



Conservation Advisory Board Meeting Agenda

Thursday December 12, 2024

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Notice of Meeting

Conservation Advisory Board

Thursday, December 12, 2024

4:00 p.m.

at the HCA Main Office 838 Mineral Springs Road, Ancaster

This meeting will be held fully virtual via WebEx platform.

All meetings can be viewed live on HCA's You Tube Channel:

<https://www.youtube.com/user/HamiltonConservation>

- 1. Welcome** – Wayne Terryberry
- 2. Declaration of Conflict of Interest** – Wayne Terryberry
- 3. Approval of Agenda** – Wayne Terryberry
- 4. Delegations**
- 5. Member Briefing**
 - 5.1. Watershed Stewardship Awards and 30th Anniversary Presentation – Jeff Stock, Cherish Gamble and Mike Stone
 - 5.2 2024 CaPSS Project Highlights – Matt Hall
- 6. Chair's Report on Board of Directors Actions** – Wayne Terryberry
 - CA 2422 HCA Conservation Areas Strategy pursuant to Ontario Regulation 686/21
 - CA 2423 HCA Watershed-based Resource Management Strategy pursuant to Ontario Regulation 686/21

7. Approval of Minutes of Previous Meeting

7.1. Minutes – Conservation Advisory Board (October 10, 2024) – Wayne Terryberry Page 1

8. Business Arising from the Minutes

9. Staff Reports/Memorandums

Reports for Recommendation

9.1. Hamilton Conservation Authority Shoreline Management Plan – Mike Stone Page 7

9.2. Hamilton Conservation Authority Floodplain Mapping Projects – Jonathan Bastien Page 13

10. New Business

11. Next Meeting – Thursday, February 13, 2025 at 4:00 p.m.

12. Adjournment

HAMILTON CONSERVATION AUTHORITY

Conservation Advisory Board

MINUTES

October 10, 2024

Minutes of the Conservation Advisory Board meeting held on Thursday, Oct. 10, 2024 at 4:00 p.m., at the HCA main office, 838 Mineral Springs Road, in Ancaster, and livestreamed on YouTube.

PRESENT:

Wayne Terryberry – in the Chair	
Elise Copps	Tyler Cunningham
Natalie Faught	Jamie Freeman
Cortney Oliver	Haley McRae
Noah Stegman	

Brad Clark – Ex-Officio
Susan Fielding – Ex-Officio

REGRETS: **Brian McHattie, Sherry O'Connor**

STAFF PRESENT: **Madolyn Armstrong, Gord Costie, Brandon Good, Lindsay Davidson, Matt Hall, Griffin Moore, Scott Peck, Jaime Tellier, and Sandra Winninger**

OTHERS: **Media – None**

1. Welcome

The Chair called the meeting to order and welcomed everyone present.

2. Declaration of Conflict of Interest

The Chair asked members to declare any conflicts under the HCA Administrative By-law. There were none.

3. Approval of Agenda

The Chair requested any additions or deletions to the agenda.

CA2419

MOVED BY: Jamie Freeman

SECONDED BY: Noah Stegman

THAT the agenda be approved.

CARRIED

4. Delegations

There were none.

5. Member Briefing

5.1. New Saltfleet Conservation Area Video

Scott Peck presented the video, indicating that it is available on the HCA website along with a fact sheet and background sheet on the project. He also noted that the Mayor of Hamilton, City Manager and MPP Sandy Shaw have been given tours of the site.

5.2 HCA 2025 – 2029 Strategic Plan

Scott Peck presented the HCA Strategic Plan and answered member's questions.

CA2420

MOVED BY: Noah Stegman

SECONDED BY: Tyler Cunningham

THAT the Member Briefing be received.

