



WEST HANTS REGIONAL MUNICIPALITY

FLASH FLOOD

AFTER-ACTION REVIEW REPORT

July 22, 2023 Flash Flood

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West Hants Regional Municipality
Committee of the Whole Meeting

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Disaster Management Cycle



Purpose and Objectives of the After-Action Review (AAR)

An After-Action Review (AAR) strives to answer the following questions:

- What was supposed to happen (if applicable)?
- What actually happened?
- What worked well?
- What were the challenges?
- What should/could be changed for next time?

This review attempts to capture items that will document the response of the Municipality and supporting agencies, the challenges during the emergency (incident), and details that will support future reflection. It is important to document these reflections, and important to recognize that the complexity of the incident created challenges, that by nature, results in impacts that cannot always be prevented.

This AAR is not an exhaustive account of the emergency incident; rather, it is a critical analysis intended to inform internal discussions and decision-making within the Emergency Management Organization (EMO). The information presented should be considered in context of continuous improvement, allowing the organization to learn from experiences to enhance its capabilities for future emergencies.

This AAR is not intended to assign blame or liability, but rather, is a tool for organizational learning and development. The EMO encourages open and candid discussions to foster a culture of continuous improvement and preparedness to foster resiliency.

This document does not constitute official policy, and the EMO reserves the right to update, modify, or revoke any aspect of this AAR at its discretion.

Information included in this document was contributed by the supporting agencies involved, as well as resident, business and organization input gathered from the recovery/healing sessions.

Scope of the Review

This review includes the response and portions of the recovery of the Flash Flood that impacted the West Hants Regional Municipality in July of 2023. (Note: Recovery is on-going).

Incident Summary

Municipal EMO Incident Summary

In the early morning hours of July 22, 2023, severe thunder, lightning, and rainstorm began to inundate West Hants Regional Municipality. 9-1-1 calls were being received in record numbers of people being stranded due to the rain and areas seeing accumulated water.

The Emergency Management Office was contacted by the Brooklyn Fire Department's Interim Fire Chief, Jason Cochrane to issue an Alert requesting residents to shelter-in-place.

Flash flooding occurred due to torrential rainfall with 90% falling within five hours (unofficial reports reflect of a range of 190 – 258 mm).

The West Hants Regional Municipality Emergency Coordination Centre (ECC) was activated, and staging area identified at 100 King Street, Windsor, NS. Twelve (12) ECC meetings were held over the initial two days (July 22 and 23, 2023). Following that, EMO attended the Command meetings held by the RCMP.

Comfort Centres and Emergency Shelters were activated at the Brooklyn Civic Centre, Windsor Community Centre, and Falmouth Elementary School. Many other community halls, businesses, and residents opened their doors to help those in need.

Provincial State of Emergency was declared.

Some areas within the region experienced a harder impact. These included but were not limited to the communities of:

- Ellershouse
- St. Croix
- Three Mile Plains
- Hantsport (localized)
- Private communities with one-way-in/out
- Smiley's Provincial Park
- Windsor (localized)
- Brooklyn, and
- Hwy 101

Infrastructure was compromised and that led to damage, interruptions and/or closures. These included but were not limited to:

- Hwy. 101
- Hwy. 1
- Hwy. 14
- Hwy. 215
- Local roads
- Bridges
- Culverts
- Shoulders
- Property (e.g. homes (foundations, flooding), public facilities (e.g. Community Centre), trails (washouts)

Two dam systems were impacted leading to evacuations:

- Minas Energy (St. Croix River) – evacuation of the community of St. Croix.
- NS Power (Avon Hydro System) – evacuation of Water Street in the community of Windsor, as well as low-lying areas along the Avon River between Vaughan and Windsor.

Five Alerts were authorized and issued:

Alert #	Date	Alert Type	Time Authorized	Time Issued
1	July 22, 2023	Shelter-in-place	2:35 a.m.	3:06 a.m.
2	July 22, 2023	Dam overflow – St. Croix community evacuation to Brooklyn Civic Centre	3:28 a.m.	3:41 a.m.
3	July 22, 2023	Dam overflow – St. Croix – New shelter location Windsor Community Centre	4:21 a.m.	4:33 a.m.
4	July 22, 2023	St. Croix residents can return home. Avon River Hydro System Dam Overflow evacuation Water Street downtown Windsor and low-lying Avon River areas	2:48 p.m.	2:58 p.m.
5	July 22, 2023	All Alerts Lifted	9:38 p.m.	9:43 p.m.
6	July 23, 2023	Reissuance of Alert #3 (False Alert)	Alert #3 was placed on a 24-hour reissue loop	

Missing persons were reported. RCMP took over the lead through the search portion of the emergency, which unfortunately, resulted in the recovery of four people. The Municipality continued to provide support to the RCMP as well as the on-going civil emergency response.

This disaster was supported through a multi-agency response provided by:

- 39 Fire Departments
- 14 Ground Search and Rescue Organizations
- West Hants Emergency Management Office (EMO)
- Royal Canadian Mounted Police
- Emergency Preparedness and Special Operations (EPSO), a division of Emergency Health Services (EHS)
- Department of Natural Resources
- NS Public Safety Field Communications
- Canadian Red Cross
- Department of Community Services
- Department of Agriculture
- NS Power
- Minas Energy
- Colchester Special Hazards
- Civil Air Search and Rescue Association (CASARA)
- West Nova Fuels
- Dexter’s Constructi

Two community recovery and healing sessions were hosted and facilitated by the West Hants Regional Municipality with support of Halifax Regional Municipality’s Director of Emergency Management, Erika Fleck. Transportation and childcare were provided. These took place:

- Sunday, September 10, 2023 at the Brooklyn Civic Centre, Brooklyn, NS
- Sunday, September 20, 2023 at the Windsor Community Centre, Windsor, NS

Further, while the Municipality is still in the ‘Recovery Phase,’ this includes emotional healing, the After-Action Review (to learn, develop, and grow), as well as infrastructure, and equipment repair and replacement. The financial estimates billed to the Municipality so far (not yet finalized), include:

• Municipal-owned infrastructure	\$3,870,355.53
• Dyke repairs	\$4,235.09
• Equipment repairs/replacement	<u>\$176,155.84</u>
	\$4,050,746.46

RCMP Incident Summary

As this After-Action-Review Report is that of West Hants Regional Municipality Emergency Management Organization, an RCMP Incident Summary is not available at this time. However, when the RCMP have concluded their After-Action-Review Report, and should it be published, it will be attached to this report as an appendix.

A quick reference to the RCMP Incident Summary*:

- Two incidents.
- One site.
- Eleven (11) people involved in three vehicles.
- Seven (7) persons rescued.
- Four (4) fatalities.
- 495 acres of ground searched.
- 104 square kilometers of water searched.
- 417 square kilometers of shore and tidal waters searched by air.
- Average of sixty (60) people per day involved in these efforts.
- Estimate of more than 8,000 person hours work completed during the search.

* Information taken from the summary provided by the RCMP at the joint RCMP-EMO After-Action-Review Briefing held on August 9, 2023.

Municipal Response Strengths & Challenges Summary

Strengths

- Early activation and coordination of the Emergency Coordination Centre (ECC).
- Early activation of Public Field Safety Communications (PFSC).
- Communications to public, Council and staff were scheduled at pre-determined times for reliability.
- Use of Trunked Mobile Radios (TMRs).
- Municipally owned infrastructure assessments.
- Inter-operability collaboration.
- Resource acquisition.
- Door-to-door evacuation notifications (when possible).
- Inter-agency safety communication and processes.
- RCMP Command Structure clearly identified.

Challenges

- Alerts
 - Timeliness of first Alert issuance.
 - Not all cell phones/people receive Alerts.
 - Confusing in the order some people received them.
- Poor (next to nil) network connectivity (cellular/internet).
- Compromised infrastructure (roads, bridges, culverts, properties) created delays getting to locations.
- Sharing of documented information.
- Water (swift, contaminated, turbid).
- Mapping – accessing online mapping due to network challenges.
- Long operational periods.

Detailed information regarding the above summary is available in the below table.

The below input was received from responding agencies to the July 2023 flash flood, as well as public members during the community recovery/healing sessions. Input provided by the responding agencies that were specific to the RCMP is not included. When the RCMP has completed their AAR and should it be published, it will be included with this report as an appendix.

Strengths – Challenges – Solutions – Timeline

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Air Support	All air support worked well during each operational period (RCMP, DNR, Dexter’s)		Train more personnel in air-ops.	Under review, however, was more specific to the RCMP missing person and search coordination.
Alert Ready	The ability and resource to issue Alerts.	<p>Timeliness of the first Alert publication.</p> <p>False Alert 24 hours after initial Alert.</p> <p>Not all phones/people receive Alerts.</p> <p>Some Alerts were received by people out of sequence leading to confusion.</p>	<p>Pre-template generic messaging so it only needs slight edits in a real situation.</p> <p>Don’t save the Alert Request Form online in case internet is down.</p> <p>Broaden who can request and authorize an Alert (currently only the CAO is permitted).</p> <p>Be clear if an Alert is to be reissued or not (to avoid reissuance of an old Alert)</p>	<p>Some basic templates have been established. (completed)</p> <p>Form is saved online and desktop. (completed)</p> <p>WHRM Procedure established to broaden requestor and authorization status. (completed)</p> <p>Agreement with Valley Communications on process to request EMO support. All processes have been shared with First Responders and Valley Communications. (completed)</p>

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
				<p>WHRM staff have participated in Alert Ready meetings with Provincial bodies expressing Alert process challenges. (completed)</p>
<p>Communications (Inter-agency specific to cellular and internet)</p>	<p>Public Field Safety Communications ' (PFSC) early activation of Mobile Communications Support (MCS). They brought in cell boosters and Starlink to the Incident Command Post.</p>	<p>Cellular and internet were extremely poor in most impacted areas.</p> <p>Loading of the network given the magnitude of the event with many responding agencies.</p>	<p>Communications trucks and equipment should be distributed to other locations immediately once the water recedes.</p> <p>Agencies should identify their individual needs and explore alternate options to become self-sufficient (e.g. Starlink, cell boosters).</p>	<p>Municipality has acquired and tested:</p> <ul style="list-style-type: none"> Starlink (completed) Cell Phones (completed) SAT Phone (completed) TMR Radio (completed)

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Communications (General)	Information was communicated at pre-determined times via website, social media, and radio, as well as via e-mail to Council and Staff.	Information to the public was limited to being communicated via website, social media, radio (in which not all people had access to).	<p>Regular communication bulletins to the comfort centres / shelters for volunteers/staff to convey.</p> <p>Utilize WHRM’s phone auto-attendant with messaging so the public could get the information by telephone.</p> <p>More frequent briefings to front-end Municipal staff.</p>	<p>Establish communication templates. (on-going)</p> <p>Promote to the public in-advance how emergency information is communicated (at EMO Community Outreach Sessions, newsletter, etc.). (on-going)</p>
Communications (radio)	<p>TMR (Trunked Mobile Radio) was positive.</p> <p>Everyone did a great job at keeping messaging short and concise.</p>	Due to large magnitude of the event, only one talk group was assigned so everyone had to wait to talk.	<p>Consider more talk groups.</p> <p>Other assigned channels should have been assigned earlier.</p>	Consider the ‘solutions’ in future emergencies.

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
<p>ECC Command and Activation</p>	<p>Early activation helped establish good communications and collaboration within the ECC and for responders coming in.</p>	<p>Getting to the ECC to activate it due to compromised infrastructure.</p> <p>Getting the location communicated.</p> <p>Operational periods were long.</p>	<p>Pre-establish ECC location.</p> <p>Communicate via alternate technology.</p> <p>Pre-determine operational teams to avoid burn-out.</p>	<p>Pre-established at 100 King Street, Windsor. (Completed)</p> <p>Alternate communication sources include:</p> <ul style="list-style-type: none"> - Valley Communications (completed) - TMR Radio (completed) - Starlink (acquired) - Cell Phone (completed) - SAT Phone (completed) <p>Training and exercises (on-going)</p>

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
<p>External agencies and organizations collaboration</p>	<p>Positive working conditions.</p> <p>Willing to listen to suggestions.</p> <p>Early communication and activation with Canadian Red Cross for shelters.</p> <p>Site transportation (shuttle drivers) were local people as they were familiar with the area.</p>	<p>Unsure of training and capabilities of other agencies.</p>	<p>Strengths were partially due to pre-existing working relationships between agencies.</p> <p>This was successful due to the pre-planning of shelter locations and process with EMO. There was good support with personnel and supplies. Keep training and exercising among inter-agencies so folks understand roles and responsibilities.</p> <p>Identify/track support of local agencies.</p>	<p>Maintain relationships through joint training, exercising and communication.</p> <p>Share capabilities of local agencies with responding agencies.</p>

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Evacuations	<p>Coordination with the Annapolis Valley Centre for Education and use of school buses.</p> <p>Door-to-door evacuation notices when possible.</p>	<p>Maps to assist agencies with location familiarity.</p> <p>Delayed or inability to access compromised areas for door-to-door evacuation notifications</p>	<p>Maintain relationships and partnerships with external agencies * organizations.</p> <p>Create a variety of maps that can be produced in different formats to be available to support agencies and the public.</p>	<p>Community and street maps are being created (June 2024).</p> <p>Flood prone areas (maps) being created (May 2024).</p>
Infrastructure (roads, bridges, etc.)		<p>Not knowing compromised areas thereby not knowing where to direct people (first responders nor evacuees).</p> <p>511 NS Road Map and Conditions not up to date.</p>	<p>Barricade / block-off compromised areas quicker.</p> <p>Update reporting of compromised areas (NS 511 and/or internally).</p>	<p>Once made aware of compromised areas, create internal tracking sheet so as to not rely on NS 511.</p>

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Maps	Flood maps available to dam operators.	<p>Flood mapping was not unavailable to the public or external agencies.</p> <p>Couldn't access online maps due to poor connectivity.</p> <p>Mutual aid not familiar with the area.</p>	<p>Update flood mapping to know high-probable flood prone areas.</p> <p>Create maps with a variety of layers and produce them in different formats (online, paper).</p> <p>Download maps on devices so network doesn't need to be relied on. Or have GPS that does not need reception nor network connection.</p>	<p>Update mapping (on-going).</p> <p>Utilize IamResponding and access appropriate training to use the App.</p>
NS EMO	Support and assistance provided.	Initial contact limited due to poor network connectivity.	Have alternate communication methods.	Use of TMR radios, Starlink, SAT Phone (September 2023)
Operational Periods	Interoperability between agencies. Teams worked collaboratively with efficiency.	Shorten operational periods.	Have pre-determined teams that are fully trained to take over.	On-going.

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Private Contractors	On-site cooperation and communication between agencies and private contractor(s).	<p>Due to poor cell service, perhaps contractor(s) should have a radio to stay in-touch with EMO.</p> <p>To speed up private contractor response time, notify contractors earlier that their assistance may be required.</p>	<p>Provide spare radio(s) if available.</p> <p>Keep a list of contractors that includes contact(s), equipment available.</p>	Create contractor database.
Public Education about EMO	Has been provided in different formats (outreach, website)	<p>Many people are not aware of EMO.</p> <p>People didn't realize there were dams in West Hants.</p>	<p>Host more education and engagement EMO sessions. Advertise them in a variety of formats.</p>	<p>In-person outreach sessions. (on-going)</p> <p>Dam Education Sessions. (Sept. 2023 and Jan. 2024)</p> <p>Newsletter (on-going).</p>
Resources	Ability to quickly get resources.	Tracking during search functions.	<p>Continue partnerships with external partners</p> <p>Bring in additional people to expand command structure for record keeping and resource tracking.</p>	<p>MOUs/Agreements (on-going).</p> <p>Establish processes and use ICS Resource Tracking Form.</p>

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Safety of Responding Agencies	Safety was extremely well organized and communicated.	<p>Not everyone signed themselves out.</p> <p>Contaminated water.</p> <p>Not having proper equipment for particular tasks.</p> <p>Extreme heat & humidity.</p>	<p>Combined training with external agencies.</p> <p>Accountability board set-up and do not permit others to sign someone else out.</p> <p>Pre-test for contaminants.</p> <p>Assess and evaluate collaboratively with a regional lens the services, equipment, and training that may be required.</p> <p>Frequent breaks. Appropriate gear. Strong rehabilitation procedures.</p>	<p>Continue training/exercising with external agencies. (on-going).</p> <p>Use Command / Accountability Boards.</p> <p>Task someone with obtaining biological contaminant testing kits to test water.</p> <p>If expanding and/or enhancing service provisions, ensure proper training, equipment and certifications are obtained.</p>
Sharing of Information /records	Sharing of information was provided amongst agencies.	Primarily shared verbally versus written.	Document and share hard copies.	Use ICS structure for documentation.

Situation	Strengths	Challenges	Ensure Success/ Solution(s)	Action/Approx. Timeline
Working conditions/trailers at Command	Command structure identified on a whiteboard at RCMP Incident Command.	Public Field Safety Communications and RCMP Command trailers housed other agencies in which there wasn't adequate space.	Clearly identify Command structure within the ECC. Agencies to assess and provide their own workspace.	Use of whiteboard or vests. Under review.

Summary

The unexpected natural disaster that started early morning (midnight) of Saturday, July 22, 2023 was unprecedented.

The response of first responders, West Hants Regional Municipality EMO, Nova Scotia EMO, all supporting agencies, organizations, and contractors/companies was invaluable.

