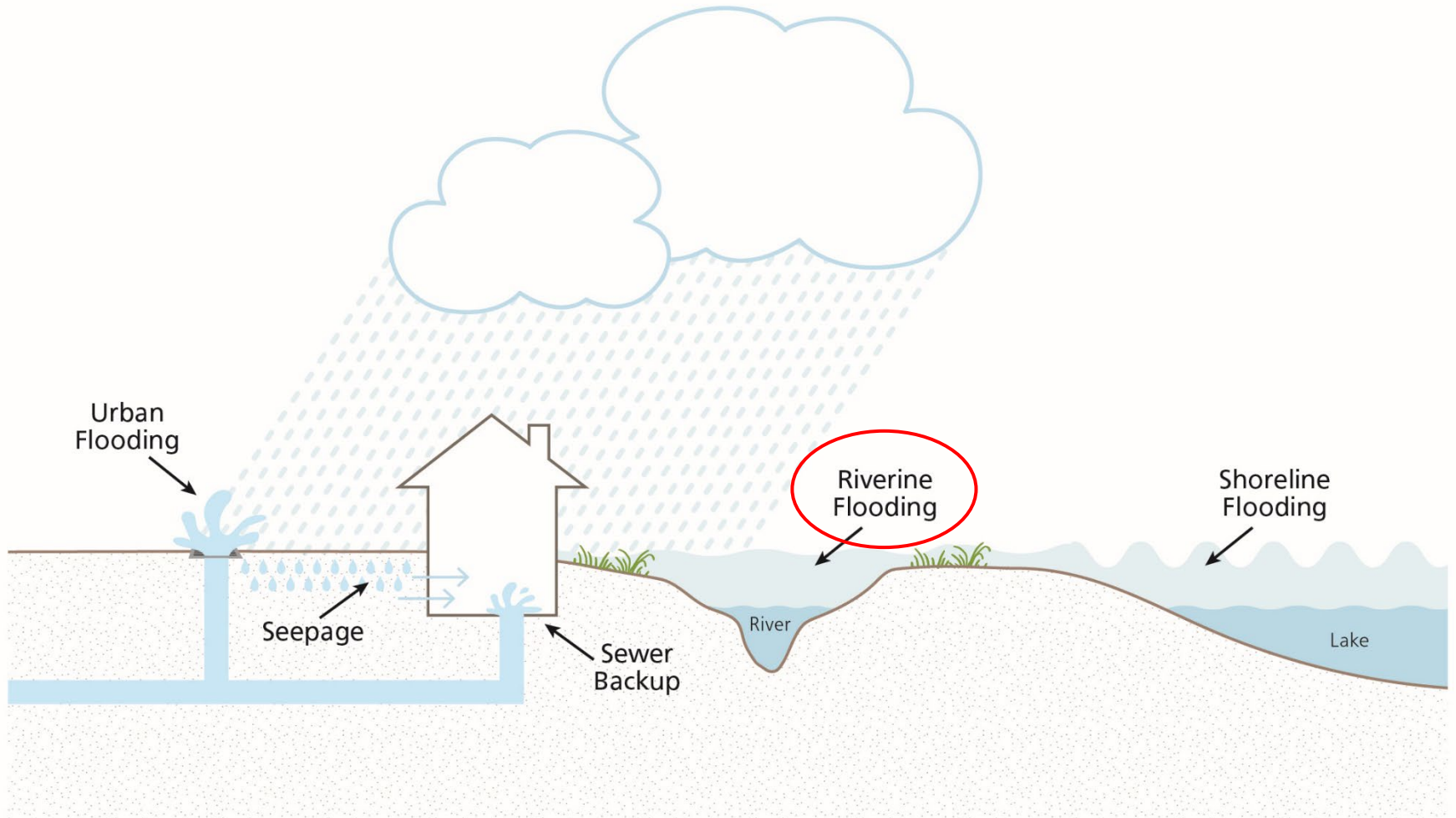


FLOOD HAZARD MAPPING

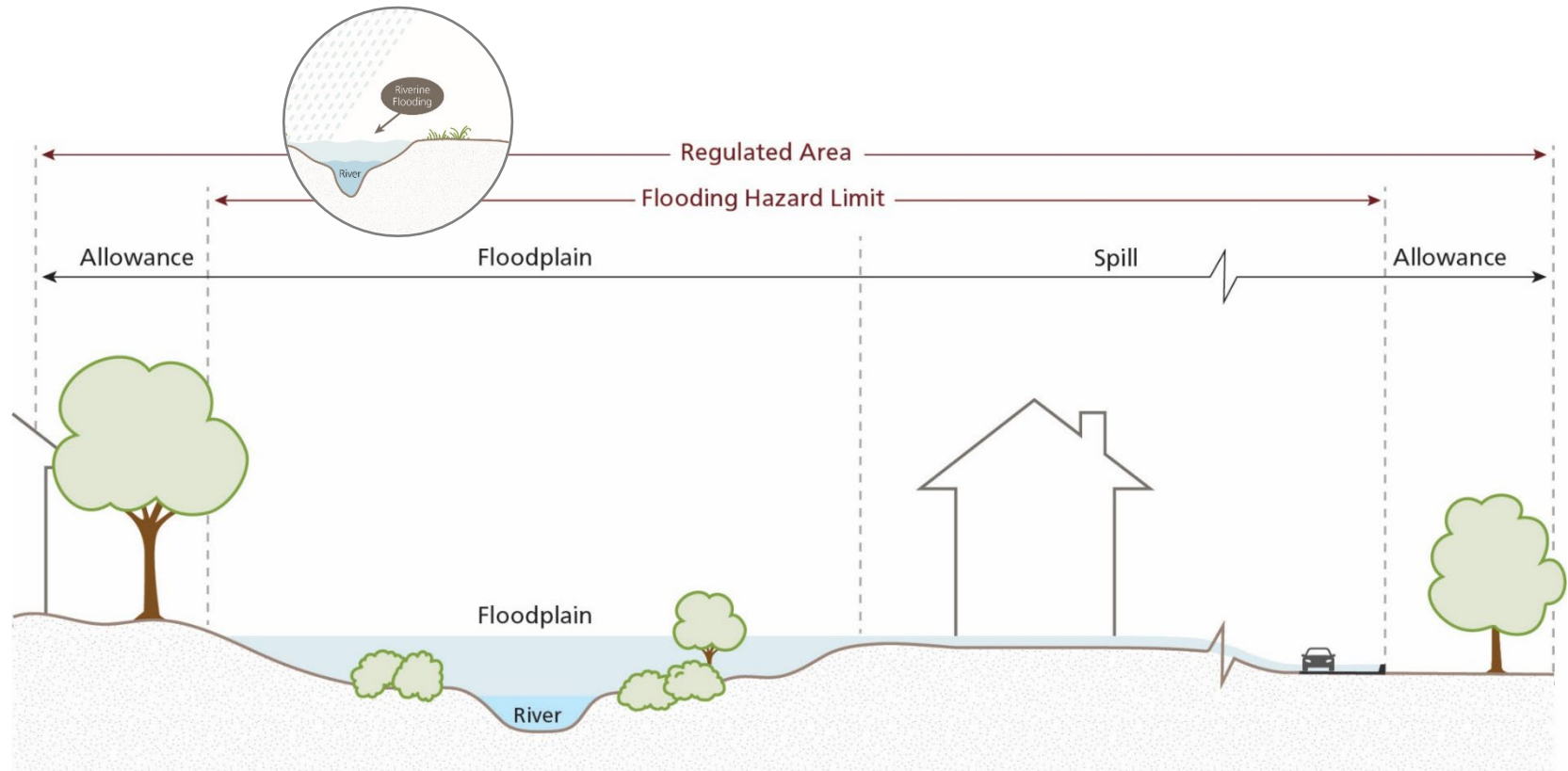
**Community Planning, Regulation & Mobility Committee
City of Burlington**

October 31, 2023

DIFFERENT TYPES OF FLOODING



FLOOD HAZARDS: RIVERINE FLOODING



FLOODPLAIN: Area of land that is flooded by a nearby watercourse, such as a creek (*riverine*) or lake (*shoreline*), during large storm events

