnes to 50,000 tonnes, the more costly the price is going to be because proponents will take into account any risk. She stated that it would best to confirm which municipalities are participating at the time of issuing the RFP.

Mr. McKenzie stated that a previous meeting, the Board asked the General Manager to attend the various municipalities across the region to present on the issue and to receive feedback and be available for questions. He asked if she was able to present to each municipality and has the Authority received clarity with respect to who specifically wants to participate in the EWSWA organics program.

The General Manager stated that she has had the opportunity to present at all seven municipal Council meetings, with the final presentation being on December 14, 2021 at the Town of LaSalle. With that being said, the final County Council meeting of the year was on December 15, 2021. This did not provide an opportunity for it to be brought for discussion at the County Council level. She stated that from her understanding, some municipalities have been providing resolutions. The General Manager asked for Ms. Birch or Ms. Zwiers to speak to when they would expect this to come back at the County level. The recommendation that was approved at the County level was that County Council provide the Authority with a response.

Ms. Birch stated that she had communicated with the municipalities. Two municipalities have responded with resolutions indicating that they are supportive in principle of a regional approach to organics. Two municipalities have indicated that they need to go back and have further discussion. The remaining three municipalities have yet to respond to her inquiry.

Mr. McKenzie asked if the intention is to bring this forward through the County Council process.

Ms. Birch replied yes. She stated that when all the responses are received from the municipalities, it will be placed on the Council agenda and there will be a discussion at County Council.

Mr. McKenzie asked what is the timeline to have the RFP issued so that the deadlines mandated by the Province are met.

Ms. Beadow stated that the recommendation is to have the RFP issued by the second quarter of this year in order to have a service provider selected. This will give them time to secure processing capacity in order to meet the 2025 deadline.

Mr. McKenzie stated that he has a motion at the appropriate time.

Mr. Morrison stated that he is supportive of short-term solution. This will give the City and the County time to put together all the intricacies of a long-term solution. He asked if we move forward with the RFP as recommended, how long would it take to complete an RFP and have it issued. He asked if we need to know the tonnage in the first quarter. He is looking for clarity on timing. He referred the question to Ms. Albidone.

Ms. Albidone stated that a service delivery model is based on tonnage and compared it to the landfill which has various rates for ICI customers depending on how much tonnage is committed to being brought for disposal. The larger the commitment the lower the price per tonne. The same thing would occur with a service provider. The better we can estimate the tonnage, the better pricing we will receive. One of the reasons the RFP

needs to be issued in the second quarter is that it ties in with the collection, even though the collection would be a separate RFP. The tender for the collection would need to be issued two years in advance of when we would need the actual equipment. Some contracts are tied to both waste and recycling, a tender would need to be issued this year. A collection tender for organics cannot be issued without advising the contractor where the material is going. Collectors need time in order to get the equipment, which can take two years. As for any processing facility in our area, they need time in order to make sure that they have capacity for the tonnages. If they need new equipment or need to add anything to their facility, they will need lead time as well, due to the delays with current supply chain issues.

Mr. Morrison asked how much lead-time is needed to prepare a tender once it is known who is participating for the short-term solution.

Ms. Beadow stated that three (3) months would be required to prepare a tender document for this service contract provider. She noted that some aspects of the tender can be worked on before the final tonnages are known but the final tonnages would need to be identified before the tender is issued.

Mr. McNamara commended the Oversight Committee for all their hard work in providing the report. He stated that the report helps meet the challenge for those that have to be compliant by 2025. He would support this recommendation.

Mrs. MacDonald agreed with Mr. McNamara. She is very pleased with the draft roadmap. Mrs. MacDonald believes that by doing a short-term contract it will allow those hesitant municipalities that don't want to participate at this point in time to participate at a later date. That will also increase the feasibility of a potential long-term project. She thanked the Oversight Committee and stated that this it is much easier to go about it this way. She believes that this is something that is feasible for both Windsor and the County.

Mr. Morrison stated that he appreciates the support from the two County representatives. He asked if they are in favour of moving forward with the timeline.

Discussion to took place pertaining to timelines. Mr. Kaschak asked if Mr. McNamara would like to comment.

Mr. McNamara stated that he would surmise that it is the intent to follow the recommendation that the Committee has brought forward. Whatever this body does and what is being brought forward to County Council, they are willing to have that discussion with the peers. As the Warden of the County, Mr. McNamara stated that he will certainly have that conversation with Ms.

Birch and Mike Galloway, County of Essex CAO. He has the full intention of moving this along as quickly as they can.

Mr. Kaschak asked Mrs. MacDonald if she would like to comment.

Mrs. MacDonald stated that she has no opposition to the timelines.

Mr. Kaschak asked Mr. Morrison if he would like to add anything further.

Mr. Morrison stated that he appreciates the leadership of Mr. McNamara and Mrs. MacDonald. He asked if we want to embed that in our recommendation. He stated that we want to make sure the timeline stays on track. Mr. Morrison stated that he will leave it up to Mr. McKenzie if we want to embed that kind of timeline into the motion.

Mr. Costante noted that when we started this process, we looked at the original EWSWA agreement, which is a few decades old. At that time, some frailties in the agreement were exposed. He asked if it has been contemplated to review the agreement and freshen it up as a collective body together.

The General Manager stated that retired City of Windsor CAO, Onorio Colucci as well as retired County of Essex CAO, Rob Maisonville and the previous EWSWA General Manager, had begun the process along with Anne-Marie Albidone and Mark Winterton of the City of Windsor. The review of the agreement has not been finalized and is an on-going process and with the development of an organics program, there is a need to look at that portion of the agreement.

Ms. Albidone wanted to share that the City of Windsor is aware that the agreement requires updating.

Mr. Kaschak stated that it is probably timely to get it sorted and figured out as it is a municipal election year. After the election, the Authority might have some new by-laws and constitution that they can move forward on.

Mr. McKenzie stated that his motion is to move with the administrative recommendation, as outlined in the agenda report, but would like to add that EWSWA send correspondence to the County of Essex and all municipalities in the region who have yet to respond to indicate whether or not those municipalities will participate in the EWSWA led organics program and to indicate that response is required by February 28, 2022. He stated that he will speak to the motion if there is a seconder.

Mr. Sleiman seconded the motion.

Mr. McKenzie stated that this has been a very challenging process on a number of different levels. We have been handed a mandate by the

Province with the different levels of requirements in terms of diversion through all of the municipalities that are represented in the EWSWA framework. It has made it very challenging to be able to move forward in a way that we can do so together. The recommendation that the Oversight Committee has brought forward allows us to continue to be able to move forward to establish and normalize a service delivery, where we will be collecting the organics hopefully as an entire region together. There are opportunities to leverage climate change and potential costs and meet diversion targets. We will be in a much stronger position with a short-term service contract.

Mr. McNamara stated that it is a little more complex for the lower tier municipalities. Mr. McNamara proposed a friendly amendment to give the municipalities till the end of March to respond. This will give the lower tier municipalities more time to have discussion, especially those that are not required, which is 50% of the municipalities.

Mr. McKenzie asked Ms. Beadow if the timeline that Mr. McNamara is suggesting will keep us on the timeline that we need to be in order to stay on track.

Ms. Beadow stated that the end of March would be a good deadline to work with.

Mr. McKenzie accepted the friendly amendment.

Mr. Kaschak stated that this would align with the April 5, 2022 Board meeting. Mr. Kaschak asked what if a municipality does not respond by the deadline and would it be assumed they are not participating.

Mr. McNamara stated his recommendation would be to continue to work with them and have discussions, hopefully, all of them will be on board. There will be a time where we have to move on.

Mrs. MacDonald suggested that if anybody is slow to respond, that she and Mr. McNamara could have discussions with them. She stated that they might be more open minded by extending the date to end of March.

The General Manager confirmed that the Authority would be expecting a resolution from County Council or correspondence directly from County Council, not from each individual municipality, to advise who will be participating and who will not be participating in regards to the recommendation that was passed by the Authority Board as well as County Council regarding a regional approach.

Mr. McNamara stated that the lower tier municipalities are the ones that pay the bill. The extra time does not put the timelines in jeopardy but gives the

CAOs within the County more time, especially for those that are not required to implement a program by 2025.

The General Manager further noted that it was identified by the Steering Committee, that perhaps January 1, 2025 might not be an ideal start date for a particular municipality because their current waste contract does not expire until 2026, for example. If there is no mechanism in that contract to allow for a reduction in waste it potentially puts a municipality at risk. If we know who is in, we can work with the municipalities to determine what an ideal start date could be for those municipalities. This will allow capacity to be secured as well as build that into the collection contract. Some municipalities may want to participate but not be at the onset. As long as we have the information and have the commitment from each individual municipality, we can work from there.

Mr. Kaschak asked why there are seven different expiring garbage contracts and not one for all of Windsor-Essex and is there a way to get to this.

Mr. McNamara stated that each municipality has an independent contract because it is a lower tier responsibility, not an upper tier responsibility.

Mr. Kaschak asked Mr. McKenzie if he agreed to the friendly amendment.

Mr. McKenzie agreed with the friendly amendment.

Mr. Morrison seconded the motion with the friendly amendment.

Moved by Kieran McKenzie

Seconded by Jim Morrison

1. That the Food and Organic Waste Management Oversight Committee **BE DIRECTED** to continue to work through the various steps outlined in the Roadmap, and report back with progress updates, and;
2. That the Food and Organic Waste Management Oversight Committee **BE DIRECTED** to proceed with a short-term organic waste processing contract(s) RFP that meets the following minimum criteria:
 - a. That the RFP **BE REQUIRED** to accept, at a minimum, source separated organics from Windsor and any other of the municipalities choosing to participate at the onset, and allows for changes to quantities of source separated organics, and;
 - b. That industry standards **BE EXCEEDED** regarding odour control measures implemented at the facility and the end product, and;
 - c. That the RFP **BE REQUIRED** to provide service for a 5-year term with options for extensions.

3. That the EWSWA send correspondence to the County of Essex and all municipalities in the region who have yet to respond to indicate whether or not their members or those municipalities will participate in the EWSWA led organics program and to indicate that response is required by March 31, 2022.

**7-2022
Carried**

C. County Blue Box Collection – Potential Service Disruption due to COVID-19

The General Manager advised that there may be potential service disruptions with curbside blue box collection within the County of Essex municipalities due to COVID-19.

Throughout the pandemic, the City has been able to provide collection services with minimal disruption, however, with the introduction of the Omicron variant and the increased case volumes in the region, staffing levels have been severely impacted. The fact that cases have surged regionally, as well as the requirement for close contacts and family members to isolate, is having an impact on collection services.

The General Manager noted that she has also received communication from Ontario Waste Management Association as well as the Solid Waste Association of North American stating that other regions and municipalities within the Ontario and nationally are experiencing service disruptions as a result of staffing issues.

The General Manager acknowledged that City staff have been working tirelessly to get the material collected, not only outside of regular working hours but on weekends as well. This will continue in order to service the residents. Both sides of administration are working together to identify service gaps and develop mitigating strategies. Administration will continue to work with all municipalities to identify delays in service and communicate directly with Municipal Administration. The Authority will communicate delays to residents via social media as well as the Recycle Coach app. Authority Administration has met with City Administration to discuss a proactive measure where Authority staff will prepare a media campaign to advise residents of potential service delays.

The General Manager stated that the worst-case scenario would be to set up a depot so that collection would occur with less staff. A report would be brought forward to the Board before this scenario came to fruition.

Mr. McKenzie asked if a collection would be skipped altogether if there is a disruption or delay.

Ms. Albidone stated that when there is not enough staff, then collection is run on overtime that day to try and still collect on the scheduled day. If the area is not collected, staff return the next day to complete collection. To date, collections have been able to be completed this way.

Mr. Kaschak noted that the City of London was also having the same issue regarding collection delays but their issue was more about the extra recycling due to Christmas and the holiday season. He asked if this could be part of the issue in Windsor-Essex.

The General Manager referred the question to the Manager of Waste Diversion to comment about volumes.

The Manager of Waste Diversion stated that typically there is an increase in fibre tonnage in January due to Christmas and in recent years because of COVID-19 and the nature of shopping on-line. Trucks are coming back to the facility more often throughout the day due to the increase in volumes in fibre. This has also caused Ms. Albidone and her team to add extra vehicles to the collection system to help with this extra flow. This could be partially attributing to some of the delays along with staff shortages.

Moved by Kieran McKenzie

Seconded by

THAT the Board receive the report as information.

**8-2022
Carried**

11. Waste Disposal

A. Tender Award – Regional Landfill Flare Reline

The Manager of Waste Disposal stated that the purpose of the report was to advise the Board of the award of tender to Venture Refractories Inc. for the relining the methane gas flare stack at the Regional Landfill.

While conducting routine monthly inspections, Comcor Inc., the Regional Landfill gas contractor, notified the Authority that the flare stack was beginning to show internal insulation deterioration. This insulation protects the flare stack metal shell from warping or fatiguing prematurely. It was determined that a full reline was the best option and a tender was issued.

The tender closed on December 1, 2021. Due to the Board not having a meeting in December, it was assumed that the Board would approve the award of tender in January. However, it was noted later that month during the routine inspection, the flare lining was continuing to deteriorate at an accelerated rate. There was potential for additional risks to the flare shell caused by the heat if it wasn't repaired sooner than later. Due to supply

chain interruptions, it was deemed necessary to order the material in advance to ensure that the Authority could get the contractor on site with the materials to do the work as soon as possible.

The General Manager consulted with the Chair and Vice Chair to explain the situation and request approval to award the tender in advance of the January Board meeting. Approval was granted by the Chair and Vice Chair for Administration to award the tender to Venture Refractories at a cost of \$87,429

The relining work will replace the existing insulation which was installed 12 years ago. This work was included in the 2022 budget. However, the cost of the relining is slightly above that budget estimate of \$85,000.

Moved by Ed Sleiman

Seconded by Aldo DiCarlo

THAT the Board receive the report as information.

**9-2022
Carried**

B. Contaminating Lifespan Evaluations – Landfill 2 & 3

At the request of the Authority, the Contaminating Lifespan Evaluations were prepared by the Authority consultant, WSP, to evaluate and estimate the potential active lifespan of closed Landfill 2 in the Town of Kingsville & Landfill 3 in the Municipality of Lakeshore where leachate continues to be generated and require treatment.

The Manager of Waste Disposal explained that leachate is defined as any liquid that is generated from water percolating through a solid waste disposal site and accumulates contaminants and moves through the subsurface areas into leachate collection pipes. These pipes are connected to pump stations where the leachate is conveyed to surface storage ponds, where it is temporarily held until it can be pumped into tanker trucks and hauled off site for treatment.

WSP submitted the reports on November 17, 2021, detailing the contaminating lifespans for each closed landfill site. According to WSP, the guidelines that were used in the evaluations are commonly used for other closed landfills in Ontario.

The Manager of Waste Disposal explained that these evaluations should be performed at varying intervals to periodically assess the projected lifespan of landfills where input variables such as chloride concentrations and volume production are significantly changing over time. It is recommended that these projections and calculations be prepared every five to 10 years.

The end of the Contaminating Lifespan Evaluations as identified by WSP are estimated to be 2125 for Landfill 2 and 2100 for Landfill 3. These estimates are comparable to other Southwest Ontario closed landfill sites that have similar waste and leachate characteristics and landfill size and waste volumes.

Moved by Hilda MacDonald

Seconded by Fabio Costante

THAT the Board receive the report as information.

**10-2022
Carried**

12. Finance & Administration

A. EWSWA 2022 Budget Approval Status

The Manager of Finance provided an update regarding the status of the EWSWA budget.

The Authority Board approved the budget at the November 2, 2021 meeting. The budget was referred to the City of Windsor and the County of Essex for their consideration.

Authority Administration attended City of Windsor and County of Essex council meetings and the budget was approved on December 13, 2021 and December 15, 2021, respectively.

Moved by Ed Sleiman

Seconded by Jim Morrison

THAT the Board receive the report as information.

**11-2022
Carried**

B. Stewardship Ontario Blue Box Funding Obligation Announcement

The Manger of Finance provided an update regarding significant estimates used to prepare the 2022 budget document that was approved by the Authority Board at the November 2, 2021 meeting.

The Steward Funding Obligation is the amount that the Stewards must pay to participating communities for operating the Blue Box program.

In the 2022 budget report, Authority administration estimated the Stewardship Ontario Blue Box funding to be \$3,335,250. The budget estimate was based on the 2021 projection since it is difficult to estimate future funding from the Stewardship Ontario due to the complexity of the

Stewardship calculation and the uncertainty of potential adjustments made by Stewardship Ontario through the funding year.