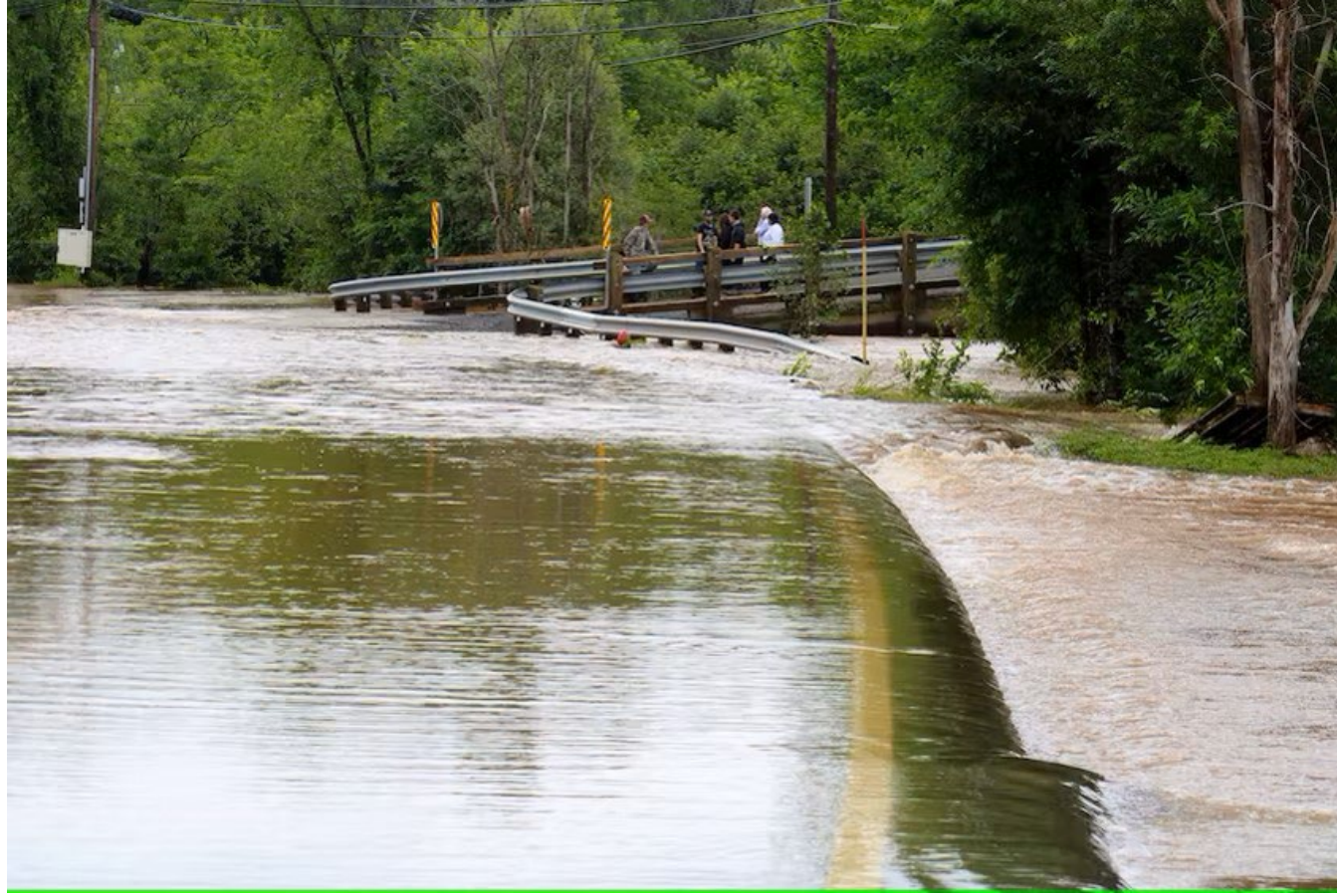
Reference was made by the RCMP during their August 9, 2023 After-Action-Review Debrief with all agencies, that the actions by first responders and WHRM EMO during the critical moments was to be commended. It is one thing to have time to prepare a response plan, and another to respond while events are unfolding.

While lives of all have been impacted in so many ways, this disaster claimed the lives of four people. The journey to recovery and healing cannot be measured by time but by coming together and committing to moving forward; to support, learn, and grow.

The 'Recovery Phase' of emergencies takes time and can be on-going for years. At the time of writing this report, the West Hants Regional Municipality is still in the recovery phase.

Appendices

- A. Flash Flood / Missing Persons – August 21, 2023 Presentation to Council
- B. Agendas/Presentations for flood (Stannus/Chittick)
- C. Healing/Recovery Sessions advertisement and FAQ newsletter
- D. Dam Sessions & EMO Community Outreach Schedules/Advertisements
(presentations not available)



**Flash Flood – July 22/23, 2023
and Missing Persons
West Hants Regional Municipality EMO**

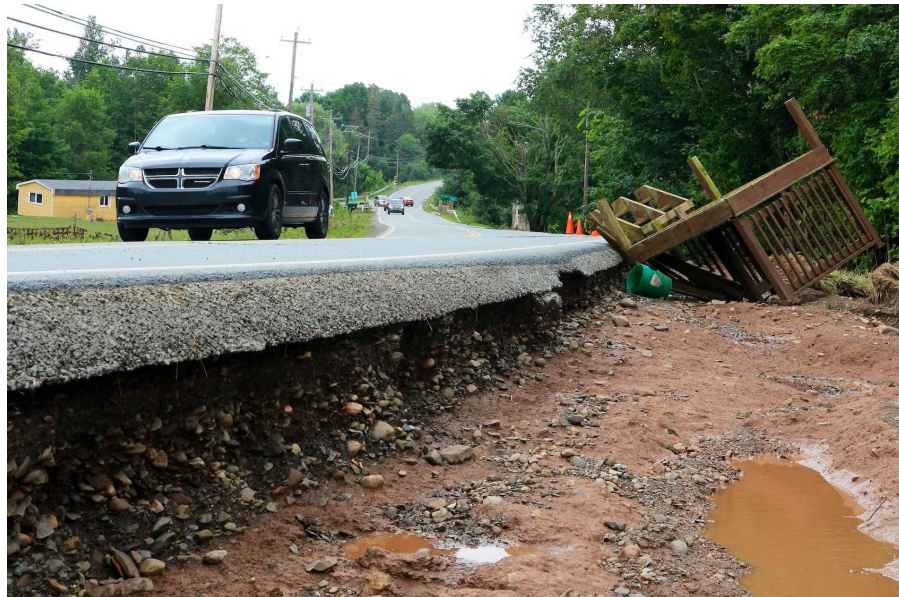
Shelleena Thornton, Emergency Management Coordinator
21 August 2023 Special Council Meeting



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Summary



Hwy. 215 toward McKay Rd.



Hwy. 14 (Between Tidal Bore Market and Home Hardware)



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Major Weather Event

- Flash Flooding 296 mm total (with 258 mm falling within five hours)
- Was a regional event (wide-spread geographically)
- Also included harder impacted localized and isolated areas (Ellershouse, St. Croix, Three Mile Plains, Brooklyn, Hwy. 101)



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Infrastructure

- Transportation networks, damage, and interruptions / closures (not inclusive)
 - Hwy. 101
 - Hwy. 1
 - Hwy. 14
 - Hwy. 215
 - Local roads
 - Bridges
 - Culverts
 - Shoulders



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Rescues

- Multi-agency response
 - 39 Fire Departments
 - 14 Ground Search and Rescues
 - 1 Medical (EHS)
 - RCMP
 - West Hants EMO
 - Other agencies: Dept. of Natural Resources, Public Safety Field Communications, Canadian Red Cross, Dept. of Community Services, West Nova Fuels, Dexter's Construction, Dept. of Agriculture, NS Power, Minas Energy, Colchester Special Hazards, Canadian Mountain Rescue, and CASARA



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Hydro Systems

- Two dam systems impacted leading to evacuations
 - Minas Energy – St. Croix (Salmon Hole)
 - NS Power – Windsor



NS Power Dam – Falls Lake



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Shelter-in-Place / Evacuations

- Three primary locations
 - St. Croix / Ellershouse / Newport
 - Smiley's Provincial Park
 - Windsor waterfront

Alerts

- St. Croix / Ellershouse / Newport
- Community of St. Croix (Dam Breach)
- Windsor waterfront area and low-lying Avon River (Falmouth Bridge to Sangster's Bridge) (Dam Overflow)



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Property Damage

- Provincial damage
- Municipal damage
- Private property damage
 - Lost homes
 - Damaged homes
 - Flooded basements
 - Contents lost
 - Access/egress points (driveways) compromised



Tregothic Trail



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO



Missing Persons

- Two incidents
- One site
- Four people

RCMP Missing Persons and Search Efforts Commence



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**

High Level Overview

- Fire Depts. started receiving emergency calls at 12:25 a.m.
- WHRM Public Works staff patrolled and monitored various locations within the region.
 - Deployed traffic control devices
- BFD Deputy Chief radioed Valley Communications for RCMP Alert (exact time unknown)
- Brooklyn Fire Dept (BFD) Chief texted the Emergency Management Coordinator (EMC) at 1:18 a.m. asking if she was home; and again at 1:44 a.m. requesting help. The Chief also texted the CAO at 1:43 a.m.



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**

- EMC and BFD Chief connected at 1:49 a.m. Due to poor cell service, communication was broken so Chief emailed EMC at 1:59 a.m. requesting an Alert be sent (for folks to shelter in place).

- Alert Issuance Process as per Province
 - Issuer (must be CAO) to contact Shubie Dispatch
 - Complete the Alert form
 - Submit form
 - Review potential changes made in the form (if any)
 - Alert authorized
 - Alert issued

(At 1:59 a.m. EMC assumed Acting CAO responsibility to get the Alerts sent out as quickly as possible, and PCC worked with EMC to accept information outside regular format)



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Saturday
July 22, 2023

- (Alert #1) - EMC and Provincial Coordination Centre (PCC) utilized three tools attempting for clear communication (cell, email, and landline from the BFD Station/Civic Centre). (EMC arrived by fire truck to BFD Station/Civic Centre at 2:17 a.m. and then forwarded Chief's email to PCC)
 - BFD Civic Centre Comfort Centre/Shelter supported 120 people

Date	Alert Type	Time authorized	Time issued
July 22, 2023	Flash Flood – shelter in place unless unsafe	2:35 a.m.	3:06 a.m.



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**

- (Alert #2) 3:26 a.m. - EMC receives a call from Minas Energy (St. Croix Dam) requesting an evacuation Alert be sent for community of St. Croix due to Dam Overflow

Date	Alert Type	Time authorized	Time issued
July 22, 2023	Dam overflow – evacuation order for St. Croix River system area	3:28 a.m.	3:41 a.m.



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**

- First Responders continue to receive numerous calls for rescues, support, and overall response in all capacities

- EMC actions
 - Alerts
 - Activated West Hants Ground Search and Rescue to assist with evacuations
 - Requested additional RCMP support through the PCC
 - Activated Canadian Red Cross
 - Requested power be cut to many locations
 - Activated the Visitor Information Centre as initial Emergency Operations Centre (EOC) and Staging Area



Hwy. 101 from Ellershuse Overpass



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**

- (Alert #3) - Activated Windsor Community Centre as an alternate Comfort Centre/Evacuation Shelter location
 - Windsor Community Centre supported 65 people.

Date	Alert Type	Time authorized	Time issued
July 22, 2023	Dam overflow – update with new shelter location	4:21 a.m.	4:33 a.m.

- First Responders rescued due to swift/rapid currents



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**



Exhibition Grounds, Windsor, NS

- EMC
 - Coordinated school buses to assist with larger evacuations (Smiley's Provincial Park campers (two busloads to BFD Civic Centre), and potentially a complex in Hantsport (Fire transported them to HFD station)).
- CAO relocated EOC and Staging Area to 100 King Street
- WHRM Public Works
 - used loaders to rescue campers at Exhibition Grounds and on Mountain Road, Three Mile Plains
 - Deployed diesel pump at waterfront location



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**



WHRM Pump at waterfront lift station,
Windsor, NS

- EOC meetings (Sit-Reps) held Saturday, July 22 at 7am; 8:30am; 10:30am; 12:30pm; 3:30pm; 6pm; and 8pm
- EOC meetings included key EMO Planning Committee members that would be related to this event
 - In-Person: EMO, Fire, RCMP, EHS, WHRM Public Works, Community Development, WH Ground Search and Rescue, Public Safety Field Communications (PSFC).
 - Other communication methods for EOC updates by: NS Public Works, NS Power, Dept. of Agriculture, Dept. of Natural Resources, Minas Energy
- Additional First Responders and external agencies continued to arrive
- NS Public Works confirmed many washouts



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**



Minas Energy (St. Croix) Dam

- High-lines arranged to switch out fire crews that were with trapped apparatus in Ellershouse
- Minas Energy (dam) mitigated further risk to St. Croix area
- RCMP advised they have engaged their Strategic Communications dept. for missing persons
- NS Power reached out to EMC and CAO re. their need to release water (dam overflow) into the Avon River system which increased flood risk for low lying areas of the Avon River and Lake Pisiquid
- Tide times continued to be monitored



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**

- Relocation of Windsor Community Centre comfort centre/shelter to Windsor Armouries sought. That location was denied.
- New shelter approved for Falmouth Elementary School
- (Alert #4) - Minas Energy confirmed can lift St. Croix evacuation
- (Alert #4) - NS Power confirmed Alert wording needed for low lying Avon River/Lake Pisiquid evacuation and EMC submitted request

Date	Alert Type	Time authorized	Time issued
July 22, 2023	Dam Overflow Update: (1) St. Croix can go home but remain vigilant (2) Avon River Hydro System is experiencing high levels on Water Street/Froth Hole, Mill Section & Lake Pisiquid – evacuation order in effect.	2:48 p.m.	2:58 p.m.



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**



Lynch Road, Newport

- Ground Search and Rescue door knocked for evacuation to low lying Avon River and Lake Pisiquid areas
- WHRM Public Works confirmed all water/sewer treatment is performing
- NS Power confirmed restoration is happening case-by-case
- NS Dept of Public Works reported increased bridge/road washouts; challenged to update NS 511.
- Additional First Responder resources requested and were arriving
- Dept. of Natural Resources offered supply of equipment



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Saturday,
July 22, 2023**



- Minister Lohr and MLA Sheehy-Richard briefly attended and stated they were announcing a Provincial State of Emergency.
- Red Cross confirmed Evacuation Shelter at new location, Falmouth Elem. School would be fully operational at 3:30 p.m.
- One individual stayed the night at the shelter and a family of five was provided hotel accommodations by the Red Cross. (Red Cross continued to support others in the following week)
- Brooklyn Civic Centre Comfort Centre - EMC confirmed that no one needed shelter or needed to be transported to Falmouth Elem. School. Comfort Centre closed.
- Hwy. 101 Eastbound opened.
- RCMP dive team on-site in Brooklyn.



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Saturday,
July 22, 2023

➤ (Alert #5) - All Alerts lifted

Date	Alert Type	Time authorized	Time issued
July 22, 2023	Flash Flood – shelter in place unless unsafe	2:35 a.m.	3:06 a.m.
July 22, 2023	Dam overflow – evacuation order for St. Croix River system area	3:28 a.m.	3:41 a.m.
July 22, 2023	Dam overflow – update with new shelter location	4:21 a.m.	4:33 a.m.
July 22, 2023	Dam Overflow Update: (1) St. Croix can go home but remain vigilant (2) Avon River Hydro System is experiencing high levels on Water Street/Froth Hole, Mill Section & Lake Pisiquid – evacuation order in effect.	2:48 p.m.	2:58 p.m.
July 22, 2023	Dam overflow update – all alerts lifted.	9:38 p.m.	9:43 p.m.