CARRIED

6. Chairman's Report on Board of Directors Actions

The Chair noted that the items below were approved by the Board of Directors at through an email poll on July 5, 2024

CA 2415 Draft Watershed Based Resource Management Strategy and Conservation Area Strategy

CA 2416 Invasive Species Strategy Update 2024

7. Approval of Minutes of Previous Meeting

7.1. Minutes – Conservation Advisory Board (June 13, 2024)

CA 2421

**MOVED BY: Jamie Freeman
SECONDED BY: Noah Stegman**

THAT the minutes of the June 13, 2024 Conservation Advisory Board meeting be approved.

CARRIED

8. Business Arising from the Minutes

There was none.

9. Staff Reports/Memorandums

Reports for Recommendation

9.1. HCA Conservation Areas Strategy

Scott Peck brought the staff report forward noting that the strategy was created to comply with the Ontario Regulation 686/21; the required components were reviewed. It was noted that this strategy helps to inform the Land Inventory, which is also required by the same regulation. The process identified that HCA owned/managed lands augment natural heritage, hazards and/or integrate with other publicly accessible lands and trails; there weren't any lands identified for disposition.

Public and stakeholder consultation on the draft strategy occurred over the summer; there were few comments from the general public and comments from stakeholders were mostly editorial in nature.

In response to a question raised by Councillor Clark, Scott Peck indicated that the leased portion of the Eramosa Karst Conservation Area is identified in the strategy as leased from the Province with notation that the HCA will work with the Province to extend the lease or bring the land under HCA ownership. It was noted that this has also been identified in the updated Master Plan for the conservation area.

CA 2422

**MOVED BY: Natalie Faught
SECONDED BY: Tyler Cunningham**

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Conservation Area Strategy (2024) be approved.

CARRIED

9.2. HCA Watershed-based Resource Management Strategy

Scott Peck reviewed the staff report indicating that the strategy was created to comply with the Ontario Regulation 686/21. The strategy highlights the HCA's program and services from a watershed management perspective and how they align with the HCA's Strategic Plan as well as the Inventory of Program and Services that was completed in 2023.

Public and stakeholder consultation occurred during the summer; there weren't any public comments received and those received from stakeholders were editorial in nature.

Both the Conservation Areas Strategy and the Watershed-based Resource Management Strategy will be posted on the HCA website once approved by the Board of Directors.

CA 2423

MOVED BY: Jamie Freeman

SECONDED BY: Noah Stegman

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Watershed-based Resource Management Strategy (2024) be approved

CARRIED

9.3 HCA Land Inventory

Scott Peck reviewed the staff report, indicating that the Land Inventory is required in order to satisfy Ontario Regulation 686/21. The HCA has 430 land parcels which have been acquired during the last 50 years and information that is required for each parcel of land by the regulation was reviewed.

Members' questions were answered following the presentation.

CA 2424**MOVED BY: Natalie Faught
SECONDED BY: Noah Stegman****THAT the Conservation Advisory Board recommends to
the Board of Directors:****THAT the Land Inventory (2024) be approved.****CARRIED**

Haley McRae joined the meeting

Memorandums to be Received**9.4 East Mountain Master/Management Plans Update**

Madolyn Armstrong brought forward the staff report and answered member's questions. The four study areas of the Master/Management Plan process: Eramosa Karst, Felker Falls, Mount Albion and the Chippawa Trail. Key recommendations were presented for each area.

It was indicated that public consultation occurred for each of the areas through visitor surveys from May 2023 until October 2023. Public and stakeholder consultation on the draft plans is scheduled to occur in the near future; CAB members will have the opportunity to review and provide comment.

CA 2425**MOVED BY: Tyler Cunningham
SECONDED BY: Noah Stegman****THAT the memorandum entitled East Mountain Areas
Master and Management Plan Updates be received.****CARRIED****9.5 HCA Indigenous Interpretive Panels Project Update**

Lindsay Davidson and Griffin Moore brought forward the staff report indicating the progress made on the project. Questions were raised by members regarding accessibility for those who are visually impaired; a trail app will be launched that will have an audio interface, allowing the panels to be read aloud.