SPILL: When water leaves the watercourse, valley and floodplain, flows into surrounding lands, and then returns to the watercourse at a distance downstream, or flows into another watershed

FLOODING: ROLES & RESPONSIBILITIES



PROVINCE

- Legislation & regulations
- Provincial policy & technical guidelines
- Provincial Infrastructure (e.g., highways)

CONSERVATION AUTHORITY

- Flood Forecasting & Warning
- Dams & Channels Operations
- Regulation
- Flood Hazard Modelling & Mapping
- Wetland & Stream Restoration Works

REGIONAL MUNICIPALITY

- Emergency Management
- Land Use Planning
- Regional Infrastructure (e.g., culverts, roads)

LOCAL MUNICIPALITY

- Municipal Infrastructure (e.g., culverts, roads, storm sewers)
- Land Use Planning & Zoning
- Stormwater Management
- Emergency Services

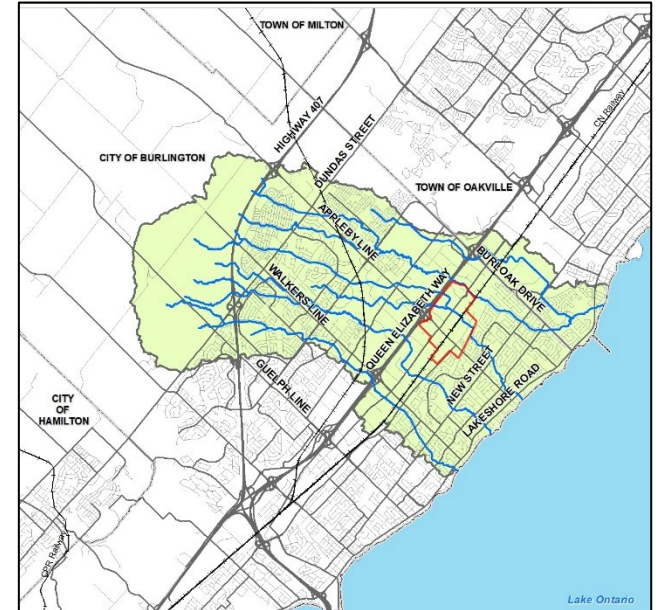
CH STUDY: EAST BURLINGTON CREEKS FLOOD HAZARD MAPPING STUDY

STUDY PURPOSE

- To undertake a comprehensive update of riverine flood hazard mapping

STAKEHOLDER AND PUBLIC ENGAGEMENT

- A TAC was formed with representatives from the City of Burlington, Town of Oakville, and Region of Halton
- Two (2) Public Information Sessions held to ensure the public and stakeholders had opportunities to provide input
- Study information is posted on CH's website: www.conservationhalton.ca/mapping-and-studies/



CH BOARD APPROVAL

- Final draft mapping presented to CH's Board on October 19, 2023 (Report No. CHB 08 23 05)
- CH Board resolution to direct staff to incorporate the approved mapping into CH's ARL mapping in 30 days to enable Burlington Council time to discuss a City mitigation study in collaboration with CH

CITY STUDY: MTSA PHASE 1 FLOOD HAZARD ASSESSMENT

BACKGROUND

- October 2020 – City completed a Phase 1 study; the purpose was to define existing flood hazards for areas of anticipated development in downtown Burlington/Burlington GO MTSA
- Prior to the Phase 1 study, the creeks south of the diversion channel in the Lower Rambo Creek watershed were considered part of the municipal storm drainage system and were not identified as regulated by CH
- Phase 1 study revealed that the extent of the flood hazard in the Lower Rambo watershed was greater than previously understood
 - Greater flooding and erosion risk than previously expected
 - Drainage area of approximately 260ha (previously understood to be <130ha)
 - Substantial spill flood hazard from Upper Rambo into Lower Rambo
- Based on the characteristics of the watershed and the text of *Ontario Regulation 162/06*, the Lower Rambo watershed was confirmed to be regulated by CH
- CH Board Report [CHBD 07 21 06](#)