On December 23, 2021, Stewardship Ontario announced that the Authority will be receiving a total of \$3,662,804 in 2022 for the Blue Box Funding Program. Payments are made in quarterly installments starting June 2022 and ending March 2023.

Included in this announcement, Stewardship Ontario spoke to changes in the way that municipal funding allocation will be calculated for the 2022 payment year and future funding years until the transition is completed at the end of 2025. The new simplified methodology aims to make calculating future funding for Stewardship Ontario easier and more streamlined.

The financial implication from this change is that the Authority will receive an additional \$327,554 in Blue Box Funding which will partially offset the 2022 budgeted deficit.

Administration will provide further updates as part of the three and six month financial reports.

Moved by Ed Sleiman

Seconded by Aldo DiCarlo

THAT the Board receive the report as information.

**12-2022
Carried**

C. Notice of Motion – Partnership Agreement Models and Financing Options for the Regional Organic Management System

Further to the resolution passed at the October 5, 2022 Board meeting, the Manager of Finance provided information regarding potential structured partnership agreement models that contemplate a variety of potential entry points into a regional organic management system and the potential financing options that address various partnership models. Since being tasked with these motions, Authority Administration researched potential solutions and contacted other Ontario municipalities to provide the Board with actual examples of existing partnership agreements, which have a similar situation as the Authority.

Unfortunately, Administration received few responses on this outreach. In the absence of these examples, Authority Administration, with the support of the County of Essex and the City of Windsor Administration, prepared the report on page 54 of the Board's agenda package. The report outlines two different project delivery models. One model is one where the Authority

builds a new organic facility. The other model is one where the Authority enters into a service delivery contract.

The Authority, County of Essex and City of Windsor Administration all identified that depending on which project delivery model the Authority Board selects at the onset, could impact the way a structure partnership agreement could be created.

The budget impact to the Authority will depend on which project delivery model was selected at the onset. The example of the new organics build would require the Authority to finance the cost of the new build and pay for the operations and maintenance costs. Whereas, the service delivery model will have costs associated with the processing and hauling of the organic waste material. Financing for the cost of a capital project could be through a long-term loan with Infrastructure Ontario, traditional banking institutions or the Federation of Canadian municipalities. In addition to financing, the Authority could seek out grant opportunities through other Ontario and federal programs.

Mr. McKenzie asked if the Authority has ever undertaken or had to use some type of a debt instrument to finance some aspect of its service delivery, whether it was for capital acquisition or land acquisition.

The General Manager stated that the only situation where the Authority has had to do any financing was for the construction of the Regional Landfill. She noted that the Authority has a healthy reserve balance and has utilized those reserves to fund capital expenditures. For example, the Authority borrowed from reserves for the construction of the container Material Recovery Facility (MRF). Another example would be the major retrofit of the Transfer Station. In regards to organics, the Authority will likely require some outside funding due to the magnitude of the project.

Moved by Kieran McKenzie

Seconded by Jim Morrison

THAT the Board receive the report as information.

**13-2022
Carried**

D. EWSWA Solicitor Update

The General Manager stated that David Sundin of McTague law firm, the Authority's current solicitor, was selected by the County of Essex as the new internal solicitor starting on January 3, 2022.

Mr. Sundin has handled various legal issues for the Authority in regards to contract language and procurement documents. He is very familiar with Authority operations.

The General Manager noted that the County of Essex is prepared to allow the Authority to continue to use Mr. Sundin's services on a contract basis, similar to how the Authority utilizes human resources and payroll services, so the Authority does not have to incur this staffing on a regular basis. She noted that she has had preliminary conversations with the County to discuss the most efficient cost-effective method to recover these costs.

Moved by Ed Sleiman

Seconded by Jim Morrison

THAT the Board receive the report as information.

**14-2022
Carried**

E. Legal Invoices

Moved by Fabio Costante

Seconded by Ed Sleiman

THAT the Board authorize the payment of the legal account as summarized.

**15-2022
Carried**

13. Other Items

No other items were raised for discussion.

14. By-Laws

A. By-Law 1-2022

Moved by Aldo DiCarlo

Seconded by Hilda MacDonald

THAT By-Law 1-2022, being a by-law to authorize the execution of an agreement between the Essex-Windsor Solid Waste Authority and Venture Refractories Inc. for the Relining the Methane Flare Stack at the Essex-Windsor Regional Landfill.

**16-2022
Carried**

B. By-Law 2-2022

Moved by Aldo DiCarlo

Seconded by Hilda MacDonald

THAT By-Law 2-2022, being a By-law to Confirm the Proceedings of the Board of the Essex-Windsor Solid Waste Authority be given three readings and be adopted this 12th day of January, 2022

17-2022
Carried

15. Future Meeting Dates

Tuesday – February 1, 2022
Tuesday – March 1, 2022
Tuesday – April 5, 2022
Tuesday – May 3, 2022
Tuesday – June 7, 2022
Tuesday – July 5, 2022
Wednesday – August 10, 2022
Wednesday – September 14, 2022
Tuesday – October 4, 2022
Tuesday – November 1, 2022
Tuesday – December 6, 2022

16. Adjournment

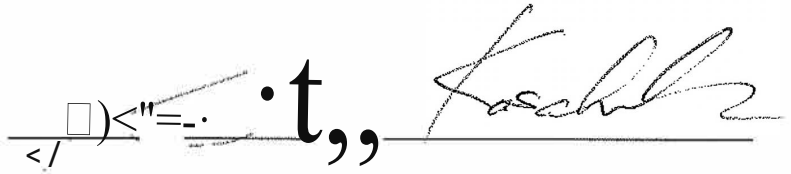
Moved by Jim Morrison

Seconded by Ed Sleiman

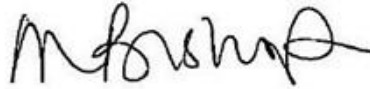
THAT the Board stand adjourned at 6:01 pm.

18-2022
Carried

All of which is respectfully submitted.

A handwritten signature in black ink, appearing to read "Gary Kaschak", written over a horizontal line.

**Gary Kaschak
Chair**

A handwritten signature in black ink, appearing to read "Michelle Bishop", written below a horizontal line.

**Michelle Bishop
General Manager**



Subject: Home Flood Protection Program - City-Wide

Reference:

Date to Council: March 30, 2022
 Author: Andrew Dowie,
 Engineer III / Drainage Superintendent
 adowie@citywindsor.ca
 (519) 255-6257 ext. 6490
 Engineering
 Report Date: February 28, 2022
 Clerk's File #: SW/12983

To: Mayor and Members of City Council

Recommendation:

That Administration **BE AUTHORIZED** to initiate a Home Flood Protection Program on a pilot basis, AND

That Administration **REPORT BACK** to City Council on completion of the pilot program.

Executive Summary:

N/A

Background:

The Sewer and Coastal Flooding Master Plan was formally adopted on January 25, 2021, subsequent to the required completion period for adoption of the report under the Municipal Class Environmental Assessment.

Section 5.4.3 of Appendix "C" of the Plan recommends:

Providing a "flood prevention home check-up" where a drainage expert will, at resident's request, go to their homes and review local plumbing and grading then provide recommendations to reduce flooding risks.

City Council received the draft Sewer and Coastal Flooding Master Plan at its meeting of Monday, July 27, 2020, and authorized short-term implementation mechanisms through CR379/2020. The relevant portion of that resolution is as follows:

1. That Council **ENDORSE** the 'Final Council Recommendation Summary of the Sewer and Coastal Flood Protection Master Plan' prepared by Dillon

Consulting Limited dated July 20, 2020 included within Appendices 1 through 4; and,

2. *That Administration BE DIRECTED to develop an implementation strategy for the Final Council Recommendations Summary of the Sewer and Coastal Flood Protection Master Plan to be considered as part of the 2021 Capital Budget process; and,*
3. *That Council APPROVE \$1,500,000 to proceed with immediate short term projects/programs to be charged to Sewer Master Plan Implementation Project, Project ID#7199004 which will include the following:*
 - i. *Mandatory downspout disconnection pilot program and monitoring*
 - ii. *Contract to seal maintenance hole covers in low lying areas*
 - iii. *Develop an educational program to outline measures that can be implemented on private property to reduce the risk of flooding*

Discussion:

Administration proposes to proceed with the flood prevention home check-up program as its first effort within the noted educational program funded through CR379/2020.

The Home Flood Protection Program Assessment was initiated by the University of Waterloo through the Intact Centre on Climate Adaptation. Direct operation of the program was transferred from the Intact Centre to the AET Group, who is expanding it to other centres.

Administration sought out AET for a proposal based on the Sewer and Coastal Flooding Master Plan recommendations and further recommends to engage with AET to undertake an initial inspection program of 100 households with corresponding follow-up and oversight of deliverables.

AET intends to recruit 2 local home flood assessors that would include screening and job training.

For homeowners benefitting from the program, AET will make the following resources accessible:

- Flood protection resource information
- Phone and Online Registration
- Booking and Management of Home Flood Assessors
- Homeowner Reminders of their Home Flood Assessments
- Home Flood Assessment Reports
- Quality assurance of the Home Flood Assessment Report
- Email notification for downloading of the report
- 15 minute consultation with Home Flood Assessor

AET would dialogue with Administration at regular intervals to review program progress and outcomes, with monthly progress reports, a mid-project report, and a final report.

An example of the report to be received by a household as well as a draft homeowner package are both attached as appendices to this report.

The intent for the program is that the initial 100 households for the pilot would be allocated inspections on a first-come, first served basis. Applications are proposed to be launched from the City's website and distributed to AET.

The estimated costs of the inspection can range between \$800-\$1,000 each. Given the expense of undertaking an inspection, Administration is recommending that a refundable inspection security deposit (\$200) be assessed to each household. Release of the security deposit would take place following implementation of some of the works described. This method of discouraging inspections without deliverables is similar in nature to the recently operated provincial and federal energy efficiency home inspection programs.

On completion of the project, Administration will review the deliverables and outcomes of the program, and determine the subsequent direction, if any, for the program.

Risk Analysis:

The proposed program model is to assign program ownership and delivery to AET. While Administration would have a subject matter expert available for residents to contact, contracting with AET following payment of fee is expected to ensure prompt implementation and responsiveness that is not influenced by municipal public works workload, limiting resourcing and financial risk and maximizing the quality of service delivery. AET is already the delivery agent for the largest home assessment program in Ontario and is well equipped to undertake the assignment.

Collection of the security deposit will reduce the risk of inspections being requested without intent to act upon the recommendations.

Climate Change Risks

Climate Change Mitigation:

While the impacts to Climate Change are marginal, municipal energy consumption for wastewater treatment would prospectively be avoided thereby reducing the municipal carbon footprint.

Climate Change Adaptation:

With an increased intensity of storms being recorded, reducing the volume of stormwater entering municipal storm and sanitary systems at the source benefits the systems' capacity during times of surges. Prospective improvements to private property will assist the municipality in adapting to Climate Change.

Financial Matters:

Costs incurred for this program are estimated to be approximately \$100,000 inclusive of contract costs and marketing costs. Funds are allocated through Project ID 7201034–SMP- Education Program. Council has previously approved funds for this project and there are currently sufficient funds for the estimated costs for this program.

Consultations:

Carrie McCrindle – Financial Planning Administrator

Natasha Gabbana – Senior Manager Asset Planning (A)

Conclusion:

Administration is recommending proceeding with a pilot program to inspect 100 private households through the Home Flood Protection Program Assessment as delivered by AET Group, in an effort to identify opportunities to reduce flooding risk at these households.

Planning Act Matters:

N/A

Approvals:

Name	Title
Fahd Mikhael	Manager of Design
France Isabelle Tunks	Senior Manager of Engineering / Deputy City Engineer
Jake Renaud for Chris Nepszy	Commissioner of Infrastructure Services / City Engineer
Janice Guthrie for Joe Mancina	Commissioner of Corporate Services and Chief Financial Officer
Jason Reynar	Chief Administrative Officer

Notifications:

Name	Address	Email
Heather Pitman AET Group Inc.	531 Wellington Street North Kitchener, ON N2H 5L6	hpitman@aet98.com

Appendices:

- 1 Sample Homeowner Material Package
- 2 2017 Sample Assessment Report



Home Flood Protection Assessment Homeowner Participation Waiver

Purpose of this Document

The purpose of this participation waiver (“Agreement”) is to ensure that participating Homeowner(s) (for the purposes of this document meaning the Homeowner **or** their designated representative(s)) understand and agree to the terms of the Assessment before the on-site and/or remote portion of the Assessment begins.

Terms of Home Flood Protection Assessment Homeowner Participation

The Home Flood Protection Assessment is available to owners of single-detached, semi-detached and town homes for a fee. Fees are paid directly to AET Group.

In roughly one hour, a trained Flood Protection Assessor from AET Group works with the homeowner to complete a 50-point visual assessment of potential sources of water entry into the home. A concise, easy to read report identifies top ranked action to:

- ✓ Reduce sewer and overland flood risks
- ✓ Reduce moisture levels that cause mold and mildew growth
- ✓ Reduce damage risks to contents and valuables
- ✓ Wisely manage water onsite
- ✓ Understand risks as they relate to insurance coverage

A live customer service helpline, personal follow-up from the Assessor, and seasonal maintenance reminders provide additional support to homeowners as they work to protect their homes from future flooding events.

What is the Home Flood Protection Program?

The Home Flood Protection Program is a basement flood risk reduction education program developed by the Intact Centre on Climate Adaptation (Intact Centre), an applied research centre at the University of Waterloo. The goal of the program is to help Homeowners reduce their risk of basement flooding and minimize damage if flooding occurs. The program provides free online self-help resources to Homeowners and a custom, on-site and/or remote assessment service for participating homeowners, known as the “Home Flood Protection Assessment.” AET has a license to deliver this program across Canada.

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1

www.homefloodprotect.ca



Background of the Assessors

The Home Flood Protection Assessors are managed by AET Group Inc. (AET). Each Assessor possesses a clear criminal records check and has demonstrated competencies in relevant areas including but not limited to home construction, home inspection, environmental assessments/inspections, water resources management and/or environmental engineering. Assessors have successfully completed the Home Flood Protection Assessment Training Program developed by the University of Waterloo. Assessors have a variety of professional experience and AET Group Inc. makes no guarantee that they will be certified home inspectors, building inspectors or building engineers.

Do Homeowners Have to Be Present for a Home Flood Protection Assessment?

The Homeowner or a person that they designate in writing to be their representative, must be present during the Assessment. Where a designated representative will be present a signature from both parties on this form is required.

How are Flood Risks at the House Assessed?

Flood risks are assessed by examining the physical condition of a variety of features inside and outside the home, as well as by completing a preventative maintenance questionnaire with the homeowner. In order to complete this work, the Assessor uses the following tools: a standardized preventative maintenance questionnaire, a standardized home assessment scoring system, a moisture meter, humidity gage, camera, and measuring tape. Collected information is entered into an electronic form (on a tablet) that assigns a general category of performance or preventative maintenance activity ranging from “good, intermediate or poor/ needs further investigation.”

What Does the Assessment Report Include/ Exclude?

The report includes an easy to read summary of items that receive a “poor/ needs further investigation score”, a record of all gathered information, and additional resources to help the homeowner take action to reduce risk.

The assessed features and preventative maintenance activities that score a “poor or needs further investigation” grade are listed in a summary page of items that lists the type of flood risk they represent, their condition and high level opportunities for the homeowner to further explore to take action to reduce flood risk. Links to practical how-to resources from reputable sources are included in the report, as well as links to local subsidy

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



programs and tips for selecting qualified contractors and questions to ask insurers to make sure that you have the water-damage related coverage you need.

What Does the Report Not Include?

Beyond summarizing the report findings related to assessed items that received a score of “poor/ needs further investigation”, the report does not formally state a prioritized approach for addressing deficiencies. It is up to the Homeowner to decide which actions they will take and in what order.

In order to ensure program impartiality the report does not recommend specific contractors, suppliers or products. The report also does not provide in-depth drawings or tailored step-by-step instructions to complete projects at the home to address deficiencies.

What Follow-up Support is Available to the Homeowner?

After the on-site and/or remote visit is complete, an electronic copy of the report is available typically within 48 hours. Requested hard copy reports should arrive at the participant’s home within 1 week. Questions that homeowners have about the reports can be accommodated with a short email follow-up or up to a 15-minute phone follow-up with the Assessor. Additional online resources are available through the website at www.HomeFloodProtect.ca. Additional assistance may be provided by the customer service email at rkirkby@aet98.com or at phone 1-877-876-9235.

Who Has Access to My Home Flood Protection Assessment Report?

Assessment Reports are **available exclusively to registered Homeowners** and are not shared with funders or program partners.

Assessment Reports are made available to Homeowners through a secure database with access provided only to those who enter a valid user name and password. Printed reports, when requested, are sent via Canada Post directly to the participating homeowner or their official designate.