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Sunday,
July 23, 2023**

- EOC meetings held Sunday, July 23 at 8am; 11am; 1:30pm; 4pm; and 8pm.
- (Alert) – the original St. Croix evacuation Alert was re-issued at 4:30 a.m. (Not re-issued by WHRM staff, RCMP, or Minas Energy). Was apparently put on a ‘loop’ through Shubie Dispatch to automatically re-issue
- NS 511 road updates remain a concern
- RCMP identify missing persons search sites (two incidents, one site, four people)
 - Site pumping determined a priority and resources requested to carry it out
 - Additional search resources requested
- WHRM Public Works continue with infrastructure assessments



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Sunday,
July 23, 2023**

- GSAR established their Command Centre and Staging area to Tidal Bore Market (EHS, PSFC and other supporting agencies doing same)
- Site pumping commenced by fire services and others. Prepping for additional pumping support
- EMC coordinated emergency fuel supply for all agencies
- Air and water support coordinated
- Cellular coverage remains a problem/concern
- Fire services performed wellness checks on areas hardest impacted
- Infrastructure assessments ongoing



Pump lines



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Sunday,
July 23, 2023**

- RCMP - Mike Carter identified as Incident Commander for Missing Persons
- K-9 unit active on site
- Site pumping continued through night



Pumping



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

**Monday,
July 24, 2023
to
Monday,
July 31, 2023**



RCMP Command Centre at
Tidal Bore Market

- Dept. of Community Services coordinated support with EMC - assistance for those outside of the 72-hours Canadian Red Cross assistance.
- RCMP took over Command for Missing Persons
 - EMO EOC meetings concluded
- RCMP Incident Command and meetings commenced early morning of Monday, July 24, 2023 at the Tidal Bore Market. Both WHRM's EMC and CAO attended all of their meetings
- RCMP and supporting agencies assigned and performed tasks related to missing persons search (this included support of WHRM EMO (EMC, CAO, Public Works). EMC remained at Command (on site) for full duration as logistics support

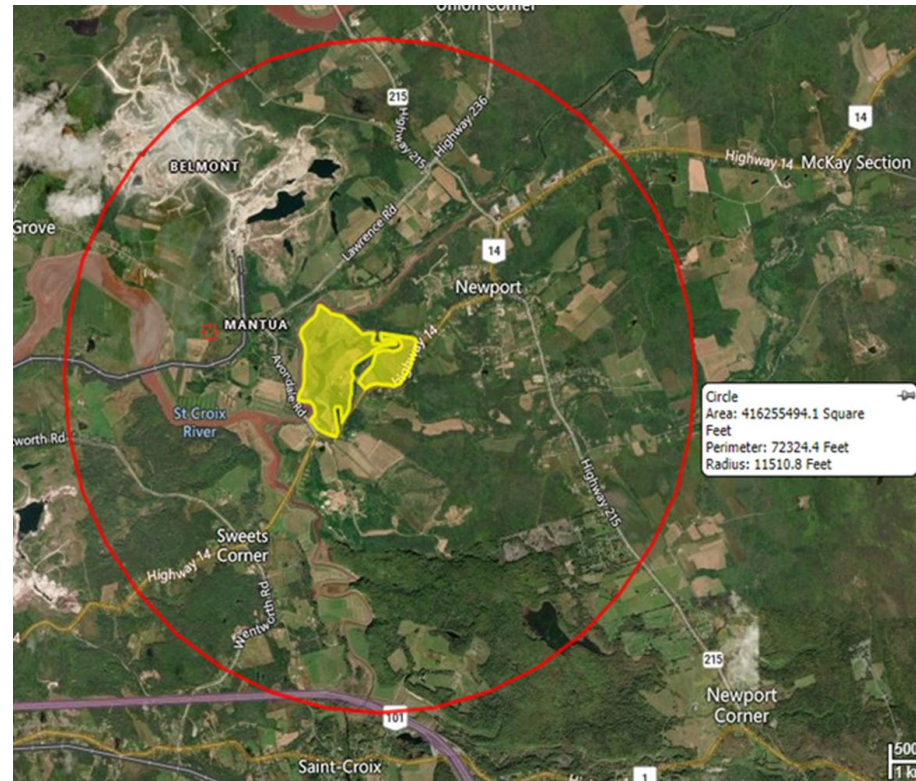


Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Monday,
July 24, 2023
to
Monday,
July 31, 2023

RCMP
Missing Persons
Incident Summary



- 11 people involved in water 3 vehicles
- 7 persons rescued
- 4 fatalities
- 495 acres of ground searched
- 104 sq km of water searched
- 417 sq km of shore and tidal waters searched by air
- Average of 60 people per day involved
- Estimate more than 8,000 person hours of work completed



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

FIRE

Supporting Agencies – THANK YOU!

- | | |
|--|---|
| 1) Annapolis Volunteer Fire Department | 21) Mount Uniacke Volunteer Fire Department |
| 2) Aylesford Volunteer Fire Department | 22) New Germany Volunteer Fire Department |
| 3) Bear River Volunteer Fire Department | 23) New Glasgow Volunteer Fire Department |
| 4) Berwick Volunteer Fire Department | 24) New Minas Volunteer Fire Department |
| 5) Bible Hill Volunteer Fire Department | 25) Onslow-Belmont Volunteer Fire Department |
| 6) Bridgewater Volunteer Fire Department | 26) Pictou Landing Volunteer Fire Department |
| 7) Brookfield Volunteer Fire Department | 27) Port Williams Volunteer Fire Department |
| 8) Brooklyn Volunteer Fire Department - PRIMARY | 28) Pugwash Volunteer Fire Department |
| 9) Canning Volunteer Fire Department | 29) Rawdon Volunteer Fire Department |
| 10) Chester Volunteer Fire Department | 30) Shelburne Volunteer Fire Department |
| 11) Dayspring Volunteer Fire Department | 31) Southwest Hants Volunteer Fire Department |
| 12) Gore Volunteer Fire Department | 32) Stewiacke Volunteer Fire Department |
| 13) Greenwich Volunteer Fire Department | 33) Summerville Volunteer Fire Department |
| 14) Halifax Regional Municipality Fire Department | 34) Valley Kempton Volunteer Fire Department |
| 15) Hantsport Volunteer Fire Department | 35) Walton Shore Volunteer Fire Department |
| 16) Kentville Volunteer Fire Department | 36) Waterville Volunteer Fire Department |
| 17) Kingston Volunteer Fire Department | 37) Western Shore Volunteer Fire Department |
| 18) Lantz Volunteer Fire Department | 38) Windsor Volunteer Fire Department |
| 19) Little Harbour Volunteer Fire Department | 39) Wolfville Volunteer Fire Department |
| 20) Mahone Bay Volunteer Fire Department | |



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Supporting Agencies – THANK YOU!

GROUND SEARCH and RESCUE

- 1) Annapolis Ground Search & Rescue
- 2) Clare Ground Search & Rescue
- 3) Colchester Ground Search & Rescue
- 4) Digby Ground Search & Rescue
- 5) East Hants Ground Search & Rescue
- 6) Eastern Shore Ground Search & Rescue
- 7) Halifax Ground Search & Rescue
- 8) Musquodoboit Ground Search & Rescue
- 9) Pictou Ground Search & Rescue
- 10) Sheet Harbour Ground Search & Rescue
- 11) Strait Area Ground Search & Rescue
- 12) Valley Ground Search & Rescue
- 13) West Hants Ground Search & Rescue - PRIMARY**
- 14) Yarmouth Ground Search & Rescue

OTHER AGENCIES/ORGS

- 1) Canadian Mountain Rescue
- 2) Canadian Red Cross
- 3) Civil Air Search and Rescue Assoc. (CASARA)
- 4) Colchester Special Hazards
- 5) Dept. of Agriculture
- 6) Dept. of Community Services
- 7) Dept. of Natural Resources and Renewables
- 8) Dexter Construction
- 9) EHS and EPSO
- 10) Minas Energy (St Croix) Dam
- 11) NS Power Dam
- 12) Public Safety Field Communications
- 13) RCMP - PRIMARY**
- 14) West Nova Fuels

WHRM EMO and STAFF - PRIMARY



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Position

- WHRM EMO primaries

References

- CAO, Mark Phillips (WHRM)
- EMC, Shelleena Thornton (WHRM)
- BFD Fire Chief, Jason Cochrane
- BFD Deputy Chief, Brett Tetanish
- RCMP Incident Commander, Mike Carter



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

July 22/23, 2023 Flash Flood EMO Next Steps

- After Action Review (AAR) – Held in-conjunction with RCMP on Wed, Aug. 9, 2023
- Financial Information Compilation – In-progress - see next slide(s)
- WHRM EMO Debriefing – To be held
- AAR and Debrief information leads to

What worked well?

What needs improvement?

How to ensure future success.

Recommendations/solutions (process/policies).



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

RESPONSE COSTS	Total Estimated	
Personnel:	\$	-
Administrative Costs:	\$	-
Internal Labour:	\$	63,510
Materials:	\$	-
Internally Sourced Material:	\$	-
Externally Sourced Material:	\$	14,821
Equipment:	\$	-
Internally Sourced Equipment:	\$	5,183
Externally Sourced Equipment:	\$	1,435
Contracts:	\$	13,888
Other: Comfort Centre & Meals for Response Teams	\$	22,495
Total Costs:	\$	121,331



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

RECOVERY COSTS	Total Estimated	
Personnel:	\$	-
Administrative Costs: Insurance	\$	850,000
Internal Labour:	\$	2,028
Materials:		
Internally Sourced Material:	\$	-
Externally Sourced Material:	\$	6,560
Equipment:		
Internally Sourced Equipment:	\$	2,350
Externally Sourced Equipment:	\$	-
Contracts: Professional Services	\$	1,270,474
Other: Asset replacements	\$	137,443
Total Costs:	\$	2,268,855



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

TOTAL EVENT ESTIMATE*	\$	2,390,187
Total Damage Estimate:	\$	2,067,300
Total Event Cost Estimate:	\$	322,887
Estimated Funding:		
Externally Sourced Funding (Insurance, DFA, etc.):	\$	2,388,314
Internally Sourced Funding:	\$	-
ESTIMATE AS OF		August 17, 2023

*This does not include any proposed mitigation upgrades



Flash Flood – July 22/23, 2023

West Hants Regional Municipality EMO

Flood July 2023, Property Damage Estimate - As of August 17, 2023

Item	Restoration Cost Estimate*	Funding Source	Professional Services (i.e. Engineering, etc.)	Upgrade Value	Potential Upgrade Funding Source	Additional Resources	Estimated Work Timeline
<i>Community Development</i>							
Windsor Community Centre	\$ 300,000	Insurance/DFA	Yes	\$ 50,000	Capital Budget		6 Months
Pisiquid Canoe Club - Windsor Waterfront	\$ 500,000	Insurance/DFA	Yes	\$ -			6 Months
Sport Complex	\$ 3,500	Disaster Financial Assistance (DFA)		\$ -			Fixed
Falls Lake Park	\$ 8,000	Insurance/DFA		\$ -			Fixed
Mantua to Stanley Rail Trail	\$ 1,000,000	Insurance/DFA	Yes	\$ -			More than 1 year
Tregothic Trail	\$ 75,000	Insurance/DFA	Yes	\$ 25,000	Disaster Financial Assistance (DFA)	Unknown	Less than 1 year
Fort Edward Trail	\$ 10,000	Disaster Financial Assistance (DFA)		\$ -			Fixed
Pisiquid Park	\$ 2,000	Insurance/DFA		\$ -			3 Months
Irishmans Road Recreation Site	\$ 7,500	Insurance/DFA		\$ -			3 Months
Riverside Trail	\$ 2,500	Disaster Financial Assistance (DFA)		\$ -			Fixed
Causeway Connector Trail	\$ 500	Disaster Financial Assistance (DFA)		\$ -			Fixed
Hants Aquatic Centre	\$ 3,500	Disaster Financial Assistance (DFA)		\$ -			Fixed
Ardoise Park	\$ 6,000	Disaster Financial Assistance (DFA)		\$ -			6 Months
<i>Community Development Subtotal</i>	<u>\$ 1,918,500</u>			<u>\$ 75,000</u>			
<i>Public Works</i>							
100 King Street	\$ 11,800	Insurance/DFA	Yes	\$ 15,000	Disaster Financial Assistance (DFA)	Unknown	6 Months
Hwy #1 - TMP Lift Station #2	\$ 4,000	Insurance/DFA		\$ -			3 Months
<i>Public Works Subtotal</i>	<u>\$ 15,800</u>			<u>\$ 15,000</u>			
<i>Fire Departments</i>							
Rescue Equipment	\$ 63,000	RCMP/DFA					Less than 1 year
Boat	\$ 70,000	Insurance/DFA	Yes	\$ -			Less than 1 year
<i>Fire Departments Subtotal</i>	<u>133,000.00</u>			<u>-</u>			
Total Damage Estimate	<u>\$ 2,067,300</u>			Total Upgrade Estimate	<u>\$ 90,000</u>		

*Does not include replacement of contents



Flash Flood – July 22/23, 2023
West Hants Regional Municipality EMO

THANK YOU!

QUESTIONS?





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2023 Post-Flash Flood and Storm Water Management System Overview

Chittick Avenue Area, Hantsport





Session Agenda

Welcome and Introductions

Existing Storm System

Preventing Basement Flooding

WHRM Operational Procedures and Maintenance

Breakout Sessions (3x15mins)

Table 1 Historic Perspective

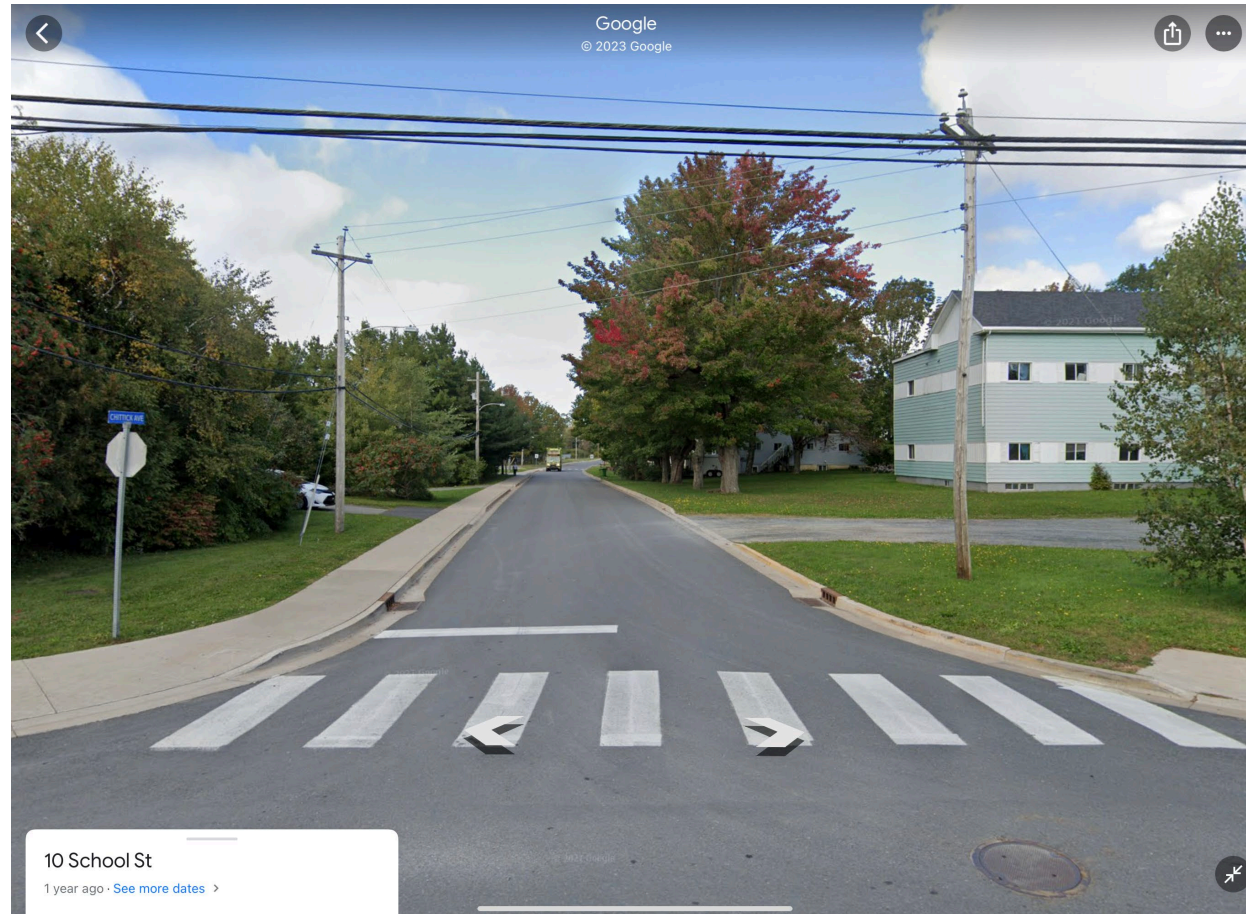
Table 2 Questions and Concerns

Table 3 Improvements and Requests

Wrap-up



Chittick Avenue, Hantsport



Chittick Avenue, Hantsport



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PW Depo - Chittick



Chittick – South View



Chittick – South View



Chittick – North View



Willow Brook



Willow Brook – Towards Bridge on Main



Standing Storm Water – Private



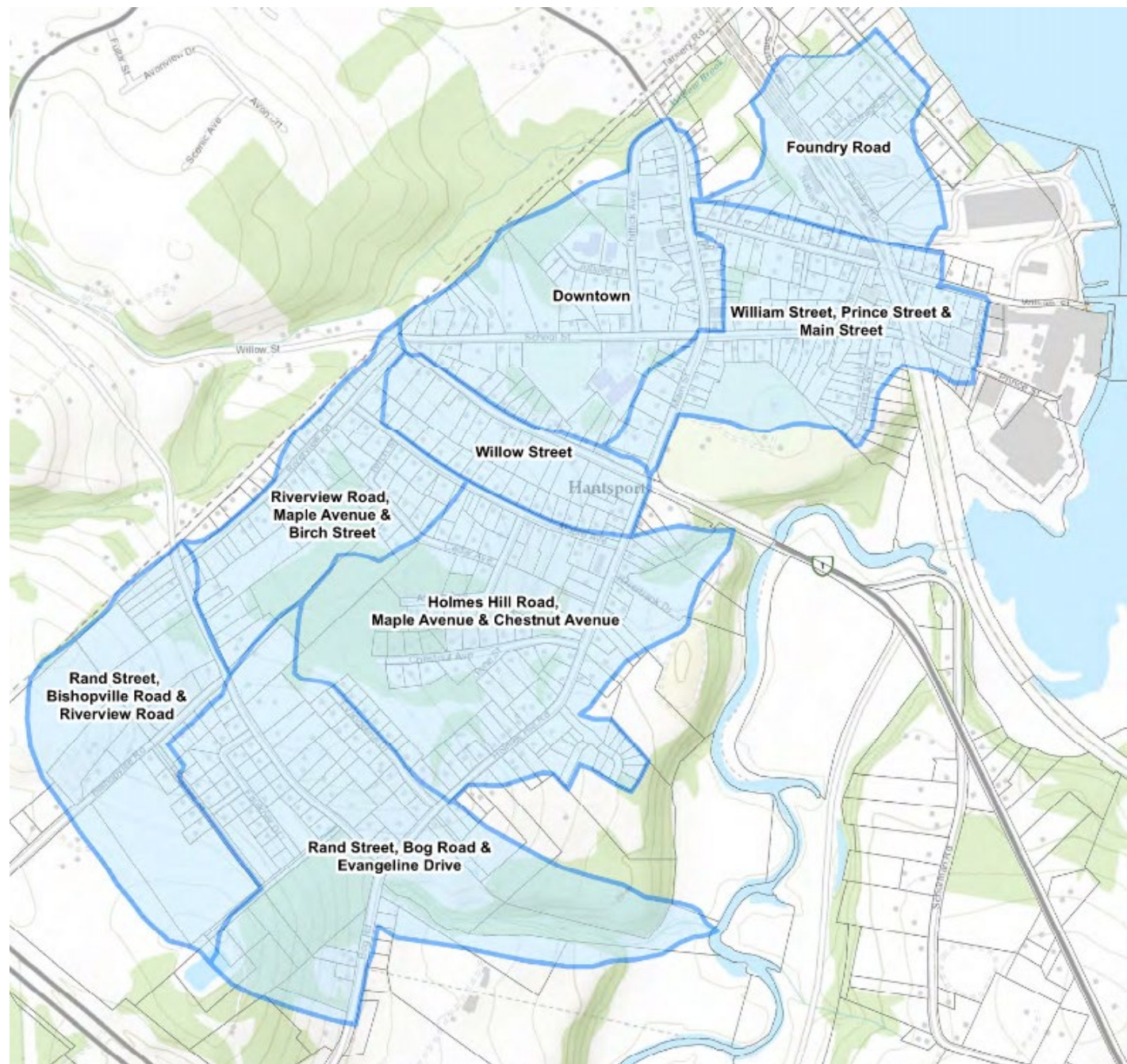


Existing Storm System



Existing Stormwater Drainage

- System consists of mostly separate systems
- The storm system discharge to Willow Brook, Halfway River, and Avon
- Designed for a 1:5 year storm
- Focus of discussion on Chittick Ave