CITY STUDY: MTSA PHASE 2 FLOOD HAZARD ASSESSMENT

STUDY PURPOSE

- To update the Phase 1 flood hazard modelling and mapping

PUBLIC NOTIFICATION

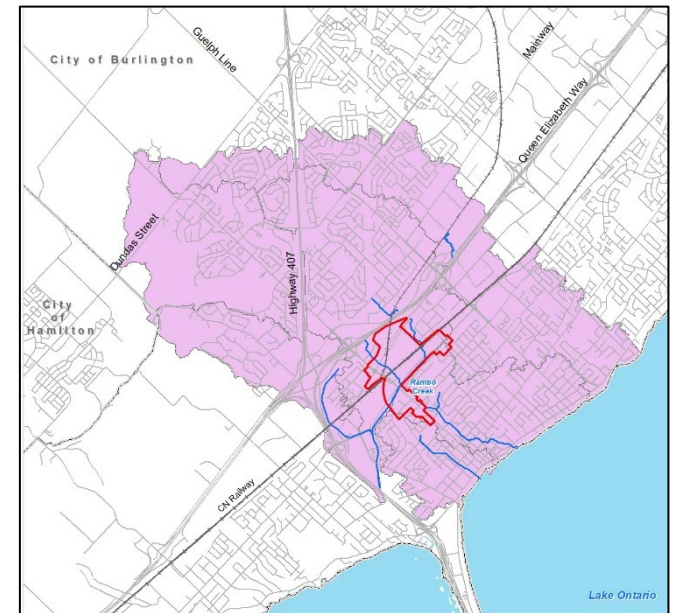
- CH held two (2) public notification periods (November 2021 and August 2023)
- Study information is posted on CH's website: www.conservationhalton.ca/mapping-and-studies/

CITY COUNCIL

- Burlington Council received the final MTSA Phase 2 Flood Hazard Assessment, Burlington GO and Downtown on July 11, 2023

CH BOARD APPROVAL

- Final draft mapping presented to CH's Board on October 19, 2023 (Report No. CHB_08_23_04)
- CH Board resolution to direct staff to incorporate the approved mapping into CH's ARL mapping in 30 days to enable Burlington Council time to discuss a City mitigation study in collaboration with CH



CITY OF BURLINGTON

TOWN OF OAKVILLE



Updated Flood Hazard - Upper Reaches of Tuck, Shoreacres, Appleby, and Sheldon Creeks