The only Home Flood Protection Assessment team members that have strictly confidential access to individual assessment reports are: the AET Home Flood Protection Assessor assigned to the individual household, the Home Flood Protection Assessment Quality Assurance Manager, and AET’s Home Flood Protection Assessment Customer Service Staff. Confidential access to this information is granted exclusively to register and assist Homeowners and to ensure program quality assurance.

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



Can My Information Be Used to Contribute to the Home Flood Protection Assessment Study Carried out by the University of Waterloo?

Yes, the completion of a separate *OPTIONAL and VOLUNTARY* document entitled “Home Flood Protection Study Waiver Form” is required to participate in this study. All information shared will be stripped of its personal identifying information (address, contact information) and will be analyzed at a community-wide scale *ONLY* to share the results of the work with funders and partners.

Statement of Acknowledgement:

a) **Observations on Day of Assessment Only:** The Homeowner acknowledges that the Assessment and Assessment Report are based on the Assessor’s observations of the conditions that existed and the preventative maintenance activities reported by the homeowner at the time of the assessment only;

b) **Participation:** The Homeowner acknowledges that they have been encouraged to participate in the Assessment and accept responsibility for incomplete information should they not participate in the Assessment.

The homeowner signature below acknowledges the agreement between the homeowner and AET Group Inc. to perform a visual assessment of the inside and outside of the home that identifies flood risks and identifies opportunities to reduce risk.

Warranty Disclaimer

YOU, THE HOMEOWNER, ACKNOWLEDGE AND AGREE THAT AET GROUP INC., THE UNIVERSITY OF WATERLOO, AND THEIR RESPECTIVE AFFILIATES, LICENSORS, AGENTS AND REPRESENTATIVES DO NOT WARRANT THAT COMPLETING ACTIONS IDENTIFIED IN THE REPORT TO REDUCE FLOOD RISK WILL ACTUALLY PREVENT ALL OR ANY WATER DAMAGE IN THE FUTURE. THE HOMEOWNER ASSUMES ALL RISK FOR PROBLEMS NOTED IN THIS REPORT THAT MAY INCLUDE, BUT IS NOT LIMITED TO CONCEALED DAMAGE WHICH IS REVEALED DURING THE COURSE OF REPAIR OR THROUGH FURTHER INVESTIGATION BY A QUALIFIED SPECIALIST. THE DECISION TO PURSUE OPPORTUNITIES FOR ACTION TO REDUCE FLOOD RISK IDENTIFIED IN THE REPORT IS AT THE HOMEOWNER’S SOLE DISCRETION. AET GROUP INC., THE UNIVERSITY OF WATERLOO, AND THEIR RESPECTIVE AFFILIATES, LICENSORS, AGENTS AND REPRESENTATIVES EXPRESSLY DISCLAIM ALL WARRANTIES, REPRESENTATIONS, GUARANTEES, AND CONDITIONS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OR CONDITIONS OF

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1

www.homefloodprotect.ca



MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. THE HOME FLOOD PROTECTION ASSESSMENT AND ALL ASSOCIATED SERVICES ARE PROVIDED TO THE HOMEOWNER “AS IS” AND “WITH ALL FAULTS”. THIS WARRANTY DISCLAIMER SHALL SURVIVE THE TERMINATION OR EXPIRATION OF THIS AGREEMENT OR YOUR PARTICIPATION IN THE HOME FLOOD PROTECTION PROGRAM, INCLUDING BUT NOT LIMITED TO THE COMPLETION OF YOUR HOME FLOOD PROTECTION ASSESSMENT.

Limitation of Liability

AET GROUP INC., THE UNIVERSITY OF WATERLOO AND THEIR RESPECTIVE AGENTS, ADMINISTRATORS, OFFICERS, DIRECTORS, GOVERNORS, SENATORS, EMPLOYEES, INDEPENDENT CONTRACTORS, STUDENTS, REPRESENTATIVES, SUCCESSORS, AND ASSIGNS (THE “RELEASEES”) SHALL NOT BE RESPONSIBLE FOR ANY HARM, LOSS OR INJURY, INCLUDING DEATH, SUFFERED BY YOU, THE HOMEOWNER, OR ANY OTHER PERSON, AT ANY TIME FOR ANY REASON WHATSOEVER, WHETHER REASONABLY FORESEEABLE OR NOT, INCLUDING, BUT WITHOUT LIMITATION, ANY RISKS, HARM, LOSS, OR INJURY, INCLUDING DEATH, CAUSED IN CONNECTION ANY RELATED ACTIVITY, INCLUDING THE VISUAL ASSESSMENT OF THE PROPERTY AND CONVERSATION WITH THE HOMEOWNER DURING THE ASSESSMENT (“RELATED ACTIVITIES”) WHILE ENROLLED IN THIS HOME FLOOD PROTECTION PROGRAM. FOR THE AVOIDANCE OF DOUBT, NONE OF THE RELEASEES SHALL BE LIABLE UNDER ANY CLAIM, DEMAND OR ACTION ARISING OUT OF OR RELATING TO YOUR PARTICIPATION IN THIS HOME FLOOD PROTECTION PROGRAM, NOR FOR ANY DIRECT, SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL OR EXEMPLARY DAMAGES WHETHER BASED IN CONTRACT, TORT OR ANY OTHER LEGAL THEORY, EVEN IF THE RELEASEES HAD ACTUAL OR CONSTRUCTIVE KNOWLEDGE OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES AND WHETHER OR NOT SUCH LOSS OR DAMAGES WERE FORESEEABLE. THIS LIMITATION OF LIABILITY CLAUSE SHALL SURVIVE THE TERMINATION OR EXPIRATION OF THIS AGREEMENT OR YOUR PARTICIPATION IN THE HOME FLOOD PROTECTION PROGRAM, INCLUDING BUT NOT LIMITED TO THE COMPLETION OF YOUR HOME FLOOD PROTECTION ASSESSMENT.

Release

I HEREBY FOREVER RELEASE AND HOLD HARMLESS THE RELEASEES FROM ANY AND ALL LIABILITY FOR ANY LOSS, DAMAGE, INJURY, OR EXPENSE THAT I OR MY NEXT OF KIN MAY SUFFER, WHETHER REASONABLY FORESEEABLE OR NOT, WHETHER ARISING FROM THE NEGLIGENCE OF THE RELEASEES OR OTHERWISE, WHICH MAY BE MADE OR BROUGHT AGAINST THE RELEASEES IN ANY WAY NOW OR IN THE FUTURE AS A RESULT OF MY PARTICIPATION IN ANY RELATED ACTIVITIES WHILE ENROLLED IN THE HOME FLOOD PROTECTION PROGRAM, ON A SUBSTANTIAL INDEMNITY BASIS.

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



I understand that this Agreement cannot be modified or interpreted except in writing by AET Group Inc., in cooperation and acting reasonably, and that no oral modification or interpretation shall be valid. This agreement shall be effective and binding upon my heirs, next of kin, executors, administrators, assigns, and personal representatives in the event of death.

I have read and understand this Agreement and I sign this document voluntarily and without inducement.

A SIGNED ACCEPTANCE OF THIS AGREEMENT MUST BE RECEIVED BEFORE THE ASSESSMENT CAN BEGIN

Homeowner's Name: _____

Homeowner's Signature: _____

Name of Designated Representative (if applicable): _____

Signature of Designated Representative (if applicable): _____

Property Address: _____

Date: _____

Witness Name: _____

Witness Signature: _____

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



Home Flood Protection Study Participation Consent Form

Purpose of this Document

The purpose of this document is to ensure that the participating Homeowner (for the purposes of this document meaning the Homeowner **or** their designated representative) understand and agree to the terms of participating in the Home Flood Protection Study before participation begins.

Introduction to the Home Flood Protection Program

The Home Flood Protection Program is a basement flood risk reduction education program developed by the Intact Centre on Climate Adaptation, an applied research centre at the University of Waterloo. AET Group has a license to deliver this program to residents across Canada.

The goal of the program is to help homeowners reduce their risk of basement flooding and minimize damage if flooding occurs. The program provides free online self-help resources to homeowners and a custom, on-site assessment service for participating homeowners, known as the “Home Flood Protection Assessment.”

What is the Home Flood Protection Study?

The Home Flood Protection Study (Study) is a confidential analysis of home flood risks identified at the time of the Home Flood Protection Assessment and action taken to reduce flood risk as reported in follow-up surveys and noted during follow-up assessments. Data is collected and analyzed **ONLY** from homeowners (or their designated representatives) who have voluntarily consented to share the results of their Home Flood Protection Assessment Reports and follow-up surveys by completing this form. All information that is gathered as part of the Study is stripped of its personal identifying information (name, all elements of address, contact information), stored in an encrypted, secure online database and is analyzed in aggregate form. Information gathered as part of this Study is used only for the express purposes laid out in this agreement.

What are the goals of the study?

The goals of the Study are to improve program delivery and to report the findings and impacts of our work to program funders and partners.

Data analysis will determine:

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca

- Most common flood risks identified at different ages of homes;
- The degree to which participation in the program influenced practical action to reduce flood risk;
- The degree to which participation in the program impacted knowledge levels about home flood risks; and
- Participant level of satisfaction with the program.

Is there compensation for participating in the study?

University of Waterloo will not be offering any kind of compensation for participating. AET may offer some kind of compensation if they would like. This has yet to be determined.

What is involved?

Consent to participate in the study means that a Homeowner agrees to **complete** and **share the results** of their:

- Home Flood Protection Assessment Report
- One 10-15 minute follow-up surveys at roughly 3 months after report completion

How do homeowners complete the follow-up surveys?

For those who consent to participate by email, an email link to access the surveys through the secure database will be sent at roughly 3 months after the Assessment Report is sent to the Homeowner. For those participants who consent to participate by phone, a confidential phone survey will be conducted by a Home Flood Protection Customer Service Agent at the same time intervals. Each survey takes approximately 10-15 minutes to complete.

How is the homeowner information going to be protected?

Upon consenting to participate in the Home Flood Protection Study, all personally identifying information is stripped from the Home Flood Protection Report and it is assigned a participant number. All follow-up survey forms and follow-up on-site assessments will use only this same participant number. All information will be stored in an encrypted, secure online database with confidential access granted only to authorized University of Waterloo and AET Team members including: University of Waterloo research students, the University of Waterloo's Home Flood Protection Program Director, AET's Home Flood Protection Assessors who complete the follow-up on-site assessments and

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



AET's Customer Service Team members who enter data directly into the secure database from participants who complete follow-up surveys by telephone.

Statement of consent

My signature below acknowledges that I have read and understood the terms of participating in the Home Flood Protection Study as written above. I agree to participate in the Study by sharing the results of my Home Flood Protection Assessment. I also consent to participate in a 3 month follow up survey and share these results. I understand that my personal information is protected as confidential and that all personal identifying information (name, all address information, contact information) will be removed from the information that I share before it used for analysis. The final report will be shared with project funders and partners.

I understand that participation is completely voluntary and I may opt to withdraw my consent at any time.

Email and Phone Contact Consent

By signing below, I provide my express consent to the following:

If I am participating in the program by email: I consent to receive a 3 and 6 month follow-up survey reminder by email that will include a link to a secure portal where the survey will be completed.

Unsubscribe mechanism: My signature acknowledges that I understand that if I would like to opt-out and withdraw my consent to participate in the Home Flood Protection Assessment Study that I should contact **Cheryl Evans at 226-338-4825 or email at c8evans@uwaterloo.ca at any time and include "Unsubscribe" in the subject heading.**

If I am participating in the program using the phone: I consent to receive a 3 and 6 month follow-up call from a customer service representative to request the completion on the surveys by phone.

Opting out: If I would like to opt out of the study I may do this at any time by informing the customer service representative on the phone. **Cheryl Evans at 226-338-4825 or email at c8evans@uwaterloo.ca at any time and include "Unsubscribe" in the subject heading.**

Questions about collection, storage and analysis of data:

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



My signature acknowledges that I understand that if I have any questions about the collection, storage or analysis of information that I may contact **Cheryl Evans, Program Director at any time at c8evans@uwaterloo.ca.**

A SIGNED ACCEPTANCE OF THIS AGREEMENT MUST BE RECEIVED BEFORE THE PARTICIPATION IN THE HOME FLOOD PROTECTION STUDY CAN BEGIN

Homeowner’s Name: _____

Homeowner’s Signature: _____

Name of Designated Representative (if applicable): _____

Signature of Designated Representative (if applicable): _____

Home Address: _____

Date: _____

**Participation method preference
(Please check one box and provide required contact information):**

Please check one of the boxes below to identify if you would prefer to participate in follow-up surveys and to be contacted about your interest in voluntary participation in a follow-up assessment by **email or by phone**. Please provide the requested related contact information so that we may contact you using your preferred method.

Email Please provide email: _____

Phone Please provide phone number: _____

Faculty of Environment, University of Waterloo
200 University Avenue West, Waterloo, ON N2L 3G1
www.homefloodprotect.ca



Home Flood Protection Report Quality Assurance Checklist

To pass quality assurance, reports must meet the following minimum standards for being complete, accurate and easy to understand:

Deemed Complete When:

- All fields are filled out**
 - With any of N/A or Assessment score of green, yellow or red
 - Where NR a note must be made about why this was not recorded

- All “Opportunity To Reduce Risk” comments are customized**
 - Describe the location and the condition of the assessed item
 - Lists the most relevant of the standardized options or a custom option that is approved by QA

- Property chart is complete**
 - Outline of house and driveway complete and labelled
 - North arrow is present
 - At least 4 items per chart that correspond to “Opportunity to Reduce Risk” notes with #x magic button
 - Labels must briefly state problem and item featured e.g, clogged eaves trough, leaking rain barrel

- Enough photos are present**
 - Main photo of home is inserted on title page
 - 2-4 photos are present per section (Sections are: inside assessed features, inside assessed maintenance, outside assessed features, outside assessed maintenance)

Deemed Accurate When:

- Assessment score and “Opportunity to Reduce Risk” comments are deemed reasonable based upon:**
 - age of home
 - photo evidence of condition of physical features
 - reported maintenance practices

Faculty of Environment, University of Waterloo

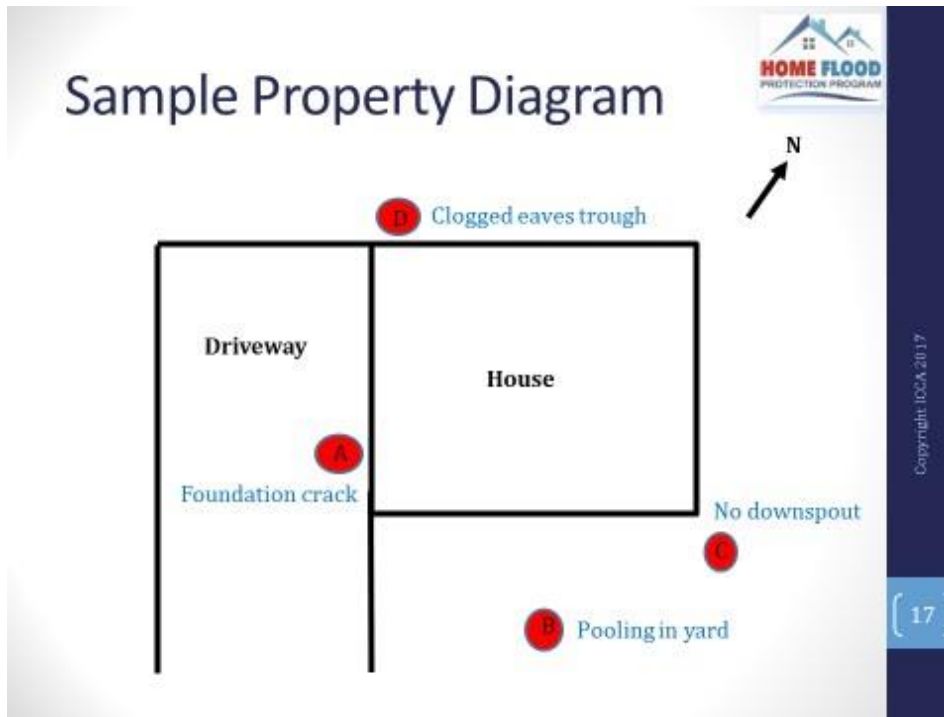
200 University Avenue West, Waterloo, ON N2L 3G1

www.homefloodprotect.ca

- Spelling is correct

Deemed Easy to Understand When:

- Property diagram is clearly laid out and easy to understand
- Comments in “Opportunity to Reduce Risk” section are easy to understand



Faculty of Environment, University of Waterloo

200 University Avenue West, Waterloo, ON N2L 3G1

www.homefloodprotect.ca

THREE STEPS TO COST-EFFECTIVE BASEMENT FLOOD PROTECTION

Complete these 3 steps to reduce your risk of basement flooding and lower the cost of cleanup if flooding occurs. For items listed under step 3 check with your municipality about any permit requirements and the availability of flood protection subsidies.