Predicted Surcharging

Location	Historical Climate Conditions		Climate Change Conditions		Water Level Impact (m)	
	Peak Water Level (m)		Peak Water Level (m)			
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Main Street – Civic #25 (CB98)	18.16	18.38 ²	18.38 ²	18.38 ²	+0.22	0.00
Main Street – Civic #39 (CB93)	18.27	19.38 ²	19.23	19.38 ²	+0.96	0.00
Main Street Bridge (J46)	14.38	15.75 ¹	15.38	15.75 ¹	+1.00	0.00
Chittick Avenue – Civic #22 (J1)	14.57	15.01 ²	15.01 ²	15.01 ²	+0.44	0.00
Chittick Road - Civic #47 (CB84)	14.87 ²	14.87 ²	14.87 ²	14.87 ²	+0.00	0.00
School Street – Civic #12 (J26)	16.68 ²	16.68 ²	16.68 ²	16.68 ²	0.00	0.00

¹ Overtopping of bridge deck.

² Roadway ponding greater than 0.3 m in depth.

Dillon 2018

General Findings – Chittick Ave

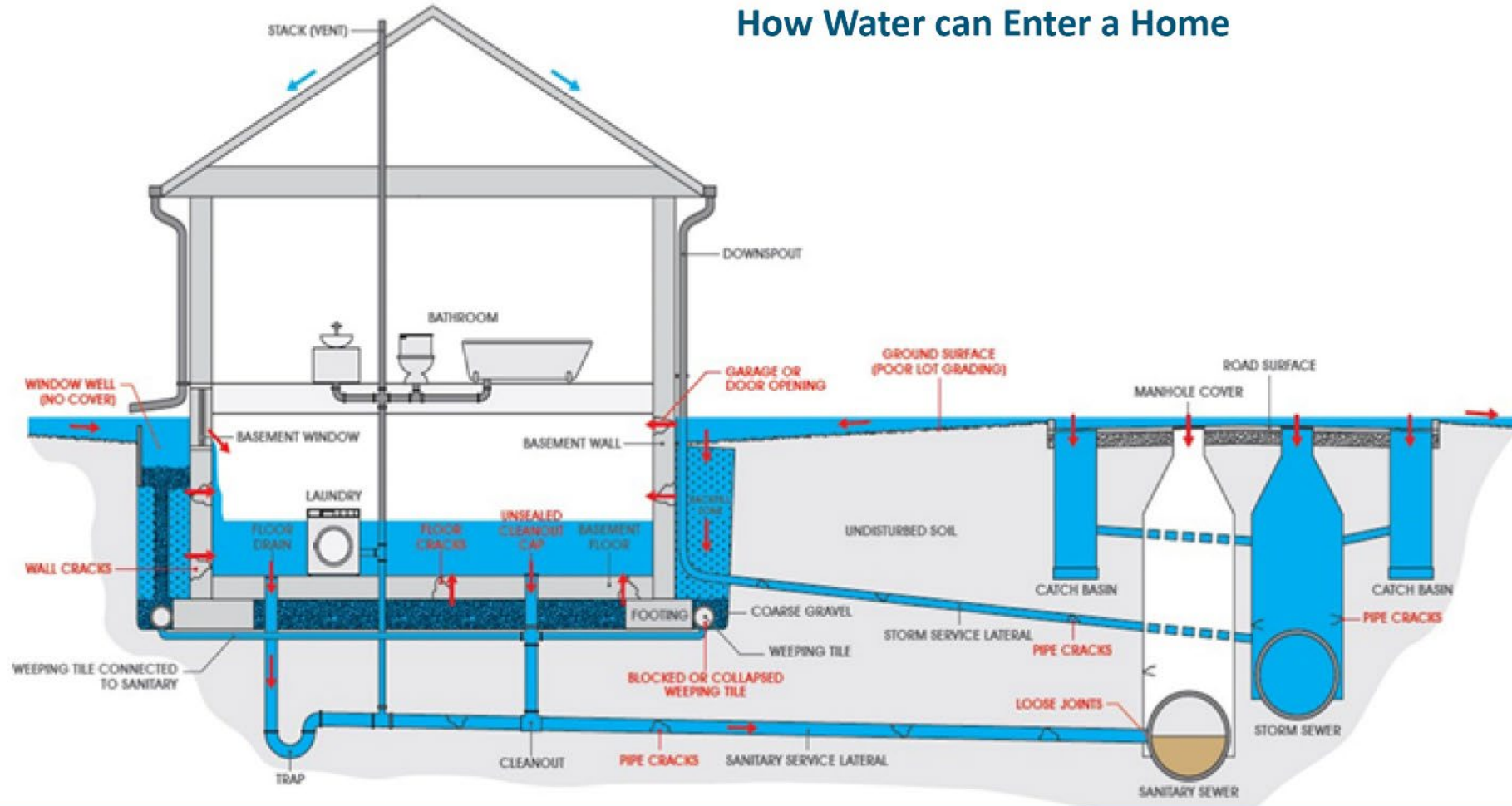
- Storm system appears to function per standard design principals, i.e. the pipes can handle the 1:5 year flows.
- Future development and climate change will result in more frequent storms that can cause flooding.
- The bridge opening appears to restrict flow on storms greater than 1:2 years.
- Future development should implement best management practices to limit their impacts to existing stormwater systems and the natural environment.



Preventing basement flooding

<https://www.halifax.ca/home-property/halifax-water/wastewater-services/basement-flooding>

How Water can Enter a Home



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What you can do to prevent flooding

Outside the House

- Seal cracks around your house
- Keep eavestroughs and downspouts clear
- Minding neighbouring properties, disconnect your downspouts from the sewer system, where feasible.
- Make sure your disconnected downspouts are draining properly, ideally two metres from your foundation's walls.
- Ensure the grading around your home slopes away from the foundation wall
- Increase the green space around your home
- Repair or replace damaged weeping tile systems.
- Inspect and maintain your sump pumps, backwater valves, weeping tiles, downspouts and draining ditches

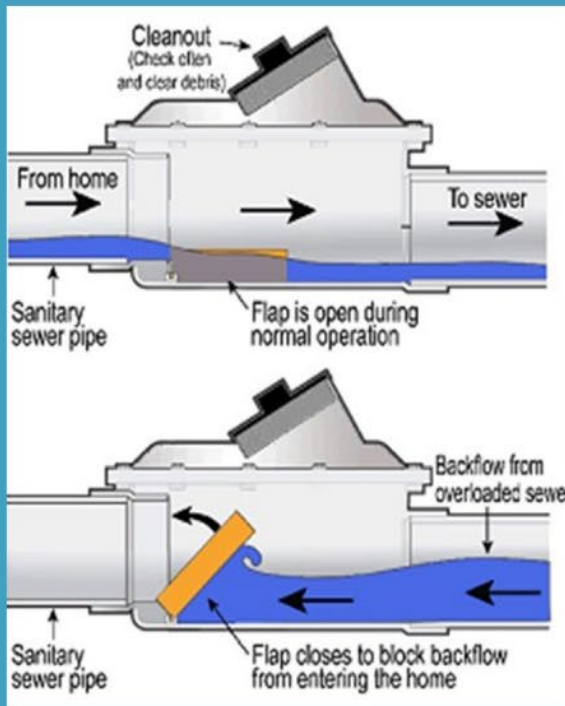
Inside the House

- Understand your Plumbing
- Hire a licensed plumber who conducts specialized testing or inspections
- Identify the location and condition of sewer service pipe, backwater valves, sump pumps, weeping tiles
- Maintain your Plumbing System
- Fix cracks, blockages or other condition problems.
- Avoiding creating clogs: Do not flush dental floss, Q-tips or other personal care products.

- Never pour fats, oils and grease down the drain.
- Hire a licensed plumber to install a backwater valve and a properly-sized sump pump and piping.

Backwater Valves

- Backwater valves are designed to close the sewer line during periods of extreme rain

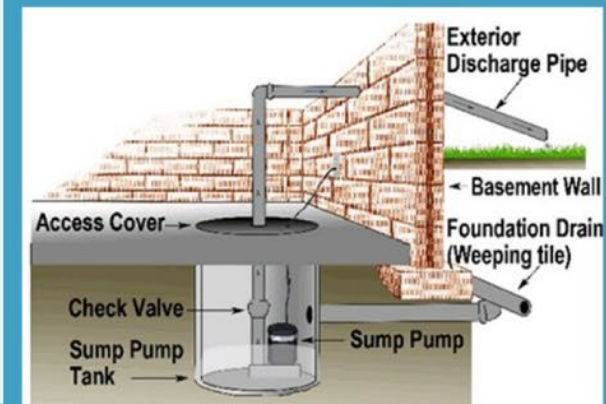


to prevent water from entering your home. When the valve is closed you should not use any plumbing fixtures (i.e. toilets, sinks, dishwasher, washing machine) because water will not drain and will backup into your home.

- Backwater valves should be installed by a licensed plumber and require a building permit to be installed.

Sump Pumps

- Install a properly-sized sump pump to help pump water collected by the weeping tile system to an area outside. Make sure the sump pump empties onto a permeable surface at least 2 m from the foundation wall.
- Sump pumps can lose power during severe storms, consider a battery back-up.



WHRM Public Works

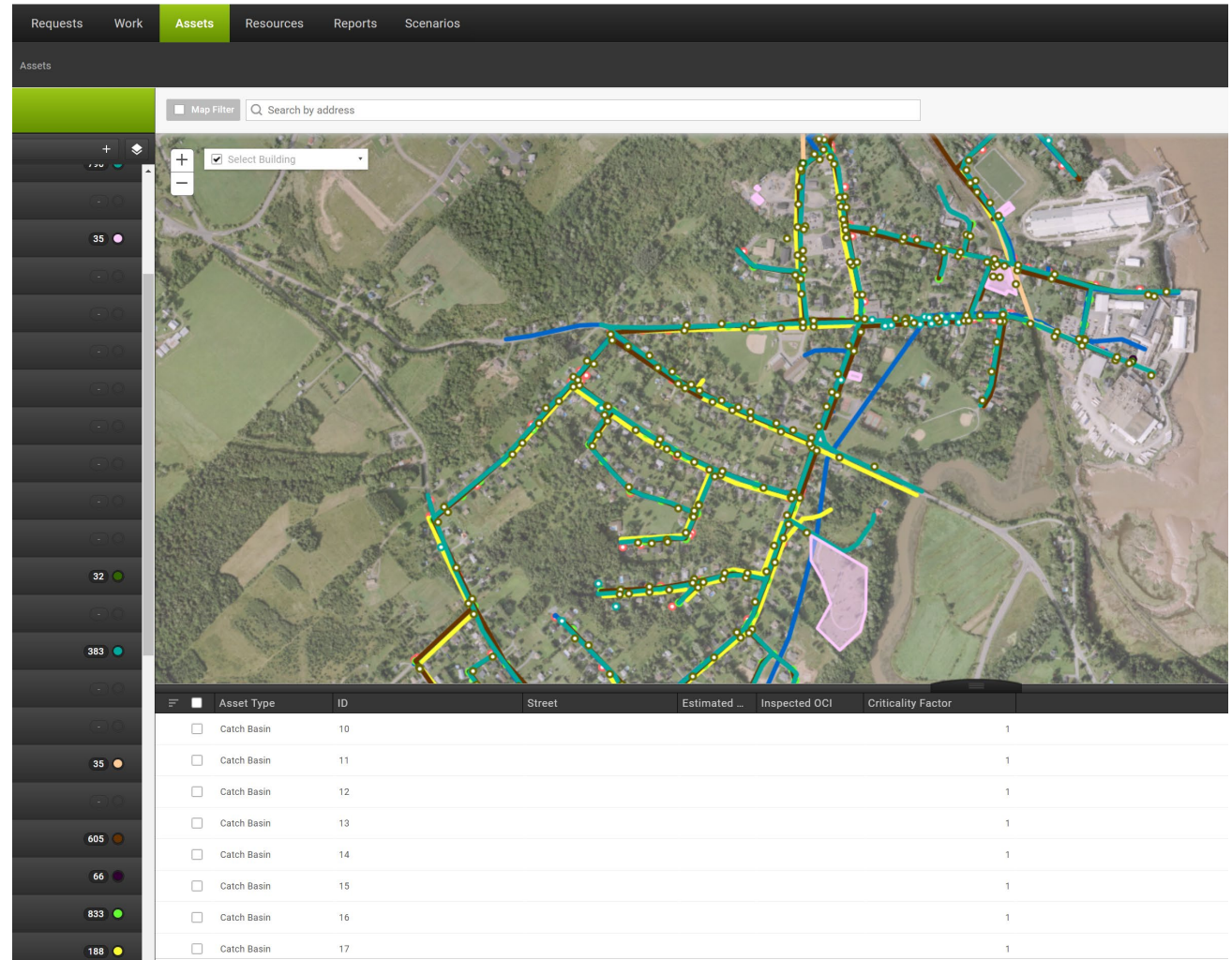
Operating Procedures

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Asset Management

- System Maintenance
- Catch Basins / Street Sweeping
- Storm and Sewer main Inspections
- System cleaning and monitoring
- SCADA – Lift Stations
- Reporting
- Storm System Modeling
- Infrastructure Renewal
- Storm Separation
- I&I
- Climate Change
- Low Impact Development
- Shared Responsibility



The screenshot displays a web-based Asset Management interface. At the top, there is a navigation bar with tabs for 'Requests', 'Work', 'Assets' (highlighted), 'Resources', 'Reports', and 'Scenarios'. Below the navigation bar, the main content area is titled 'Assets'. On the left side, there is a vertical sidebar with a search bar and a list of asset counts for different categories: 35, 32, 383, 35, 605, 66, 833, and 188. The central part of the interface is a map showing a residential area with various infrastructure assets represented by colored lines (blue, green, yellow, orange, red) and dots. A search bar at the top of the map area contains the text 'Map Filter' and 'Search by address'. Below the map, there is a table with the following columns: Asset Type, ID, Street, Estimated ..., Inspected OCl, and Criticality Factor. The table lists several 'Catch Basin' assets with IDs 10 through 17, all with a Criticality Factor of 1.

Asset Type	ID	Street	Estimated ...	Inspected OCl	Criticality Factor
<input type="checkbox"/> Catch Basin	10				1
<input type="checkbox"/> Catch Basin	11				1
<input type="checkbox"/> Catch Basin	12				1
<input type="checkbox"/> Catch Basin	13				1
<input type="checkbox"/> Catch Basin	14				1
<input type="checkbox"/> Catch Basin	15				1
<input type="checkbox"/> Catch Basin	16				1
<input type="checkbox"/> Catch Basin	17				1

Breakout Sessions

Breakout Sessions (3x15mins)

Table 1 Historic Perspective(s)

Table 2 Questions and Concerns

Table 3 Improvements and Requests





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- # Session Agenda

Welcome and Introductions (WHRM)

Presentation Overview

(November 24, 2023 Correspondence – Residents of Windsor Flood Zone and Concerned Citizens)

- Opening Remarks
- Storm Water Management Responsibilities
 - Municipal Related
 - Private Property Related
- Pre-Storm Event Procedures
- Weather Event and Post Weather Event Procedures
- Storm Water System Overview and Improvements
- Questions



What is the stormwater system that WHRM owns and maintains



Storm Drains (Catchbasins)



Off-Street Drainage Corridors



Buried Pipes & Manholes



In-Street (Cross) Culverts



Detention Ponds



Roadside Ditches



General Responsibilities

MUNICIPALITY

- New Development storm runoff must be the same or lower than predevelopment flows. Referred to as “Pre/Post Development Flows”
- Own and maintain Storm Water, Sanitary sewer systems and Combined Sanitary / Storm - including streets as part of the system (does not include private laterals)
- Removing Water and snow fallen/collected on Municipally owned land/streets

General Responsibilities

PRIVATE PROPERTY OWNERS

- Responsible for stormwater flow across their individual properties, across adjacent property boundaries as well as stormwater management systems located on their property.
- Responsible for private stormwater systems including rainwater leads, footing drains, and slope protection within their privately owned property.
- Must maintain drainage corridors and privately owned drainage infrastructure free of vegetation and debris to not block drainage and stormwater flow routes or negatively interrupt public or private drainage patterns.
- All drains or laterals connecting private property with a public sewer system shall be sufficiently trapping to prevent any sewer backup or any escape or noxious vapours or unpleasant smells from the sewer lateral into or on the premises of the private property owner.
- Responsible to prevent water and stormwater intrusion by having foundations sealed and to have any areas where surface water can enter the structure.
- Have a functioning, properly installed and maintained backwater valve (both sewer and stormwater).