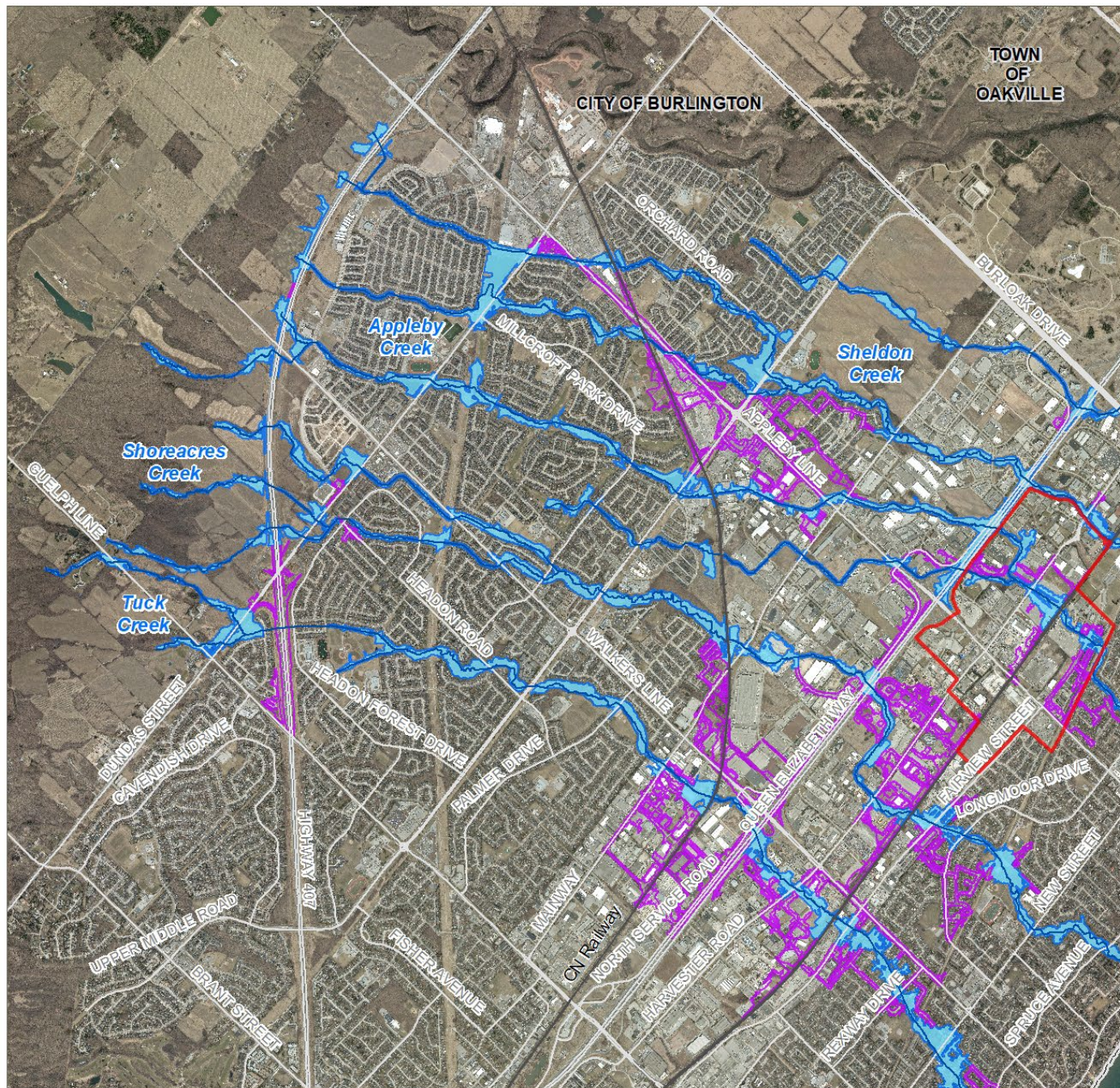
Legend

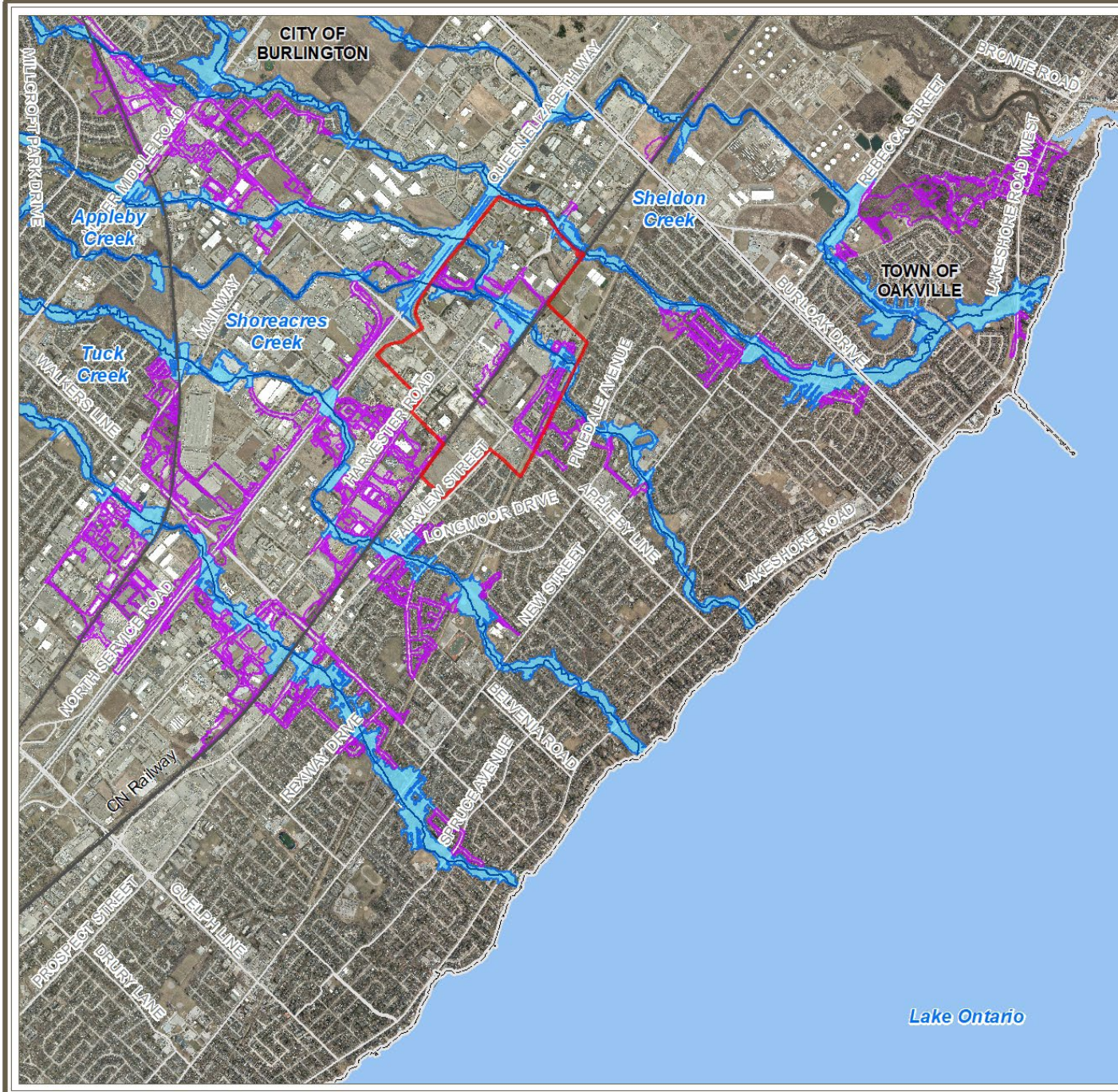
- Watercourses with Updated Flood Hazard Mapping
- Road
- Railway
- Regulated Floodplain
- Regulated Spill
- Appleby GO MTSA
- Municipal Boundary

Note: Draft mapping only shows updated flood hazards and does not show full extent of Conservation Halton's regulated area.










The text of the Ontario Regulation 162/06 takes precedence over mapping information. Some regulated features and associated hazards may not appear on this mapping, and this mapping should be used for information purposes in conjunction with the associated board report only. The data displayed are derived from sources with different accuracies and all boundaries should therefore be considered approximate. No responsibility or liability is assumed by Conservation Halton or its employees, officers and agents or the data providers listed below for any errors, omissions or inaccuracies, whether due to their negligence or otherwise. NOT A PLAN OF SURVEY. Data on this map is used under license and is protected by copyright for different organizations, including but not limited to the Ministry of Natural Resources and Forestry. © King's Printer for Ontario, 2023. All rights reserved. Copyright 2023 Conservation Halton. This map may not be reproduced without written consent from Conservation Halton.





Updated Flood Hazard – Lower Reaches of Tuck, Shoreacres, Appleby, and Sheldon Creeks

Legend

-  Watercourses with Updated Flood Hazard Mapping
-  Road
-  Railway
-  Regulated Floodplain
-  Regulated Spill
-  Appleby GO MTSA
-  Municipal Boundary

Note: Draft mapping only shows updated flood hazards and does not show full extent of Conservation Halton's regulated area.



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Lake Ontario

Final Draft Flood Hazard Mapping – Lower Rambo Creek Watershed (North)

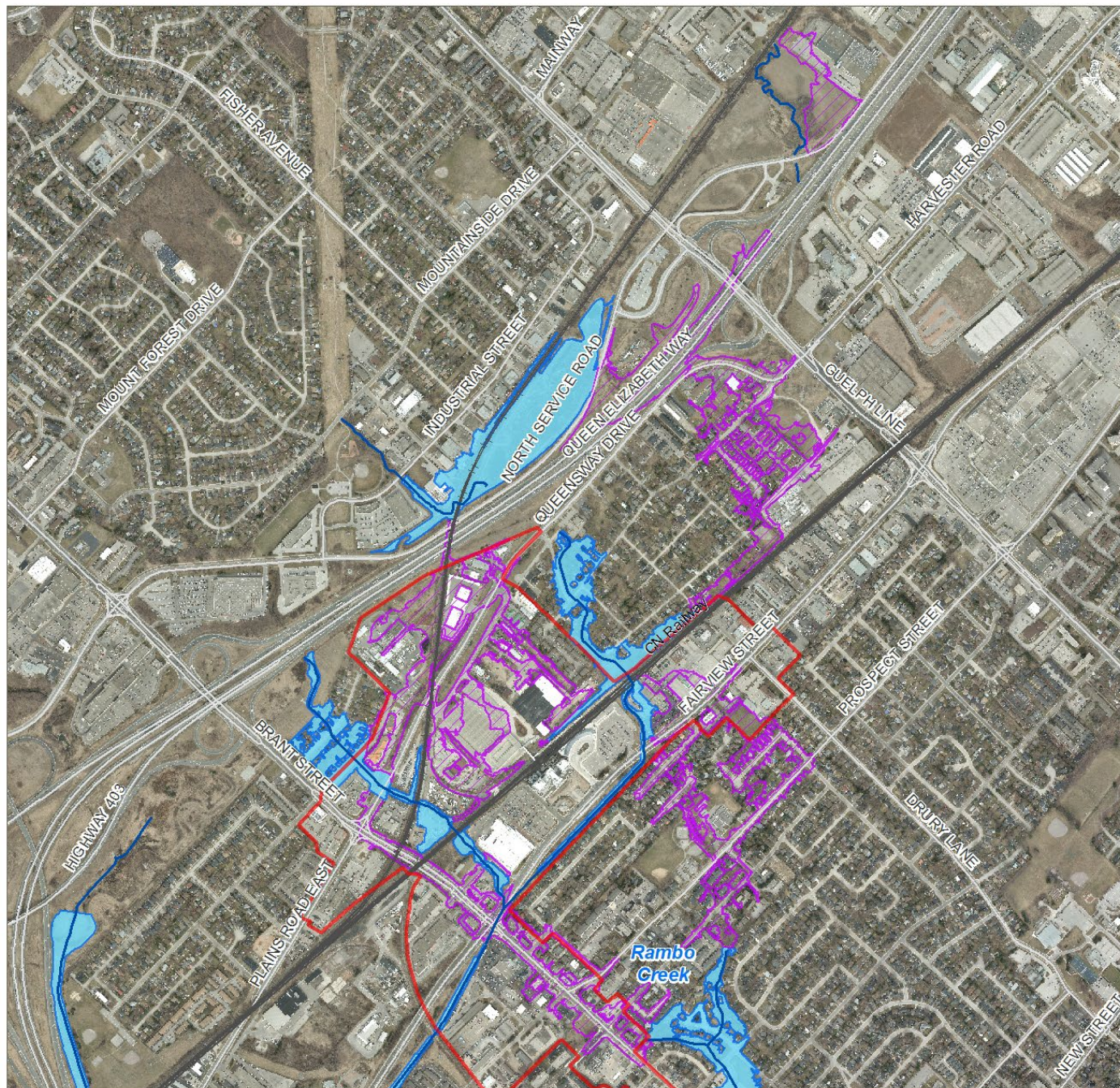
Legend

- Watercourse
- Railway
- Road
- Regulated Floodplain
- Regulated Spill
- Downtown Burlington/
Burlington GO MTSA

Note: Draft mapping only shows updated flood hazards and does not show full extent of Conservation Halton's regulated area.



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Final Draft Flood Hazard Mapping – Lower Rambo Creek Watershed (South)