Step 1: Maintain What You've Got at Least Twice per Year

Do-It-Yourself
for \$0

Remove Debris from Nearest Storm Drain

Clean Out Eaves Troughs

Maintain Plumbing, Fixtures and Appliances

Test Your Sump Pump

Clean Out Your Backwater Valve

Step 2: Complete Simple Upgrades

Do-It-Yourself
for Under \$250

Install Window Well Covers

Extend Downspouts and Sump Discharge Pipes at Least 2m from Foundation

Store Valuables and Hazardous Materials in Watertight Containers or Remove from Basement

Remove Obstructions to Basement Floor Drain

Install and Maintain Flood Alarms

Step 3: Complete More Complex Upgrades

Work with a Contractor for Over \$250

Install Window Wells that Sit 10-15 cm Above Ground and Upgrade to Water Resistant Windows

Disconnect Downspouts, Cap Foundation Drains and Extend Downspouts to Direct Water at Least 2m from Foundation

Correct Grading to Direct Water at Least 2m Away from Foundation

Install Backwater Valve

Install Backup Sump Pump and Battery

Note: Not all actions will be applicable to each home. Completing these steps does not guarantee the prevention of basement flooding.

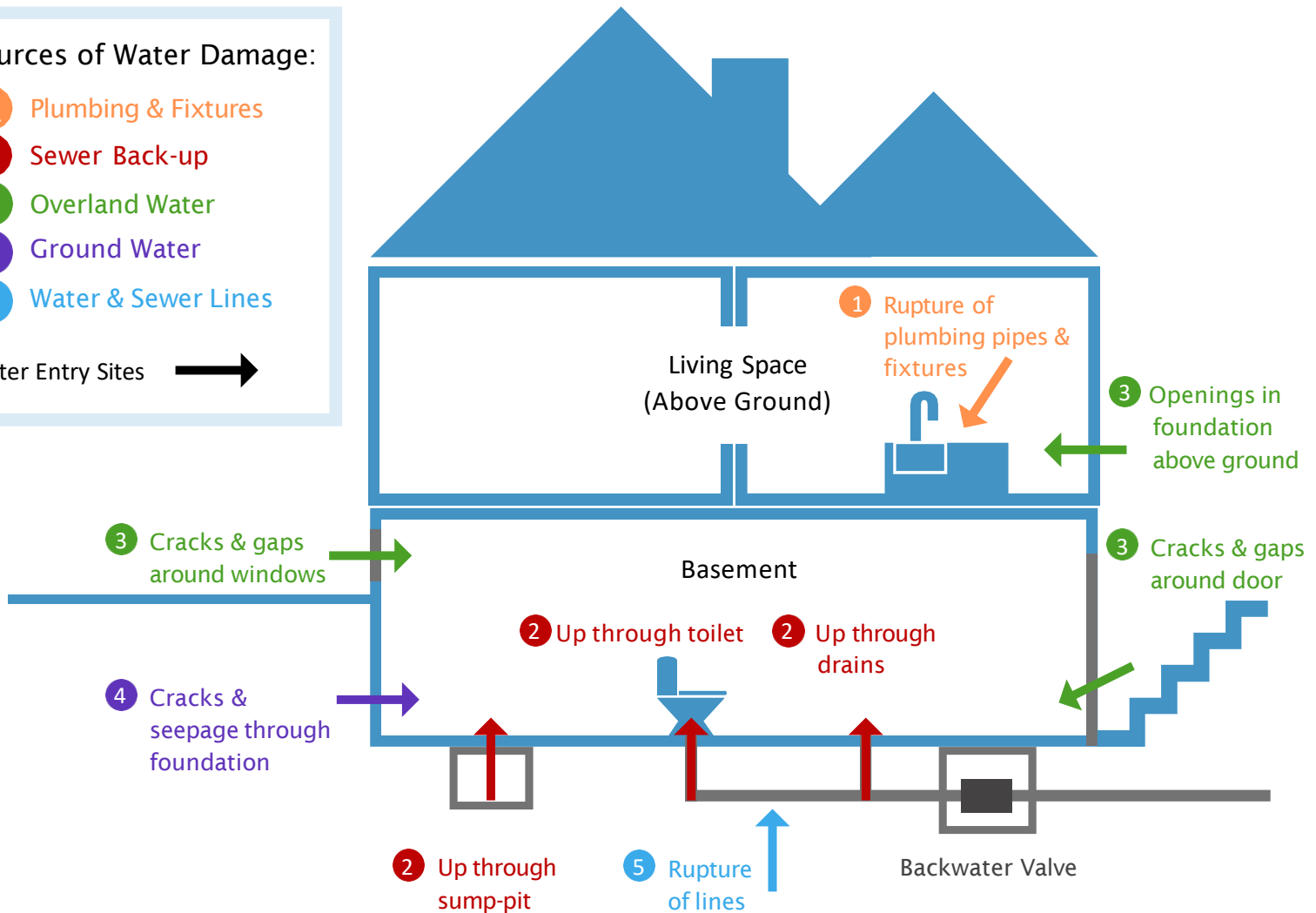
Understanding Water Damage Insurance Coverages

This information is being provided to help you understand the different types of water damage risks at your home and the types of water damage coverages that may be available from insurers. It is intended as a starting place for discussion with your insurer to determine which kind of coverages might be right for you.

Sources of Water Damage:

- 1 Plumbing & Fixtures
- 2 Sewer Back-up
- 3 Overland Water
- 4 Ground Water
- 5 Water & Sewer Lines

Water Entry Sites →



Home Owner Water Damage Insurance Coverages:

- ✓ Typically Covered: Sudden and accidental damage caused by escape of water from plumbing pipes, appliances or fixtures
- ✓ Optional Coverages: Sudden and accidental damage caused by sewer back-up, overland and groundwater flow and rupture of water and sewer lines
- ✗ Typically Not Covered: Damage created by chronic leaks or poor maintenance and damage that occurs during prolonged absences without regular monitoring

Tenant Water Damage Insurance Coverages:

- ✓ Typically Covered: Replacement of personal contents and temporary accommodations while damage is being repaired

Basement Flood Protection Checklist

Take these steps to reduce your risk of basement flooding and reduce the cost of cleaning up after a flood. Remember to check with your municipality about the availability of basement flood protection subsidies. Check with your insurer about discounts for taking action to reduce flood risk.

1. Maintain Your Home's Flood Protection Features at Least Twice Per Year

SPRING FALL

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Remove debris from nearest storm drain |
| <input type="checkbox"/> | <input type="checkbox"/> | Clean out eaves troughs |
| <input type="checkbox"/> | <input type="checkbox"/> | Test sump pump(s) and backup power source |
| <input type="checkbox"/> | <input type="checkbox"/> | Clean out backwater valve |
| <input type="checkbox"/> | <input type="checkbox"/> | Maintain plumbing, appliances and fixtures |
| <input type="checkbox"/> | <input type="checkbox"/> | Test flood alarms |

2. Keep Water Out of Your Basement

- Correct grading to direct water at least 2m away from your foundation
- Extend downspouts and sump discharge pipes to direct water at least 2m away from your foundation or to the nearest drainage swale
- Install window well covers
- Install window wells that are 10-15 cm above the ground and are sealed at the foundation
- Install water-resistant basement windows
- Install a backwater valve (work with a plumber and get required permits)

3. Prepare to Remove Any Water from Your Basement as Quickly as Possible

- Remove obstructions to the basement floor drain
- Install a back-up sump pump and power source

4. Protect Personal Belongings in Your Basement

- Store valuables in watertight containers or remove
- Store hazardous materials (paints, chemicals) in watertight containers or remove
- Raise electronics off the floor
- Select removable area rugs and furnishings that have wooden or metal legs

Note: Not all actions will be applicable to each home. Completing these steps does not guarantee the prevention of basement flooding.



Prepared for Sally Homeowner
123 Some Rd. Burlington, ON



Date Completed: August 03, 2017
Assessor Name: Cheryl Evans
Assessor Email: c8evans@uwaterloo.ca

Prepared on behalf of AET Group www.aet98.com 1-877-876-9235



Table of Contents

1. [Introduction to Report](#)
2. [Definition of Terms](#)
3. [Outside Assessment Summary.](#)
4. [Inside Assessment Summary.](#)
5. [Additional Flood Protection Resources](#)
6. Appendices
 - A. [Client Information Summary.](#)
 - B. [Reported Past Water Damage Summary](#)
 - C. [Outside Assessment Form](#)
 - D. [Inside Assessment Form](#)



Introduction to Report

What Does This Report Include?

This report includes an easy to read summary of top ranked items for priority action that have received a "poor/needs further investigation" score or require specific mention based on questions asked by the homeowner. It also provides a record of all gathered information and provides additional helpful resources to help homeowners take action to reduce flood risk.

How Are Assessed Features Scored?

Assessors use the standardized assessment tool provided to guide them through a visual assessment of the property and to ask a list of preventative maintenance questions to homeowners. The information gathered is then compared to the tool's scoring definitions, developed by the University in Waterloo in concert with a wide variety of national experts in the area of basement flood risk reduction. Assessed Features are assigned scores of "Good-Best Practice", "Intermediate" or "Poor/ Needs Further Investigation" based on where they fall within these definitions. Any Assessed Features not accessible for observation and any preventative maintenance questions that are not completed by the homeowner are marked "Not Recorded."

What Does This Report Not Include?

Beyond summarizing the report findings related to assessed items that received a score of "poor/needs further investigation" or require specific mention based on questions asked by the homeowner the report does not formally state a prioritized approach for addressing deficiencies. It is up to Homeowner to decide which actions they will take and in what order.

To ensure program impartiality the report does not recommend specific contractors, suppliers or products. The report also does not provide in-depth drawings or tailored step-by-step instructions to complete projects at the home to address deficiencies.

How Was Information for this Report Gathered?

The contents of this report have been gathered by examining the physical condition of a variety of features inside and outside the home using simple tools such as a moisture meter, humidity gauge, flashlight and measuring tape. A verbal preventative maintenance questionnaire has also been completed with the homeowner or their designate.

Reporting Time Frame

This report documents the observed condition of physical features of the home and the preventative maintenance information gathered from the Homeowner on the day of the Assessment only.

Follow-Up Support Provided

Your assessment fee includes the equivalent of a 15 minute email follow-up conversation with your Assessor. Our customer service team can also answer your basic questions at 1-877-876-9235. For ongoing support, visit homefloodprotect.ca to register for our e-newsletter that includes important preventative maintenance reminders. For do-it-yourself tips and Homeowner Success stories, like us on Facebook @HomeFloodProtect.

What is Included in the Additional Resources Section?

A list of easy to read, highly practical, online links is provided to help Homeowners take action to reduce flood risk. These include how-to fact sheets and videos, local subsidy information, questions to ask your insurance provider and tips about hiring contractors.



Definition Of Terms

Scoring of Assessment

Each assessed item is assigned a score based on the standardized criteria laid out in the Home Flood Protection Assessment ranking system.

Score	Description
Good- Best practice	Observed or reported in good condition or reported maintenance practice
Intermediate	Observed or reported in intermediate condition or reported maintenance practice
Poor/ Needs Further Investigation	Observed or reported in poor condition or reported maintenance practice or needs further investigation
Not Reported	Unobserved or unreported observed condition or reported maintenance practice
Out of Scope	Out of scope for this assessment but worthy of further consideration

Understanding Different Types of Water Damage Risks at Your Home

The diagram and the definitions below are provided to help you understand the types of water damage that may affect any home due to deterioration of physical features, lack of preventative maintenance or water backup from municipal sewer systems during extreme weather events.

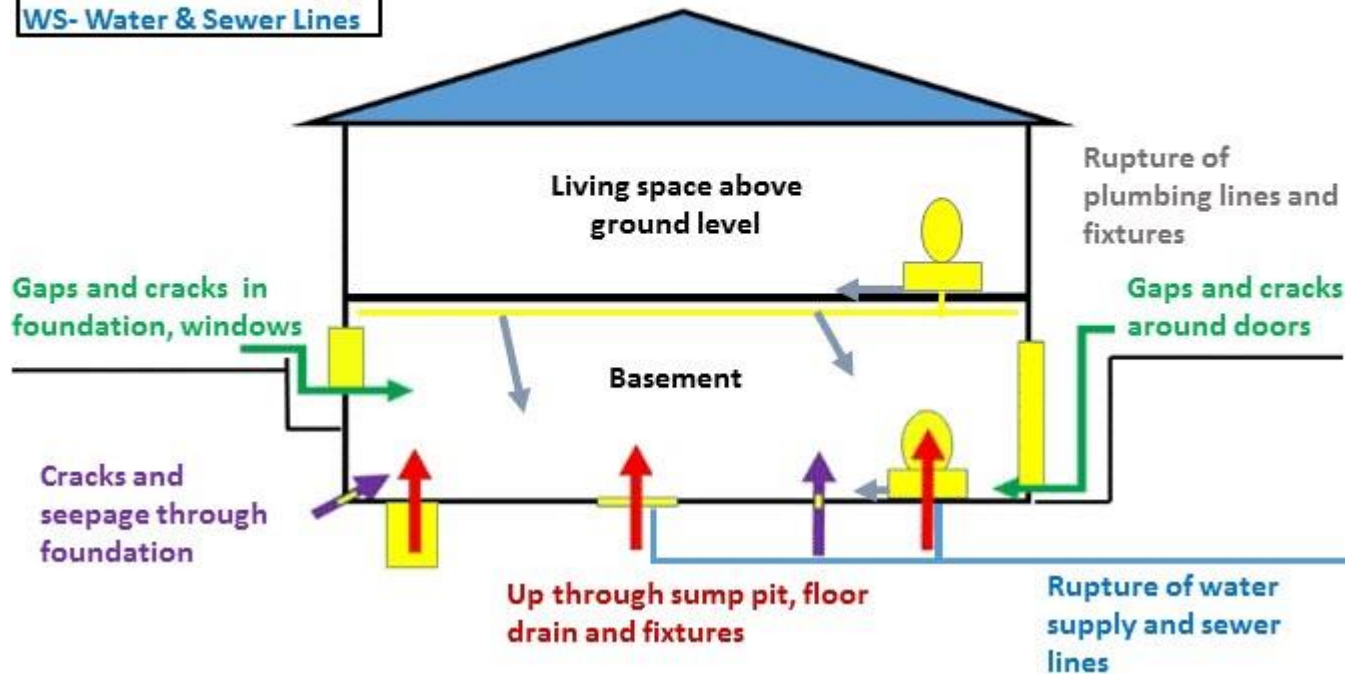
These water damage types are referenced in your Home Flood Protection Assessment Report to help you understand the types of water damage risks that have been identified at your home and your opportunities to reduce risk. Please see the customized list of maintenance best practices listed in your report to help you develop your preventative maintenance routine.

Insurance Coverage Considerations:

Sudden and accidental water damage is typically covered by insurers, however damage due to slow leaks or lack of preventative maintenance is typically not covered. Since there is no industry-wide, standard language used to define water damage types you may find using the terms and descriptions in this document helpful when working with your insurer to determine which coverage is best for you. Please note that not all insurance companies provide all types of coverages for all homes. See the "Questions for Your Insurance Provider" document in the Additional Resources section of the report for additional information.