Public Works Operation

PRE-WEATHER EVENT PROCEDURES

- Schedule Staff based on weather reports from EMO and other agencies
- Perform Preventative Maintenance and reactive maintenance on Water & Wastewater systems, this includes visual checks, CCTV, cleaning in and around infrastructure, repairs (Operational and Capital). Using available resources and funding – Performed by Staff and Contractors
- Perform Preventative Maintenance and reactive maintenance on Equipment (Operational and Capital) Using available resources and funding – Performed by Staff and Contractors



Public Works Operations

DURING WEATHER EVENT PROCEDURES

- Call in Staff as needed based on weather developments and needs
- Continue to monitor weather reports from EMO and other agencies
- Events are staffed 24/7. Employees are “On-Call”.
- Monitoring 33 Lift Stations with SCADA and on-site checks / inspections
- Monitoring with Cameras (SCADA and Camera allow Staff to cover multiple areas at the same time).
- Road/Site Checks by Staff
- Back up Generators are used when power is out (serviced regularly)
- Deploy available resources where and when needed. Priorities change frequently.



SCADA System Display - # 1 Lift Station (Pisiquid Station)

The SCADA interface displays the status of the #1 Lift Station (Pisiquid Station). The main view shows a cross-section of the lift station with two pumps, Pump 1 and Pump 2, and a water level indicator showing 5.70 Ft. Pump 1 is running, while Pump 2 is off. The interface also includes a data table for Pump 1 and Pump 2, and a station status section.

PS1_Polling_Driver
Lake Piziquid

Data Age: 00:00:30 # 0

PUMP 1

Status	RUNNING
Amperage	19.5 A
Overload	OK
Starts	210.0 Starts
Runtime	3.9 Hours

PUMP 2

Status	OFF
Amperage	0.0 A
Overload	OFF
Starts	198.0 Starts
Runtime	32.9 Hours

STATION

Power Status	OK
Well Overflow	OK
Building Intrusion	OK

5.70 Ft

1 **RUNNING**

2 **OFF**

OVERFLOW

Disable Polling Fast Polling Show Comm Show Stats

STP_Polling_Driver Windsor STP Data Age: 00:00:47 # 5

Comm Error Poll Disabled



Community Development Operations During Weather Event Procedures

- New Signage/Park Closures
- During a weather event that causes higher than normal rainwater levels to be standing in Elmcroft or Victoria Park, access will be restricted until the water lowers. Staff place “Park Closed Temporarily” signage during the event.
- Our primary concern is the safety of park visitors and due to standing water.



Community Development Recreational Water Testing

- Although not required by federal or provincial guidelines, WHRM has taken a higher level of care for the community and collects water samples monthly during the summer from various water access points for recreational swimming purposes.
- The guideline for Canadian Recreational Water Quality for E.Coli in a single-sample maximum concentration is equal to or less than 400 CFU/100 ml. (if a test comes back with less than 400 CFU/100ml the water is considered safe for recreational use at the time the test was taken)
- Staff will be forwarding an intensified water sampling program for the Lake Pisiquid / Avon River area for the 2024/25 budget.

Regardless of the waterbody and conditions, when you consider the

Variable risks to people and pets, please always remember:

“When in doubt, stay out”

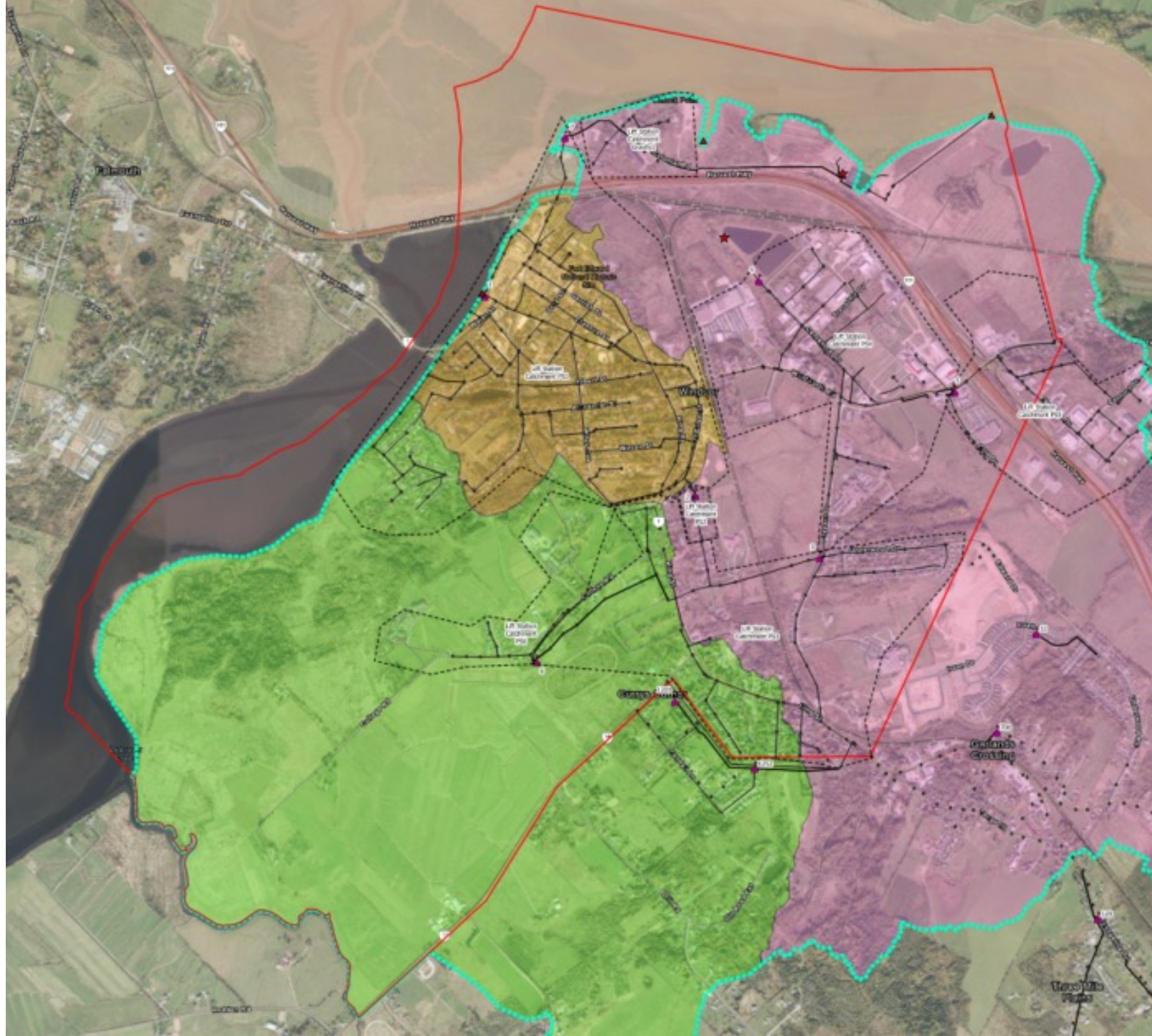


Existing Stormwater Drainage

- System consists of separate and combined systems

Legend

- ★ Sewage Treatment Plant
- ▲ Outfall
- 🚰 Lift Station
- Manhole
- Forcemain
- Gravity Sewerline
- 🟢 Martock Marsh Stormwater Subcatchment
- 🟡 Wentworth Creek Stormwater Subcatchment
- 🟠 Windsor Downtown Stormwater Subcatchment
- 🟦 Overall Watershed
- 🔴 Former Town of Windsor Boundary
- Orthos_10k
- ⋯ Lift Station Catchment Areas



Data Collection

- Review of existing drawings and GIS data
- GAP Analysis
- Field data collection and verification



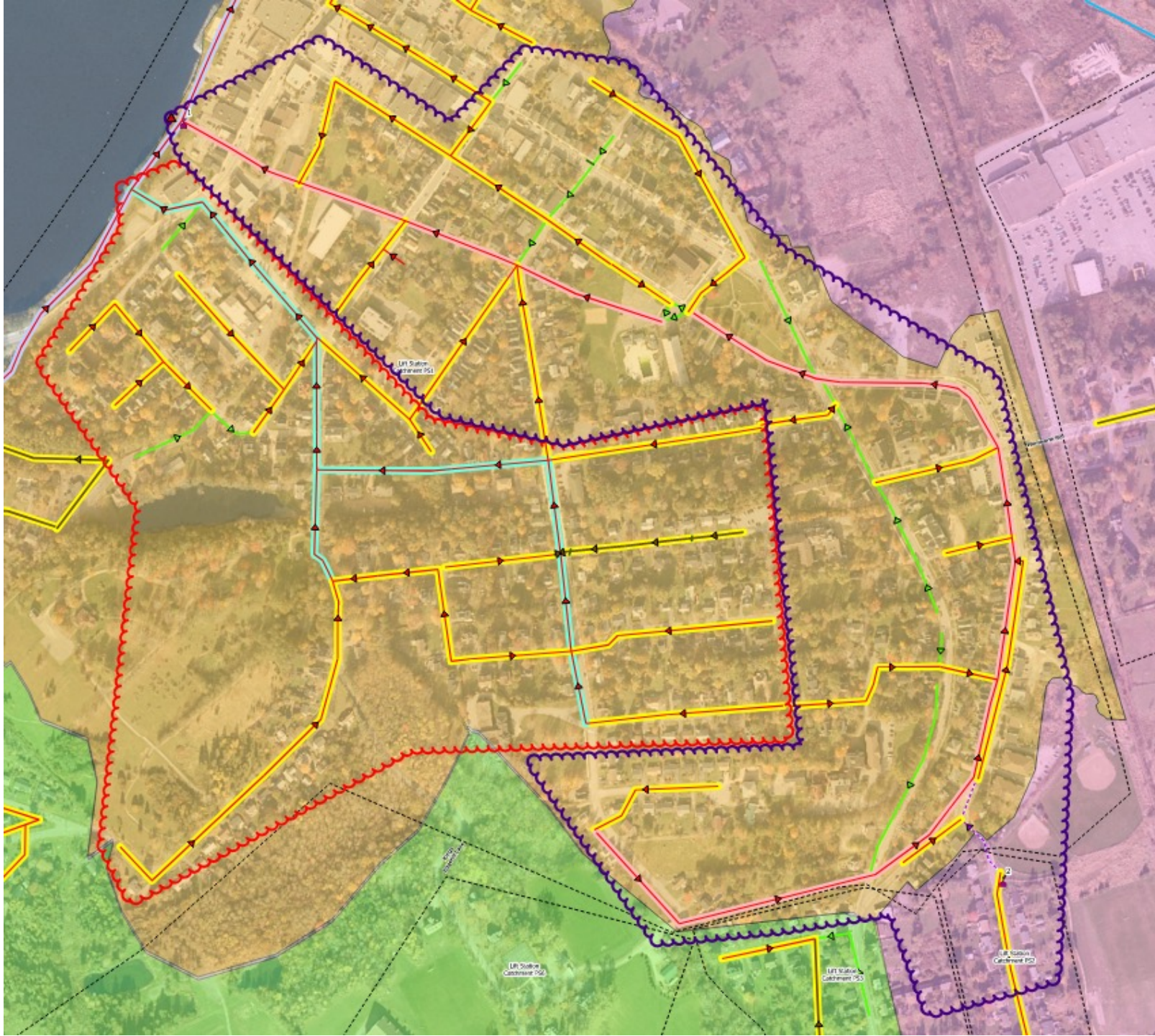
Design Storms

- Windsor Downtown
 - 1:5 year with climate change

Tregothic Marsh

- 1:10 year with climate change
- 1:100 year with climate change

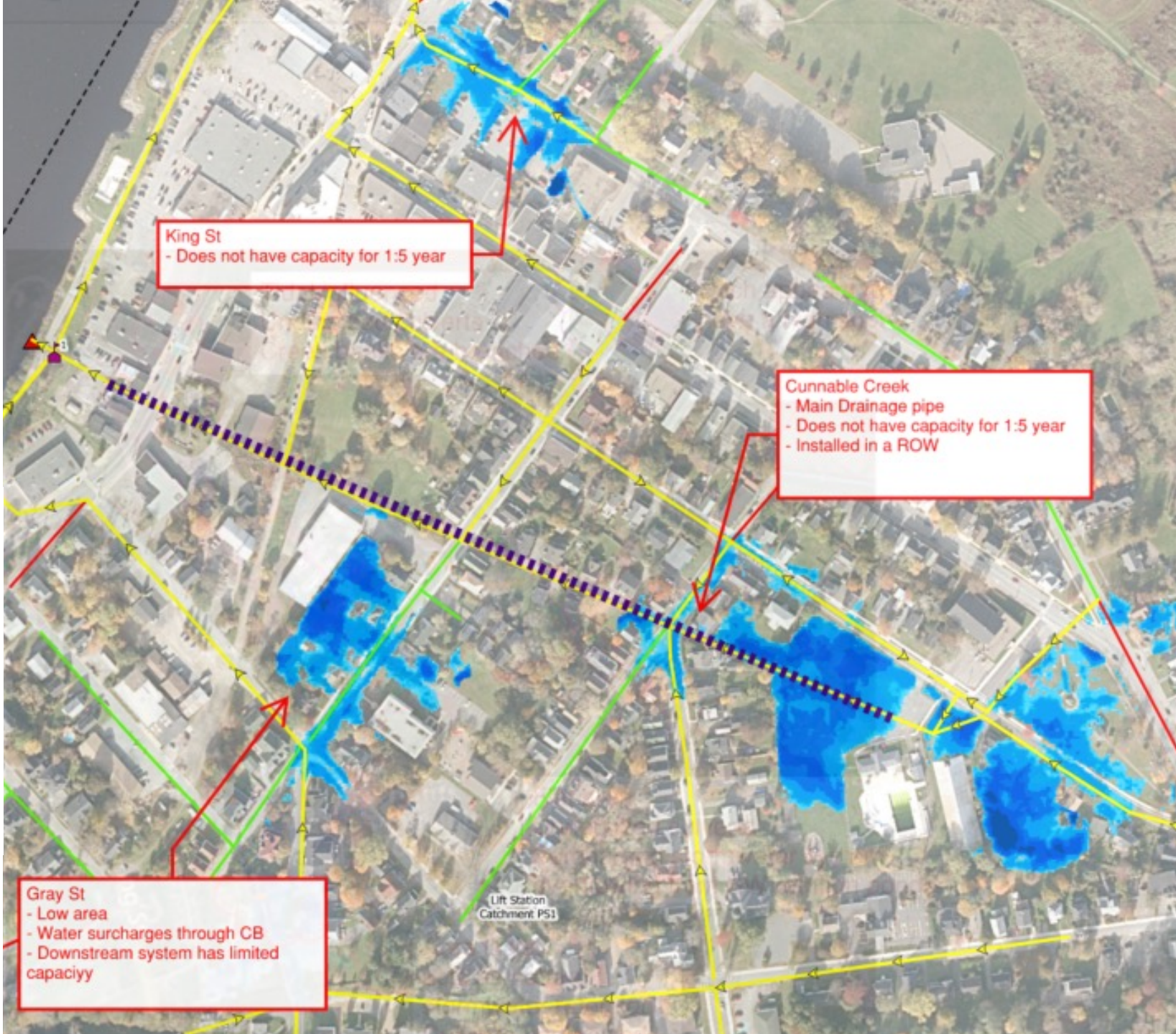
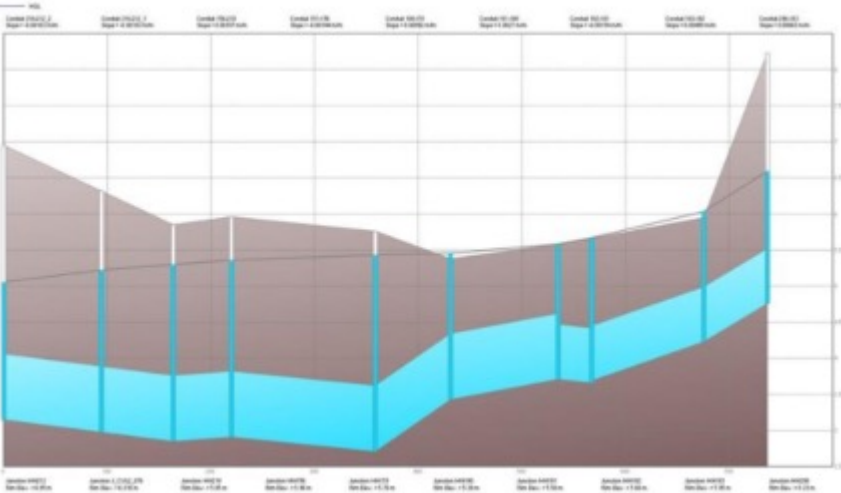
Windsor Downtown Existing System