Staff indicated the final stages of the project include developing content in collaboration with consultants and working with the commissioned visual artist to enhance the signs. Installation of the signs is scheduled for June 2025, coinciding with National Indigenous History month.

CA 2426

MOVED BY: Tyler Cunningham

SECONDED BY: Noah Stegman

THAT the memorandum entitled HCA Indigenous Interpretive Panels Project be received.

CARRIED

10. New Business

There was none.

11. Next Meeting

The next meeting of the CAB is scheduled for Thursday, December 12 at 4:00 p.m., at the HCA Main Administration Office – Woodend Auditorium.

12. Adjournment

On motion, the meeting was adjourned.



Report

TO: Conservation Advisory Board

FROM: Lisa Burnside, Chief Administrative Officer (CAO)

RECOMMENDED BY: T. Scott Peck, MCIP, RPP, Deputy Chief Administrative Officer

PREPARED BY: Mike Stone, MCIP, RPP, Acting Director, Watershed Management Services

Jonathan Bastien, PEng, Manager, Water Resources Engineering

Alex Nizharadze, PEng, Water Management Specialist

MEETING DATE: December 12, 2024

RE: Hamilton Conservation Authority Shoreline Management Plan

STAFF RECOMMENDATION

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Board of Directors adopt the Hamilton Conservation Authority Shoreline Management Plan.

BACKGROUND & PURPOSE

The Hamilton Conservation Authority's (HCA) watershed includes approximately 42 km of shoreline along Lake Ontario and Hamilton Harbour. This area extends from Fifty Point Conservation Area at the east end of the watershed to the Woodland Cemetery at the west end of Hamilton Harbour (Figure 1).



Figure 1 – HCA Shoreline

Source: Zuzek Inc, October 2023

Shorelines are dynamic areas, and subject to influence from naturally occurring processes and forces of erosion, sediment transport and deposition, fluctuating water levels, wind and waves. As a result of these conditions, areas that lie along the Lake Ontario shoreline, including Hamilton Harbour, may be subject to hazardous conditions, including flooding hazards, erosion hazards and dynamic beach hazards.

To assist in identifying shoreline hazards and regulating development in these areas, HCA undertook to have a Shoreline Management Plan (SMP) prepared over the 2021-24 period. HCA staff have provided earlier reports to CAB regarding the SMP and committed to presenting the final report once completed. Zuzek Inc. has now completed the Shoreline Management Plan (SMP). The purpose of this report is to present the key findings and recommendations of the final report.

STAFF COMMENT

The Lake Ontario Shoreline

There are 42km of shoreline within the HCA watershed. The western end of the Lake Ontario shoreline consists of an approximately 8 km continuous stretch of dynamic beach, which is largely in public ownership (Hamilton Beach). The eastern half of the shoreline and Hamilton Harbour are predominantly in private ownership and developed; the shoreline in these areas has also largely been hardened, with a wide variety of flood and erosion protection structures in place. Interest in property re-development and infilling along this portion of the shoreline has created challenges and resulted in increased risks to public safety and property damage, aggravation of hazardous conditions, and impacts to coastal processes.

The provincial legislative and regulatory framework recognizes there are significant risks associated with development in shoreline areas. As a result, the overall objective of both provincial and HCA policy is to generally direct development to areas outside of shoreline hazard areas. In considering proposals for development on the shoreline, it is necessary to consider and account for the combined landward limits of the flooding, erosion and dynamic beach hazards in order to mitigate, to the greatest extent possible, the potential effects of these hazards on property and human safety, to ensure existing hazardous conditions are not aggravated, and to provide for the maintenance of coastal processes and conservation of sensitive ecosystems.

Since 2006, HCA has regulated development in areas adjacent to the Lake Ontario and Hamilton Harbour shoreline that may be affected by flooding, erosion or dynamic beaches. The hazard limits associated with Great Lakes shorelines are delineated based on the Ontario Ministry of Natural Resources and Forestry (MNRF) standards and criteria, and consist of the furthest landward extent of the aggregate of all applicable hazards.