Type of Water Damage:
 PF- Plumbing and Fixtures
 SB- Sewer Back-Up
 OW- Overland Water
 GS- Groundwater Seepage
 WS- Water & Sewer Lines

✓ **Typically Covered by Insurance:**
 Sudden and accidental damage
 X **Typically Not Covered by Insurance:**
 Damage from chronic leaks or poor maintenance

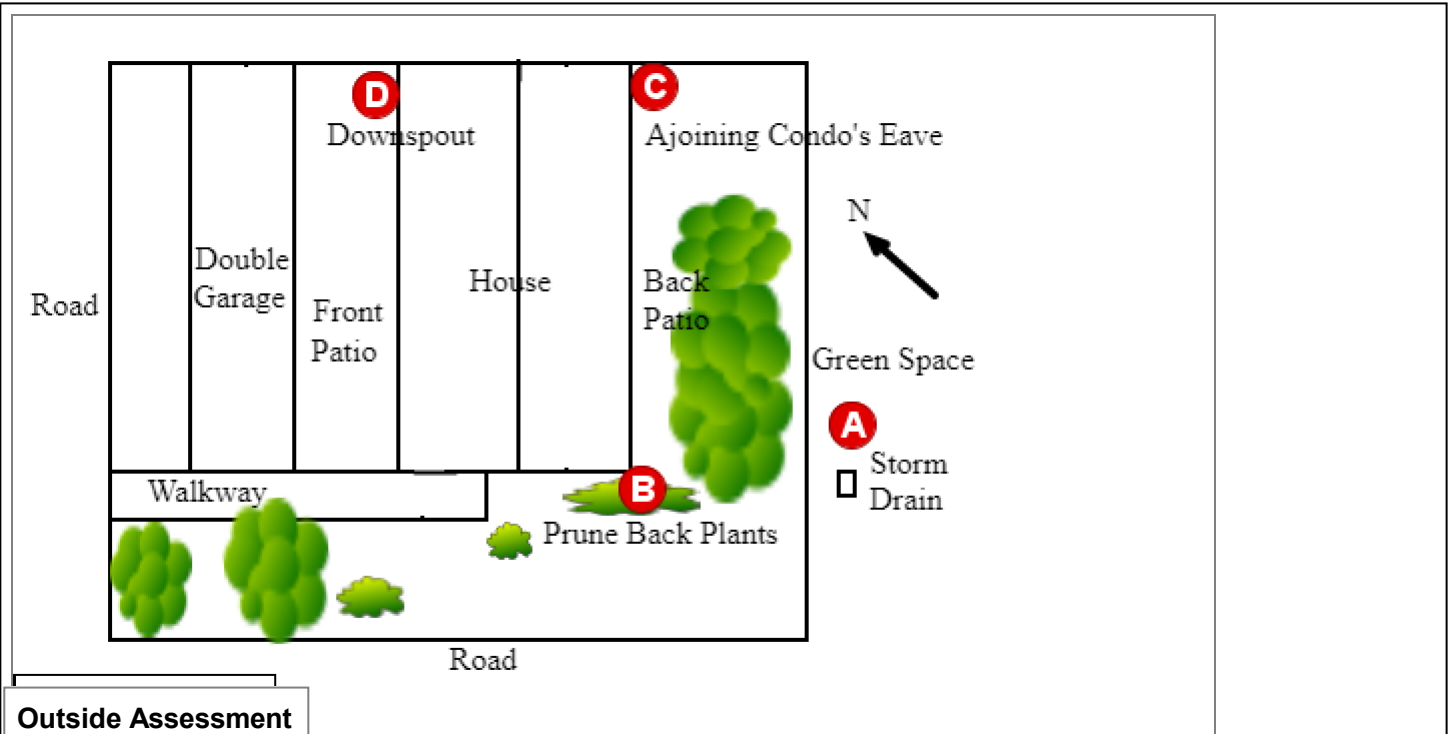


Typical Insurance Policy Coverage for Sudden and Accidental Damage	Code	Type of Water Damage	Simple Definition
Included	PF	Plumbing and Fixtures	Water that enters your home from a tear or rupture of plumbing pipes or fixtures (e.g. toilets, hot water heaters, dish washers)
Optional	SB	Sewer Back-Up	Water that flows from the sanitary or storm sewer or your home's foundation drains and backs up into your home through the sump pit, toilets and drains
Optional	OW	Overland Water	Water that flows from a lake or river, heavy rain or rapid snow melt and enters through cracks and gaps in your home's exterior from a point at or above ground level
Optional	GS	Ground Water	Water that has saturated the ground and enters your home below ground level through gaps, cracks and seepage through your home's foundation
Optional	WS	Water and Sewer Lines	Water that enters your home due a tear or rupture of a water supply and/or sewer lines



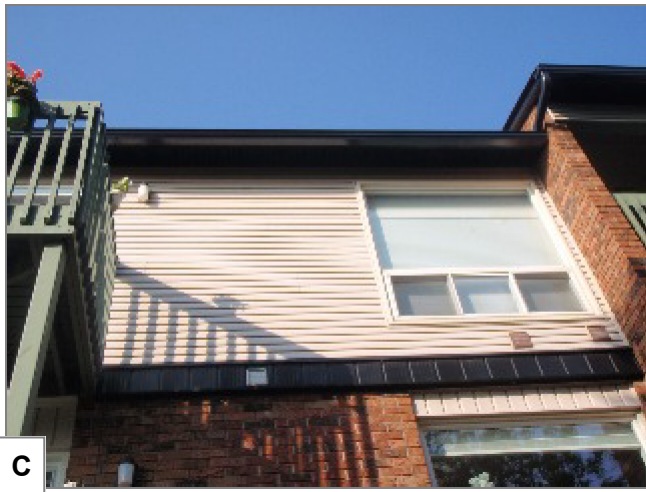
Outside Assessment Summary Top-Ranked Opportunities to Reduce Flood Risk

All features and maintenance practices that were assessed as "poor/ needs further investigation", require specific mention based on questions asked by the homeowner or are marked as "out of scope" but deserve further consideration, have been compiled into this summary.



Outside Assessment





Assessed Features

Fig	Assessed Feature and Best Practice	Type of Water Damage	Assessment	Opportunity to Reduce Risk
B	<p>Garden beds adjacent to home - Do garden beds slope away from your home at minimum of 5% slope and leave a minimum of 20 cm (8") of your foundation exposed? Do foundation plantings provide adequate light exposure and air movement to foundation?</p> <p>Foundation plantings provide good light and air circulation between plantings and foundation. A minimum 20 cm (8") of foundation remains exposed. Trees that will reach a height of 10m (30') or more are minimum of 5m (15') from foundation and shrubs are minimum of 1.8m (6') from foundation. The garden bed has a 5% slope away from the foundation and water drains freely away from the foundation.</p>	GS	<p>Foundation plantings provide poor light and air circulation between plantings and foundation. Less than 20cm (8") foundation remains exposed. Trees that will reach height of 10m (30') or are closer than 4m (12') from foundation and shrubs are closer than 1m (12") from foundation. The garden bed has less than 2-3% slope away from the foundation and water drains poorly away from the foundation.</p>	<p>See B on Outside Assessment diagram. Heavily prune back plantings to improve light and air circulation. Remove plantings that are too close to foundation. Correct grade to minimum 5% slope to ensure water flows away from foundation.</p>

C	Eaves troughs- Are eaves troughs adequately sized and in adequate condition to reduce flood risk? Eaves troughs wrap around entire building, are in good repair and are free of debris, with a minimum downspout placement every 9-12m (30-40'). Eaves trough of 13cm (5") are present for asphalt shingles or 15cm (6") for metal roof.	GS	Eaves troughs do not wrap around entire building, are in poor repair, contain a high amount of debris, OR do not have downspouts placed every 9-12m (30-40'). Eaves troughs are undersized and/or do not have 13cm (5") eaves trough for asphalt shingles or 15cm (6") for metal roof OR needs further investigation.	See C on Outside Assessment diagram. The eaves trough from the joining condo drains into your eaves trough causing a potential over flow of your eave trough. You have noted regular overflow of your eaves trough which increases your risk of overland flooding. Contact the Condo Corp to assess and consult a qualified professional to correct the eaves drainage and install proper downspouts to direct water away from your property.
	Connected downspouts- Are downspouts connected to SANITARY OR STORM sewer? Where approved by local authorities, downspouts should be disconnected from foundation drains, caps should be installed over underground pipe connections and downspouts should be extended to at least 1.8-3m (6-10') from the foundation or to nearest drainage swale. Water should not drain onto hard surfaces or onto adjacent property.	SB	Note: Check with the government department having jurisdictional authority to determine eligibility for downspout disconnection and any available subsidy.	See D on Outside Assessment diagram. Downspouts are connected to a clay tile in the front patio and rear patio with no visible drainage point. Consult with your Condo Corp or Municipality about whether disconnection is right for your property and if grants are available.

Assessed Maintenance

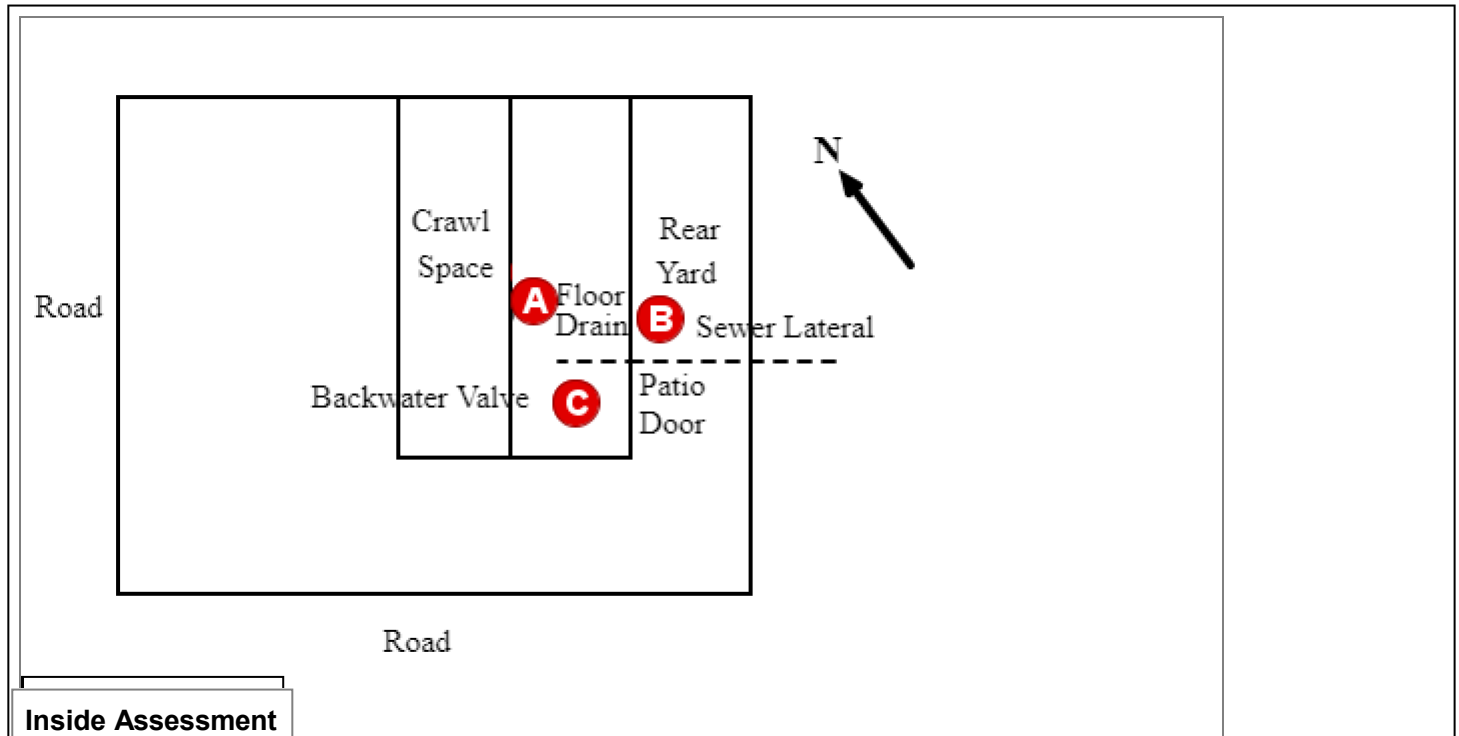
Fig	Maintenance Feature and Best Practice	Type of Water Damage	Assessment	Opportunity to Reduce Risk
A	Overland drainage maintenance- Once per season or when major storm events are predicted, homeowner checks for and removes debris and obstructions from water flow paths including swales, nearby storm drains, culverts and drainage ditches.	OW	Never checks for and removes debris and obstructions from water flow paths including swales, nearby storm drains, culverts and drainage ditches.	See A on Outside Assessment diagram. Once per season or when major storm events are predicted, check for and remove debris and obstructions in swales and the storm drain behind your property. If storm drain behind your property is free of debris but is still not draining within 24 hours, contact the Condo Corp.
	Landscaping maintenance- Once per year homeowner corrects grading issues within 1.8m (6') of foundation, applies mulch to garden beds, aerates lawn.	GS	Homeowner never corrects grading issues within 1.8m (6') of foundation, applies mulch to garden beds, aerates lawn.	Once per year correct grading issues within 10' (3m) of foundation, apply mulch to garden beds.

	Impermeable (waterproof) driveway maintenance- Once per season homeowner checks for evidence of pooling and ice buildup, repairs grading, seals cracks, fills gaps, removes weeds.	GS	Homeowner never checks for evidence of pooling and ice buildup, repairs grading, seals cracks, fills gaps, removes weeds.	Once per season check for evidence of pooling, ice buildup, repair grading, seal cracks, fill gaps, remove weeds.
	Walkways and patios maintenance- Once per season homeowner checks for evidence of pooling, ice buildup, repairs grading, seals cracks, fill gaps, removes weeds.	OW, GS	Homeowner never checks for evidence of pooling, ice buildup, repairs grading, seals cracks, fill gaps, removes weeds.	Once per season check for evidence of pooling, ice buildup, repair grading, fill gaps, removes weed. Replace if surface in very poor condition.
	Grading at foundation maintenance- Each season homeowner checks for signs of water pooling or ice formation; corrects grading to achieve at least 5% slope away from foundation.	OW, GS	Homeowner never checks for signs of water pooling or ice formation; corrects grading to achieve at least 5% slope away from foundation.	Each season check for signs of water pooling or ice formation. Repair grading 1-2% for paved surfaces.
D	Downspout maintenance- Once per season homeowner checks to make sure downspout extensions are secured, free of leaks, depositing water at least 1.8m (6') from foundation or to drainage swale and that water is not flowing onto adjacent property.	GS	Homeowner never checks to make sure downspout extensions are secured, free of leaks, depositing water at least 1.8m (6') from foundation or to drainage swale and that water is not flowing onto adjacent property.	See D on Outside Assessment diagram. Once per year check to make sure downspout extensions are secured, free of leaks, deposit water 10' (3m) from foundation or to a drainage swale and that water is not flowing onto adjacent property. Downspouts are connected to a clay tile in the front patio and rear patio with no visible drainage point. Consult with your Condo Corp or Municipality about whether disconnection is right for your property and if grants are available.
	Foundation structure maintenance- Once per season homeowner checks for cracks and gaps, repairs as required.	GS	Homeowner never checks for cracks and gaps, repairs as required.	Once per season check for cracks and gaps, repair as required. Contact a qualified foundation repair contractor for cracks greater than 1/4" (6mm).

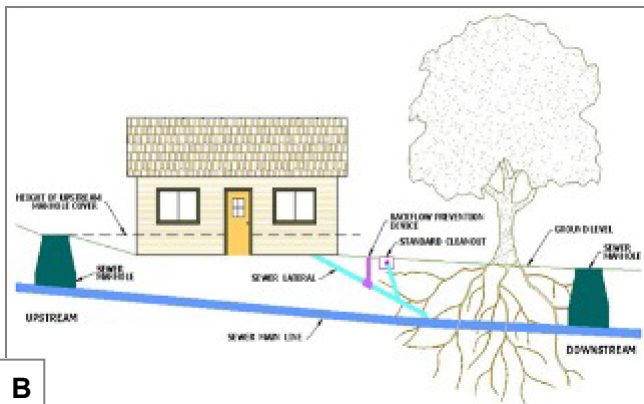


Inside Assessment Summary Top-Ranked Opportunities to Reduce Flood Risk

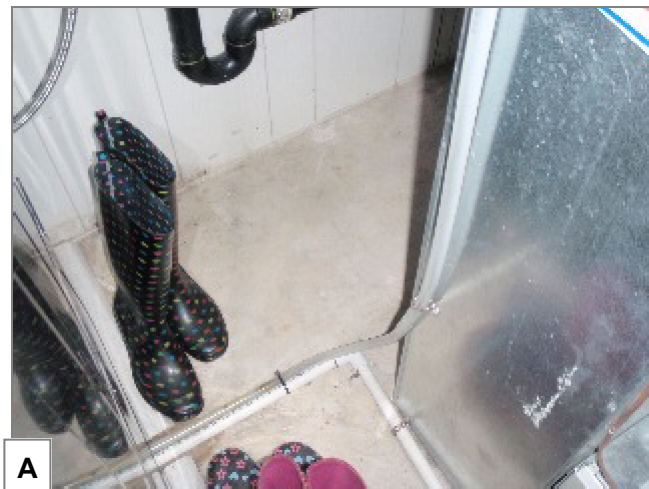
All features and maintenance practices that were assessed as "poor/ needs further investigation", require specific mention based on questions asked by the homeowner or are marked as "out of scope" but deserve further consideration, have been compiled into this summary.