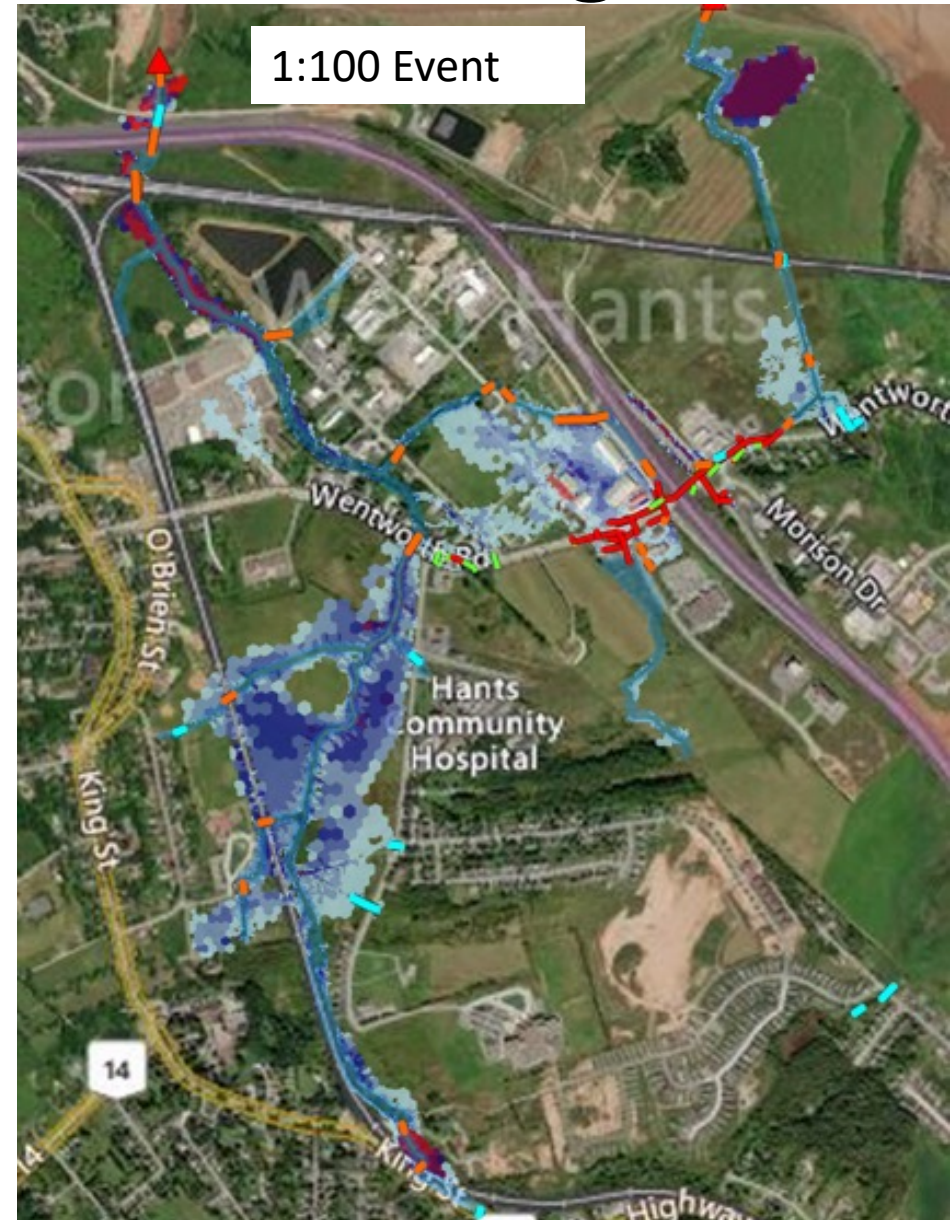
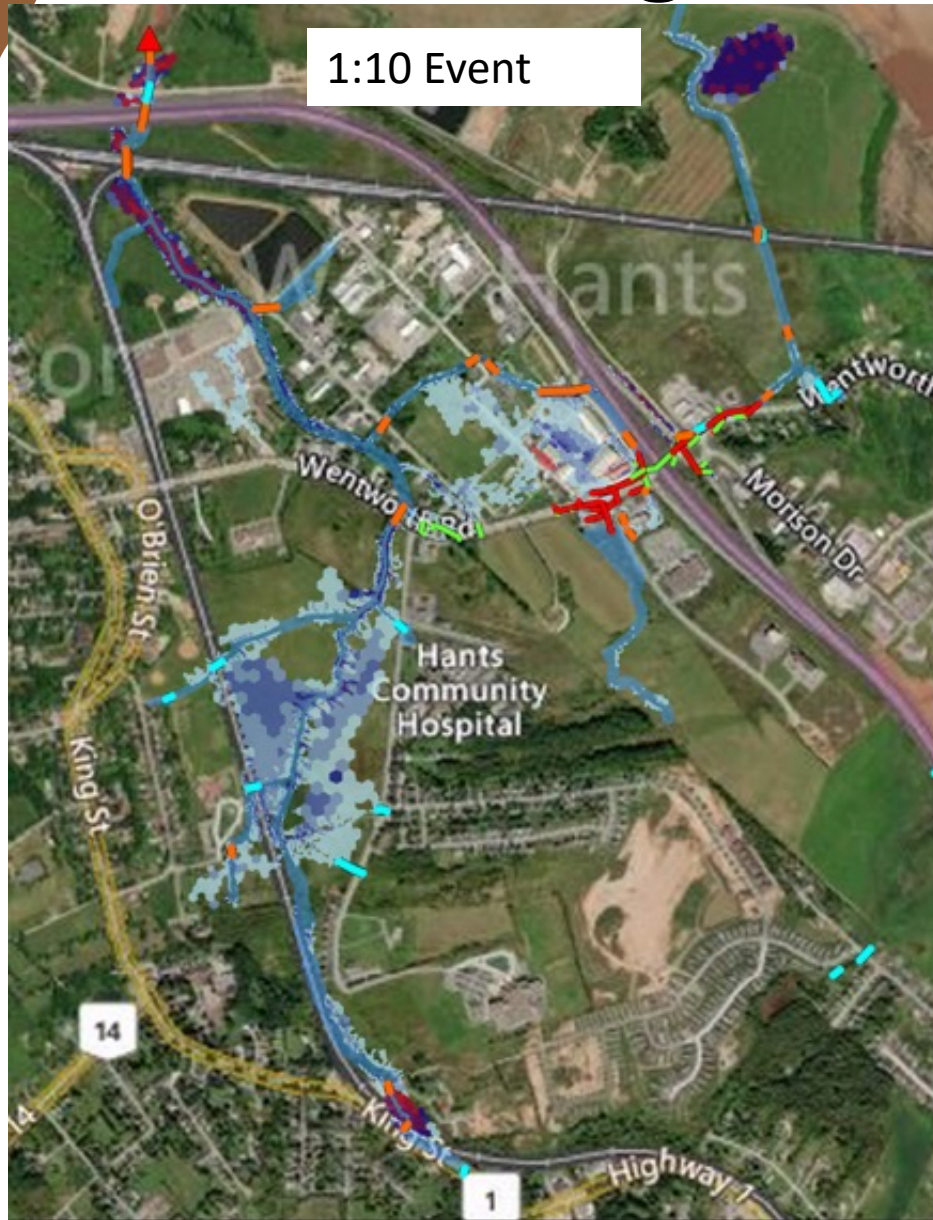
Windsor Downtown Flooding