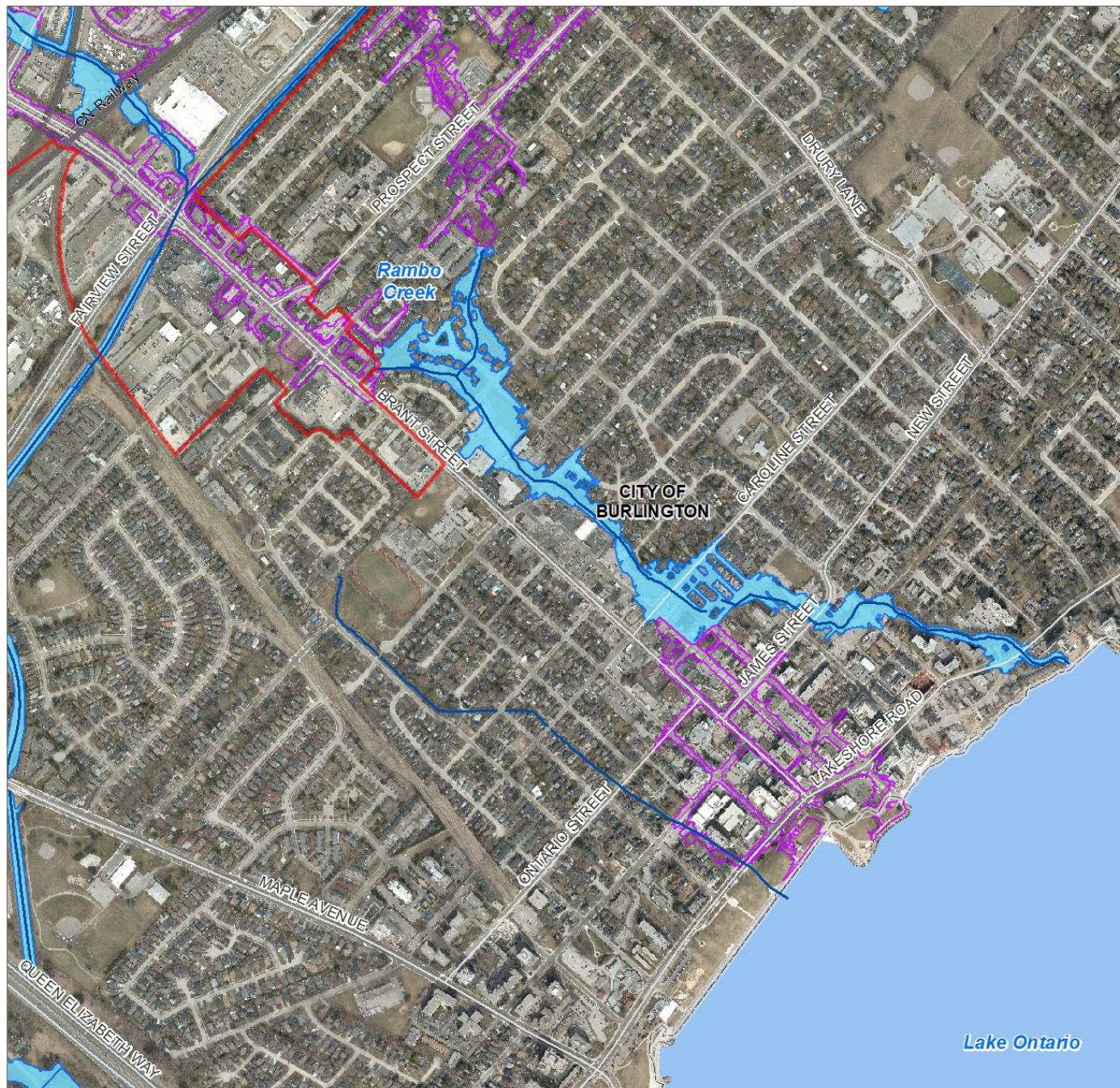
Legend

- Watercourse
- Road
- Railway
- Regulated Floodplain
- Regulated Spill
- Downtown Burlington/
Burlington GO MTSA

Note: Draft mapping only shows updated flood hazards and does not show full extent of Conservation Halton's regulated area.



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Lake Ontario

FLOOD HAZARDS: OBSERVATIONS & OPPORTUNITIES

- New tools, technologies, and funding support better understanding and mapping of flood hazards, as well as decision making
- Newly-mapped flood hazards (floodplains and spills) fall within Strategic Growth Areas
- Competing Provincial objectives and policies related to growth and development and natural hazards
- Current Provincial regulations, policies and technical guidelines related to natural hazards are out of date
- Solutions exist to mitigate potential risk to public safety or of property damage, increase opportunities for growth and development, and build climate change resiliency
- CH has regulatory policies that allow for development in flood hazards (subject to criteria) and is committed to working with the residents, members of the development community, and the City

THANK YOU