Inside Assessment



B



A



C

Assessed Features

Fig	Assessed Feature and Best Practice	Type of Water Damage	Assessment	Opportunity to Reduce Risk
B	Sanitary sewer lateral- Is your sanitary sewer lateral in good condition and is it free of blockages? Inspection of sanitary sewer lateral with a closed circuit television (CCTV) is best practice if a home is over 25 years old, if the home has experienced sewer backup or if the home experiences chronic drain backup. Note: Determining the condition of the sewer lateral is outside of scope of this assessment. Consult a qualified professional.	SB, WS	Note: Only a qualified professional can formally identify the condition and the connection status of this item. Note: Work with a qualified professional and check with the government department having jurisdictional authority to determine availability your eligibility for any subsidies.	See B on Inside Assessment diagram. Your sanitary lateral is over 25 years old. Consider working with a qualified professional to complete a closed circuit television inspection of the sewer lateral to determine if maintenance or repairs are recommended to reduce your flood risk. If work is recommended, engage a qualified professional and contact the Region to determine your eligibility for a subsidy.
A	Floor drain- Is your floor drain clear of physical barriers to water flow and in adequate condition to reduce flood risk? Note: Some homes built before 1950 do not have a floor drain. Floor drain is present, demonstrates clear flow path of water to drain, drain is in good condition, free of debris, standing water is present in trap.	SB	Floor drain is present, demonstrates partly blocked water flow path to drain, drain in poor condition (evidence of cracks, roots, smell), debris evident, standing water present in trap.	See A on Inside Assessment diagram. The floor drain is partially blocked under the washer and dryer. Consider relocating the washer and/or dryer or both to provide access to the floor drain. Remove items blocking the path of water flow to drain, clean out debris in the trap.
	Basement sanitary sewer lateral cleanout- Basement sanitary sewer lateral cleanout is present and easily accessible.	SB	Basement sanitary sewer lateral cleanout is inaccessible OR not present OR needs further investigation.	The basement sanitary cleanout was not located. Consult with the Condo Corp to locate the sanitary sewer cleanout. Consider working with a qualified plumber to install an easily accessible hatch to improve maintenance access.

C	<p>Backwater valve- Is a backwater valve appropriate for use in your home or if it is in place, is it in good condition? Consider working with a qualified professional to determine if a backwater valve is suitable for your home or to evaluate the condition of your backwater valve. Installing a backwater valve alarm further reduces risk by letting the homeowner know when the valve is closed and that house drains should not be used.</p> <p>Note: This item is outside of scope of this assessment. Consult a qualified professional.</p>	SB	<p>Note: Only a qualified professional can formally identify if a backwater valve would be right for your home and the condition of an existing unit. Note: Check with the check with the government department having jurisdictional authority to determine availability of subsidy for installation and your eligibility.</p>	<p>See C on Inside Assessment diagram.</p> <p>Consider working with a qualified plumber to determine if a backwater valve is appropriate at your home to reduce flood risk. Consult with the municipality about grants to support the installation of a backwater valve on your sanitary sewer line.</p>
	<p>Foundation drain- Is a foundation drain (weepers) present? Is foundation drain functioning properly to drain water away from your foundation? Note: Foundation drains are not common before 1960. Depending on the age of your house it may or may not have a foundation drain or it may have a drain that is old and in poor condition. Missing or clogged drains increase the risk of basement infiltration flooding. Foundation drains that are connected to sanitary or storm sewers increase the risk of sewer backup related flooding.</p> <p>Note: Determining the condition and the plumbing connection of the foundation drain is outside of scope of this assessment. Consult a qualified professional.</p>	GS, OW, SB	<p>Note: Only a qualified professional can formally identify the condition of this item or recommend if one would be right for your home. Note: Check with the check with the government department having jurisdictional authority to determine availability of subsidy and your eligibility.</p>	<p>This house does not appear to have a foundation drain.</p>
	<p>Indoor Sources of Moisture- Are indoor sources of moisture limited to reduce mold and mildew risk? If bathroom with shower is present, fan is present and when running is strong enough to hold a piece of tissue. Fan is run for 30-60 minutes after bath or shower use. Furnace humidifiers do not operate in the summer. Wood is not stored, laundry is not hung, boots are not dried etc. in the basement.</p>	N/A	<p>If bathroom with shower is present, fan is present but can't hold piece of tissue when running, OR fan is not present OR fan is run for less than 10 minutes after shower or bath. Furnace humidifiers operate in the summer OR items are stored that increase humidity. OR needs further investigation.</p>	<p>No bathroom in the basement. The relative humidity was approx. 55% in the basement. Run dehumidifier(s) to ensure relative humidity is kept at between 30-50%.</p>

Assessed Maintenance

Fig	Maintenance Feature and Best Practice	Type of Water Damage	Assessment	Opportunity to Reduce Risk
	<p>Sanitary sewer lateral maintenance- If the home is over 25 years of age, has experienced sewer backup or has experienced chronic drainage issues, the homeowner has completed closed circuit television (CCTV) inspection. Based on recommendations of a qualified professional, homeowner has cleaned out, lined or replaced damaged lateral as needed. Homeowner prevents clogging by preventing fats, oils, flushable wipes and grease from going down the drain.</p>	<p>SB, WS</p>	<p>If the home is over 25 years of age, has experienced sewer backup or has experienced chronic drainage issues, the homeowner has not completed closed circuit television (CCTV) inspection. Homeowner puts fats, oils, flushable wipes and grease down the drain.</p>	<p>Complete sewer camera inspection if sewer backup occurs; camera inspection recommended every 5-10 years as preventative measure. Once the home is 25 years old, line or replace damaged lateral as needed. Prevent clogging by preventing fats, oils and grease from going down the drain.</p>
	<p>Floor drain maintenance- Each season the homeowner removes obstacles to water flowing freely to the drain, tops up standing water in trap, removes any debris from drain. In case of blockage, strange smell, lack of water in trap, contacts a licensed plumber.</p>	<p>SB</p>	<p>Homeowner never removes obstacles to water flowing freely to the drain, tops up standing water in trap, removes any debris from drain. In case of blockage, strange smell, lack of water in trap, homeowner does not contact a licensed plumber.</p>	<p>See A on Inside Assessment diagram. Each season move the washer and dryer to inspect the floor drain, clear the path of water to drain, top up standing water in trap, remove any debris from drain. In case of blockage, strange smell, lack of water in trap, contact a licensed plumber.</p>
	<p>Unfinished wall crack maintenance- Homeowner checks for cracks once per season, fills cracks, removes sources of water buildup at foundation as needed (corrects drainage, repairs eaves troughs and/or removes snow in winter, seals foundation from outside in extreme cases). Consults with professional in case of major problems.</p>	<p>GS</p>	<p>Homeowner never checks for cracks, fills cracks, removes sources of water buildup at foundation as needed.</p>	<p>Check for cracks once per season, fill cracks, remove sources of water buildup at foundation as needed (correct drainage, repair eaves troughs and/or remove snow in winter, seal foundation from outside in extreme cases).</p>
	<p>Unfinished wall efflorescence maintenance- Once per season checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	<p>GS</p>	<p>Never checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	<p>Once per season check for evidence of efflorescence. Address sources of water buildup at foundation. Clean and repaint with masonry waterproofing paint as required.</p>

<p>Unfinished floor crack maintenance- Checks for cracks once per season, fills cracks, removes source of water buildup at foundation as needed (corrects drainage, repairs eaves troughs and/or removes snow in winter, seals foundation from outside in extreme cases). Consults with professional regarding major concerns.</p>	<p>GS</p>	<p>Homeowner never checks for cracks, fills cracks, removes source of water buildup at foundation as needed (corrects drainage, repairs eaves troughs and/or removes snow in winter, seals foundation from outside in extreme cases). Never consults with qualified professional regarding major concerns.</p>	<p>Check for cracks once per season, fill cracks, remove source of water buildup at foundation as needed (correct drainage, repair eaves troughs and/or remove snow in winter, seal foundation from outside in extreme cases).</p>
<p>Unfinished floor efflorescence maintenance- Once per season homeowner checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	<p>GS</p>	<p>Homeowner never checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	<p>Once per season check for evidence of efflorescence. Address sources of water buildup at foundation. Clean and repaint with masonry waterproofing paint as required.</p>
<p>Indoor plumbing and fixtures maintenance- Each season toilets, taps, pipes and water heaters are inspected by homeowner, inspected and repaired by plumber as needed. Water leak alarms are present.</p>	<p>PF</p>	<p>Toilets, taps, pipes and water heaters are not inspected by homeowner, inspected and repaired by plumber as needed. No water leak alarms are present.</p>	<p>This house does not have a basement bathroom, however; each season inspect taps, pipes and water heater for leaks and signs of wear. Repair or replace items with the assistance of a plumber as needed.</p>



Additional Flood Protection Resources

Regional Resources

[Saskatoon Key Flood Protection Resources](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Saskatoon_final.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Saskatoon_final.pdf

[Saskatoon Contractor List](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Contractor-List-Saskatoon_March-2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Contractor-List-Saskatoon_March-2018.pdf

[Burlington Key Flood Protection Resources](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Burlington_2017.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Burlington_2017.pdf

[Burlington Contractor List](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Contractors-List-Final-Burlington.pdf)

<http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Contractors-List-Final-Burlington.pdf>

[Toronto Key Flood Protection Resources](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Toronto_2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Toronto_2018.pdf

[Toronto Contractor List](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Contractor-List-Toronto-Final-March-2018.pdf)

<http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Contractor-List-Toronto-Final-March-2018.pdf>

[Hamilton Key Flood Protection Resources](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Hamilton-2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Hamilton-2018.pdf

[Oakville Key Flood Protection Resources](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Oakville-2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Oakville-2018.pdf

[Waterloo Region Flood Protection Resources](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Waterloo-Region-2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Key-Flood-Protection-Resources_Waterloo-Region-2018.pdf

National Resources

[Infographic- Top Tips For Reducing Flood Risk](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2016/08/reduce_your_risk_infographic_r13.jpg)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2016/08/reduce_your_risk_infographic_r13.jpg

[Seasonal Flood Protection Checklist](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2017/04/Seasonal-Flood-Protection-Maintenance-Record-2018_Final.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2017/04/Seasonal-Flood-Protection-Maintenance-Record-2018_Final.pdf

[Infographic- Understanding Flood Insurance Coverage](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2016/08/types_of_flood_risks_infographic_r10.jpg)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2016/08/types_of_flood_risks_infographic_r10.jpg

[Question Ask Your Insurance Providers to](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Questions-to-Ask-Your-Insurance-Provider_March-2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Questions-to-Ask-Your-Insurance-Provider_March-2018.pdf

[Estimated Cost Ranges for Completing Flood Protection Projects](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Cost-Range-for-Flood-Risk-Reduction-Projects_final.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Cost-Range-for-Flood-Risk-Reduction-Projects_final.pdf

[Water Resistant Building Materials for Your Basement](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Water-Resistant-Building-Materials-Resource-for-Homeowners_FINAL.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Water-Resistant-Building-Materials-Resource-for-Homeowners_FINAL.pdf

[Temporary Flood Barriers for Your Home](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Final-Copy-Flood-Barriers-for-Homeowners_2018.pdf)

http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/Final-Copy-Flood-Barriers-for-Homeowners_2018.pdf

[CMHC Guide for Understanding and Fixing Interior Moisture Problems](http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/CMHC-Mold-Brochure.pdf)

<http://www.intactcentreclimateadaptation.ca/wp-content/uploads/2018/03/CMHC-Mold-Brochure.pdf>



Appendices

Appendix A. Client Information Summary

Type of Home	Townhouse End Unit
Ownership	Owner
Type of Ownership	Condominium
Consents To Study	Yes
Length of Time in Home	0-5 years
Plan to Stay in Home	5-10 years
Year Home Was Built	1982
Era of Neighbourhood development	Between 1971 and 1990
Home Layout	Split Level
Home Size	Between 1000 to 2000 sq ft
Lot Size	Up to 1/4 acre
Basement Type	Partly finished
Foundation Type	Poured concrete
Soil Type	Unsure
Property within CA Regulated Area	No
Water Supply	Municipal
Sewage Service	Municipal
Weather Conditions	Sunny



Appendix B. Reported Past Water Damage Summary

Past Water Damage to Your Lot and Exterior Structures	
Have you experienced any type of water damage to your lot and/or exterior structures (decks, garages, sheds) in the past?	Yes
What was the cause of the water damage?	Rain fall or snow melt originating on your property.
What category would the water damage fit into (total damage to structures or content)	Above \$25,000
What actions did you take to reduce your risk of future water damage outside your home?	Completing repairs or upgrades, Completing maintenance activities.
What is your level of concern about experiencing water damage to your lot or exterior structures in the future?	High
Please list your top 2 water damage-related questions you have about your lot or exterior structures	How do I prevent overland flooding like I experienced in my former home?
Past Water Damage To Your Home	
Have you experienced water in your basement or any type of water damage inside your home in the past?	Yes
What was the cause of the water damage?	Sewer backup through toilet or drains, Sump pump failure.
What category would the water damage fit into (Total damage to structures or content)	Above \$25,000
What actions did you take to reduce your future risk of indoor water damage?	Completing repairs or upgrades, Completing maintenance activities.
What is your level of concern about experiencing water damage to your home is in the future?	High
Please list top 2 water-damage related questions you have about your home	How do I prevent sewer back up to avoid the terrible flood like I had at my former home?



Appendix C. Outside Assessment Form

Assessed Feature and Best Practice	Type of Water Damage	Assessment	Opportunity to Reduce Risk
Overland Drainage of Property			
<p>Overland drainage of property- Twenty four hours after a heavy rain do you see ponding or pooling on your property or in nearby storm drains or drainage ditches? Twenty four hours after a heavy rain water does not pool on the subject property or in nearby storm drains or drainage ditches. If drainage swales are present on the property they are unblocked and are at least 15cm (6") deep.</p>	OW	Twenty four hours after a heavy rain some water pooling is seen on the subject property or in nearby storm drains or drainage ditches. If drainage swales are present on the property they are unblocked and are at least 15cm (6") deep.	Ensure water flows away freely from the foundation. There is a swale that runs along the back property lines. Behind your property, in the swale is a storm drain. Consult with the Condo Corp to ensure that the storm drain is free and clear of any obstructions. Ensure that the storm drain has the capacity to drain water away from an extreme storm event. Contact the Condo Corp if the storm drain is not emptying within 24 hours. Note: Consult with the City about drainage by-laws if any significant grading change is being considered.
<p>Overland drainage maintenance- Once per season or when major storm events are predicted, homeowner checks for and removes debris and obstructions from water flow paths including swales, nearby storm drains, culverts and drainage ditches.</p>	OW	Never checks for and removes debris and obstructions from water flow paths including swales, nearby storm drains, culverts and drainage ditches.	See A on Outside Assessment diagram. Once per season or when major storm events are predicted, check for and remove debris and obstructions in swales and the storm drain behind your property. If storm drain behind your property is free of debris but is still not draining within 24 hours, contact the Condo Corp.
Landscaping			

<p>Condition and location of trees- Would falling limbs due to strong winds or ice accumulation pose any risk of property damage to the home or hydro lines? Does their location pose potential risk to the home's foundation or sewer lateral? Trees appear to be in good condition. Their limbs do not hang over the home, driveway or hydro lines. Trees are in a position where they likely do not pose a root damage risk to the home's foundation or sewer lateral.</p>	<p>SB, WS, GS</p>	<p>Trees appear to be in moderate condition. OR A few tree limbs hang over the home, driveway or hydro lines. OR The position of trees represents moderate potential root risk to the home's foundation or sewer lateral.</p>	<p>If the trees are on Condo Corp property, request trimming or removal of tree by the Condo Corp. If the trees are on private property consider contacting a certified arborist to assess tree health and prune as required. Look for warning signs of sewer lateral blockage inside home (see Inside Assessment).</p>
<p>Tree maintenance- Once per season homeowner checks condition of trees and waters during drought periods.</p>	<p>SB, WS, GS</p>	<p>Once per year homeowner checks condition of trees and waters during drought periods.</p>	<p>Once per season check the condition of the trees. Water during drought periods. If concerned about the trees on the Condo Corp property contact the Condo Corp for assistance. If concerned about trees on your property contact a certified arborist for help.</p>
<p>Garden beds adjacent to home - Do garden beds slope away from your home at minimum of 5% slope and leave a minimum of 20 cm (8") of your foundation exposed? Do foundation plantings provide adequate light exposure and air movement to foundation? Foundation plantings provide good light and air circulation between plantings and foundation. A minimum 20 cm (8") of foundation remains exposed. Trees that will reach a height of 10m (30') or more are minimum of 5m (15') from foundation and shrubs are minimum of 1.8m (6') from foundation. The garden bed has a 5% slope away from the foundation and water drains freely away from the foundation.</p>	<p>GS</p>	<p>Foundation plantings provide poor light and air circulation between plantings and foundation. Less than 20cm (8") foundation remains exposed. Trees that will reach height of 10m (30') or are closer than 4m (12') from foundation and shrubs are closer than 1m (12") from foundation. The garden bed has less than 2-3% slope away from the foundation and water drains poorly away from the foundation.</p>	<p>See B on Outside Assessment diagram. Heavily prune back plantings to improve light and air circulation. Remove plantings that are too close to foundation. Correct grade to minimum 5% slope to ensure water flows away from foundation.</p>
<p>Landscaping maintenance- Once per year homeowner corrects grading issues within 1.8m (6') of foundation, applies mulch to garden beds, aerates lawn.</p>	<p>GS</p>	<p>Homeowner never corrects grading issues within 1.8m (6') of foundation, applies mulch to garden beds, aerates lawn.</p>	<p>Once per year correct grading issues within 10' (3m) of foundation, apply mulch to garden beds.</p>
<p>Driveways, Walkways and Patios</p>			