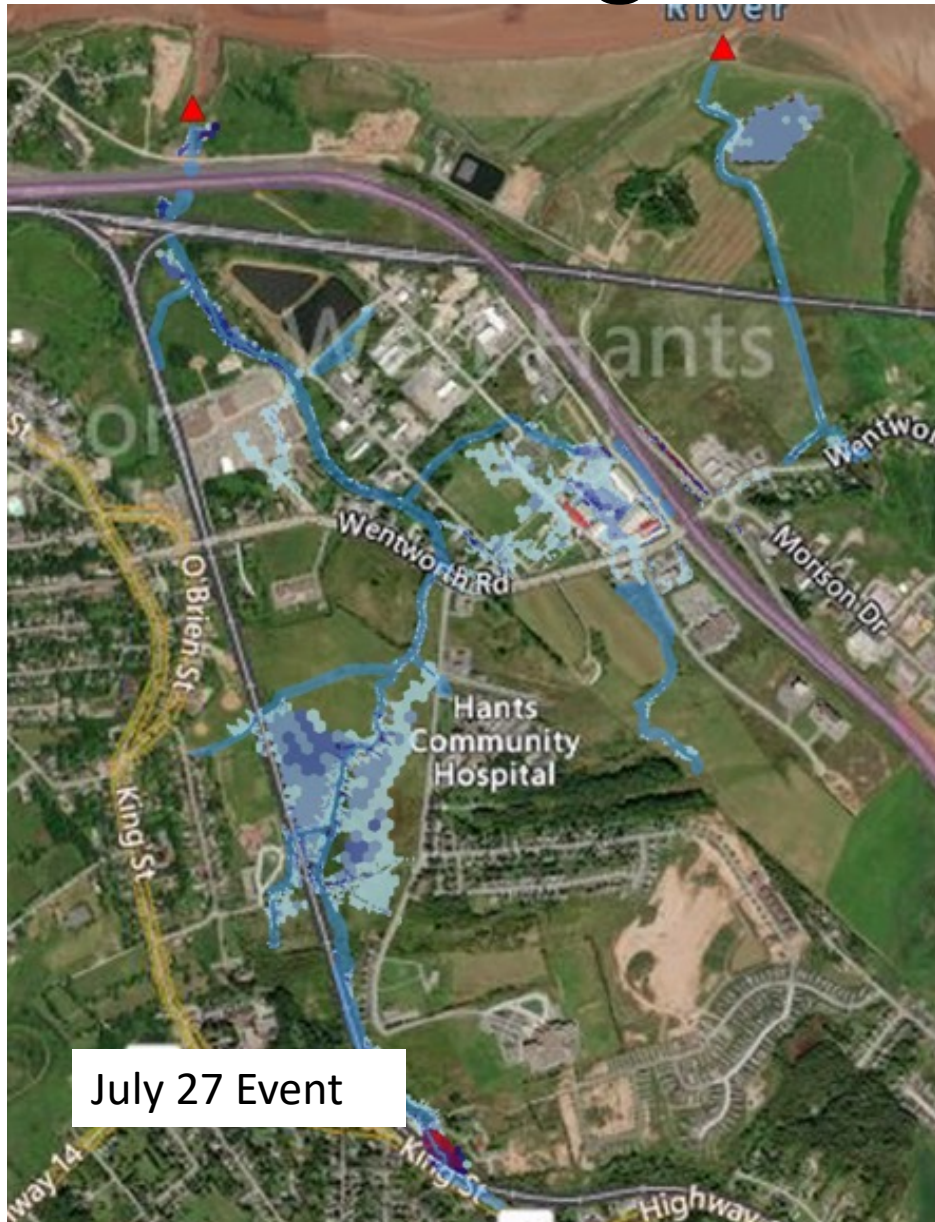
Downtown Trouble Areas



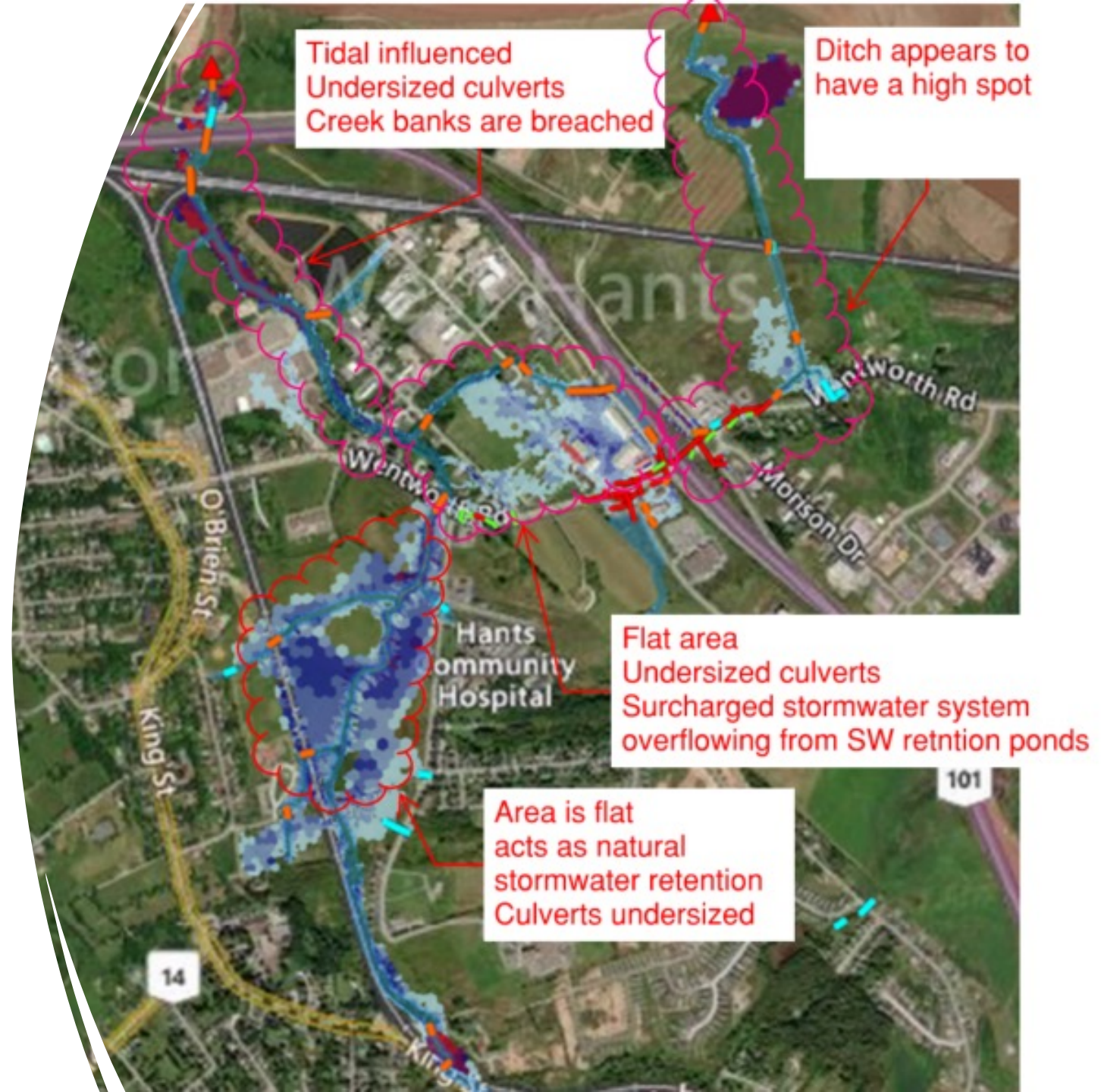
Tregothic Marsh Flooding



Tregothic Marsh Flooding

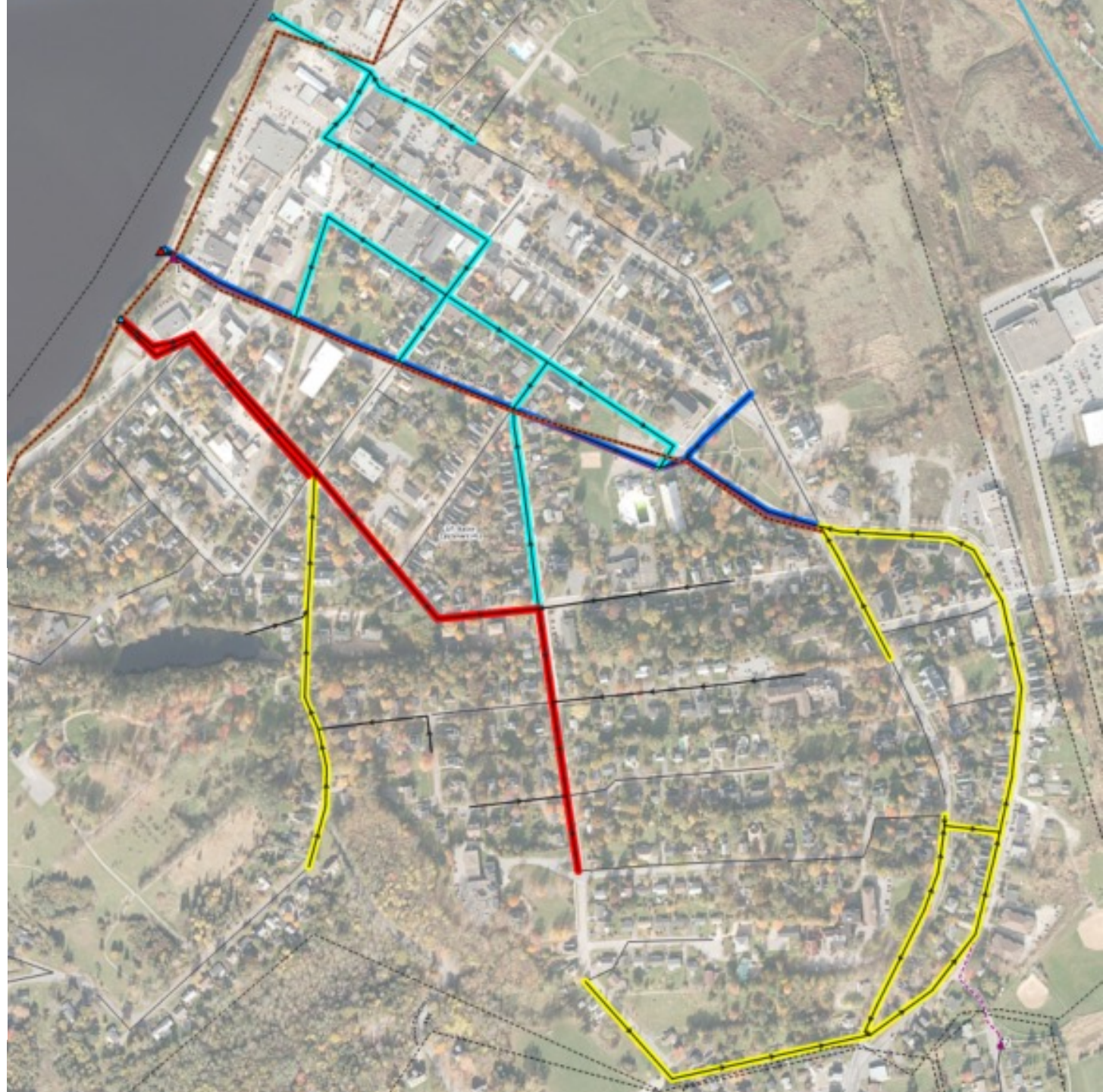
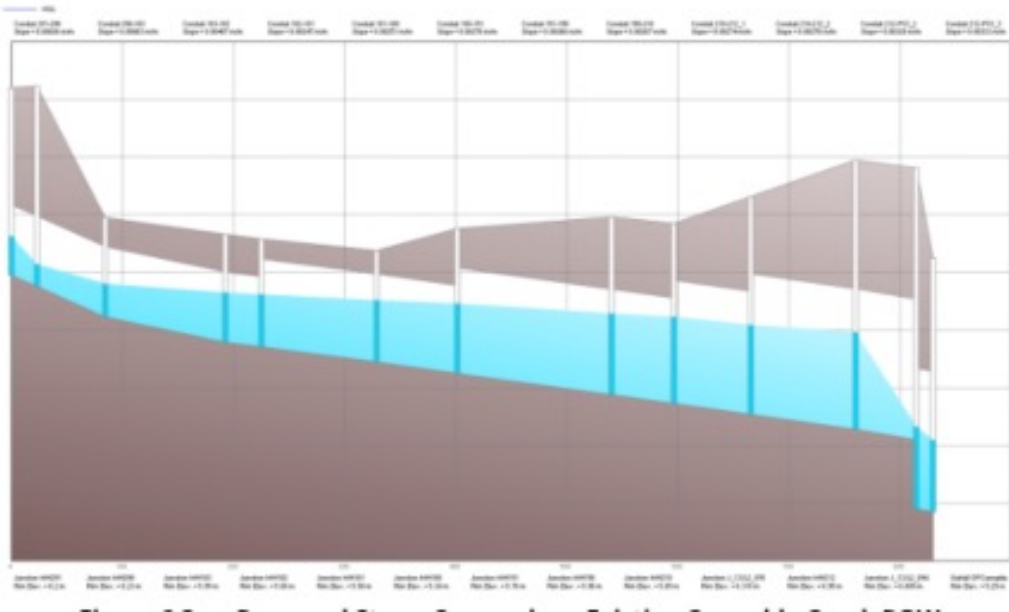


Tregothic Marsh Trouble Areas



Windsor Downtown

Option 2 – Upgrade
Cunnable Creek



Windsor Downtown

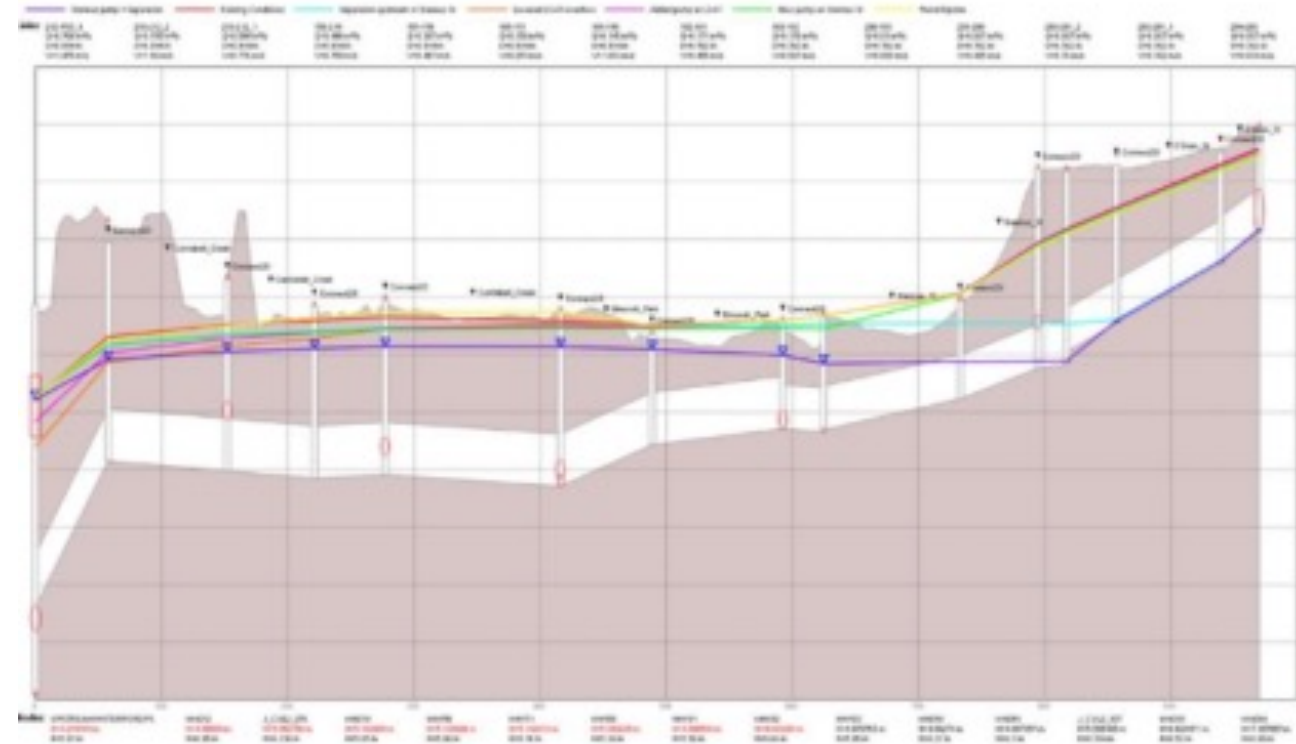
Option 3 – Twin Cunnable
Creek



Windsor Downtown

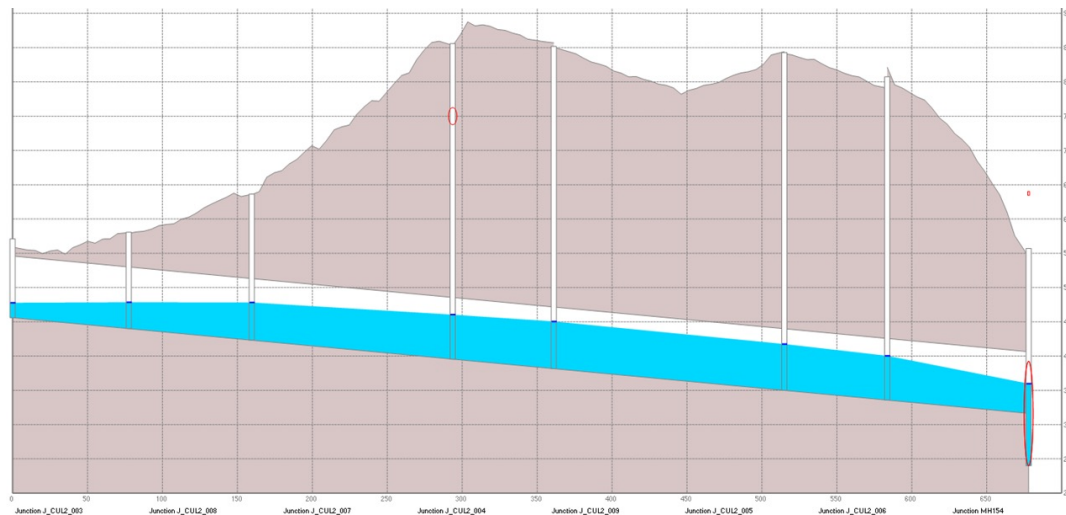
Short – Medium Term Solutions for Stannus St Area

- Upstream Separation
- Increase pumping and lower Overflow at PS1
- Install Independent Combined Sewer on Stannus
- Install Combined Sewer PS with FM to STP

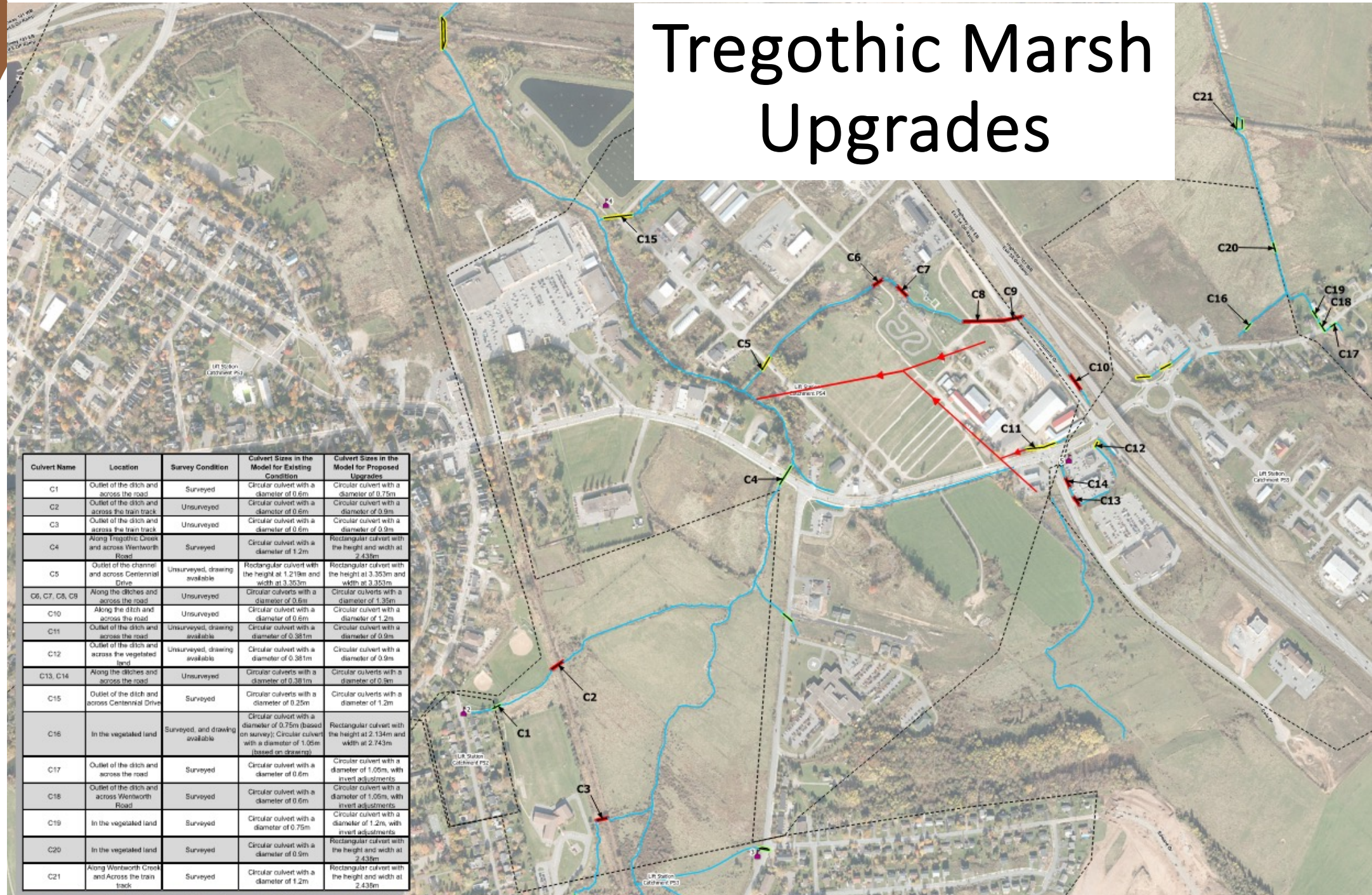




Option 3 (short-term) Stannus St Direct Connection to 1500 Trunk Sewer



Tregothic Marsh Upgrades



Culvert Name	Location	Survey Condition	Culvert Sizes in the Model for Existing Condition	Culvert Sizes in the Model for Proposed Upgrades
C1	Outlet of the ditch and across the road	Surveyed	Circular culvert with a diameter of 0.6m	Circular culvert with a diameter of 0.6m
C2	Outlet of the ditch and across the train track	Unsurveyed	Circular culvert with a diameter of 0.6m	Circular culvert with a diameter of 0.9m
C3	Outlet of the ditch and across the train track	Unsurveyed	Circular culvert with a diameter of 0.6m	Circular culvert with a diameter of 0.9m
C4	Along Tregothic Creek and across Wentworth Road	Surveyed	Circular culvert with a diameter of 1.2m	Rectangular culvert with the height and width at 2.438m
C5	Outlet of the channel and across Centennial Drive	Unsurveyed, drawing available	Rectangular culvert with the height at 1.218m and width at 3.353m	Rectangular culvert with the height at 3.353m and width at 3.353m
C6, C7, C8, C9	Along the ditches and across the road	Unsurveyed	Circular culverts with a diameter of 0.6m	Circular culverts with a diameter of 1.35m
C10	Along the ditch and across the road	Unsurveyed	Circular culvert with a diameter of 0.6m	Circular culvert with a diameter of 1.2m
C11	Outlet of the ditch and across the road	Unsurveyed, drawing available	Circular culvert with a diameter of 0.381m	Circular culvert with a diameter of 0.9m
C12	Outlet of the ditch and across the vegetated land	Unsurveyed, drawing available	Circular culvert with a diameter of 0.381m	Circular culvert with a diameter of 0.9m
C13, C14	Along the ditches and across the road	Unsurveyed	Circular culverts with a diameter of 0.381m	Circular culverts with a diameter of 0.9m
C15	Outlet of the ditch and across Centennial Drive	Surveyed	Circular culverts with a diameter of 0.25m	Circular culverts with a diameter of 1.2m
C16	In the vegetated land	Surveyed, and drawing available	Circular culvert with a diameter of 0.75m (based on survey); Circular culvert with a diameter of 1.05m (based on drawing)	Rectangular culvert with the height at 2.134m and width at 2.743m
C17	Outlet of the ditch and across the road	Surveyed	Circular culvert with a diameter of 0.6m	Circular culvert with a diameter of 1.05m, with invert adjustments
C18	Outlet of the ditch and across Wentworth Road	Surveyed	Circular culvert with a diameter of 0.6m	Circular culvert with a diameter of 1.05m, with invert adjustments
C19	In the vegetated land	Surveyed	Circular culvert with a diameter of 0.75m	Circular culvert with a diameter of 1.2m, with invert adjustments
C20	In the vegetated land	Surveyed	Circular culvert with a diameter of 0.9m	Rectangular culvert with the height and width at 2.438m
C21	Along Wentworth Creek and Across the train track	Surveyed	Circular culvert with a diameter of 1.2m	Rectangular culvert with the height and width at 2.438m

Private Property Improvement

- Some cities have implemented grants to assist homeowners with property improvements to make their property more resilient to climate change effects.
- These programs typically have a qualify component that is required by the property owner to meet
- Initial property assessment are typically conducted by a 3rd party approved by the Municipality to determine current condition and what improvements would be required to meet the programs objective.
- An application outlining the required work and cost estimate would be submitted to the Municipality for approval, once approved the property owner would be notified of grant amount and they can initiate work.



Two Examples

Fredericton

- After completing a review of programs offered by other cities and municipalities, decided not to initiate a City-wide program but instead offer compensation/cost sharing to residents on a case-by-case basis
- After receiving a complaint of flooding from a resident, the City will investigate the complaint by assessing the sewer's maintenance needs (i.e. looking for a block), capacity, and the residents property (identify connected downspouts, sump pumps, etc). Once it has been determined that the back up was due to sewer surcharge, the City will assess if City infrastructure upgrades and/or private side upgrades are warranted.
- City does not install BWVs themselves

Toronto

- Assessment the property (lot grading, roof leader, etc). You need to fix your deficiencies (i.e disconnect downspouts) before they qualify for the rebate.
- Apply online for subsidy: backwater valve, sump pump, etc:
 - Backwater valve: Up to 80% up to \$1,250
 - Sump pump: Up to 80% up to \$1,750 (if directed to surface)
 - Foundation drain disconnection: up to \$400 rebate
 - Toronto has a complete list of references for stormwater backwater valves
- Ongoing industry discussion on what is better for maintenance (normally closed or normally opened)
- Valves on combined sewers need to be maintained annually or are known to fail
- For installation on lateral, ensure the system has a way to pull the check valve/ flapper mechanism for maintenance



West Hants
something inspiring awaits

westhants.ca



November 1, 2023

To West Hants Residents and Businesses,

RE: July 22, 2023 Flash Flood - Community Recovery/Healing Sessions #1 and #2 - FAQs

On September 10 and 20, 2023, West Hants Regional Municipality hosted community recovery/healing sessions. We engaged the expertise of Erica Fleck, Emergency Management Director with HRM as well as the support of NS Mental Health and Addictions.