HCA's Planning & Regulation Policies and Guidelines (October 6, 2011) describe how the flooding, erosion and dynamic beach hazard limits are determined based on the provincial standards and criteria, and in consideration of existing available technical information and data. While HCA does map estimated hazard limits for the shoreline and their associated regulated areas, some of the information on which hazard limits are based has become outdated, and current and comprehensive mapping is not available to staff.

Given the above, HCA undertook to have a Shoreline Management Plan (SMP) prepared to assist in defining hazard limits and regulating development along the shoreline. The major objectives in completing a SMP include:

- Update coastal hazard mapping using the best available data and technical analyses for the entire HCA shoreline of Lake Ontario and Hamilton Harbour.
- Develop reach specific coastal management recommendations.
- Minimize danger to life and property damage from flooding, erosion, and associated hazards along the shoreline.
- Ensure that the shoreline development adequately addresses hazards through a combination of public and private management and development alternatives.
- Increase the resilience of coastal communities.
- Incorporate nature-based options to reduce coastal hazards.

HCA Shoreline Management Plan

Zuzek Inc. has completed a Shoreline Management Plan (SMP) for the Hamilton Conservation Authority. The SMP was completed over the 2021-23 period. Key components of the study included:

- Field data collection, including collection of oblique photographs of the entire shoreline and bathymetric data.
- Technical work and assessment to establish long-term recession (erosion) rates and update statistical analysis of lake levels. Numerical modelling tools were used to evaluate spatial variability in storm surge and nearshore wave conditions in the lake and harbour.
- Based on the outputs from the data collection and technical analysis, updated mapping was produced for the flooding, erosion, and dynamic beach hazards.
- Development of reach specific management recommendations for nine shoreline reaches, based on the study principles of sustainable coastal development, integrated coastal management, and resilient coastal communities.

While the SMP contains a significant amount of information on a shoreline reach basis, some of the key findings and recommendations include:

- The Lake Ontario shoreline within the HCA watershed is highly erosive, especially on the lake bottom at the toe of existing shoreline protection structures. Maintenance or upgrading of existing shoreline protection structures will be a forever commitment to protect existing dense residential development. Over time, the erosion and flooding hazards may become too severe to support ongoing residential development.
- A long-term average annual erosion rate of 0.5 m/yr has been recommended for the Lake Ontario shoreline in the delineation of the erosion hazard. The new 100-year flood level has been identified as 76.2 metres International Great Lakes Datum (IGLD'85).
- Hamilton Beach provides almost 8 km of public open space, a waterfront trail, and sandy beaches. The historical sediment sources for this beach have all but disappeared and littoral drift is negatively impacted by lakefill barriers and harbour jetties, which will lead to further management challenges during periods of high lake levels, such as beach, dune, and bank erosion. The implementation of nature-based solutions to increase the resilience of the beach are encouraged, such as dune restoration and beach nourishment, avoiding hard armouring of the shoreline where possible.

- The shoreline in the harbour port lands and recreational amenities in the harbour are all heavily armoured. These shoreline protection structures should be monitored regularly with maintenance completed in a timely manner. Where possible, habitat enhancement projects, such as rock shoals and islands, should be incorporated into future shoreline protection and maintenance projects.
- The SMP and hazard mapping should be incorporated in the City of Hamilton Official Plan through appropriate updates, policies, mapping, and zoning.
- HCA regulations and planning policies should be reviewed to identify any inconsistencies with this SMP and updated hazard mapping, then modified accordingly.

Consultation

HCA staff reviewed and provided comment on a first draft of the SMP in May and June 2023. The SMP report was updated and revised based on this feedback, and a final draft report was submitted on October 20, 2023. The Board of Directors endorsed the draft report to be released for public and agency consultation in January 2024.

The draft SMP was posted to HCA's web commenting platform known as "Bang the Table" between February and May 2024. There were no public comments received.

HCA staff also sent the SMP directly to the following agencies:

- City of Hamilton (Planning and Public Works)
- Hamilton Oshawa Port Authority (HOPA)
- Royal Botanical Gardens
- Cootes to Escarpment Eco Park System
- Hamilton Harbour Remedial Action Plan
- Niagara Peninsula Conservation Authority
- Conservation Halton

Comments were received from HOPA and City of Hamilton Planning and Development Engineering. In general, the comments received requested additional information or clarification regarding information and recommendations from the SMP.

HOPA's comments related to erosion and deposition of sediment at the Burlington Canal, and asked if additional information was available regarding sediment transport and deposition patterns.

City of Hamilton Planning noted no specific comments or concerns, but that potential policy changes to the City of Hamilton's Urban Hamilton Official Plan, Secondary Plans, and Zoning By-law initiated by staff in consultation with the Hamilton Conservation Authority could be considered as necessary going forward.

City Development Engineering staff had questions related to the potential impacts and implications of shoreline flooding hazards on stormwater management infrastructure.

There were no changes required to the SMP as a result of the comments received.

STRATEGIC PLAN LINKAGE

The initiative refers directly to the HCA Strategic Plan 2019 - 2023:

- **Strategic Priority Area – Water Management**
 - Initiatives – Complete Lakeshore Management Plan.

AGENCY COMMENTS

Not Applicable.

LEGAL/FINANCIAL IMPLICATIONS

Project costs were included in annual operating budget accounts and were completed within approved budget allocations. The project was awarded to a consultant through a competitive bid process.

CONCLUSIONS

The Lake Ontario and Hamilton Harbour shoreline within HCA's watershed is impacted by flooding, erosion and dynamic beach hazards. HCA regulates the shoreline to help minimize and mitigate the potential for damage to property as a result of hazards. To update hazard mapping and assist in the management and regulation of the shoreline, HCA retained Zuzek Inc. to complete a SMP. The SMP provides the HCA with updated coastal hazard mapping of its shoreline based on the latest technical information and data, and makes management recommendations on a reach specific basis to assist the HCA in administering its regulation of development on the shoreline. The findings and recommendations from the SMP will be further reviewed by HCA staff to determine regulatory mapping and policy updates that may be required flowing from the completed Plan. HCA will also undertake further consultation with Planning and Public Works staff at the City of Hamilton at the appropriate time to consider the SMP's findings and recommendations.



Report

TO: Conservation Advisory Board

FROM: Lisa Burnside, Chief Administrative Officer (CAO)

RECOMMENDED BY: T. Scott Peck, MCIP, RPP, Deputy CAO/Director, Watershed Management Services

PREPARED BY: Jonathan Bastien, PEng, Manager, Water Resources Engineering

MEETING DATE: December 12, 2024

RE: Hamilton Conservation Authority Flood Plain Mapping Projects

STAFF RECOMMENDATION

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Board of Directors adopt the final versions of the flood plain mapping for the following watercourses:

- Stoney Creek & Battlefield Creek
- Stoney Creek Numbered Watercourses
- Redhill Creek

BACKGROUND & PURPOSE

The objective of flood plain management is to prevent the loss of life, minimize property damage and social disruption and encourage a coordinated approach to water management. The components of flood plain management include directing development away from flood plains through land use planning and regulation of development, protection through structural measures, and emergency response through flood forecasting and warning.

HCA regulates watercourse flood plains to help minimize and mitigate the potential for loss of life and damage to property because of flood hazards. Flood plain mapping is a

critical tool for HCA in achieving this objective. These flood plain maps detail the extents of the expected regulatory flooding. The purpose of this report is to provide background information on these mapping projects and for the Board of Directors to adopt the floodplain mapping undertaken for Stoney & Battlefield Creeks, Stoney Creek Numbered Watercourses and Red Hill Creek.

STAFF COMMENT

HCA has a long-term program to systematically improve and expand our flood plain mapping. Flood plain mapping is typically based on:

- Regulatory storm event (100-year design event or Hurricane Hazel historic storm)
- Historic storm information and does not account for climate change at this time
- Hydrology (Flows) account for rain, thunderstorm, and snow melt events (as required)
- Future land use projections (as per Official Plan)
- Does not account for flow-reduction due to flood control / SWM / storage in the storm sewer system
- Does not account for flooding effects of debris / ice jams during a storm

Additionally, flood plain mapping is typically developed or updated to account for:

- Updated topographic mapping, hydraulic analysis, and hydrologic analysis (including use of more recent land use and climate data) to represent current and future conditions
- Enhanced reproducibility and defensibility
- Extended coverage to additional reaches of watercourses
- Advances in modeling technology
- Production of digital flood plain maps, as opposed to hardcopy maps
- Adherence to a consistent standard

In the development of floodplain mapping, HCA has existing guidelines for the development of flood plain mapping that requires:

- Background Information Report
- Mapping Check / Survey Work
- Hydrology (approach, QA/QC, documentation, preferred parameter values, calibration / verification, etc.)
- Hydraulics (approach, QA/QC, documentation, preferred parameter values, calibration / verification, etc.)
- Flood plain maps

Utilizing consultants, the following flood plain mapping studies have been undertaken in the past 2 to 3 years:

- Stoney Creek & Battlefield Creek
- Stoney Creek Numbered Watercourses
- Redhill Creek

The study areas of the three flood plain mapping studies are shown in Figures 1 to 3. The draft flood plain mapping themselves have not been provided due to the volume of maps involved, 78 maps in total. However, the flood plan mapping can be made available as needed.

HCA staff have reviewed the flood plain maps, and corresponding hydrology and hydraulic reports. It is noted that minor edits to the flood plain mapping will be undertaken to address input received through the public and stakeholder consultation process. These edits are minor in nature and not material to the overall flood plain mapping and relate to recent permits issued for watercourse alterations that were not reflected in the draft flood plain mapping circulated for public and stakeholder comment.

The final flood plain mapping provides the HCA with updated watercourse flood hazard mapping based on the latest technical information and data and will assist the HCA in administering its regulation of development adjacent to watercourses under the Conservation Authorities Act and Ontario Regulation 41/24.

STRATEGIC PLAN LINKAGE

The initiative refers directly to the HCA Strategic Plan 2019 - 2023:

- **Strategic Priority Area – Water Management**
 - Initiatives – Complete floodplain mapping update program

AGENCY COMMENTS

Not Applicable.

LEGAL/FINANCIAL IMPLICATIONS

Project costs were included in annual operating budget accounts and were completed within approved budget allocations. The projects were awarded to consultants through a competitive bid process. It is noted that the Redhill Creek project received \$16,852.36 through the Ontario Flood Hazard Identification and Mapping Funding program.

CONCLUSIONS

HCA regulates watercourse flood plains to help minimize and mitigate the potential for loss of life and damage to property because of flood hazards. To assist in the

management and regulation of watercourse flood plains, HCA retained consultants to complete flood plain mapping studies. The flood plain mapping provides the HCA with updated flood hazard mapping based on the latest technical information and data. This mapping assists the HCA in land use planning reviews related to floodplain natural hazards and in administering Section 28 of the Conservation Authorities Act and Ontario Regulation 41/24.

Three flood plain mapping studies have been completed and were made available for public and stakeholder comments. The final mapping reflects the comments received through this process. Minor edits, which are not material in nature, to the mapping relate to recent permits approved by the HCA for watercourse alterations which were not reflected in the draft mapping circulated for comments.

Figure 1 – Stoney Creek & Battlefield Creek Flood Plain Mapping Study Area

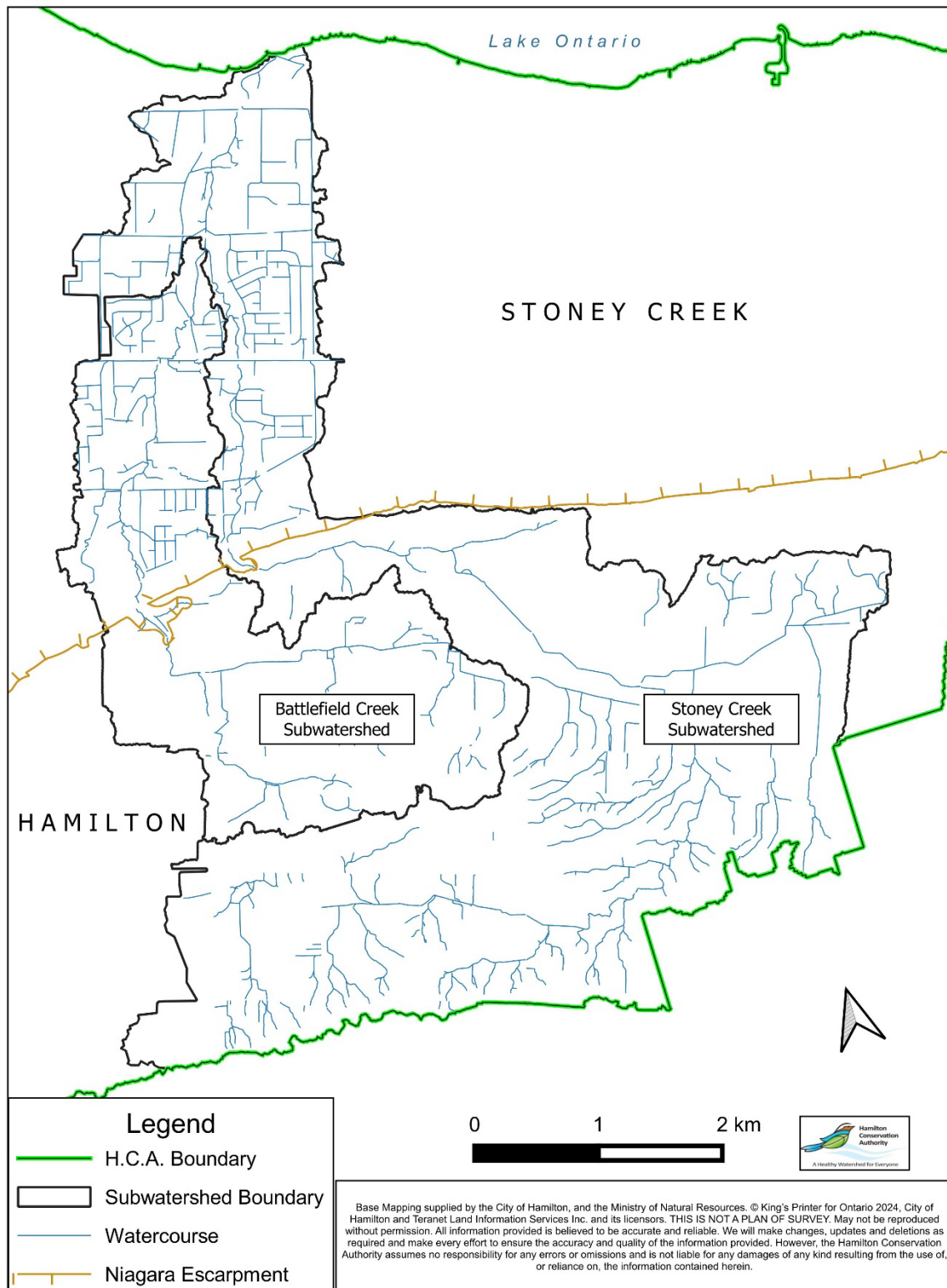


Figure 2 – Stoney Creek Numbered Watercourses Flood Plain Mapping Study Area

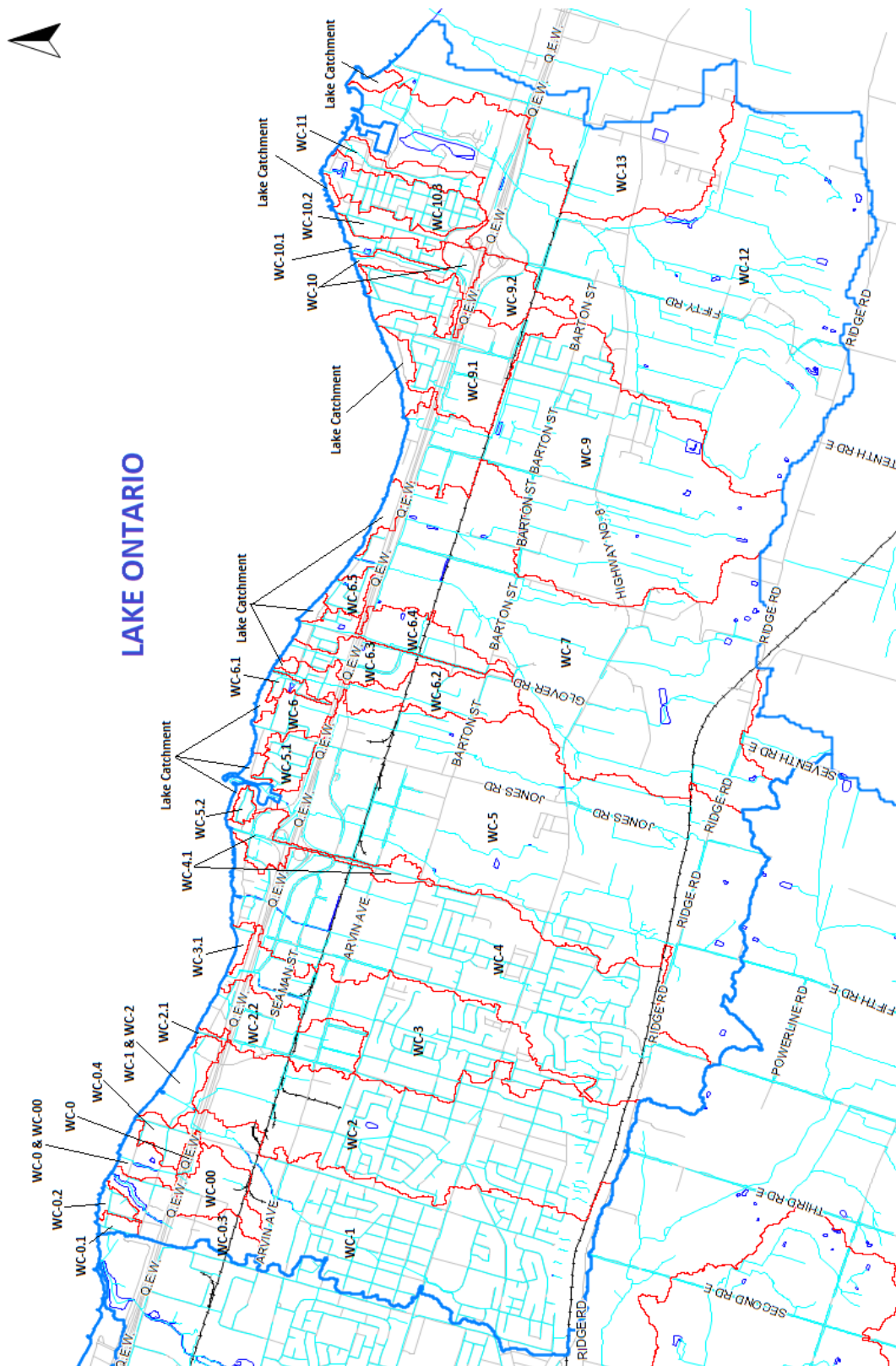


Figure 3 – Redhill Creek Flood Plain Mapping Study Area