<p>Impermeable (waterproof surface such as asphalt and interlocking pavers) driveway- Is your driveway free of cracks and does it slope away from your home at a minimum of 1-2%? Driveway is sloped away from the foundation walls at a slope of 1-2% and is free of cracks and gaps.</p>	GS	Impermeable driveway directs water away from foundation (1-2% slope) and is free of cracks and gaps.	No action required.
<p>Impermeable (waterproof) driveway maintenance- Once per season homeowner checks for evidence of pooling and ice buildup, repairs grading, seals cracks, fills gaps, removes weeds.</p>	GS	Homeowner never checks for evidence of pooling and ice buildup, repairs grading, seals cracks, fills gaps, removes weeds.	Once per season check for evidence of pooling, ice buildup, repair grading, seal cracks, fill gaps, remove weeds.
<p>Walkways and patios- Do your walkways and patios slope a minimum of 1-2% away from foundation walls? Are they free of cracks and gaps? Walkway achieves minimum slope of 1-2% to direct water away from foundation and is free of cracks and gaps.</p>	OW, GS	Walkway achieves minimum 1-2% slope to direct water away from foundation, small number of cracks or gaps are present.	Rear patio stone remove weeds and fill joints with sand to prevent additional damage.
<p>Walkways and patios maintenance- Once per season homeowner checks for evidence of pooling, ice buildup, repairs grading, seals cracks, fill gaps, removes weeds.</p>	OW, GS	Homeowner never checks for evidence of pooling, ice buildup, repairs grading, seals cracks, fill gaps, removes weeds.	Once per season check for evidence of pooling, ice buildup, repair grading, fill gaps, removes weed. Replace if surface in very poor condition.
Grading at Foundation			
<p>Grading at foundation- After a heavy rain does the grading within 1.8m (6') of your foundation walls direct water away or do you see water pooling? The grading within 1.8 m (6') of the foundation walls achieves a minimum 5% slope to direct water away from the foundation. The surface does not easily soak up water.</p>	OW, GS	The grading within 1m (3') at the foundation achieves a 5% slope away from the foundation. The surface moderately soaks up water.	Rear patio, repair grading to achieve at least 1-2% for paved surfaces. Replace surface with non-water absorbent material.
<p>Grading at foundation maintenance- Each season homeowner checks for signs of water pooling or ice formation; corrects grading to achieve at least 5% slope away from foundation.</p>	OW, GS	Homeowner never checks for signs of water pooling or ice formation; corrects grading to achieve at least 5% slope away from foundation.	Each season check for signs of water pooling or ice formation. Repair grading 1-2% for paved surfaces.
Eaves Troughs and Downspouts			

<p>Eaves troughs- Are eaves troughs adequately sized and in adequate condition to reduce flood risk? Eaves troughs wrap around entire building, are in good repair and are free of debris, with a minimum downspout placement every 9-12m (30-40'). Eaves trough of 13cm (5") are present for asphalt shingles or 15cm (6") for metal roof.</p>	GS	Eaves troughs do not wrap around entire building, are in poor repair, contain a high amount of debris, OR do not have downspouts placed every 9-12m (30-40'). Eaves troughs are undersized and/or do not have 13cm (5") eaves trough for asphalt shingles or 15cm (6") for metal roof OR needs further investigation.	See C on Outside Assessment diagram. The eaves trough from the joining condo drains into your eaves trough causing a potential overflow of your eave trough. You have noted regular overflow of your eaves trough which increases your risk of overland flooding. Contact the Condo Corp to assess and consult a qualified professional to correct the eaves drainage and install proper downspouts to direct water away from your property.
<p>Eaves trough maintenance- Each season during heavy water flow, homeowner checks eaves troughs for leaks, debris and blockage. Repairs and debris removal are completed as needed.</p>	GS	Each season during heavy water flow, homeowner checks eaves troughs for leaks, debris and blockage. Repairs and debris removal are completed as needed.	Each season during heavy water flow, check for leaks, debris and blockage. Repair, replace and clean out as needed.
<p>Connected downspouts- Are downspouts connected to SANITARY OR STORM sewer? Where approved by local authorities, downspouts should be disconnected from foundation drains, caps should be installed over underground pipe connections and downspouts should be extended to at least 1.8-3m (6-10') from the foundation or to nearest drainage swale. Water should not drain onto hard surfaces or onto adjacent property.</p>	SB	Note: Check with the government department having jurisdictional authority to determine eligibility for downspout disconnection and any available subsidy.	See D on Outside Assessment diagram. Downspouts are connected to a clay tile in the front patio and rear patio with no visible drainage point. Consult with your Condo Corp or Municipality about whether disconnection is right for your property and if grants are available.
<p>Disconnected downspouts- Are downspouts (that are not presently connected into underground pipes) directing water at least 1m (6') away from your home or nearest drainage swale? For downspouts that have been disconnected, caps are securely in place to block movement of water into underground pipes. Downspouts extend at least 1.8m (6') away from the foundation or to drainage swale. Water is not directed onto hard surfaces or adjacent private property.</p>	GS	N/R	N/R

<p>Downspout maintenance- Once per season homeowner checks to make sure downspout extensions are secured, free of leaks, depositing water at least 1.8m (6') from foundation or to drainage swale and that water is not flowing onto adjacent property.</p>	<p>GS</p>	<p>Homeowner never checks to make sure downspout extensions are secured, free of leaks, depositing water at least 1.8m (6') from foundation or to drainage swale and that water is not flowing onto adjacent property.</p>	<p>See D on Outside Assessment diagram. Once per year check to make sure downspout extensions are secured, free of leaks, deposit water 10' (3m) from foundation or to a drainage swale and that water is not flowing onto adjacent property. Downspouts are connected to a clay tile in the front patio and rear patio with no visible drainage point. Consult with your Condo Corp or Municipality about whether disconnection is right for your property and if grants are available.</p>
<p>Foundation</p>			
<p>Foundation structure- Is your foundation free of cracks and gaps? Foundation appears to be in good condition, is free of cracks and finishing gaps (e.g. missing parging). Foundation penetrations are well sealed and sit above the anticipated flood level.</p>	<p>GS</p>	<p>Foundation appears to be in good condition, is free of cracks and finishing gaps (e.g. missing parging). Foundation penetrations are well sealed and sit above the anticipated flood level.</p>	<p>No action required.</p>
<p>Foundation structure maintenance- Once per season homeowner checks for cracks and gaps, repairs as required.</p>	<p>GS</p>	<p>Homeowner never checks for cracks and gaps, repairs as required.</p>	<p>Once per season check for cracks and gaps, repair as required. Contact a qualified foundation repair contractor for cracks greater than 1/4" (6mm).</p>
<p>Foundation clearance maintenance- Stored items are kept at least 15cm (6") from foundation. As dictated by snow storm events, homeowners clears snow 1m (3'6") away from foundation, keeps window openings clear of snow and ensures vents are clear.</p>	<p>GS</p>	<p>Stored items are kept at least 15cm (6") from foundation. As dictated by snow storm events, homeowner clears snow 1m (3'6") away from foundation, keeps window openings clear of snow piles and ensures vents are clear.</p>	<p>Store item at least 6" from foundation. At intervals dictated by snow storms, regularly keep snow piles 3' (1m) away from foundation and keep window openings clear of snow piles. Ensure vents are clear.</p>
<p>Foundation efflorescence- Are there signs of efflorescence on the foundation that could indicate moisture problems? Efflorescence (mineral deposits) indicate water moving through masonry, evaporating, leaving minerals behind. Presence of efflorescence can indicate water issues that can lead to spalling or structural damage.</p>	<p>GS</p>	<p>No evidence of efflorescence.</p>	<p>No action required.</p>

<p>Foundation moisture content- Is your foundation showing high levels of water retention? Low level of moisture at surface is indicated.</p>	<p>GS</p>	<p>Low level of moisture at surface is indicated.</p>	<p>No action required.</p>
<p>Windows</p>			
<p>Condition of windows- Are windows in adequate condition to help reduce risk of basement flooding? Frames, glass and seals are all in good condition.</p>	<p>OW</p>	<p>Frames, glass and seals are in moderate condition.</p>	<p>Seal and repair frames, glass and seals, replace as required.</p>
<p>Exterior Water Sources</p>			
<p>Hose bib maintenance- Spring, summer, fall homeowner checks for leaks, repairs as necessary. Before winter, outdoor water supply is shut off and water line is drained. Hose is drained and removed.</p>	<p>OW, GS</p>	<p>Once per year homeowner checks for leaks, repairs as necessary. Before winter, outdoor water supply is shut off and water line is drained. Hose is drained but not removed.</p>	<p>Spring, summer, fall check for leaks, repair as necessary. In the winter shut off outdoor water supply and drain water line.</p>



Appendix D. Inside Assessment Form

Assessed Feature and Best Practice	Type of Water Damage	Assessment	Opportunity to Reduce Risk
Sewer and Storm Lateral			
Sanitary sewer lateral- Is your sanitary sewer lateral in good condition and is it free of blockages? Inspection of sanitary sewer lateral with a closed circuit television (CCTV) is best practice if a home is over 25 years old, if the home has experienced sewer backup or if the home experiences chronic drain backup. Note: Determining the condition of the sewer lateral is outside of scope of this assessment. Consult a qualified professional.	SB, WS	Note: Only a qualified professional can formally identify the condition and the connection status of this item. Note: Work with a qualified professional and check with the government department having jurisdictional authority to determine availability your eligibility for any subsidies.	See B on Inside Assessment diagram. Your sanitary lateral is over 25 years old. Consider working with a qualified professional to complete a closed circuit television inspection of the sewer lateral to determine if maintenance or repairs are recommended to reduce your flood risk. If work is recommended, engage a qualified professional and contact the Region to determine your eligibility for a subsidy.
Sanitary sewer lateral maintenance- If the home is over 25 years of age, has experienced sewer backup or has experienced chronic drainage issues, the homeowner has completed closed circuit television (CCTV) inspection. Based on recommendations of a qualified professional, homeowner has cleaned out, lined or replaced damaged lateral as needed. Homeowner prevents clogging by preventing fats, oils, flushable wipes and grease from going down the drain.	SB, WS	If the home is over 25 years of age, has experienced sewer backup or has experienced chronic drainage issues, the homeowner has not completed closed circuit television (CCTV) inspection. Homeowner puts fats, oils, flushable wipes and grease down the drain.	Complete sewer camera inspection if sewer backup occurs; camera inspection recommended every 5-10 years as preventative measure. Once the home is 25 years old, line or replace damaged lateral as needed. Prevent clogging by preventing fats, oils and grease from going down the drain.
Floor Drain			
Floor drain- Is your floor drain clear of physical barriers to water flow and in adequate condition to reduce flood risk? Note: Some homes built before 1950 do not have a floor drain. Floor drain is present, demonstrates clear flow path of water to drain, drain is in good condition, free of debris, standing water is present in trap.	SB	Floor drain is present, demonstrates partly blocked water flow path to drain, drain in poor condition (evidence of cracks, roots, smell), debris evident, standing water present in trap.	See A on Inside Assessment diagram. The floor drain is partially blocked under the washer and dryer. Consider relocating the washer and/or dryer or both to provide access to the floor drain. Remove items blocking the path of water flow to drain, clean out debris in the trap.

<p>Floor drain maintenance- Each season the homeowner removes obstacles to water flowing freely to the drain, tops up standing water in trap, removes any debris from drain. In case of blockage, strange smell, lack of water in trap, contacts a licensed plumber.</p>	<p>SB</p>	<p>Homeowner never removes obstacles to water flowing freely to the drain, tops up standing water in trap, removes any debris from drain. In case of blockage, strange smell, lack of water in trap, homeowner does not contact a licensed plumber.</p>	<p>See A on Inside Assessment diagram. Each season move the washer and dryer to inspect the floor drain, clear the path of water to drain, top up standing water in trap, remove any debris from drain. In case of blockage, strange smell, lack of water in trap, contact a licensed plumber.</p>
<p>Basement sanitary sewer lateral cleanout- Basement sanitary sewer lateral cleanout is present and easily accessible.</p>	<p>SB</p>	<p>Basement sanitary sewer lateral cleanout is inaccessible OR not present OR needs further investigation.</p>	<p>The basement sanitary cleanout was not located. Consult with the Condo Corp to locate the sanitary sewer cleanout. Consider working with a qualified plumber to install an easily accessible hatch to improve maintenance access.</p>
<p>Backwater Valve</p>			
<p>Backwater valve- Is a backwater valve appropriate for use in your home or if it is in place, is it in good condition? Consider working with a qualified professional to determine if a backwater valve is suitable for your home or to evaluate the condition of your backwater valve. Installing a backwater valve alarm further reduces risk by letting the homeowner know when the valve is closed and that house drains should not be used. Note: This item is outside of scope of this assessment. Consult a qualified professional.</p>	<p>SB</p>	<p>Note: Only a qualified professional can formally identify if a backwater valve would be right for your home and the condition of an existing unit. Note: Check with the check with the government department having jurisdictional authority to determine availability of subsidy for installation and your eligibility.</p>	<p>See C on Inside Assessment diagram. Consider working with a qualified plumber to determine if a backwater valve is appropriate at your home to reduce flood risk. Consult with the municipality about grants to support the installation of a backwater valve on your sanitary sewer line.</p>
<p>Foundation Drain (Weepers)</p>			

<p>Foundation drain- Is a foundation drain (weepers) present? Is foundation drain functioning properly to drain water away from your foundation? Note: Foundation drains are not common before 1960. Depending on the age of your house it may or may not have a foundation drain or it may have a drain that is old and in poor condition. Missing or clogged drains increase the risk of basement infiltration flooding. Foundation drains that are connected to sanitary or storm sewers increase the risk of sewer backup related flooding. Note: Determining the condition and the plumbing connection of the foundation drain is outside of scope of this assessment. Consult a qualified professional.</p>	<p>GS, OW, SB</p>	<p>Note: Only a qualified professional can formally identify the condition of this item or recommend if one would be right for your home. Note: Check with the check with the government department having jurisdictional authority to determine availability of subsidy and your eligibility.</p>	<p>This house does not appear to have a foundation drain.</p>
<p>Exposed Foundation Walls, Floors and Cold Rooms</p>			
<p>Unfinished wall cracks- Are your foundation walls free of cracks and stains? Foundation walls are free of cracks and water stains.</p>	<p>GS</p>	<p>Foundation walls are free of cracks and water stains.</p>	<p>No action required.</p>
<p>Unfinished wall crack maintenance- Homeowner checks for cracks once per season, fills cracks, removes sources of water buildup at foundation as needed (corrects drainage, repairs eaves troughs and/or removes snow in winter, seals foundation from outside in extreme cases). Consults with professional in case of major problems.</p>	<p>GS</p>	<p>Homeowner never checks for cracks, fills cracks, removes sources of water buildup at foundation as needed.</p>	<p>Check for cracks once per season, fill cracks, remove sources of water buildup at foundation as needed (correct drainage, repair eaves troughs and/or remove snow in winter, seal foundation from outside in extreme cases).</p>
<p>Unfinished wall efflorescence- Is there evidence of efflorescence on your walls, indicating water movement through the foundation? Foundation walls are free of efflorescence.</p>	<p>GS</p>	<p>Foundation walls are free of efflorescence.</p>	<p>No action required.</p>
<p>Unfinished wall efflorescence maintenance- Once per season checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	<p>GS</p>	<p>Never checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	<p>Once per season check for evidence of efflorescence. Address sources of water buildup at foundation. Clean and repaint with masonry waterproofing paint as required.</p>

<p>Unfinished wall moisture- Are there high levels of moisture on the surface of your walls below windows, near cracks and where walls meet floor? Low moisture levels on all tested areas of wall surface.</p>	GS	Low moisture levels on all tested areas of wall surface.	No action required.
<p>Unfinished floor cracks- Are there cracks in your floor that provide potential water entry sites to your basement? Unfinished floors are free of cracks and water stains.</p>	GS	Unfinished floors are free of cracks and water stains.	No action required.
<p>Unfinished floor crack maintenance- Checks for cracks once per season, fills cracks, removes source of water buildup at foundation as needed (corrects drainage, repairs eaves troughs and/or removes snow in winter, seals foundation from outside in extreme cases). Consults with professional regarding major concerns.</p>	GS	Homeowner never checks for cracks, fills cracks, removes source of water buildup at foundation as needed (corrects drainage, repairs eaves troughs and/or removes snow in winter, seals foundation from outside in extreme cases). Never consults with qualified professional regarding major concerns.	Check for cracks once per season, fill cracks, remove source of water buildup at foundation as needed (correct drainage, repair eaves troughs and/or remove snow in winter, seal foundation from outside in extreme cases).
<p>Unfinished floor efflorescence- Is there evidence of efflorescence on floors, indicating water movement through the foundation? Floors are free of efflorescence.</p>	GS	Floors are free of efflorescence.	No action required.
<p>Unfinished floor efflorescence maintenance- Once per season homeowner checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.</p>	GS	Homeowner never checks for evidence of efflorescence, addresses sources of water buildup at foundation, cleans and repaints with masonry waterproofing paint as required.	Once per season check for evidence of efflorescence. Address sources of water buildup at foundation. Clean and repaint with masonry waterproofing paint as required.
<p>Unfinished floor moisture- Are there high levels of moisture, indicating water entry into basement? Low moisture levels are present on floor surface.</p>	GS	Low moisture levels are present on floor surface.	No action required.
Finished Walls and Floors			
<p>Finished walls- Are water stains or high moisture levels indicating source of water infiltration? Walls are free of water stains, no evidence of mold (smell or visual evidence), audible moisture meter indicates no concern.</p>	GS	Walls are free of water stains, no evidence of mold (smell or visual evidence), audible moisture meter indicates no concern.	No action required.