What does healing look like? It varies from person-to-person as we all navigate ourselves through the various stages. During these sessions, we asked residents how we could help, what support was needed, and how we could move forward and heal together.

We heard many concerns, had a lot of questions, and were asked to provide updates and timelines to the questions. This FAQ hand-out is available on our website and mailed out to all West Hants mailboxes.

QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-10 session</i> Disaster Financial Assistance Program</p> <p>People are having challenges getting contractor estimates. What is the deadline?</p>	N/A	<p>The current deadline is October 31, 2023.</p> <p>Forms and info available at https://beta.novascotia.ca/disaster-financial-assistance-storm-flooding</p>
<p><i>2023-09-10 session</i> Access to Information</p> <p>Is there one spot/contact where people can get information?</p>	Email WHRM@westhants.ca and staff will source out the information and respond	N/A
<p><i>2023-09-10 session</i> Dykes</p> <p>Who is responsible for the dykes and can they be built up (especially behind the home in which vehicles were swept away)?</p>	N/A	<p>Dykes incorporated under the Agricultural Marshland Act are the responsibility of the NS Dept. of Agriculture; others are property owners' responsibility. Specific locations will have to be reviewed.</p> <p>Contact Terry McKay, Manager Land Protection with the Dept. of Agriculture at Terry.McKay@novascotia.ca</p>



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-10 session</i> Dykes</p> <p>What are the consequences for the homemade dyke behind the home where vehicles were swept away?</p>	N/A	<p>Dyke system responsibilities would need to be reviewed and assessed before identifying consequences.</p> <p>Interdepartmental working group reviewing provincial climate change impacts https://novascotia.ca/nse/protectedareas/</p>
<p><i>2023-09-10 session</i> Rivers</p> <p>Ellershuse (and other relevant areas) – is there a plan to fix the rivers and who is responsible (all the rock, debris, etc.) that is impacting people’s yards?</p>	N/A	<p>Interdepartmental working group reviewing provincial climate change impacts https://novascotia.ca/nse/protectedareas/</p>
<p><i>2023-09-10 session</i> School Bus Routes</p> <p>If required, can children who are triggered by the search site be put on another bus so as to not have to travel past it.</p>	N/A	<p>Changes to the location of a school bus stop are at the discretion of the AVRCE. Email your request to transportation@avrce.ca as well as executivedirector@avrce.ca *As a provincial office we respect their policies and procedures.</p>
<p><i>2023-09-10 session</i> Erosion</p> <p>The flash flood created erosion on private properties and erosion is not covered by the Disaster Financial Assistance Program. What other support is available?</p>	N/A	<p>Interdepartmental working group reviewing provincial climate change impacts https://novascotia.ca/nse/protectedareas/</p>
<p><i>2023-09-10 session</i> Dam Mitigations and Education</p> <p>Community education is needed.</p>	<p>Minas Energy – St. Croix River Dam and Halfway River Dam sessions will be held 6:30 p.m. – 9:00 p.m. on November 23, 2023 at the Ellershuse Community Hall, 429 Ellershuse Road.</p> <p>NS Power – Avon River System will be held 6:00 p.m. – 9:00 p.m. on January 18, 2024 at the Windsor Legion (upstairs), 35 Empire Lane, Windsor.</p>	N/A



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-10 session</i></p> <p>Dam Location Reminders</p> <p>Some people were not aware they lived in an area with potential dam impacts. Can hard-copy notices go out to properties?</p>	<p>WHRM EMO will send out two annual reminders (1) in the annual property tax notice to property owners (July); and (2) in the July newsletter that is delivered to every mailbox in West Hants.</p>	<p>N/A</p>
<p><i>2023-09-10 session</i></p> <p>Emergency Preparedness Sessions</p> <p>More in-person education sessions should be held.</p>	<p>Various public education/awareness sessions are scheduled and will be advertised.</p> <p>Nov. 2023 – Minas Energy Dams Jan. 2024 – NS Power Dams (Details on the two sessions is available two rows above in this document).</p> <p>There will be a minimum of three in-person emergency awareness/education sessions held a year (Jan – May - Sept).</p> <p>2024 EMO Sessions are all on Sundays from 10 a.m. – Noon (followed by a BBQ):</p> <ul style="list-style-type: none"> • Jan. 21 - Brooklyn Fire Civic Centre, 995 Hwy. 215, Brooklyn. • May 26 – Southwest Hants Fire Hall, 1884 Hwy. 14, Vaughan. • Sept. 22 – Summerville Fire Hall, 59 Summerville Wharf Rd, Summerville. <p>This info will also be shared on our website, EMO social media accounts, and in our quarterly newsletters that go to all mailboxes in WHRM.</p> <p>EMO info at https://www.westhants.ca/emergency-management-protective-services.html</p>	<p>N/A</p>
<p><i>2023-09-10 session</i></p> <p>Flood Plains</p> <p>Why does the Municipality allow development in Flood Plains?</p>	<p>Specific planning regulations in marshland areas in Windsor (Tregothic Marsh and Martock Marsh), but more work to be done. Staff are expecting the data from the Dept of Municipal Affairs and Housing (DMAH) study to inform regulations. Anticipated updates to planning documents in 2024 through the planning document review process.</p>	<p>Department of Municipal Affairs and Housing (DMAH) is working on a Minas Basin Region Flood mapping project. Expected delivery of study - April 2024.</p> <p>Coastal Protection Act introduced in 2019. No regulations in place to date.</p>



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-10 session</i> Mapping</p> <p>Who has flood inundation mapping? It should be made public.</p>	<p>The Municipality has some and it is being redone to provide street level interpretation in specific areas. Once complete, this information will be shared publicly. Timeline – 6 months to on-going.</p>	<p>As noted in the row above, the Provincial Project should be completed April 2024.</p>
<p><i>2023-09-10 session</i> Rail Lines</p> <p>Who is responsible for abandoned rail line(s)?</p>	<p>N/A</p>	<p>MLA met with NS Dept. of Public Works to discuss. They will continue to discuss this matter.</p> <p>You may reach out to the MLA’s Office for updates: melissa.mlaoffice@gmail.com . Or by phone to 902-798-0121</p>
<p><i>2023-09-10 session</i> Rail Lines</p> <p>What can be done to ensure they are maintained to a level to not impact river systems or people’s properties?</p>	<p>N/A</p>	<p>MLA will continue to discuss this with NS Dept. of Public Works.</p> <p>You may reach out to the MLA’s Office for updates. melissa.mlaoffice@gmail.com . Or by phone to 902-798-0121</p>
<p><i>2023-09-10 session</i> Access/Egress Points</p> <p>If an area’s access/egress points are compromised, can the Municipality erect additional points?</p>	<p>If Municipal property; yes. Re. private property, the Municipality sought clarity from the Province of NS. The Province directed WHRM to the Municipal Solicitor for clarification. No information available at this time.</p>	<p>N/A</p>
<p><i>2023-09-10 session</i> Road Networks during Emergency</p> <p>Impacted roads should immediately have ‘closed’ signs. How can that be ensured in the future?</p>	<p>Municipal roads will have closed signs or cones, etc. as soon as detected. If a large number of roads are impacted simultaneously, there may be delays.</p>	<p>Provincial Staff will place markers (e.g. cones, barrels, etc.) to delineate hazards, and road closed signs to close roads when required, and as soon as possible. If a large number of roads are impacted simultaneously, there may be delays.</p>
<p><i>2023-09-10 session</i> Road Networks during Emergency</p> <p>Can residents in areas that are known to flood have ‘closed’ signs to place on roadway if it is flooded?</p>	<p>No. Employees are trained to decide when it is unsafe to travel. Residents have varying perspectives. This procedure ensures consistency.</p>	<p>No. NS Dept of Public Works (NSDPW) staff are trained to decide when a hazard needs to be delineated or a road closed. This helps ensure consistency.</p>



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-10 session</i></p> <p>Road Networks during Emergency</p> <p>How will emergency support groups or visitors know which roads to take if roads are closed?</p>	<p>Municipal roads – detour signs. And social media and website when possible.</p> <p>Provincial roads – Municipal staff refer the public to the https://511.novascotia.ca/ website</p>	<p>https://511.novascotia.ca/ website</p> <p>Also follow the MLA Facebook page for information and updates:</p> <p>https://www.facebook.com/MelissaHantsWestMLA?mibextid=LQQJ4d</p>
<p><i>2023-09-10 session</i></p> <p>Infrastructure Repair Timelines</p> <p>What are they?</p>	<p>Municipal Roads – not impacted.</p> <p>Culverts – 4-6 weeks for one culvert</p> <p>Trails – the rail trail Brooklyn to Stanley remains closed. It is being assessed by an engineer to provide repair recommendations to our insurer.</p>	<p>Progress:</p> <ul style="list-style-type: none"> • 44% of reported road damage is complete. • 90% of repairable bridge damage is complete. • Design work is underway to replace lost bridges. • Access restored to stranded communities (with detours in place). • 6 major road closures remain, and repair work is still underway. • The below timelines are approximate and subject to change: <ul style="list-style-type: none"> Repair major roadside hazards and reopen roads (ongoing) Major Hazards- First 1-2 months Culverts – Fall 2023 Bridges – As soon as possible Repair Minor Damage (ongoing): As much as possible before Winter 2023 • The remaining work is scheduled for completion after Winter 2023. <p>You can also reach out to dpw-occ@novascotia.ca and see if there is any updated information available. You should also follow the MLA Facebook page for updated information as it becomes available https://www.facebook.com/MelissaHantsWestMLA?mibextid=LQQJ4d</p>



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-20 session</i></p> <p>Infrastructure Repair Priorities</p> <p>What are they?</p>	<p>West Hants Public Works prioritizes its infrastructure based on many factors (e.g. traffic volumes, surface, conditions, safety concerns, roadside development, requests, etc.).</p> <p>To learn more about what roads and sidewalks WHRM is responsible for, visit https://www.westhants.ca/municipal-maintained-roads.html</p> <p>Contact Karrie Ritchie for more info at 902-798-8391 Ext. 125 or at kritchier@westhants.ca</p>	<p>NS Dept of Public Works prioritizes its infrastructure based on many factors (e.g. traffic volumes, surface, conditions, safety concerns, roadside development, requests, etc.)</p> <p>Access to primary roads where possible was completed within the first couple of days following the floods. Driveway access was restored within the first one to two weeks.</p> <p>Public works will continue to work to repair major roadside hazards, culverts, bridges and minor damage.</p> <p>Please continue to report hazards you come across to dpw-occ@novascotia.ca</p> <p>More info is available at https://novascotia.ca/tran/highways/5yearplan/priorities14_15.asp</p>
<p><i>2023-09-10 session</i></p> <p>Emergency Alerts</p> <p>Who is responsible for the Alert system?</p>	<p>Federal Government and Province</p> <p>(The Municipality answered questions below; however, ultimately, changes must be made by the Province/Federal)</p>	<p>It is a Federal Government system as it is Canada’s National Emergency Public Alerting Program. But, NS Emergency Management Office (NSEMO) is the “Authorized Government Agency”.</p>
<p><i>2023-09-10 session</i></p> <p>Emergency Alerts</p> <p>Can first responders be authorized to send alerts?</p>	<p>The Mayor and senior staff have engaged in meetings and communications with the Province to review the current process and suggestions for improvement.</p> <p>Those authorized to approve the sending of an alert is being expanded.</p>	<p>N/A</p>
<p><i>2023-09-10 session</i></p> <p>Emergency Alerts</p> <p>Can they include civic addresses for impacted areas?</p>	<p>Alert messaging is currently limited to a set number of characters.</p> <p>Maps can be attached to an alert; however, the maps can only be viewed on The Weather Network’s website https://www.theweathernetwork.com/alerts</p> <p>Attachments will not appear on cell phones or TVs through the traditional means of the Alert Ready System.</p>	<p>N/A</p>



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-10 session</i></p> <p>Emergency Alerts</p> <p>Why didn't some people get the alerts?</p>	<p>Possibly cell coverage area and/or the settings within peoples cell phones.</p> <p>Also, alerts can only be transmitted on LTE networks or above (will not work for cell phones on 3G or Wifi Calling).</p> <p>https://www.alertready.ca/wireless provides more info on device compatibility.</p>	<p>N/A</p>
<p><i>2023-09-20 session</i></p> <p>Emergency Alerts</p> <p>Province is reaching out for input but participation is low from West Hants; why?</p>	<p>West Hants Regional Municipality staff members have participated in all sessions to-date. Staff and the Mayor have raised concerns and suggestions for improvements to Provincial reps.</p> <p>The Province sends out the meeting invites. West Hants' EMC forwards the invites to WHRM Fire Chiefs and will continue to do so.</p>	<p>A second round of participation will take place to gain more input.</p>
<p><i>2023-09-20 session</i></p> <p>Emergency Alerts</p> <p>How will West Hants ensure alerts are sent out quicker?</p>	<p>West Hants Regional Municipality has:</p> <ul style="list-style-type: none"> Established an emergency dispatch process and procedure with one of Nova Scotia's 911 Public Safety Answering Points. This new procedure will expedite alert requests. Expanded who can request & authorize Alerts in-conjunction with the NS EMO. 	<p>N/A</p>
<p><i>2023-09-10 session</i></p> <p>Cell phone coverage</p> <p>It needs to improve.</p>	<p>Municipal elected officials made a motion to send a letter to cell phone carriers and other elected officials (Provincially and Federally) re. the need for significant improvement. The letter was sent Aug. 9, 2023.</p>	<p>Oct. 26, 2023 Province announced investing \$47.3 million to start the new Cellular Program which will expand telecommunications infrastructure and communications networks in NS. More info at https://novascotia.ca/news/release/?id=20231026002</p>
<p><i>2023-09-10 session</i></p> <p>Flood zones in Brooklyn/Mantua area.</p> <p>Any plan to mitigate them?</p>	<p>Flood prone areas will be reviewed through the planning document review process in 2024.</p>	<p>N/A</p>



QUESTION	MUNICIPAL	PROVINCIAL
<p><i>2023-09-20 session</i></p> <p>Insurance</p> <p>Where can people go for all matters insurance related?</p>	<p>Your insurance provider and/or the Insurance Bureau of Canada.</p> <p>https://www.ibc.ca/stay-protected/severe-weather-centre/nova-scotia-floods</p> <p>Insurance Bureau of Canada contact: E-mail: AtlanticCIC@ibc.ca Phone: 1-844-2ask-IBC (1-844-227-5422).</p>	<p>N/A</p>
<p><i>2023-09-20 session</i></p> <p>Property Taxes</p> <p>Is there relief for properties that were impacted?</p>	<p>Assessments - Property Valuation Services Corp (PVSC) is responsible for assessing all property in Nova Scotia.</p> <p>https://www.pvsc.ca/</p> <p>Property Taxes – Contact info for the Tax Clerk, E-mail: accountingclerk@westhants.ca Phone: 902-798-8391 ext. 106</p>	<p>N/A</p>

You may also reach out to MLA Melissa Sheehy-Richard with questions, comments, or updates to melissa.mlaoffice@gmail.com , or by phone to 902-798-0121.

A reminder, for all things West Hants Regional Municipality EMO related, visit <https://www.westhants.ca/emergency-management-protective-services.html> .

Don't have access to the internet? No worries! Contact our Emergency Management Coordinator to request info be mailed out to you. Shelleena Thornton at 902-798-8391 Ext. 207 or at sthornton@westhants.ca .

We thank everyone who was able to attend these sessions and to those who have reached out with their questions and comments. We hope this information is helpful.



EMO Education Sessions - Schedule

West Hants Regional Municipality's Emergency Management Office (EMO) will host a minimum of three in-person education and awareness events a year (January - May - September).

These events are meant to be interactive (to some degree) and to help you:

- learn of potential risks & hazards in your area (and surrounding areas)
- how to prepare for an emergency
- what to do in an emergency, and
- recovery tips.

Aside from these in-person sessions, you will find a lot of helpful information by clicking on any of the button icons at <https://www.westhants.ca/emo> . And/or, you may reach out to our Emergency Management Coordinator at sthornton@westhants.ca or at 902-798-8391 Ext. 207.

Upcoming Schedule

Minas Energy Dam Education Session

Thursday, November 23, 2023 - 6:30 to 9:00 p.m.

Location: [Ellershouse Community Hall, 429 Ellershouse Road](#)

Minas Energy has dams located in West Hants (St. Croix and at Halfway River). Come learn about the geography of the dams, what they do, how they perform, and so much more.

NS Power Dam Education Session

Thursday, January 18, 2024 - 6:00 to 9:00 p.m.

Location: [Royal Canadian Legion Hants County Branch \(Windsor\), 35 Empire Lane](#)

NS Power has dams located in West Hants along the Avon River System. Come learn about the geography of the dams, what they do, how they perform, and so much more.

'Learn to be Prepared for the Next Emergency' Sessions

There will be guest speakers, interaction and activity while you:

- learn of risks & hazards in your community
- learn to prepare for an emergency
- what to do in an emergency, and
- recovery tips following an emergency

A BBQ will be held following each session (from Noon - 1 pm).

- **Sunday, January 21, 2024 / 10:00 a.m. to Noon**
[Brooklyn Fire Civic Centre, 995 Hwy. 215, Brooklyn, NS](#)
- **Sunday, May 26, 2024 / 10:00 a.m. to Noon**
[Southwest Hants Fire Hall, 1884 Hwy. 14, Vaughan, NS](#)
- **Sunday, September 22, 2024 / 10:00 am - Noon**
[Summerville Fire Hall, 59 Summerville Wharf Rd., Summerville, NS](#)