Finished wall maintenance- Each season homeowner checks for high levels of moisture and water stains. If high levels of moisture or water damage and/or mold is evident, consults a professional for remediation.	GS	Each year homeowner checks for high levels of moisture and water stains. If high levels of moisture or water damage and/or mold is evident, consults a professional for remediation.	Each season check for water damage and signs of mold growth. Ensure humidity at between 30-50% by running dehumidifier if necessary. If water damage or mold is evident, consult professional for remediation.
Finished floors- Are there high levels of moisture, indicating water entry into basement? Low levels of moisture are present, no evidence of mold or mildew, no musty smell is present.	GS	Low levels of moisture are present, no evidence of mold or mildew, no musty smell is present.	No action required.
Finished floor maintenance- Each season homeowner checks for water damage, signs of mold growth. If water damage and/or mold is evident, consults professional for remediation.	GS	Each year checks for water damage, signs of mold growth. If water damage and/or mold is evident, consults professional for remediation.	Each season check for water damage, signs of mold growth. Ensure humidity at between 30-50% by running dehumidifier if necessary. If water damage, mold evident, consult professional for remediation.
Windows			
Basement windows- Are windows in adequate condition to reduce risk of overland flooding? Glass, frames and seals are all in good condition, no evidence of water entry.	OW	Glass, frames and seals are in moderate condition, evidence of minor water entry.	Seal cracks in window frame/sash and between window frame and foundation.
Basement window maintenance- Homeowner checks once per season for cracked glass, broken seals and rotting frames, repairs and/or replaces these as required. Regular review and repair reduces risk of basement flooding.	OW	Homeowner checks once per year for cracked glass, broken seals and rotting frames, repairs and/or replaces these as required.	Check once per season for cracked glass, broken seals and rotting frames, repair and/or replace as required.
Plumbing Fixtures			
Indoor plumbing and fixtures maintenance- Each season toilets, taps, pipes and water heaters are inspected by homeowner, inspected and repaired by plumber as needed. Water leak alarms are present.	PF	Toilets, taps, pipes and water heaters are not inspected by homeowner, inspected and repaired by plumber as needed. No water leak alarms are present.	This house does not have a basement bathroom, however; each season inspect taps, pipes and water heater for leaks and signs of wear. Repair or replace items with the assistance of a plumber as needed.
Additional Considerations for Limiting Risk of Water Damage, Mold and Mildew Growth			

<p>Furniture and electronics- Are furniture and electronics at risk of damage in the event of a flood? Furniture items have non-absorbent surfaces up to 30cm (12") and electronics are stored at least 30cm (12") off the floor (or to exceed anticipated flood levels).</p>	N/A	Furniture items have non-absorbent surfaces up to 15cm (6") and electronics are stored at least 15cm (6") off the floor.	Select furniture items that have non-absorbent surfaces up to 12" and store electronics at least 12" off the floor.
<p>Stored valuables- Are your valuables at risk of damage during a flood or at risk of mold and mildew growth? Valuables are stored in sealed, non-absorbent containers at least 30cm (12") off the floor (or to exceed anticipated flood levels), at least 15cm (6") away from walls that provide good air circulation OR no valuables are stored in the basement.</p>	N/A	Valuables are stored in sealed, non-absorbent containers at least 30cm (12") off the floor (or to exceed anticipated flood levels), at least 15cm (6") away from walls that provide good air circulation OR no valuables are stored in the basement.	No action required.
<p>Indoor Sources of Moisture- Are indoor sources of moisture limited to reduce mold and mildew risk? If bathroom with shower is present, fan is present and when running is strong enough to hold a piece of tissue. Fan is run for 30-60 minutes after bath or shower use. Furnace humidifiers do not operate in the summer. Wood is not stored, laundry is not hung, boots are not dried etc. in the basement.</p>	N/A	If bathroom with shower is present, fan is present but can't hold piece of tissue when running, OR fan is not present OR fan is run for less than 10 minutes after shower or bath. Furnace humidifiers operate in the summer OR items are stored that increase humidity. OR needs further investigation.	No bathroom in the basement. The relative humidity was approx. 55% in the basement. Run dehumidifier(s) to ensure relative humidity is kept at between 30-50%.
Hazardous Materials			
<p>Hazardous materials- Are hazardous materials stored in a way that represents a contamination risk during a flood? No hazardous materials are stored in the basement and/or materials are stored in waterproof containers at least 30 cm (12") off the floor (or to exceed anticipated flood levels). Heating fuel tanks are secured to the floor.</p>	N/A	No hazardous materials are stored in the basement and/or heating fuel tanks are secured to the floor.	No action required.



Subject: Zero Emission Transit Fund Application for an Electrification Road Map Planning Study - City Wide

Reference:

Date to Council: March 30, 2022

Author: Averil Parent

Asset Coordinator

519-255-6100 ext. 6126

aparent@citywindsor.ca

Asset Planning

Report Date: March 3, 2022

Clerk's File #: MT/13708

To: Mayor and Members of City Council

Recommendation:

THAT City Council **DIRECTS** Administration to submit the Expression of Interest (stage 1) and if invited, subsequent Full Application (stage 2) to the Infrastructure Canada Zero Emission Transit Fund; and,

THAT the Chief Administrative Officer and the City Clerk **BE AUTHORIZED** to sign and execute any documents required to submit the applications to the Grant noted above, subject to all documentation being satisfactory in legal form to the Commissioner of Legal & Legislative Services, in financial content to the Commissioner of Corporate Services, Chief Financial Officer/City Treasurer; and in technical content to the Commissioner of Infrastructure Service, or designates; and,

THAT City Council **APPROVE** the following recommendations upon the City receiving written confirmation from the grant provider that the City's grant application is awarded the requested funding:

- a) THAT the Chief Administrative Officer and the City Clerk **BE AUTHORIZED** to take any such action and sign any such documentation as may be required to effect the recommendations and funding for the Grant, subject to all documentation being satisfactory in legal form to the Commissioner of Legal & Legislative Services, in financial content to the Commissioner of Corporate Services, Chief Financial Officer/City Treasurer, and in technical content to the Commissioner of Infrastructure Services, or designates;
- b) That the Chief Administrative Officer **DELEGATE** signing of all claims, applicable schedules and other such documents required as part of the request for payment to

the Commissioner of Infrastructure Services or designate, subject to financial content approval from the area's Financial Planning Administrator or their manager;

- c) THAT City Council **PRE-APPROVE** and **AWARD** any procurement(s) necessary that are related to the grant awarded projects, provided that the procurement(s) are within approved budget amounts, pursuant to the Purchasing By-Law 93-2012 and amendments thereto; satisfactory in financial content to the Commissioner of Corporate Services, Chief Financial Officer/City Treasurer, and in technical content to the Commissioner of Infrastructure Services, or designates;
- d) THAT the Chief Administrative Officer and the City Clerk **BE AUTHORIZED** to take any such action required to effect the recommendation noted above and sign any required documentation/agreement(s) for the grant awarded projects, satisfactory in legal form to the Commissioner of Legal & Legislative Services, in technical content to the Commissioner of Infrastructure Services and financial content to the Commissioner of Corporate Services, Chief Financial Officer/City Treasurer, or designates;
- e) That the Purchasing Manager **BE AUTHORIZED** to issue Purchase Orders as may be required to effect the recommendation noted above, subject to all specification being satisfactory in technical content to the Commissioner of Infrastructure Services and financial content to the Commissioner of Corporate Services, Chief Financial Officer/City Treasurer, or designates;
- f) THAT City Council **APPROVE** City funding in the amount of up to \$40,000 for the City's grant matching and ineligible costs from the 2020 Transit Windsor Master Plan Project, 7201016.

Executive Summary:

N/A

Background:

The transportation sector accounts for 25% of Canada's greenhouse gas emissions. Canada generates approximately 82% of its electricity from zero emission power sources. Therefore shifting vehicles away from fossil fuel engines, towards zero emission alternatives, presents an opportunity for significant greenhouse gas emission reductions. Helping communities invest in zero emission transportation option ensures cleaner air, creates jobs and supports Canadian manufacturing.

Infrastructure Canada announced the \$2.75 billion Zero Emission Transit Fund (ZETF) in the Fall of 2021. The fund offers support to public transit and school bus operators across Canada who are moving towards electrification of their fleets. The fund will also deliver on the federal government's commitment to help purchase 5,000 zero emission buses over the next five years, build supporting infrastructure including charging stations, and fund facility upgrades, in close partnership with the Canada Infrastructure Bank (CIB). These investments are closely coordinated with the CIB's commitment to invest \$1.5 billion in Zero Emission Buses (ZEB) as part of its three-year Growth Plan.

Through the ZETF, Infrastructure Canada provides contributions to support planning and capital projects that will reduce the barriers to procuring zero emission transit buses in Canada. Through its \$1.5 billion ZEB initiative, the CIB provides creative and flexible financing options by leveraging forecasted lifecycle operational cost savings to help offset the higher upfront costs of zero emission buses.

Project applications submitted as part of the application process will be submitted to both Infrastructure Canada and the Canada Infrastructure Bank. Both organizations will review applications based on their respective mandate, objectives and criteria. The CIB will review applications to identify potential opportunities for financing based on a project's anticipated operational cost savings, and will work directly with select applicants to ensure the viability of projects and successful deployment of ZEBs. Infrastructure Canada will review applications and will base its approval of projects for funding on the project satisfying eligibility and merit criteria established for the ZETF.

Municipalities are eligible for this funding. The application process involves submitting an Expression of Interest (stage 1) and if accepted a Full Application (stage 2) must be submitted. Applications for this continuous intake fund will be accepted until available funding has been fully allocated. Eligible expenses must be claimed before the program end date of March 31, 2026.

There are two components under which projects are eligible for funding:

1. **Planning Projects:** Eligible projects include studies, modelling and feasibility analysis that will support the development of future larger scale capital projects. Planning projects will ensure that transit agencies have established a comprehensive electrification plan and are prepared to submit applications for capital projects under the stage 2 of the grant funding envelope. The maximum contribution towards planning projects is up to 80% of the total eligible costs.
2. **Capital Projects:** Eligible capital projects include buses, charging and refueling infrastructure, and other ancillary infrastructure needs. The maximum non-repayable contribution is up to 50% of the total eligible costs. Infrastructure Canada will ensure that total combined Infrastructure Canada funding and CIB financing do not exceed 100% of eligible costs.

Discussion:

Through discussions with Transit Windsor, Administration recognises that applying to this fund is a great opportunity to begin charting a course towards electrification of services including buses and other infrastructure to support electrification. As Transit Windsor currently does not have an electrification road map, we are only able to take advantage of the Planning Projects stream of this fund at this time.

Prior to the announcement of this fund, Transit Windsor had already been involved in the development of a project of this nature. Transit Windsor is a member of Metrolinx, an agency that coordinates transportation needs across Ontario including procurement contracts for works, capital investments, purchasing of buses etc. Through Metrolinx, a consortium of transit authorities including Transit Windsor recently issued an RFQ to hire a consultant to help develop electrification roadmaps in their respective

communities. The RFQ is set to be awarded in April 2022. Through communication with the grant provider, we have confirmation that if the City of Windsor is successful in the application process, we could choose to work with the consultant identified by Metrolinx to conduct planning activities. As previously noted, this project is eligible for funding under the Planning Project stream of the Zero Emission Transit Fund.

Administration recommends submitting an Expression of Interest (EOI) at this point in the project. If our EOI is successful, we would then proceed with submitting a full application. If funding is awarded for this project, we would proceed with the consultant to develop an electrification road map for Transit Windsor. Once the roadmap is complete, there is the potential to apply to the Zero Emission Transit Fund again under the Capital Project Stream, pending available funding and agreeable timelines.

Risk Analysis:

There is a risk that the City may not be awarded funding and/or that the planning project may exceed initial budget estimates. This project is estimated to cost between \$150,000 to \$200,000. The grant funding would cover 80% of eligible costs with the remainder of project costs being funded from the Transit Master Plan capital project. If the application is not successful, or the planning project exceeds initial estimates, Administration would consider other options for funding the project and report back to Council for approval. This risk is mitigated by ensuring we are able to meet all the criteria in the project, put forward the strongest project and provide confirmation that we have already committed to the funding source for the City's portion of the project.

Climate Change Risks

Climate Change Mitigation:

There is no climate change mitigation risk with the proposed planning project. In fact, the electrification road map will be able to guide Transit Windsor to better plan for zero emission busses and infrastructure, thus decreasing corporate greenhouse gas emissions. Action item T3 in the City's Corporate Climate Action Plan is to *Explore Alternative Propulsion Vehicles* for our Transit fleet. Corporately, 42% of our greenhouse gas emissions come from our Fleet, with Transit Fleet accounting for about 66% of those emissions.

The current Corporate greenhouse gas emissions reduction target is 40 percent below 2014 levels by 2041. The Corporate inventory for 2019 reported an increase of 3.6% above the 2014 baseline. Taking steps towards electrification of our Transit fleet and infrastructure will help us to move toward our corporate GHG reduction goals.

Climate Change Adaptation:

There is no climate change adaptation risk with the proposed planning project. The electrification road map can explore how to improve energy resilience in Transit Windsor infrastructure. In addition, a reduction in fumes from Transit vehicles may have a positive effect on Windsor's air quality, which is important for vulnerable populations particularly during hot summer days.

Financial Matters:

Funding from the Zero Emission Transit Fund will cover up to 80% of eligible costs of the Planning study. Based on similar studies, administration is estimating the cost to hire a consultant is projected to be between \$150,000 to \$200,000. Administration will be asking for up to \$160,000 from the grant provider to allow for some contingency. Therefore, the City will need to provide up to \$40,000 in matching funding. It is recommended that funding be from the 2020 Transit Master Plan capital project (project ID 7201016.) There are sufficient funds in this project to fund these expenses.

Consultations:

Sue Grimmett, Program Manager, Financial Planning

Tony Houad, Senior Manager Fleet & Support Services Transit Windsor

Alex Vucinic, Manager, Purchasing

Aaron Farough, Legal Counsel

Mike Dennis, Financial Manager, Asset Planning

Conclusion:

In conclusion, Administration recommends submitting an Expression of Interest, and if invited to proceed, a full application to the Zero Emission Transit Fund for an electrification road map planning study to be completed by a consultant.

Planning Act Matters:

N/A

Approvals:

Name	Title
Natasha Gabbana	Senior Manager, Asset Planning
Poorvangi Raval	Manager, Performance Management & Business Case Development
Tyson Cragg	Executive Director, Transit Windsor
Chris Nepszy	Commissioner, Infrastructure Services
Tony Ardovini	On behalf of Commissioner, Corporate Services/CFO/City Treasurer
Jason Reynar	Chief Administrative Officer

Notifications:

Name	Address	Email

Appendices: