# Interim Guidelines to Support Conservation Authority Administration of "Ontario Regulation 41/24"

**Originally Prepared by:**

Conservation Ontario

Section 28 Committee

**Amended by:**

Essex Region Conservation Authority

Date: March 2024

**Notes: This guidance provides best advice based on available materials and current understanding of the legislation and regulations.**

## Accessibility for Ontarians with Disabilities Act (AODA)

This document may be provided in alternative formats upon a request being made to the Essex Region Conservation Authority. Email: admin@erca.org Phone: 519-776-5209

# PREFACE

This document provides general guidelines to assist Conservation Authorities (CAs) interpreting Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits, made under subsection 40(4) of the *Conservation Authorities Act* (CA Act). On April 1, 2024, the Province released Ontario Regulation 41/24 and proclaimed associated sections of the Conservation Authorities Act (CA Act)(i.e. s. 28, s. 28.1, s. 28.1.1, s. 28.1.2, s. 28.2 - s. 28.5, s. 30.1- s. 30.7, ss. 40(1)(g), and ss. 40(40)). Due to the short transition period of 4 weeks, this document should be considered an interim policy guideline.

This document does not prescribe policies to the CAs but provides a framework for local Board-approved CA policies to be created, or existing policies adjusted, to encourage consistency between CAs. This document is based on existing Provincial Technical and Implementation Guidelines developed and approved by the Ministry of Natural Resources and Forestry and referenced in Section 9. This Guideline references provincial policies, regulations, or legislation and is a tool for implementing provisions and standards in Ontario Regulation 41/24 and associated sections of the *Conservation Authorities Act*.

While the overall approach of this document encourages consistency in the interpretation and application of the Regulation, it is recognized each CA's policies may vary from these guidelines in recognition of the policy framework CA's developed post 2006 and the unique characteristics of watersheds. This approach recognizes the biophysical and historic differences between CA jurisdictions.

Each CA is responsible to ensure their policies are defensible based on the wording of the *Conservation Authorities Act* and the associated Regulation. CA policies should include references and detailed policies related to the CA Act and Regulation.

Using the 2008 "Draft Guidelines to Support Conservation Authority Administration of the "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation" as the basis, Conservation Ontario and the CO Section 28 Committee created this interim policy guideline to be consistent with amendments to the *Conservation Authorities Act* and Ontario Regulation 41/24 and to address recent Conservation Ontario policy guidance.

It is recognized there are gaps in this document and the Provincial technical manuals referenced throughout these guidelines. Most provincial technical guidelines are dated 2002, and updates to some of these guidelines, or portions of their content, are anticipated in upcoming years. Conservation Ontario will work with Conservation Authorities and the Ministry of Natural Resources and Forestry to fill these gaps subject to available resources and priorities. This document will be available on the Conservation Ontario website for CA staff access. In addition, other relevant

technical resource materials will be made available as they are developed.

## EXECUTIVE SUMMARY

This Interim Guideline was developed for Conservation Authority staff to assist in preparing and implementing individual CAs policies for the administration of Ontario Regulated 41/24 and associated sections Part VI of the Conservation Authorities Act.

CA staff recognize the current legislative structure includes requirements for administration of the Regulation in both the CA Act and O. Reg. 41/24. CA staff and applicants must refer to both pieces of legislation to make decisions and develop policies and guidelines related to permit applications. CA staff familiar with the legislative framework may consider consulting Part 2 of this guide when reviewing their policies.

Although there is not an explicit reference to addressing climate change and its' impacts in the CA Act or O. Reg. 41/24, it is anticipated that implementation of the Regulation and the policies in this guideline will assist CAs and watershed communities address impacts of climate change. For example, more frequent severe weather and extreme rainfall is being experienced leading to increased flood and erosion problems. Wetland loss in parts of the province continues to be a concern. Limiting development in or near hazards such as flooding or erosion and limiting the reduction in the quantity and quality of wetlands on the landscape assist in mitigating the impacts of climate change on people and property in watershed communities.

The CA review of permit applications and the assessment of potential impacts includes cumulative impacts of applications in the watershed or in a drainage area. CAs have considered these impacts historically and the province has recognized the potential for individual and cumulative impacts with the inclusion of a clause that references the health or safety of people or damage and destruction of property (CA Act, Section 28.1 (1)). Where necessary, CAs must consider the impact of numerous individual applications on the natural hazard systems over time. This means CAs should restrict development that may, singularly or cumulatively, affect the natural hazards or impact other properties. For example, development activities that restrict riverine channel capacities to pass flood flows or reduce storage capacity in floodplains and wetlands may result in increased flood levels and creation of a potential danger to upstream and downstream landowners and their property.

**Part 1** of this guide is expanded from the 2008 guideline to provide a high-level summary of the current legal framework and policy guidance from a number of changes to the CA Act in recent years. Section 2.0 includes general information on clauses under Section 28 of the CA Act, Regulations under the CA Act, and other related legislation and important definitions and interpretations.

Section 3.0 provides an overview of the content of O. Reg. 41/24 and general policy guidance where applicable including implementation guidance that has been developed by the CO s. 28 committee on specific matters.

**Part 2** of this guide includes Sections 3.0 to 8.0, providing technical information and policy guidance for areas regulated under Section 28 of the *Conservation Authorities Act* and Ontario Regulation 41/24.

- River or Stream Valleys (Section 3.0)
- Great Lakes and Large Inland Lakes Shorelines (Section 4.0)
- Hazardous Lands (Unstable Soil and Unstable Bedrock) (Section 5.0)
- Watercourses (Section 6.0)
- Wetlands (Section 8.0)

Each section intends to be self-contained, while minimizing repetition in the guidelines and all should be read with Sections 2.0 and 3.0. More than one type of regulated feature may exist for a given property and application thus reference must be made to all relevant sections and policies must be applied concurrently. This document relies primarily on provincial technical publications as summarized in this guide. The reader is encouraged to consult the original documents. CA staff should be aware that most provincial technical guidelines and standards for natural hazards have not been updated since 2002 – 2006 [with limited exceptions]. CAs may develop technical guidelines for use in administering permits issued in accordance with the CA Act.

In general, each policy guidance section provides:

- the relevant excerpts from the CA Act and Regulation;
- a discussion of the functions of the natural hazard feature with a description of how the hazard is defined (where applicable); and,
- suggested policy guidelines for implementing the CA Regulation.

These suggested policy guidelines follow a similar format found in the *Conservation Authorities Act* and Ontario Regulation 41/24. That is, the policies address “Prohibited activities re watercourses, wetlands”, “Permits” etc. requirements of the legislation. The language used in the policies is “shall not be permitted” to reflect the prohibition language in the CA Act, while the “in general” and “may permit” caveats are provided because, consistent with the legislation, the CA may grant “Permits”, if “in its opinion”, the tests outlined in the CA Act are satisfied i.e., “the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property”.

Some definitions and interpretations are included throughout the document e.g., terms defined in the Regulation. Additional definitions for the purpose of interpreting these policy guidelines are provided in Definitions Section 8.0.

Section 9.0 References and Web Links provides the specific titles, year of publication, and links to information for the Provincial Technical Guidelines and key legislation that are referenced throughout this document.

Section 10.0 outlines the requirement for applicants and their consultants to ensure other agency approvals have been obtained before they start work on their activity or project.

# TABLE OF CONTENTS

## TABLE OF FIGURES

## TABLES

# PART 1

# CONSERVATION AUTHORITIES

# AND

# PROVINCIAL FRAMEWORK

# FOR

# NATURAL HAZARDS

# 1.0 CA LEGISLATIVE AND REGULATORY FRAMEWORK FOR NATURAL HAZARDS

## 1.1 Objective

This document provides general guidelines to assist CAs interpreting the *Conservation Authorities Act* (CA Act), Ontario Regulation 41/24, and assist in updating or developing Board-approved CA policies.

While the overall approach of this document encourages consistency, it is recognized each CA's policies may vary from these guidelines in recognition of unique characteristics of their watershed.

## 1.2 Overview of Legislative Framework: Conservation Authorities Act

### 1.2.1 Background

The *Conservation Authorities Act* was created in 1946 in response to erosion and drought concerns, recognizing these and other natural resource initiatives are best managed on a watershed basis.

In 1956, in response to the severe economic and human losses associated with Hurricane Hazel (1954), amendments to the CA Act first empowered CAs to make Regulations to prohibit filling in floodplains. These Regulations were broadened in 1960 to prohibit or regulate the placing or dumping of fill in defined areas where, in the opinion of the CA, the control of flooding, pollution or the conservation of land may be affected. In 1968, amendments to the CA Act further extended the Regulations to prohibit or control construction and alteration to waterways, in addition to filling.

In 1998, the *Conservation Authorities Act* was amended as part of the *Red Tape Reduction Act* (Bill 25), to ensure that Regulations under the Act were consistent across the province and complementary to provincial policies. Significant revisions were made to Section 28, which led to the replacement of the "Fill, Construction and Alteration to Waterways" Regulation with the Content of Conservation Authority Regulations under Subsection 28 (1) of the CA Act, O. Reg. 97/04 which was followed by each Conservation Authorities' individual "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses" Regulation. While some CAs regulated wetlands, shorelines and inter-connecting channels for years, these amendments required all CAs

to regulate Great Lake shorelines, inter-connecting channels[1], inland lakes and wetlands in addition to the areas and features each CA historically regulated.

In subsequent years numerous amendments have been made to Section 28 of the CA Act and associated Regulations. Ontario Regulation 686/21, among other provisions, requires that an Authority shall provide programs and services to ensure that the Authority satisfies its duties, functions and responsibilities to administer and enforce the provisions of Parts VI and VII of the Act and any regulations made under those Parts." O. Reg. 686/21, s. 16.

In 2024, a new Regulation was developed, Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits. This regulation replaces the individual Regulations approved in 2006.

The current legislative structure includes requirements for the administration of PART VI of the CA Act in both the CA Act and O. Reg. 41/24. CA staff and their legal counsel must refer to both pieces of legislation to make decisions and develop policies and guidelines related to CA Act permit applications.

### 1.2.2 Prohibited Activities

Section 28 of the *Conservation Authorities Act*, includes the following section:

**28** (1) Subject to subsections (2), (3) and (4) and section 28.1, no person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:

1. Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.
2. Development activities in areas that are within the authority's area of jurisdiction and are,
   i. hazardous lands,
   ii. wetlands,
   iii. river or stream valleys the limits of which shall be determined in accordance with the regulations,
   iv. areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, such areas to be further determined or specified in accordance with the regulations; or,

[1] With the exception of the Niagara River which is governed Federally for hydro production at Niagara Falls.

v. other areas in which development should be prohibited or regulated, as may be determined by the regulations. 2017, c. 23, Sched. 4, s. 25.

The Province established a legislative framework that includes most of the requirements for the implementation of section 28 of the CA Act. This ensures CAs and their legal counsel can rely on the CA Act for any matters that may be challenged. The Regulations established under the CA Act provide further requirements such as: identification of some natural hazard areas and definitions, requirements for CA policies, and other actions related to processing permit applications etc. Therefore, CAs must ensure that they are using both the CA Act and Regulation 41/24 to prepare or update their CA policies.

For example, the CA Act prohibits development in a wetland and the Regulation defines the wetland and includes a reference to the 'other area' next to the wetland. Table 1 "Legislation and Regulatory References" below provides a summary for CA staff on the details of the regulatory components for Section 28.

**Table 1 Legislation and Regulatory References**

| **Regulated Area** | **Feature** | **CA Act** | **Regulation** | **Regulation: Description** |
|---|---|---|---|---|
| **River or Stream Valleys** | Apparent (Confined) Valley, stable slopes | ss. 28 (1) pp 2. iii. | ss. 2(1) pp.1 | Apparent River or Stream Valley, stable slope…plus 15 m each side |
| | Apparent (Confined) Valley, unstable slopes | " | ss. 2(1) pp.2 | Apparent River or Valley, unstable slope…plus 15 m each side |
| | Not Apparent (Unconfined) Valley | " | ss. 2(1) pp.3 | Not apparent river or stream valley |
| | Flood Plain | " | ss. 2(1) pp.3(i) A & B | Flood Event Standard |
| | Flood Plain Allowance | " | ss. 2(1) pp. 3(ii) | Allowance of 15m both sides * |
| **Floodplain Standards** | Floodplain Standards | " | Schedule 1 | Technical Standards |

* Except in areas under the jurisdiction of the Niagara Peninsula Conservation Authority

| Regulated Area | Feature | CA Act | Regulation | Regulation: Description |
|---|---|---|---|---|
| **Shoreline of the Great Lakes- St. Lawrence, inland lake** | Shoreline Flood Hazard | ss. 28 (1) 2. iv | ss. 2(a)(i) | 100 yr flood level plus appropriate allowance for wave uprush, etc * |
| | Shoreline Erosion Hazard | " | ss. 2 (2)(a)(ii) | Predicted long-term stable slope… |
| | Dynamic Beach | " | ss. 2 (2)(a)(iii) | Where a dynamic beach is associated with waterfront lands, an allowance of 30 m inland….** |
| | Additional Allowance | " | ss. 2 (2)(b) | Additional 15 m allowance inland. |
| **Hazardous Lands** | | ss. 28 (1) pp.2. i | ss. 1(1) | Definition of Hazardous Lands includes: flooding, erosion, dynamic beaches, or unstable soil or bedrock |
| | Flooding | s.28 (1) 2 i. (also in s. 28 (1) 2 iii) | Hazardous Lands in CA Act only | |
| | Erosion | " | Hazardous Lands in CA Act only | |
| | Dynamic Beaches | "s. 28 (2) i. (also in s. 28 (1) 2. iv) | Hazardous Lands in CA Act only | |
| | Unstable Soil: Marine Clay | s.28 (1) 2. i | Hazardous Lands in CA Act only | |

***** Except in respect of Wanapitei Lake in the Nickel District Conservation Authority, the applicable flood event standard for that lake being the one set out in item 1 of Table16 of Schedule 1

******Except in the areas within the jurisdictions of the Mattagami Region Conservation Authority, the Nickle District Conservation Authority and the North Bay-Mattawa Conservation Authority where the allowance is 15metres inland;

| Regulated Area | Feature | CA Act | Regulation | Regulation: Description |
|---|---|---|---|---|
| | Unstable Soil: Organic Soil | " | Hazardous Lands in CA Act only | |
| | Unstable Bedrock | " | Hazardous Lands in CA Act only | |
| **Watercourses** | River, Creek, Stream or watercourse | s.28 (1) 1. and 2. iii | ss. 1(1) | Definition of a Watercourse |
| | Allowance – see River or stream valley | ss. 28 (1) 2.iii | ss.2 (1) | 15m allowance on both sides* |
| **Wetland** | Wetland – Change or Interference | ss. 28 (1) 1. | ss. 1(1) | Definition of a Wetland |
| | Wetland - Development | ss. 28 (1) pp. 2. ii. | " | Definition of a Wetland |
| | "Other Area" Adjacent to a wetland | ss. 28 (1) pp. 2. v | ss. 2(3) | Description of Regulated Area 30m from the wetland |

* except in areas under the jurisdiction of the Niagara Peninsula Conservation Authority

### 1.2.3 Exceptions

Section 28 of the *Conservation Authorities Act* includes the following sections dealing with exceptions to the prohibition on development activities, alterations or interference in regulated areas.

**Exception, aggregates**

Subsection 28 (2); The prohibitions in subsection (1) do not apply to an activity approved under the *Aggregate Resources Act* after December 18, 1998, the date the *Red Tape Reduction Act, 1998* received Royal Assent. 2017, c. 23, Sched. 4,s. 25.

**Same, prescribed activities**

Subsection 28 (3); The prohibitions in subsection (1) do not apply to an activity or a type of activity that is prescribed by regulation and is carried out in accordance with the regulations. 2017, c. 23, Sched. 4, s. 25.

**Same, prescribed areas**

Subsection 28(4); The prohibitions in subsection (1) do not apply to any activity described in that subsection if it is carried out,

(a) in an area that is within an authority's area of jurisdiction and specified in the regulations; and,
(b) in accordance with any conditions specified in the regulations. 2017, c. 23, Sched. 4,s. 25.

Ontario Regulation 41/24 includes "Exceptions" for a limited number of activities in areas that are regulated by the CA e.g., seasonal or floating dock, tile drains, ponds for watering livestock. CAs shall not require a permit for these activities provided the activities meet the requirements outlined in the Regulation. Exceptions are discussed in further detail in Section 2.4 of this document.

### 1.2.4 Crown Activities

It is noted that the *Conservation Authorities Act* does not contain a subsection that specifically "binds the Crown". Therefore, activities of Provincial Ministries, Federal Departments and Crown Agencies or "Crown Corporations" are not bound by the Act and these entities are not legally required to obtain a permit under the *Conservation Authorities Act*.

Determining whether a particular body is an agent of the Crown depends on the specific functions of the body and the degree of control exercised over that body by the Crown. In some circumstances, changes to a corporation's ownership may result in the corporation's status changing from a crown corporation to a private entity. For example, Hydro One and its affiliates no longer hold status as crown corporations. CO and Hydro One developed an updated MOU (2021), acknowledging the new requirement for Hydro One and its affiliates (Hydro One Telecom Inc. and Hydro One Sault Ste. Marie LP) to obtain a CA permit under Section 28 of the CA Act for their work. This MOU outlines protocols and best practices that streamline the review process. (See CO website members section for the 2021 Memorandum of Understanding between Conservation Ontario and Hydro One Networks Inc.)

While the *Conservation Authorities Act* does not bind Crown proponents for activities taking place on Crown land, a third-party proponent, not acting on behalf of the Crown would be subject to the Act and Section 28 regulations.

Voluntary compliance with the review process requirement is always a possibility for the Crown and its Agencies. Through their policies, the CAs may invite the Crown and/or its Agencies to voluntarily submit proposals for works through the permit review process. Although best practice suggests they comply to ensure sufficient technical review of their activity, they are within their legal rights to refuse to participate in the voluntary review process.

Further guidance on permits on crown land etc. is available in the CO Guidance Memo on policy interpretation issues (Issuance of Section 28 Permits on Crown Land February 2020)

### 1.2.5 Permits

Section 28.1 of the CA Act outlines the legal requirements for CA decisions for a permit application. The Act includes two subsections that provide the 'tests' or criteria that a permit application must meet to the satisfaction of the CA. These include:

"28.1 (1) An authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by section 28, if, in the opinion of the authority,

(a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock;
(b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and
(c) any other requirements that may be prescribed by the regulations are met. 2017, c. 23, Sched. 4, s. 25."

Currently, there are no additional requirements under 28.1(1)(c).

Below is a summary of the clauses in s. 28.1 (2) to (26). It is important to note that CAs and legal counsel must refer to the CA Act for the exact requirements. Figure 1 below provides a high-level summary of the potential Permit processes including the Minister's Review and OLT.

**Application/Hearing**

Sections 28.1 (2) to (5) include sections that relate to: the requirement to apply for a permit, enabling a CA to include conditions in a permit, and the right to a hearing where an application may be refused, or conditions are being contested.

**Renewable Energy Projects**

Renewable energy projects (28.1 (6)) limit the 'tests' that may be applied to a CA consideration of a permit application and the conditions that can be attached to these permits. A CA shall not refuse an application unless it is of the opinion that it is necessary to do so to control flooding, erosion, dynamic beaches or unstable soil or bedrock; and the CA shall not attach conditions to the permit unless the conditions relate to controlling flooding, erosion, dynamic beaches or unstable soil or bedrock. In other words, the test broadly related to health or safety and found in 28.1 (1) (b) does not apply to these permits. As with similar applications, the applicant has a right

to a hearing where an application may be refused, or conditions are being contested. After a hearing the CA shall provide an applicant with written reasons for the decision.

**Request for Minister's Review**

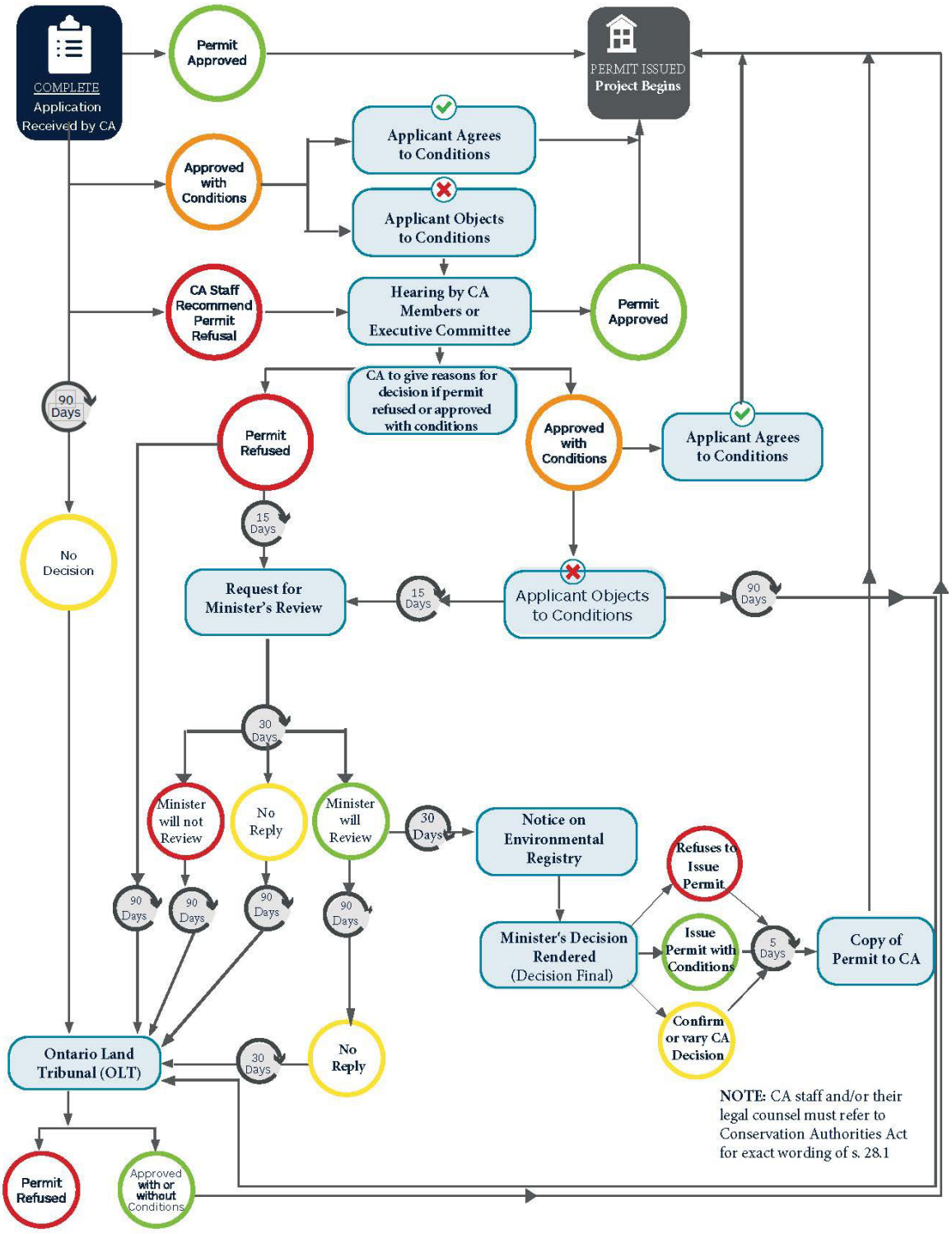
Sections 28.1 (8) to (19) outline, in detail, the steps and requirements in the process if an applicant appeals the decision of the CA or conditions attached to a permit. In general, these sections outline the hearing process, appeal timelines, the Minister's review process and timelines associated with that review (includes requirements for the CA and the applicant). The Minister is required to publish on the Environmental Registry a notice of the Minister's intention to review a decision made by an authority and shall do so within 30 days of giving a reply that a review will be undertaken. Upon the completion of the review, the Minister may confirm or vary the authority's decision or make any decision that the Minister considers appropriate, including issuing the permit subject to conditions. The decision made by the Minister in this process is final.

**Appeal to Tribunal**

Sections 28.1 (20) to (26) outline, in detail, the steps, requirements and timelines associated with appeals to the Minister and the Ontario Land Tribunal (OLT).

Figure 1 provides a general overview of the potential Permit processes outlined in s. 28.1 including the Minister's Review and Ontario Land Tribunal. It is important to note that CAs and legal counsel must refer to the CA Act for the exact requirements.

**Figure 1: Permit process, potential Minister's Review and OLT (Section 28.1)**



Further details on how to conduct a hearing under Part VI of the CA Act are available through the Conservation Ontario Conservation Authorities Act Hearing Guidelines (2021 as may be amended).

### 1.2.6 Permits issued by Minister

Section 28.1.1 of the CA Act outlines the powers of the Minister to issue an Order related to Section 28 permits. A general summary of this portion of the CA Act is included in this document and CAs and their legal counsel should refer to the CA Act if an Order under this section of the Act is received from the Minister.

The Minister may, by order, direct the CA not to issue a permit to a person (28.1.1(1)(a)). In addition, the Minister may direct a CA or CAs not to issue a permit for a type or class of activities for a specified period of time (28.1.1(1)(b)). If an order is made, the Minister can issue a permit for any activity in the order "if, in the Minister's opinion, the criteria described in clauses 28.1 (1) (a), (b) and (c) are satisfied…." The order(s) apply before or after applications have been received by the CA(s) and decisions are pending. Section 28.1.1 (5) outlines the notice provisions i.e., notice will be given to the applicable CA(s), applicants who submitted an application before the order was made and a decision is pending, and that it will be posted on the Environmental Registry within 30 days of being made.

Sections 28.1.1 (6) to (11) outline, in detail, the steps and requirements which generally include responsibilities of the CA and the applicant with respect to the order and information that they may have that will be provided to the Minister within the timelines specified by the Minister. It also includes application requirements and consultation process for permits to be considered by the Minister, conditions of an approval, and written reasons for a decision of the Minister. The CA shall receive a copy of the permit that includes the date of validity.

Sections 28.1.1 (12) to (14) identify the decision and appeal process. The Minister's decision is final. The application must comply with other sections of the CA Act (s. 28.1 (3) or clause 28.1.1 (7) (a)) and the applicable Regulation e.g., complete application. However, in specific circumstances the decision may be appealed to the Ontario Land Tribunal i.e., no notice of a decision from the Minister within 90 days of the application being made. Subsections 28.1 (24), (25) and (26) apply with necessary modifications to an appeal to the Tribunal. These sections include an appeal of non-decision by the Minister, notice of appeal and hearing requirements of the Tribunal.

CA policies may include a description of the powers of the Minister to issue an order. Individual CAs may establish policies or guidelines for this process.

### 1.2.7 Mandatory permits, zoning orders

The *Planning Act* (s. 34.1) gives the Minister of Municipal Affairs and Housing the authority to control the use of any land in the Province. Zoning orders can be used to protect a provincial interest or to help overcome potential barriers or delays to critical projects. This includes an order for Community Infrastructure and Housing accelerator projects.

The CA Act requires the implementation of a Zoning Order as outlined in Section 28.1.2. (1).

A general summary of this section of the CA Act is included in this document and CAs and their legal counsel should refer to the CA Act if a permit application is received related to a zoning order made by the Minister of Municipal Affairs and Housing under section 34.1 or 47 of the *Planning Act*. (see Figure 2)

The zoning order received by the CA will apply to a 'development project' as defined by the CA Act provided that this project is not located in the Greenbelt Area under section 2 of the *Greenbelt Act, 2005.* The CA shall issue the permit if all of the requirements in Section 28.1.2 (1) (a)-(c) are satisfied. The CA shall not refuse a permit despite the prohibitions a. 28(1) or the 'tests' or criteria in s. 28.1.(1). The CA may include conditions of approval on the permit as outlined in s. 28.1.2 below:

"(6) Subject to subsection (7), an authority may attach conditions to the permit, including conditions to mitigate,

(a) any effects the development project is likely to have on the control of flooding, erosion, dynamic beaches or unstable soil or bedrock;
(b) any conditions or circumstances created by the development project that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; or
(c) any other matters that may be prescribed by regulation. 2020, c. 36, Sched. 6, s. 17."

Sections 28.1.2 (7) to (13) outline the process and timeline associated with attaching any conditions to a permit associated with a zoning order. In general, these clauses require a CA to provide a Hearing before the Authority and the applicant may appeal the CA's decision on a condition(s) to the Minister. The permit holder must submit their request for the Minister to conduct a review of the CA conditions within 15 days of the reasons being given under subsection (8). The Minister may amend the conditions and will consider the same mitigation criteria or tests noted above in their review. In the case of this review, the Minister's decision is final.

Alternatively, or in addition, Sections 28.1.2 (14) to (16) outline, in detail, the appeal process to the Ontario Land Tribunal and criteria and timelines required in this process.

Subsection (14) states “A permit holder who objects to any conditions attached to the permit by an authority may, within 90 days of the reasons being given under subsection (8), appeal to the Ontario Land Tribunal to review the conditions if,

(a) the permit holder has not submitted a request under subsection (9) to the Minister to review the conditions; or
(b) the permit holder has submitted a request to the Minister to review the conditions under subsection (9) and,

i. 30 days have elapsed following the day the permit holder submitted the request and the Minister did not make a reply in accordance with subsection 28.1 (9), or
ii. the Minister made a reply in accordance with subsection 28.1 (9) indicating that the Minister refused to conduct the review. 2020, c. 36, Sched. 6, s. 17.”

If the Minister is conducting a review of the conditions as outlined in earlier sections (28.1.2(9)), and the Minister’s decision has not been provided within 90 days of the start of that review, the permit holder may, within 30 days, appeal this non-decision on the CA conditions directly to the Ontario Land Tribunal. The permit holder and the Tribunal are required to follow the notice requirements in s. 28.1 (24) and (25). The powers of the tribunal include the authority to take evidence, to refuse the permit or to order the authority to issue the permit, with or without conditions (Subsection 28.1 (26)).

Subsections (17) to (18) outline the Agreement requirements. The CA shall enter into an agreement with the permit holder for the development project and they may add other parties to this agreement. The agreement under subsection (17) shall set out actions or requirements that the permit holder must complete or satisfy in order to compensate for ecological impacts and any other impacts that may result from the development project.

Subsections (19) and (19.1) outline the timing of the implementation of the ‘development project’ and the agreement with the CA. Subsection (19) includes “No person shall begin a development project until an agreement required under subsection (17) has been entered into. 2020, c. 36, Sched. 6, s. 17.” However, subsection (19.1) includes “If a regulation made under subsection 40 (4) provides that a development project may begin prior to entering into an agreement under subsection (17), but an agreement is not entered into by the date identified in the regulation, no person shall carry out the development project until such time the agreement is entered into. 2022, c. 21, Sched. 2, s. 10 (10).” It is anticipated that the regulation for a ‘development project’ will be limited to a specific project. The Province has the ability to create a regulation that permits the development project to begin prior to entering into an agreement.

The CA should develop policies that include mandatory permits and Minister’s Zoning Orders. CA policies shall comply with s. 28.1.2. CA policies should also identify additional requirements that may apply to any application for a development project within a regulated area where a zoning

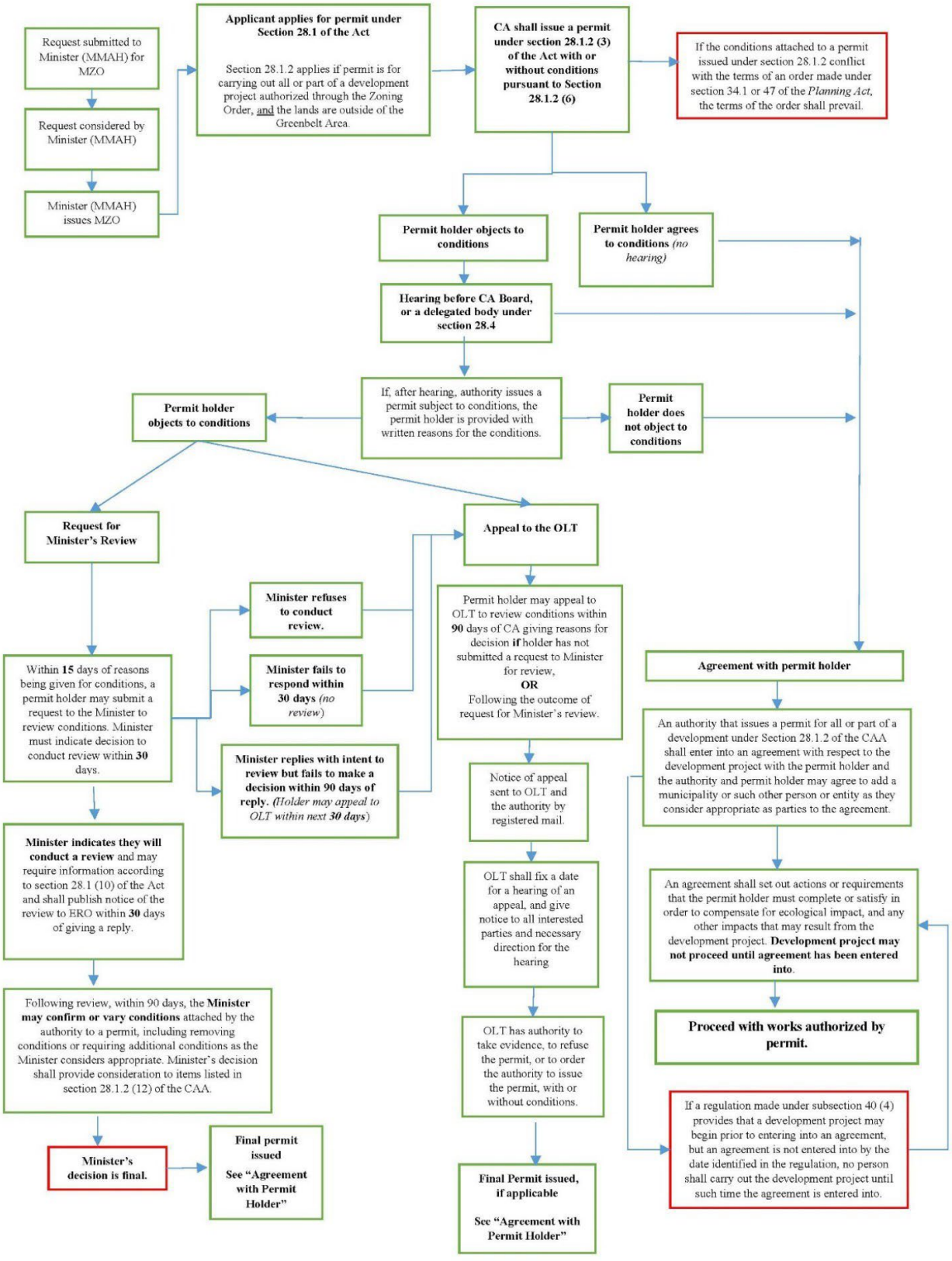
order has been made by the Minister of Municipal Affairs and Housing under s. 34.1 or 47 of the *Planning Act* which authorizes the development project.

CA policies should be in accordance with any provincial guidance and may include information related to:

- costs e.g., administrative and legal, compensation, monitoring
- CA permit shall be granted for development projects subject to zoning orders in accordance with s. 28.0.1 of the Act
- conditions that comply with s. 28.1.2 requirements and tests
- any requirement for an agreement
- compensation for ecological impacts and any other impacts that may result from the development project (individual CAs should develop compensation guidelines)
- compensation monitoring and reporting.

Figure 2 provides a general overview of the permit process related to Mandatory Permits or a Zoning Order outlined in s. 28.1.2. It is important to note that CAs and legal counsel must refer to the CA Act for the exact requirements.

## Figure 2: Mandatory Permits, Zoning Order, Ontario Land Tribunal (Section 28.1.2)



### 1.2.8 Cancellation of permits

Section 28.3 enables the CA with the option to cancel a permit issued if it is the CA's opinion that the conditions of the permit have not been met or that the circumstances that are prescribed by regulation exist. This section outlines the process the CA shall follow to cancel a permit. This includes notice requirements (intent to cancel, specified date, permit holder hearing request). Within 15 days of receiving the CA notice of intent to cancel, the permit holder must submit a written request for a hearing. The hearing will be scheduled within a reasonable time frame. The CA may confirm, rescind or vary the decision to cancel the permit. If the CA confirms the cancellation of the permit or varies the permit in such a way that the permit holder objects, the permit holder may, within 90 days of receiving notice of the authority's decision, appeal the decision to the Ontario Land Tribunal. The permit holder is required to send their notice of appeal to the Tribunal and the CA by registered mail.

CAs should include policies or prepare guidelines that outline the individual CA's process for the cancellation of a permit.

### 1.2.9 Delegation of Power

Section 28.4 of the CA Act states "An authority may delegate any of its powers relating to the issuance or cancellation of permits under this Act or the regulations, or to the holding of hearings in relation to the permits, to the authority's executive committee or to any other person or body, subject to any limitations or requirements that may be prescribed by regulation. …"

To streamline permit approvals, many CAs have delegated the approval and issuance of routine permits to CA staff. This delegation of approval of a permit to staff should be approved by the CA Board through the CA By-law or a report to the Board of Directors. A routine permit is an application that meets Board approved CA policies and there is agreement on any conditions of that approval. It is recommended that decisions that may be appealed e.g., the cancellation of a permit or a hearing where the CA staff are recommending refusal should be determined by the Authority Board or Executive Committee. CA by-laws and/or other policies should outline which person or body has a delegated responsibility to make decisions. It is also recommended that CAs provide applicants with information for their individual CA permit process e.g., in s. 28 policies, on the CA website and/or in a guideline.

### 1.2.10 CA Board Approved Policies

Board-approved CA policies are required as outlined in the CA Act and in s. 12 of O. Reg. 41/24 to provide a decision-making framework for the review of applications. In general, policies ensure a consistent, timely and fair approach to the review of applications, staff recommendations and Board decisions. They also facilitate the effective and efficient use and allocation of available resources.

While the overall approach of this document is to encourage consistency, each CA's policies may vary from these guidelines in recognition of the unique characteristics of its' watershed e.g., Leda Clay, or other responsibilities such as the *Lake Simcoe Protection Act*. However, CAs are strongly

encouraged to have their legal counsel review any proposed policies prior to Board approval to ensure conformity with Section 28 of the *Conservation Authorities Act* and the s.28 Regulation.

The hierarchy of legislation and policies described in this section is depicted in Figure 3 below.

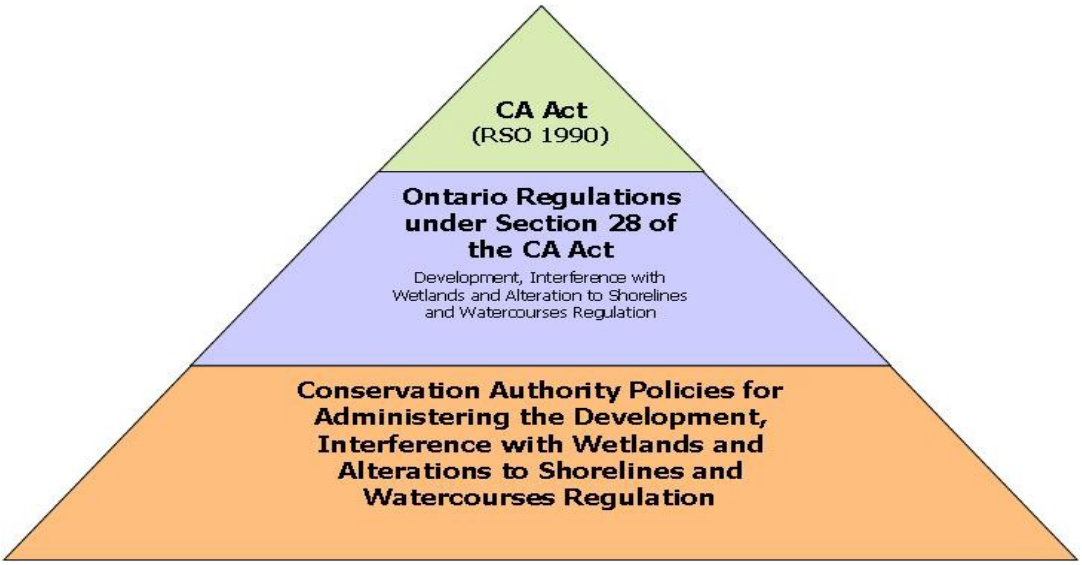



**Figure 3 Hierarchy of Legislation and Policies**

To receive a permit for a development activity, it must be demonstrated to the satisfaction of the CA, in the application that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property. The control of dynamic beaches is generally applicable to the Great Lakes shorelines and large inland lakes regulated areas.

To receive a permit, it must be demonstrated to the satisfaction of the CA that interference in any way with a watercourse or change or interference in any way with a wetland is acceptable. The CA review may include the hydrologic functions of the watercourse and all components of the definition of a wetland. See Section 7.0 for additional information on wetlands.

A permit from a CA may be in the form of a formal permit or a letter of permission. For either of these types of applications, submission of technical studies may be necessary.

Technical studies must be carried out by a qualified professional with recognized expertise in the appropriate discipline and must be prepared using established procedures and recognized methodologies to the satisfaction of the CA. CAs may have technical guidelines that should be

used by qualified professionals for studies, plans etc. for a permit application. Where the CA does not have technical guidelines, the applicant should consider MNRF's Technical Guides for Natural Hazards (MNRF, 2023, MNRF, 2002a; MNRF, 2002b; MNRF, 1996a; MNRF, 1996b; and MNRF 1996c), and other Provincial guidelines and/or guidelines approved by the CA Board. The CA may request that technical studies be carried out at the expense of the applicant.

Currently there are no provincial Technical Guides developed specifically for use in evaluating change or interference with a wetland. The Recommendations for Conducting Wetland Environmental Impact Studies (EIS) for Section 28 Regulations Permissions may be a helpful resource for CAs, while acknowledging that this document was prepared to assist with the implementation of the 2006 individual CA Section 28 Regulations. It requires an update to reflect the current focus on natural hazards and removal of the test of 'conservation of land' and its' associated perspective of the review of impacts to a broad range of ecological functions.

Expertise for reviewing technical studies varies among CAs. Where expertise within the CA is not available, the CA may request that the study be peer-reviewed by a qualified professional at the expense of the applicant.

For an application to be refused or where the applicant objects to the conditions of approval, the *Conservation Authorities Act* requires that the applicant be given the opportunity to a hearing by the local CA Board or Executive Committee (sitting as a Hearing Board). The Conservation Ontario Section 28 Conservation Authorities Act Model Hearing Guidelines (2021) as may be amended, provides a step-by-step process for conducting hearings required under s. 28.1 (5) s. 28.1.2 (7) and s. 28.3 (4) of the *Conservation Authorities Act* or as required by Ontario Regulation 41/24. CAs should conduct a hearing under the Regulation in a manner consistent with these guidelines. The Hearing Board is empowered by law to make a decision, governed by the *Statutory Powers Procedures Act*. It is the purpose of the Hearing Board to evaluate the information presented at the hearing by both the CA staff and the applicant and to decide whether the application will be approved with or without conditions or refused.

A description of the appeal processes available to the applicant is outlined in detail in other sections of this document (sections 2.2.3 – 2.2.6)

## 1.3 Regulations under the CA Act

### 1.3.1 Mandatory Programs and Services - Ontario Regulation 686/21

Further to the *Conservation Authorities Act* s, 21.1, Ontario Regulation 686/21 requires CAs to provide mandatory programs and services related to the risk of natural hazards (see s. 1-8). (Category 1 Program or Service). CAs are required to satisfy their duties, functions, and responsibilities to administer and enforce the provisions of Part VI and VII of the CA Act and any regulations made under those Parts. Programs and services related to the risk of natural hazards include:

- Comment re applications, proposals (ss. 6. (1) and ss. 6. (2))
- Plan Review, comments (ss. 7 (1) and ss. 7 (2))
- Administering and enforcing the Act (s 8)

In addition, the regulation includes Prescribed Acts which apply specifically to two Conservation Authorities: North Bay-Mattawa in the case of the Building Code (section 14. (1) - (2)) related to sewage systems, as well as Lake Simcoe Region Conservation Authority as it relates to the *Lake Simcoe Protection Act* (section 15). In addition to Part VI regulatory responsibilities, CAs that fulfil an additional legal responsibility will administer their responsibilities for these duties under the applicable legislation.

Applications or projects under other legislation may be the earliest opportunity for CAs to provide input on natural hazards. In the review of these applications or proposals, CAs should identify natural hazards and attempt to resolve any issues with the proposal that may arise due to natural hazards. This will result in a streamlined CA permit application or remove the need for a permit.

Under s. 6. (1) CAs shall provide programs and services to enable the authority to review applications or proposals to comment on the risks related to natural hazards arising from the proposal made under the Acts noted below:

1. The Aggregate Resources Act.
2. The Drainage Act.
3. The Environmental Assessment Act.
4. The Niagara Escarpment Planning and Development Act

Subsection 7 (1) of Ontario Regulation 686/21 outlines the requirements for CAs to review and provide comments on policy documents (e.g., Official Plans and comprehensive Zoning By-laws) and applications submitted pursuant to the *Planning Act* in accordance with the Mandatory Programs and Services Regulation.

CAs provide technical support and advisory services to municipalities for planning applications for natural hazards (not including hazardous forest types for wildland fire). In this capacity, CA staff provide technical input regarding potential natural hazard impacts and advice about how negative impacts can be avoided or minimized.

Subsection 7 (2) 1 to ss. 7 (2) outline additional responsibilities of CAs for natural hazard land use planning related matters. These include providing comments, technical support, information, notice and/or training to municipalities or planning boards, as well as providing comments and other support to the Ministry of Municipal Affairs and Housing and MNRF when requested to do so.

### 1.3.2 Prescribed Acts – Ontario Regulation 596/22

In 2022, the CA Act was amended, and the Province included an exception to the services a CA may provide.

**Municipal programs and services**

Subsection 21.1.1 (1); Subject to subsection (1.1), an authority may provide, within its area of jurisdiction, municipal programs and services that it agrees to provide on behalf of a municipality situated in whole or in part within its area of jurisdiction under a memorandum of understanding, or such other agreement as may be entered into with the municipality, in respect of the programs and services. 2020, c. 36, Sched. 6, s. 8 (1). 2022, c. 21, Sched. 2, s. 3 (1).

**Exception, prescribed Acts**

Subsection 21.1.1(1.1); An authority shall not provide under subsection (1), within its area of jurisdiction, a municipal program or service related to reviewing and commenting on a proposal, application or other matter made under a prescribed Act. 2022, c. 21, Sched. 2, s. 3 (2).

Ontario Regulation 596/22: Prescribed Acts enabled under the CA Act s. 21.1.1 (1.1) and s. 21.1.2 (1.1)) came into effect on January 1, 2023. This regulation stipulates that CAs shall not provide a Municipal (Category 2) or Other (Category 3) program or service related to reviewing and commenting on proposals, applications, or other matters under a prescribed Act.

The prescribed Acts include:

- Planning Act
- Aggregate Resources Act
- Condominium Act
- Drainage Act
- Endangered Species Act
- Environmental Assessment Act

- Environmental Protection Act
- Niagara Escarpment Planning and Development Act
- Ontario Heritage Act
- Ontario Water Resources Act

Under the Mandatory Programs and Services Regulation (O. Reg. 686/21) which includes natural hazards, the CAs continue to provide review and comments on applications related to natural hazards and regulatory requirements. O. Reg. 596/22 does not affect the CA provision of mandatory (Category 1) programs or services related to the prescribed Acts. Subject to the individual legislative and regulatory requirements, applications made under Acts including the *Planning Act, Environmental Assessment Act, Drainage Act, Niagara Escarpment Planning and Development Act* etc. must continue to be circulated for mandatory program and service delivery for CAs to review and provide comments.

### 1.3.3 Ontario Regulation 41/24: Prohibited Activities, Exemptions, and Permits

Ontario Regulation 41/24 was approved on April 1, 2024.

Conservation Authorities regulate all components noted in s. 28 of the Act within its jurisdiction and the Regulation includes some components of the regulated areas. CAs shall use the CA Act as well as Ontario Regulation 41/24 in the administration of the permit process.

As noted above, there are many legal requirements for the administration of Ontario Regulation 41/24 and associated sections of the *Conservation Authorities Act,* including:

- Definitions for the purposes of Section 28
- Prohibited Activities
- Flood Event Standards
- Maps of Regulated Areas
- Regulation Text Prevails Over Mapping
- Exceptions
- Pre-Submission Consultation
- Application for Permit
- Conditions of Permits
- Lake Simcoe Protection Requirements
- Request for Review
- Period of Validity of Permits and Extensions
- Guidance and Policy Documents re Permits
- Schedule 1

Additional information and guidance on Ontario Regulation 41/24 are included in Section .0 and the sections on each regulated area.

## 1.4 Other Related Legislation

It is important to note that a CA s. 28.1 permit, if granted for work, does not exempt the applicant from complying with any or all other approvals, laws, statutes, ordinances, directives, regulations, etc. that may affect the property or the use of same. Alternatively, complying with or obtaining all other approvals, laws, statutes, ordinances, directives, regulations, etc. does not exempt the applicant from obtaining a permit under Section 28.1 of the *Conservation Authorities Act*.

### 1.4.1 Planning Act

CAs are involved in the review of planning applications under the *Planning Act* primarily in three ways: as an agency with legislated responsibilities for the review of natural hazards; acting on behalf of the Ministry of Natural Resources and Forestry to ensure conformity with natural hazard policies excluding hazardous forest types for wildland fire and as a public body. See Ontario Regulation 686/21 (s. 7) and 2.3.1 of this document for further information related to Mandatory programs and Services related to the *Planning Act*.

Ontario Regulation 41/24 complements the natural hazard policies in policy statements issued under the *Planning Act* including policies of the Provincial Policy Statement (PPS). The legislated and regulatory responsibility for reviewing applications or other matters under the *Planning Act* is limited to Natural Hazards. This responsibility requires CAs to review and provide comments on policy documents (e.g., Official Plans and comprehensive Zoning By-laws) and applications submitted pursuant to the *Planning Act* in accordance with the Mandatory Programs and Services Regulation.

CAs provide technical support and advisory services to municipalities for planning applications. In this capacity, CA staff provide technical input regarding potential natural hazard impacts and advice about how negative impacts can be avoided or minimized.

In addition, the *Planning Act* limits conservation authority input on appeal unless it is related to natural hazard policies as outlined in s. 1 (4.1). Regulations under this Act (e.g., O. Reg. 545/06, 543/06 and 200/96) require municipalities to give notice to CAs regarding planning applications and changes to policy documents. CAs may comment on natural hazard matters as outlined in the CA Act and *Planning Act*. Consistent with its watershed-based resource management strategy, a CA may provide observations which relate to its goals and objectives for watershed management.

One of the main differences between the PPS and the Ontario Regulation 41/24 is that the *Planning Act* establishes the principle of development and the CA regulation, like a building permit, identifies specific site requirements prior to activities taking place. Prior to the review of a CA

Regulation application, CAs often see the proposal through their Plan Review process including applications under the *Planning Act* (e.g., severances, site plan, subdivision applications), *Niagara Escarpment Planning and Development Act* and the *Environmental Assessment Act*. Although a permit may not be issued for many years after the planning application, the CA needs to ensure during the *Planning Act* or other legislative review processes that the requirements under the Regulation process can likely be fulfilled at the time an application under the Regulation is received.

If an application under the *Planning Act* does not meet the Board-approved CA policies, the CA should work with the municipality and the applicant to modify the application. Potential issues associated with the future issuance of a permit should be identified as part of the review of the *Planning Act* application. If an issue remains unresolved, the CA should not recommend approval of the *Planning Act* application and has the option of making an appeal to the Ontario Land Tribunal.

Alternatively, it is also recognized that there may be historic planning approval decisions that were made in the absence of current technical information which would now preclude development. In these situations, innovative efforts may be necessary to address the site constraints and accommodate the development or approval should not be granted.

### 1.4.2 Environmental Assessment Act

Through the Mandatory Program and Service Regulation, CAs review proposals under the *Environmental Assessment Act* (EA) for the purpose of commenting on the risks related to natural hazards. Where an EA was approved and the CA was satisfied with the natural hazard evaluation(s) and the preferred alternative in the EA, the CA may consider evaluations completed through this process as part of their review of a permit application. In some cases, the text or recommendations included in the EA may outline additional studies that may be required as part of the final design process.

### 1.4.3 Other Legislation

In addition to the legislation outlined in this document, there are many other pieces of legislation that address various water and related resource management activities. Examples of some of the other key pieces of legislation include:

- *Fisheries Act* (Fisheries and Oceans Canada)
- Lakes and Rivers Improvement Act (MNRF)
- Public Lands Act (MNRF)

It is the applicant's responsibility to ensure that they obtain all approvals that may be required for their development activity under other applicable law. Wherever possible, application requirements should be coordinated amongst the various approval agencies to assist the applicant.

## 1.5 Definitions and Interpretations

The following sections outline the key definitions and interpretations recommended for implementing the CA Regulation. Section 28 of the CA Act and the Regulation allows CAs to prohibit or restrict activities as noted above. The *Conservation Authorities Act* and the Regulations do not provide definitions for many of these terms. Therefore, other relevant documents were reviewed to establish interpretations for those terms not defined in the *Conservation Authorities Act* and Regulation. It is important to note that where definitions are provided in the *Conservation Authorities Act* and Regulation these definitions (e.g., "development activity") prevail for the implementation of the Regulation, even if other definitions exist in other relevant documents.

In addition to this section there are definitions of common terms throughout the document and in Section 10.0, Definitions.

### 1.5.1 Conservation Authorities Act

Section 28.1.2 (2)) of the *Conservation Authorities Act* provides the following definition in relation to Mandatory Permits Zoning Orders:

"Development project" means development activity as defined in subsection 28 (5) or any other act or activity that, without a permit issued under this section or section 28.1, would be prohibited under section 28.

Therefore 'development activity' is used throughout this document.

### 1.5.2 Ontario Regulation 41/24

Ontario Regulation 41/24 includes for the purposes of Section 28 of the Act, the following terms have the following meanings:

**Definitions**

1. (1) In section 28 of the Act and in this Regulation,

"**development activity**" means,

(a) the construction, reconstruction, erection or placing of a building or structure of any kind,

(b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure,
(c) site grading, or
(d) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

**"hazardous land"** means land that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock;

**"watercourse"** means a defined channel, having a bed and banks or sides, in which a flow of water regularly or continuously occurs;

**"wetland"** means land that,

(a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface,
(b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse,
(c) has hydric soils, the formation of which has been caused by the presence of abundant water, and
(d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water,

(2) The definition of "wetland" in subsection (1) does not include periodically soaked or wet land used for agricultural purposes which no longer exhibits a wetland characteristic referred to in clause (c) or (d) of that definition.

Although each of the natural hazards included in the 'hazardous land' definition are not included in the definition section of the regulation, the regulated area of some of these terms are included in other sections of the Regulation such as the River and Stream Valley or Shoreline e.g., flooding, erosion, dynamic beaches.

### 1.5.3 Provincial Policy Statement Definitions

**Note:** it is recognized that the 2020 Provincial Policy Statement is currently under review, see ERO #019-6813. The definitions referenced below are consistent with both the 2020 PPS and the 2023 consultation document.

To assist CA staff, this guideline provides a description of some natural hazards that are included in the Provincial Policy Statement (PPS). The 2020 PPS provides the following definitions.

**Erosion hazard:** means the loss of land, due to human or natural processes, that poses a threat to life and property. The *erosion hazard* limit is determined using considerations that include the 100 year erosion rate (the average annual rate of recession extended over a one hundred year time span), an allowance for slope stability, and an erosion/erosion access allowance.

**NOTE:** This definition should be used for defining the Erosion Hazard as it applies to the CA Regulation. The Regulation includes an allowance of 15 metres outside of the limit of the natural hazard. CAs should ensure that an appropriate setback from the Erosion Hazard is maintained within the allowance. Access standards for an erosion access allowance may be a consideration in the CA's review of an application pursuant to S 28.1 (1) (b) "the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property".

**Flooding Hazard**: means the inundation, under the conditions specified below, of areas adjacent to a shoreline or a river or stream system and not ordinarily covered by water:

a) Along the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes, the flooding hazard limit is based on the one hundred year flood level plus an allowance for wave uprush and other water-related hazards;

b) Along river, stream and small inland lake systems, the flooding hazard limit is the greater of:

1. the flood resulting from the rainfall actually experienced during a major storm such as the Hurricane Hazel storm (1954) or the Timmins storm (1961), transposed over a specific watershed and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over watersheds in the general area;

2. the one hundred year flood; and

3. a flood which is greater than 1. or 2. which was actually experienced in a particular watershed or portion thereof as a result of ice jams and which has been approved as the standard for that specific area by the Minister of Natural Resources and Forestry; except where the use of the one hundred year flood or the actually experienced event has been approved by the Minister of Natural Resources and Forestry as the standard for a specific watershed (where the past history of flooding supports the lowering of the standard).

**Note:** Flood Event Standards that CAs shall use are outlined in Schedule 1 of O. Reg. 41/24. The Regulation also outlines, in text, the extent of the flood plain regulated area (see River or Stream Valleys Section 4.0 and Great Lakes-St. Lawrence System or Inland Lakes Section 5.0 in this document).

**Dynamic Beach Hazard:** means areas of inherently unstable accumulations of shoreline sediments along the Great Lakes – St. Lawrence River System and large inland lakes, as identified by provincial standards, as amended from time to time. The dynamic beach hazard limit consists of the flooding hazard limit plus a dynamic beach allowance.

### 1.5.4 Additional Definitions and Interpretations

The *Conservation Authorities Act* and Ontario Regulation 41/24 do not define "Interference" nor has any definition been found in any other technical guide or planning document; hence, the interpretation below was developed by the Ministry of Natural Resources and Forestry and Conservation Ontario for the 2008 version of this guideline. Under the Regulation, "interference" only applies to projects within watercourses and wetlands.

**Interference in any way is interpreted as:**

"any anthropogenic act or instance which hinders, disrupts, degrades or impedes in any way the natural features or hydrologic functions of a wetland or watercourse" (March 2008).

The common uses of words in this interpretation are:

**Hinder** means: to delay or impede

**Disrupt** means: to interrupt or disturb (an activity or process)

**Degrade** means: lower the character or quality of

**Impede** means: delay or block the progress or action of

### 1.5.5 Health or Safety

Conservation Authorities have historically considered the health or safety of people and emergency responders in the evaluation of permits. Typically, this included the evaluation of an application under the 'tests' of flooding, erosion, dynamic beach etc. and may have included other tests that are no longer part of the CA Act (e.g., pollution, conservation of land). In addition to the current tests of: "the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock;" the province has included an additional test of "the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property;" (CA Act S. 28 (1) (a)-(b)).The latter section reflects the decision of the Court of Appeal for Ontario that confirms CAs consider health or safety and damage or destruction of property in their decisions (Gilmor v. Nottawasaga Valley Conservation Authority).

The sections below (2.5.5 - 2.5.5.2) outline some factors that address the health and/or safety of people and the potential for damage or destruction of property. These factors should also be considered relative to, and building upon, the sections of this document which speak to specific natural hazards. Currently, there is no legislative or regulatory definition or legal interpretation of the scope of ‘health’ as it relates to the *Conservation Authorities Act*.

Health may include the physical health of people such as injury and/or the potential for loss of life/fatality. Under the test of ‘health’, CAs may consider detrimental social disruption or short- and long-term mental health effects on people in the event of a natural hazard, and the potential for injury to a landowner, future landowner/occupant, or an emergency responder. The potential loss of life is more commonly considered under the ‘safety’ test but CAs may consider it under ‘health’ as well. Factors that may be considered include direct impacts (e.g., a fatality due to flooding in a basement or elevator, vehicle submerged in flood waters) or indirect factors (e.g., a fatality due to the inability for emergency responders to reach a person in a medical emergency during a natural hazard).

It is important to note that CAs rely on the best available information at the time of reviewing a permit application. This may include technical studies and plans prepared by a qualified professional and CA staff technical and policy opinions. The final decision is determined when, in the opinion of the CA, they have ‘reasonable grounds’ to approve, approve with conditions, or recommend refusal of a permit application.

#### 1.5.5.1 Consideration of Access (Ingress/Egress)

The ability for the landowner, future landowners/occupants, public and emergency operations staff (police, firefighters, ambulance, municipal flood response teams etc.) to safely access a site during an emergency, such as a flooding or erosion event, is an important factor when considering any application for development activities. A permit application must be reviewed to ensure access to the proposed development is safe and appropriate for the proposed use. The applicant shall provide to the satisfaction of the CA, studies and/or plans that demonstrate how pedestrians, vehicles, emergency responders and equipment can gain access to and from the regulated feature in the event of a natural hazard. This includes ingress/egress that meets the access standards in these circumstances: during an event, for maintenance or repair, and/or construction of new remedial works.

In the context of new development activities, the risks should be controlled by prohibiting development in potentially dangerous or inaccessible portions of the regulated feature.

For existing development, safety risks are a function of the occupancy of structures, the susceptibility of the structure and the access routes to the structure. For existing development, the following factors should be considered:

- The degree of risk with the use of the existing access;
- The ability to modify the existing private or public access or construct a new safe access;
- The ability to find and use the access during an emergency;
- The ability and willingness of the municipality to allow staff and emergency vehicles to use the access (confirmation in writing may be considered); and
- The access will be in place prior to the completion of the development activity.

The risk can also be controlled by limiting the size (and therefore limiting the occupancy) of additions or reconstruction projects. If the risk is determined to be too great, no modifications/alterations/reconstructions of existing structures should be considered.

Where applications propose development within areas that have ingress/egress issues, it is recommended that the CA work with the applicant to ensure that safe access is achieved. Where safe access is not demonstrated or is not possible based on the proposed permit application, the CA should advise the applicant and try to work with the applicant to identify alternative options (if available).

If safe access cannot be ensured to the satisfaction of the CA, consideration should be given to recommending refusal of the permit application.

The MNRF Technical Guide: River & Stream Systems: Flooding Hazard Limit (2002) and Technical Guide: River &Stream Systems: Erosion Hazard Limit (2002) include further guidance regarding access. Note: CO and CAs have identified the need for clarification and additional technical guidance from the province regarding safe access (ingress/egress).

#### 1.5.5.2 Floodproofing

The PPS provides a definition of floodproofing standard. “Floodproofing standard: means the combination of measures incorporated into the basic design and/or construction of buildings, structures, or properties to reduce or eliminate flooding hazards, wave uprush and other water related hazards along the shorelines of the Great Lakes-St. Lawrence River System and large inland lakes and flooding hazards along river, stream and small inland lake systems.”

Floodproofing includes alteration to the design of specific buildings, raising of ingress and egress roadways and driveways, the construction of dikes, flood control channels, etc. The variety of floodproofing options and requirements are too detailed and extensive to include in a policy guideline. For more guidance, CAs should consult Appendix 6: “Floodproofing” of the “Technical Guide – River and Stream Systems: Flooding Hazard Limit” (MNRF, 2002 as may be amended). It is noted that there have been advances in floodproofing methodologies since this guide was prepared. CAs may consider other technical or construction options prepared by a qualified professional.

#### 1.5.5.3 Internal Renovations

The definition of development in Ontario Regulation 41/24 includes 1. (1) (b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure".

Repairs and renovations to an existing building within the existing roofline and exterior walls and above the existing foundation within a hazard area would generally not require a permit of the CA, unless the proposal is associated with a change in use or increases the number of dwelling units (see definition of 'development activity'.) When reviewing internal renovation proposals CAs will need to consider other changes that may be associated with an internal renovation e.g., upgrades or replacement of a septic system, new openings for doors or windows etc. These additional activities may meet the definition of development activity and may be considered under the health or safety tests e.g., increase to the risk of injury or fatalities, social disruption, or result in damages from the hazard.

A CA should consider establishing limits on the size and number of proposed works.

Each CA should also incorporate into their policies the concept of assessing cumulative impacts of multiple structures or other development activities on a subject property or adjacent properties, over a period of time, as specified by the CA.

### 1.5.6 Cumulative Impacts

The CA review of permit applications and the assessment of impacts should include the potential for cumulative impacts of applications in the watershed or drainage system. Where necessary, the CA should restrict development that may, singularly or cumulatively, affect the natural hazards or impact other properties. Examples of cumulative impact are: development activities that restrict riverine channel capacities to pass flood flows or reduce storage capacity in floodplains and wetlands resulting in increased flood levels and creation of a potential danger to upstream and downstream landowners, and alterations to shorelines and watercourses to address erosion that may disrupt the channel or shoreline natural processes for erosion and deposition of material.

## 1.6 Provincial Perspective on Natural Hazards

The Ministry of Natural Resources and Forestry (MNRF) is responsible for natural hazard management in Ontario. CAs are responsible for natural hazard management as outlined in the CA Act and associated Regulations. The Province, however, continues to provide the overall direction, guidance and technical standards with respect to natural hazard management. The following is an executive summary of the Province's approach to natural hazard management in Ontario (Understanding Natural Hazards, 2001)

“Natural, physical environmental processes that occur near or at the surface of the earth can produce unexpected events of unusual magnitude or severity. Such occurrences are generally regarded as natural hazards. The outcome can be catastrophic, frequently resulting in damage to property, injury to humans and other organisms, and tragically even loss of life. In these cases, natural hazards are considered natural disasters.” (Excerpt from MNRF (2001) – p. 4)

There are two reports that provide an overview of the perspective of the Province on flooding, one of the natural hazards. In 2019 the Province released “Protecting people and property: Ontario’s flooding strategy” (Flooding Strategy). Prior to this strategy, they released a commissioned report “Ontario’s Special Advisor on Flooding Report to Government An Independent Review of the 2019 Flood Events in Ontario” which also provides an overview of the provincial perspective on flooding hazards (see Chapter 5). Although these reports are focused on flooding hazards in general, the principles may be considered for other natural hazards.

### 1.6.1 Ontario’s Flooding Strategy

The flooding strategy includes the following provincial goals, priorities and objectives. As noted above, these are focused on flooding, however they generally align with CA regulation of activities in all natural hazards. It’s important to note that CAs are focused on the hazard areas and environmental damage is limited to the scope of the CA Act and Ontario Regulation 41/24. The key areas that align well are shown using *italic font* below.

**Goals**

1. Increase public health and safety
2. *Reduce property* and environmental *damage*
3. Reduce economic losses
4. Reduce social disruption
5. Reduce public and private expenditures
6. Reduce critical infrastructure disruption

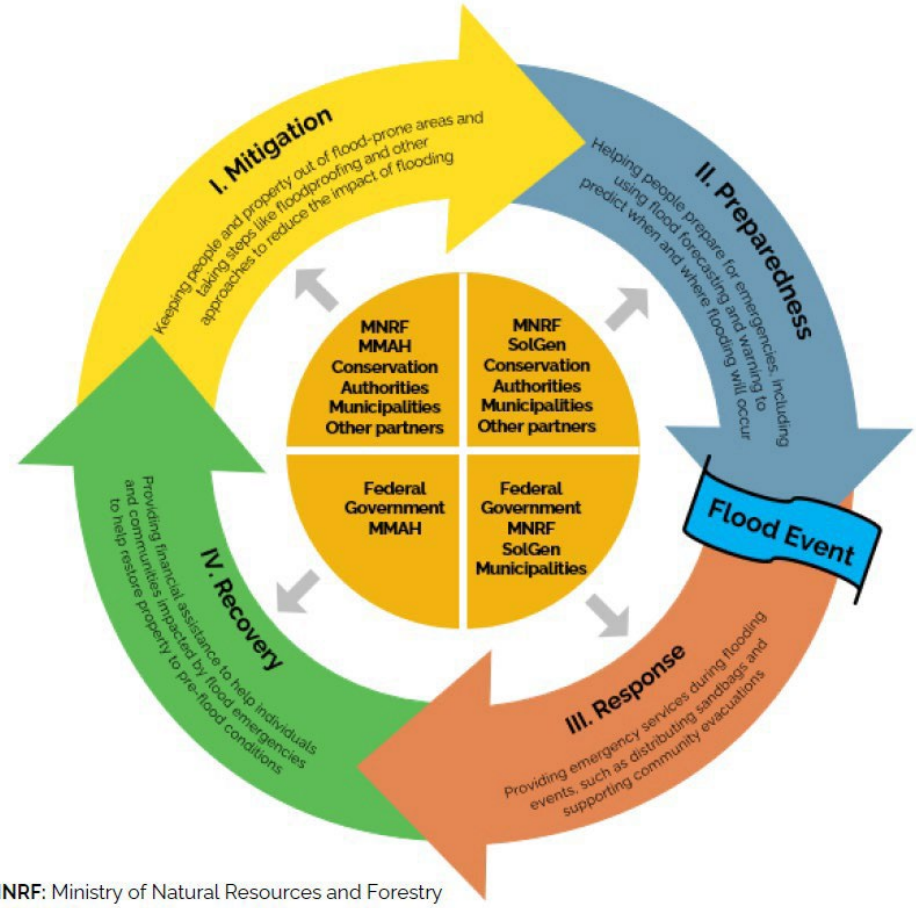
**Priorities**

1. Understand flood risks
2. Strengthen governance of flood risks
3. Enhance flood preparedness
4. Enhance flood response and recovery
5. Invest in flood risk reduction

**Objectives**

1. Keeping people and property out of high-risk areas and not creating new, or aggravating existing, flood risks;
2. Reducing the impacts of flooding on existing communities;
3. Ensuring Ontarians are aware of flood risks and are taking steps to prepare for them;
4. Ensuring efficient and effective services are in place to respond to flood-related emergencies when they occur; and
5. Ensuring Ontarians impacted by flooding can get back on their feet as soon as possible.

The Strategy also includes an info-graphic on the core components of emergency management which outlines the CA role in mitigation (page 5).




**MNRF:** Ministry of Natural Resources and Forestry
**MMAH:** Ministry of Municipal Affairs and Housing
**SolGen:** Ministry of the Solicitor General

### 1.6.2 Climate Change

The Ontario's Flooding Strategy, Priority # 2 - Strengthen Governance of Flood Risks, includes an activity to update existing (provincial) technical guidelines (see page 21). Conservation Ontario and CAs have provided input to the province that the series of technical guidelines for natural hazards should be updated, and it's anticipated any update would include information regarding the impacts of climate change and guidance on the provincial approach to address this significant issue. When the updated guidelines or bulletins are completed for each natural hazard, they will inform CA policies and technical review of permits in relation to climate change. Individual CAs may also develop policies and technical criteria for the review of a permit to address climate change considerations.

### 1.6.3 Ontario's Special Advisor on Flooding Report

Chapter 5 of the Special Advisor report outlines in more detail Ontario's approach to managing flood risk. The section below is an excerpt from this report and CA staff should review the text in the original document. Note: the original report Section numbers have been removed. An important element of this report is the inclusion of 'Prevention' in managing flood risks: This report includes the following information:

"Ontario's current approach to managing risks associated with flooding is based on the five core components of emergency management: 1) Prevention; 2) Mitigation; 3) Preparedness; 4) Response; and 5) Recovery. Management is achieved through the use of a series of provincial acts, regulations, policies and technical guides that are implemented through partnerships with a number of provincial ministries, municipalities, First Nations and conservation authorities.

The objectives with this approach are to save lives and money, protect property, public health and the environment, maintain economic stability, help assure the continuance of critical infrastructure, and reduce social disruption associated with emergencies.

**Prevention**

Prevention includes actions taken to prevent flood-related emergencies or disasters from occurring, and includes land use planning and regulatory restrictions to keep development out of the floodplains and other hazardous areas. While we cannot prevent flooding from occurring, keeping people and property out of flood-prone areas helps ensure naturally occurring flood events do not result in local emergencies.

As an overall principle for flood management, the MNRF prioritizes the use of nonstructural and land use planning measures as its preferred approach to manage flood risks. This includes the identification of hazardous areas, including floodplains. Municipalities can then plan to prohibit/limit activities, including development, in these areas. The main legislative tools used to

support this approach include the *Planning Act* together with the Provincial Policy Statement and the *Conservation Authorities Act*.

**Mitigation**

Mitigation includes actions taken to reduce the effects of flooding, and includes the use of structural measures and floodproofing standards to protect development. Structural measures can include dams, dikes, channels, diversions and other flood control works. Floodproofing standards can include a combination of measures incorporated into the basic design and/or construction of buildings, structures or properties to reduce or eliminate flooding hazards, wave uprush and other water-related hazards. Examples include constructing the lowest occupancy floor of dwellings, water shut off and electrical control panel above the design flood level and having water resistant electrical systems.

**Preparedness**

Preparedness includes the use of flood forecasting and warning to assess the potential for flooding, predict when and where flooding will occur, and help ensure an effective response (e.g. any required evacuations or mitigative activities).

The Province conducts flood forecasting and warning via the MNRF's Surface Water Monitoring Centre, which monitors weather, rainfall and stream flows, and provides advisories and a suite of products and tools (e.g., weather panels, snow survey reports) to conservation authorities (CAs), municipalities and MNRF district offices on flood potential. The monitoring of flood conditions occurs seven days a week, and the Province is able to contact CAs and other stakeholders immediately with updates.

Local scale flood forecasting and warning is provided by MNRF district offices and conservation authorities. Many of the CAs conduct more detailed flood forecasting and warning for their respective jurisdictions.

**Response**

Response includes actions taken to respond to flood emergency, such as the use of emergency services (e.g. providing sandbags, community evacuations, etc.) to protect people and property during flood events. Response can also include training for emergency response staff and meeting with stakeholders/partners to ensure an effective response. It also includes providing logistical support and social and health services.

The Emergency Management and Civil Protection Act (EMCPA) establishes Ontario's legal basis and framework for managing emergencies (see Section 5.2.4)[2]. It does this by defining the authority, responsibilities and safeguards accorded to provincial ministries, municipalities and specific individual appointments, such as the Commissioner of Emergency Management

**Recovery**

Recovery includes actions taken to recover from a flood emergency, such as the use of disaster financial assistance to restore property to pre-flood conditions.

Provincially, financial assistance is delivered through two programs—the Disaster Recovery Assistance for Ontarians (DRAO) program for homeowners, tenants, small owner-operator businesses and farms, and not-for-profit organizations; and the Municipal Disaster Recovery Assistance (MDRA) program for municipalities. These programs provide funds for eligible expenses following a natural disaster to help Ontarians and municipalities recover from extraordinary costs. …"

**Acts, Regulations, Policies and Technical Guides**

"Ontario's preventative approach of directing development away from floodplains and other hazardous areas is highly effective in preventing property damage." Property damage associated with the same storm event are often exponentially lower in Ontario than they are in Great Lakes states, with the differences in losses primarily attributed to differences in floodplain management policies and approaches.

Provincial policies have been shown to reduce capital and operating costs associated with managing flooding and other natural hazards, reducing pressure on provincial and municipal infrastructure debts. The existing policies have been estimated to reduce costs associated with ongoing flood and natural hazard management, including costs associated with the operation and maintenance of flood and erosion control infrastructure by 20 to 80% depending on differences in urban density and property values.

These policies have been credited with keeping losses associated with flooding in Ontario lower than losses seen in other Canadian provinces. Responsibility for keeping development out of floodplains is a shared responsibility between municipalities (enforced through municipal planning) and Conservation Authorities (enforced through the CA Act and regulations made under ss. 40(4) of the CA Act).

---

[2] Section 5.2.4 of the Ontario's Special Advisor on Flooding Report

These policies will be increasingly valuable in protecting Ontarians from flooding and other natural hazards. Losses associated with flooding and other natural hazards continue to increase because of increasing property values and income levels, urbanization, ongoing loss of wetlands and other green infrastructure, and the increasing frequency and intensity of extreme rainfall events. As these losses rise, so does the value of Ontario's floodplain and broader hazard management policies. …"

"These [CA] regulations are a critical component of Ontario's broader natural hazard management framework and are designed to achieve the following policy objectives:

- Preventing loss of life, minimizing property damage and social disruption;
- Reducing public and private expenditure for emergency operation, evacuation, restoration and protection measures;
- Regulating development which, singularly or collectively, impact upon existing flood levels, and increasing potential risks to upstream and downstream landowners;
- Control interference with natural storage areas such as wetlands;
- Conserving land through the control of development on existing or potentially unstable valley slopes or shoreline bluffs; and
- Controlling development impacts as they relate to pollution (including erosion & sedimentation) or other degradation of existing and water resources, including groundwater."

The provincial natural hazards technical guides available on the Conservation Ontario Section 28 program webpage includes, but is not limited to, the following documents:

a) Understanding Natural Hazards (2001), which provides the planning concepts to address natural hazards.
b) Technical Guide – River & Stream Systems: Flooding Hazard Limit (2002), which documents standardized approaches to manage flood susceptible lands across the province. It outlines the three flood event standards used in Ontario and outlines hydrologic and hydraulic work needed to conduct floodplain analysis and delineate flood-prone areas.
c) Procedures for Approval of New Special Policy Areas (SPAs) and Modifications to Existing SPAs Under the Provincial Policy Statement, 2005 (PPS, 2005), Policy 3.1.3 – Natural Hazards – Special Policy Areas. The procedural document that supersedes and replaces the information in Part B of Appendix 5 of the Technical Guide – River & Streams: Flooding Hazard Limit (2002).
d) Technical Guide – River & Stream Systems: Erosion Hazard Limit (2002) which has the purpose of providing a consistent and standardized procedure for the identification and management of riverine erosion hazards in Ontario.
e) Great Lakes-St. Lawrence River Shorelines: Flooding, Erosion and Dynamic Beaches (2001), which focuses on documenting standardized approaches to shoreline

management and land use planning and management to address shoreline flooding, erosion and dynamic beaches, with a focus on the need to better understand the system, particularly its formation, evolution and potential impacts.

f) Technical Guide for Large Inland Lakes Shorelines: Flooding, Erosion and Dynamic Beaches (1996), which addresses effective shoreline management and land use management approach for addressing shoreline natural hazards.
g) Hazardous Sites – Technical Guide (1996), which provides technical support in identifying areas of unstable soils, including sensitive marine clays and organic soils as well as unstable bedrock, including karst bedrock.

## 1.7 Principles of Natural Hazard Management

The guiding principles behind management of natural hazards that CAs are responsible for are:

- Proper natural hazard management requires that natural hazards (flooding, erosion, leda clay, organic soils, karst bedrock, dynamic beaches) be simultaneously recognized and addressed in a manner that is integrated with land use planning and acknowledges other approval mechanisms that address environmental and ecosystem integrity;
- Effective floodplain management can only occur on a watershed and littoral reach basis with due consideration given to cumulative development impacts;
- Local conditions vary along floodplains and shorelines including depth, velocity, littoral drift, seiche, fetch, accretion, deposition, valleyland characteristics etc. and accordingly must be taken into account in the planning and management of natural hazards;
- New development activity which is susceptible to natural hazards or which will cause or aggravate the hazards to existing and approved land uses or which will cause adverse impacts must not be permitted to occur unless the natural hazard impacts have been addressed; and
- Natural hazard management and land use planning are distinct yet related activities that require overall co-ordination on the part of Municipalities, CAs, the Ministry of Natural Resources and Forestry and the Ministry of Municipal Affairs and Housing.

# 2.0 ONTARIO REGULATION 41/24 – CONTENT

Ontario Regulation 41/24 provides additional legal definitions, description of some natural hazard limits, requirements for the CA administration of the regulation, guidance and policy document. The headings of the Regulation are noted below. Descriptions and policy guidance for the prohibited activities are included in later sections of this document. The administration sections are described with some policy guidance for CAs in Section 3.0.

- Definitions for the purposes of Section 28 – See Sections 1.5, 3.3, 4.3, 9.0
- Prohibited Activities – See 2.1
- Flood Event Standards – See 2.2
- Maps of Regulated Areas – see 2.3
- Exceptions – See 2.5
- Pre-submission Consultation – See 2.6
- Request for Review – See 2.7
- Application for Permit – See 2.8
- Conditions of Permits – See 2.9
- Lake Simcoe Protection requirements – See 2.10
- Period of Validity of Permits and Extensions – See 2.11
- Guidance and Policy Documents re Permits – See 2.12

## 2.1 Prohibited Activities

The CA Act prescribes areas and activities that are prohibited e.g., activities and interference provisions: activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland; and development activities in areas that are within the authority's area of jurisdiction and are hazardous lands and wetlands.

The Regulation prescribes in more detail the areas where development is prohibited in or adjacent to river or stream valleys, adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to inland lakes, and areas within 30 metres of a wetland. These references in the Regulation are included below.

### 2.1.1 River or Stream Valleys

See Section 3.0 of this document for policy guidance on River or Stream Valleys. Ontario Regulation 41/24 includes the legal description of the river or stream valley. The regulation states:

> **2.** (1) For the purposes of subparagraph 2 iii of subsection 28 (1) of the Act, river or stream valleys include river or stream valleys that have depressional features associated with a river

or stream, whether or not they contain a watercourse, the limits of which are determined as follows:

1. Where the river or stream valley is apparent and has stable slopes, the valley extends from the stable top of bank, plus 15 metres, to a similar point on the opposite side,
2. Where the river or stream valley is apparent and has unstable slopes, the valley extends from the predicted long term stable slope projected from the existing stable slope or, if the toe of the slope is unstable, from the predicted location of the toe of the slope as a result of stream erosion over a projected 100-year period, plus 15 metres, to a similar point on the opposite side,
3. Where the river or stream valley is not apparent, the valley extends,

    (i) to the furthest of the following distances:

    A. the distance from a point outside the edge of the maximum extent of the flood plain under the applicable flood event standard to a similar point on the opposite side; and
    B. the distance from the predicted meander belt of a watercourse, expanded as required to convey the flood flows under the applicable flood event standard to a similar point on the opposite side; and

    (ii) an allowance of 15 metres on each side, except in areas under the jurisdiction of the Niagara Peninsula Conservation Authority.

### 2.1.2 Great Lakes-St. Lawrence River Shorelines and Inland Lakes

See Section 4.0 of this document for policy guidance on the Great Lakes-St. Lawrence River Shorelines and Inland Lake. Ontario Regulation 41/24 includes the legal description for these natural hazards. The regulation states:

**2.** (2) For the purposes of subparagraph 2 iv of subsection 28 (1) of the Act, areas adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to inland lakes that may be affected by flooding, erosion or dynamic beaches include,

(a) the area starting from the furthest offshore extent of the Authority's boundary to the furthest of the following distances:

(i) the 100-year flood level, plus the appropriate allowance for wave uprush, and, if necessary, for other water-related hazards, including ship generated waves, ice piling and ice jamming;

(ii) the predicted long term stable slope projected from the existing stable toe of the slope or from the predicted location of the toe of the slope as that location may have shifted as a result of shoreline erosion over a 100-year period; and

(iii) where a dynamic beach is associated with the waterfront lands, an allowance of 30 metres inland to accommodate dynamic beach movement; and

(b) the area that is an additional 15 metres allowance inland from the area described in clause (a).

### 2.1.3 Areas within 30 Metres of a Wetland

See Section 8.0 of this document for policy guidance on wetlands and adjacent lands. Ontario Regulation 41/24 includes the definition of a wetland and the legal description for the regulated 'other area' within 30m of a wetland. The regulation states:

**2.** (3) For the purposes of subparagraph 28(1) 2.v. of the Act, no person shall carry out development activities in areas that are within an authority's area of jurisdiction and are within 30 metres of a wetland.

Sections 4.0 - 8.0 in this document outline policy guidance for the regulated areas noted above.

## 2.2 Flood Event Standards

The Regulation defines the flood standards that shall be used by CAs in Ontario. The flood standards are specific to each CA and include rivers and streams as well as lakes e.g., Hurricane Hazel, 100-year flood event standard, Timmins flood event, 100 year flood level plus wave uprush etc. The regulation states:

**3.** The applicable flood event standards with respect to an authority, for the purposes of paragraph 3 of subsection 2 (1) and to determine the maximum susceptibility to flooding of lands or areas in the area of jurisdiction of an authority are the standards specified in Schedule 1

CA policies shall include the applicable flood event standard(s) for their area of jurisdiction.

## 2.3 Maps of Regulated Areas

The Regulation includes the following CA mapping requirements and it outlines the hierarchy of the CA Act and Regulation text vs mapping. The regulation states:

**4.** (1) An authority shall develop maps depicting the regulated areas within the authority's area of jurisdiction where development is prohibited under paragraph 2 of subsection 28 (1) of the Act which shall be filed at the head office of the authority and made available to the public on the authority's website, and by any other means that the authority considers advisable.

(2) At least once annually, the authority shall,

(a) review the maps referred to in subsection (1) and determine if updates to the maps are required;
(b) make and file such updates to the maps at its head office if required; and
(c) make the updated maps available to the public on its website and by any other means it considers advisable.

(3) Where new information or analysis becomes available that may result in significant updates to the areas where development activities are prohibited under paragraph 2 of subsection 28 (1) of the Act, including enlargements or reductions to such areas, the authority shall ensure that stakeholders, municipalities and the public are notified of the proposed changes in any manner that the authority considers advisable, including making any relevant information or studies available online at least 30 days prior to an authority meeting during which the proposed changes are on the agenda.

(4) Where significant changes to the areas where development activities are prohibited have been made in accordance with subsection (3), the authority shall promptly update the maps described in subsection (1).

### 2.3.1 Regulation Text Prevails Over Mapping

CAs will develop maps for regulated areas where information exists. Where further information is obtained it's important to note that it is not necessary to map a feature before it can be regulated as noted in subclause 4. (5) below. The legal basis for defining regulated areas remains with the written text in the legislation. While the CA Regulation refers to maps which approximate regulation limits (and may be subject to revision), the text of the Regulation prevails. The Guidelines for Developing Schedules of Regulated Areas (MNRF and CO, 2005) identify the guidance for the preparation of maps, however some sections of this guideline will require updates to reflect the current legislation. In addition, there is CO guidance on amending CA mapping (Procedure for Updating CA Maps of Regulated Areas, 2024). A complete application including detailed studies

requested at the time of an application may further refine or delineate the regulated features (e.g., hazardous lands).

> 4 (5) For greater certainty, in case of a conflict regarding the boundaries of the areas where development is prohibited under paragraph 2 of subsection 28 (1) of the Act (see 28(1) 1 and 2), the description of those areas in that paragraph and in section 2 of this Regulation prevail over the depiction of the areas in the maps referred to in subsection (1) of this section.

## 2.4 Exceptions

The Regulation outlines specific activities that do not require permission from a CA provided the activity meets the requirements included in this section of the Regulation. CAs shall include these exceptions in their policies. Many CAs current policies also include other exceptions that have been approved by the CA Board. Where CAs allow specific exceptions, these should be included in CA policies. The regulation states:

**5.** Paragraph 2 of subsection 28 (1) of the Act does not apply to,

(a) the construction, reconstruction, erection or placement of,

(i) a seasonal or floating dock that,

(A) is 10 square metres or less;

(B) does not require permanent support structures; and

(C) can be removed in the event of flooding

(ii) a rail, chain-link or paneled fence with a minimum of 75 millimetres of width between panels, that is not within a wetland or watercourse;

(iii) agricultural in-field erosion control structures that are not within and that do not have any outlet of water directed or connected to a watercourse, wetland or river or stream valley;

(iv) a non-habitable accessory building or structure that,

(A) is incidental or subordinate to the principal building or structure,

(B) is 15 square metres or less, and

(C) is not within a wetland or watercourse, or,

(v) an unenclosed detached deck or patio that is 15 square metres or less, is not placed within a watercourse or wetland and does not utilize any method of cantilevering;

(b) the installation, maintenance or repair of tile drains that are not within a wetland or watercourse, within 30 metres of a wetland or within 15 metres of a watercourse, and that have an outlet of water that is not directed or connected to a watercourse, wetland or river or stream valley;

(c) the installation, maintenance or repair of a pond for watering livestock that is not connected to or within a watercourse or wetland, and where no excavated material is deposited within an area where subsection 28 (1) of the Act applies

(d) the maintenance or repair of a driveway or private lane that is outside of a wetland or the maintenance or repair of a public road, provided that the driveway or road is not extended or widened and the elevation, bedding materials and existing culverts are not altered;

(e) the maintenance or repair of municipal drains as described in, and conducted in accordance with the mitigation requirements set out in the *Drainage Act* and the *Conservation Authorities Act* Protocol approved by the Minister and available on a government of Ontario website, as it may be amended from time to time; and

(f) the reconstruction of a non-habitable garage with no basement, if the reconstruction does not exceed the existing footprint of the garage and does not allow for a change in the potential use of the garage to create a habitable space.

## 2.5 Pre-Submission Consultation

The Regulation includes minimum requirements for CAs regarding the pre-submission requirements and process for a permit application. It is recommended that the following regulation text be included in the CA policies.

**6.** (1) Prior to submitting an application for a permit under section 28.1 of the Act, the authority and the applicant may engage in pre-submission consultation for the purposes of confirming the requirements of a complete application to obtain a permit for the activity in question, which may include,

(a) requests by the authority to the applicant for,

(i) initial information on the proposed activity such as a description of the project and any associated plans; or

(ii) details about the property upon which the activities are proposed to be carried out, including copies of plans, maps or surveys; or

(b) meetings between the authority and the applicant prior to the submission of an application, including any site visits to the property where the activities are proposed to be carried out.

(2) If the applicant requests a pre-submission consultation under subsection (1), the authority is required to engage in the pre-submission consultation.

CAs may have policies or guidelines that identify additional CA requirements e.g., plans, technical studies that may be necessary for the CA to conduct a review of the application and the process the CA will follow for pre-submission consultation.

Conservation Ontario has developed guidelines that may be used as a template by CAs to update or develop their individual CA guidelines These are available on the Conservation Ontario website Guideline for Conservation Authority Pre-Consultation (Planning and Permitting Applications).

## 2.6 Application for Permit (*Complete Application*)

CAs are committed to streamlining the review of CA Act permits. The submission of a complete application is a critical component for the CA to review an application and provide timely feedback and approvals (where appropriate).

The regulation outlines the minimum requirements for an application. CA policies may include additional requirements for a complete application. The Regulation requirements shall be included in individual CA policies and CAs are strongly encouraged to update or develop board approved policies or guidelines for complete application requirements.

The CA is responsible for determining when an application is deemed complete, and this determination initiates the timelines and appeal processes as outlined in the CA Act. Therefore, clear and detailed policies or guidelines are critical technical and communication tools for CAs and applicants.

Conservation Ontario has developed guidelines that may be used as a template by CAs to update or develop their individual CA pre-submission, pre-consultation, and complete application guidelines. These are available on the Conservation Ontario website in the Program Area for s. 28.

MNRF technical guidelines referenced in this document were developed prior to the 2006 regulation, with limited updates. Some CAs have prepared technical guidelines that include modernized requirements and references to current technology. In addition, the CO members website includes some guidelines such as the "Hydrogeological Assessment Submissions Conservation Authority Guidelines for Development Activity Applications" (2013) that may provide some information for the assessment of a satisfactory assessment for interference with a wetland or watercourse.

The minimum requirements for a complete application as outlined in the Regulation includes content of the application and specific timelines for notifications to the applicant.

**7.** (1) An application for a permit under section 28.1 of the Act shall be submitted to the authority and shall include,

(a) a plan of the area showing the type and location of the proposed development activity or a plan of the area showing plan view and cross-section details of an activity to straighten, change, divert or interfere with the existing channel of a river, creek, stream watercourse, or change or interfere with a wetland;

(b) the proposed use of any buildings and structures following completion of the development activity or a statement of the purpose of an activity to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse or to change or interfere with a wetland;

(c) the start and completion dates of the development activity or other activity;

(d) a description of the methods to be used in carrying out an activity to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse, or change or interfere with a wetland;

(e) the elevations of existing buildings, if any, and grades and the proposed elevations of any buildings and grades after the development activity or other activity;

(f) drainage details before and after the development activity or other activity;

(g) a complete description of any type of fill proposed to be placed or dumped;

(h) a confirmation of authorization for the proposed development activity or other activity given by the owner of the subject property, if the applicant is not the owner; and

(i) any other technical information, studies or plans that the authority requests including information requested during pre-submission consultations between the authority and the applicant.

(2) Upon receipt of the information required under subsection (1) and payment by the applicant of the fee charged by the authority under subsection 21.2 (4) of the Act, the authority shall notify the applicant in writing, within 21 days, whether or not the application complies with subsection 28.1 (3) of the Act and is deemed to be a complete application..

Section 2.12 of this document provides guidance related to CA fees.

(3) If the authority notifies an applicant under subsection (2) that the application is complete, the authority shall not require new studies, technical information or plans under clause (1) (i) from the applicant to make a determination on the application, unless agreed to by the authority and the applicant. For greater certainty, the authority may ask the applicant for clarification or further details regarding any matter related to the application.

The determination and communication of a complete application **starts the timeline** for the CA decision on the application and any appeals that may be considered by the applicant. It is common that the process for reviewing an application and applicable studies and plans is an iterative process between the applicant and the CA. This process includes the need to clarify technical information, address any information that may be missing in the submission, correction of errors etc. The CA may consider conducting a site visit as part of the pre-submission requirements to ensure that all natural hazards are identified on the site.

## 2.7 Request for Review

Conservation Authority policies shall include the minimum requirements and timelines outlined in the regulation for an applicant-driven request for a review of their application and the determination of a complete or incomplete application. It is recommended that the CAs develop guidelines that outline the steps associated with this type of review e.g., who will be involved in the review at the CA, timelines for the review, and any further information that may be beneficial in communicating how the final determination of a complete application will be made. Should the request for review be undertaken by anyone other than the Board, a resolution to delegate the power should occur prior to a request for review taking place.

CA policies or guidelines for a complete application are an important component of ensuring the appropriate plans and studies are submitted which includes satisfactory technical information and analysis completed by a qualified professional where appropriate. To ensure applicants are aware of the technical requirements for an application it is recommended that CAs update or develop current technical guidelines for studies and plans related to the Regulation.

The regulation is clear that the information identified in the pre-submission process and complete application is required before the applicant may be notified that the application for a permit can be deemed complete. The regulation also provides the following process if the applicant is seeking a review of the ‘complete application’ content or process.

**8.** (1) An applicant may request a review by the authority if,

(a) the applicant has not received a notice from the authority within 21 days in accordance with subsection 7 (2);

(b) the applicant disagrees with the authority's determination that the application for a permit is incomplete; or

(c) the applicant is of the view that a request by the authority for other information, studies or plans under clause 7 (1) (i) is not reasonable.

(2) A review requested by an applicant under subsection (1) shall be completed by the authority no later than 30 days after it is requested and shall, as the case may be,

(a) confirm that the application meets the requirements of subsection 7 (1) and is complete or provide reasons why the application is incomplete; or
(b) provide reasons why a request for other information, studies or plans under clause 7 (1) (i) is reasonable or withdraw the request for all or some of the information, studies or plans.

## 2.8 Conditions of Permits

CAs may apply conditions of approval to a permit. These conditions must be completed to the satisfaction of the CA. Generally, the decision to issue permits under Section 28.1 of the *Conservation Authorities Act* is based on several considerations, including: the Act and the accompanying regulations, the proposed works (activities and timing), current site conditions and alignment with current applicable Board-approved policies or guidelines.

The regulation includes the following requirements for conditions that are requirements of a permit from the CA:

**9.** (1) An authority may attach conditions on a permit issued under section 28.1 only if, in the opinion of the authority, the conditions,

(a) assist in preventing or mitigating any effects on the control of flooding, erosion, dynamic beaches or unstable soil or bedrock;

(b) assist in preventing or mitigating any effects on human health or safety or any damage or destruction of property in the event of a natural hazard; or

(c) support the administration or implementation of the permit, including conditions related to reporting and notification, monitoring and compliance with the permit.

(2) In addition to the conditions referred to in subsection (1), the Lake Simcoe Region Conservation Authority may attach conditions to a permit that relate to designated policies and other policies in the Lake Simcoe Protection Plan that apply to the issuance of the permit.

An example of a condition that mitigates the effect of development, alteration or interference would include the installation and maintenance of erosion and sediment control under the test of erosion (e.g., surface erosion during site preparation activities removal of vegetation, pre-grading, and construction, etc.).

## ~~2.9 Lake Simcoe Protection requirements~~

~~Lake Simcoe Region Conservation Authority has legislated responsibilities under the *Lake Simcoe Protection Act*. This legislation requires any decision made under S 28 to conform to this Act for designated policies and have regard for any other policies. The Regulation includes:~~

> ~~**10.** For the purpose of clause 28.1 (1) (c) of the Act, a decision by the Lake Simcoe Region Conservation Authority to issue a permit shall,~~
>
> ~~(a) conform with any designated policies in the Lake Simcoe Protection Plan that apply to the issuance of the permit; and~~
>
> ~~(b) have regard to any other policies in the Lake Simcoe Protection Plan that apply to the issuance of the permit.~~

## 2.10 Period of Validity of Permits and Extensions

Further to Section 28.2 of the CA Act, the Regulation defines the maximum validity period for a permit including any extension. CA policies shall include this information. CAs may outline in individual CA policies or guidelines the period of validity that a CA may use that is appropriate for the proposed activity. Many activities can be completed within one to two years. In limited circumstances a permit may be valid for a longer period (up to 60 months (five years)). In considering a period of validity, the CA may consider criteria such as:

- complexity of the project e.g., large-scale public infrastructure,
- consideration for limited construction windows due to other agency seasonal criteria, multiple agencies permits, etc.

As outlined in the regulation an applicant may request an extension to the date the permit is valid. CAs should develop policies or guidelines for the extension of a permit and criteria that will be considered such as:

- no material changes to the permit activities or plans in the opinion of the CA,
- ongoing activities are in compliance with the original approval or will be brought into compliance within the requested extension period, and
- the proposed activities are still consistent with the CA Board approved policies etc.

The regulation includes:

**11.** (1) The maximum period of validity of a permit issued under sections 28.1, 28.1.1 and 28.1.2 of the Act, including any extension, is 60 months.

(2) If a permit is issued for less than the maximum period of validity, the holder of a permit may, at least 60 days before the expiry of the permit, submit an application for an extension of the permit to,

(a) the authority that issued the permit, in the case of permits issued under section 28.1 or 28.1.2 of the Act; or

(b) the Minister, in the case of permits issued under section 28.1.1 of the Act.

(3) An authority or the Minister, as the case may be, may approve an extension of the period of validity of a permit that was issued for a period of less than 60 months but the total period of validity of the permit, including the extension, shall not exceed 60 months.

(4) If an authority intends to refuse a request for an extension, the authority shall give notice of intent to refuse to the holder of the permit, indicating that the extension will be refused unless the holder requests a hearing under subsection (5).

(5) Within 15 days of receiving a notice of intent to refuse a request for an extension, the holder of the permit may submit a written request for a hearing to the authority.

(6) If a request for hearing is submitted under subsection (5), the authority shall hold the hearing within a reasonable time, and shall give the holder at least five days notice of the date of the hearing.

(7) After holding a hearing under subsection (6), the authority may,

(a) confirm the refusal of the extension; or

(b) grant an extension for such period of time as it deems appropriate, as long as the total period of validity of the permit does not exceed the applicable maximum period specified in subsection (1).

## 2.11 Policy and Procedure Documents re permits

The Regulation outlines the requirement for policy, process and timelines for inclusion in CA Permitting guidance/policies and some guidance has been provided in the sections above.

The Regulation outlines the following requirements for Permitting guidance/policies:

**12.** Each authority shall develop policy and procedure documents with respect to permit applications and reviews that, at a minimum, include the following

1. Additional details regarding the pre-submission consultation process described in section 6 as well as additional details related to complete permit application requirements.

2. Procedures respecting the process for a review under section 8.;

3. Standard timelines for the authority to make a decision on permit applications following a notification that an application is complete under subsection 7 (2), as the authority determines advisable.

4. Policies and procedures as the authority considers advisable for the purpose of administering the issuance of permits under Part VI of the Act.

5. A process for the periodic review and updating of the authority's guidance and policy documents, including procedures for consulting with stakeholders and the public during the review and update process, as the authority considers advisable.

See also Application for Permit 2.6

Further s. 12. pp 3. CAs have already established review timelines for minor and major applications in accordance with the CO document Annual Reporting on Timelines Template – For Permissions under s. 28 of the CAA that is available on the members section of the CO website. CAs may consider formalizing these timelines or develop individual CA timelines that consider the volume of applications, CA resources, geographic scope of the jurisdiction of the CA etc.

This CO document states "CAs are committed to meeting timelines for development applications, and meeting service standards. The key steps that form the cornerstone of an efficient and effective CA review process are provided in **Table 2** below.

**Table 2: Steps to an Efficient and Effective Conservation Authority Review Process**

| | Section 28.1 Permit Application |
|---|---|
| Pre-consultation | Pre-consultation with the applicant |
| Application circulation/submission | Complete submission of the permit application, including the necessary technical reports. |
| Quality of submission | Good-quality applications including submission of all components, such as technical studies, requested during pre-consultation. |

An overarching best practice is preparing a schedule, and taking a project management approach where all parties commit to meeting the schedule."

CAs are also required to establish a process to prepare or update policy and guideline documents and the public consultation process that will be used. At this time, there is not a CO guide for this process.

## 2.12 Permit Application Fees

Section 21.2 Fees for Programs and Services and s. 21.3 Minister's direction re fee changes apply to S. 28 permissions. Section 21.2 of the Conservation Authorities Act sets out that every Conservation Authority shall prepare and adopt both a written fee policy and fee schedule with respect to the fees that it charges for the programs and services including S. 28 permits. Both the Fee Policy and Fee Schedule are intended to increase transparency and accountability surrounding the establishment and charging of CA fees. Section 21.2 (enacted January 1, 2023) requires all CAs to have a fee policy and fee schedule approved by the CA Board of Directors.

> **Note:** On December 28, 2022 the Minister of Natural Resources and Forestry issued a Minister's Direction to Not Change Fees ("Minister's Direction") for 2023, which applies to fees related to reviewing and commenting on planning and development related proposals, applications, or for CA permits. This Minister's Direction was extended into 2024.

For guidance on permit fees, CAs may refer to the Conservation Ontario Guidance on CA Fee Policies and Fee Schedules (Feb. 27, 2023 or as amended from time to time). It is a best practice that CAs post their current fees on their website.

Effective April, 1, 2024, s.21.2 (13)-(21) was enacted, which allows for the reconsideration of fees for permit applications. Conservation Authorities should develop procedures for the reconsideration of fees for permit applications.

## 2.13 Emergency Works

The *Emergency Management and Civil Protection Act* defines an **emergency** as "a situation or an impending situation that constitutes a danger of major proportions that could result in serious harm to persons or substantial damage to property and that is caused by the forces of nature…an accident or an act whether intentional or otherwise". From a Section 28.1 perspective, this typically refers to unexpected and/or imminent (immediate) situation(s) that might jeopardize the health or safety of persons or result in injury or loss of life, or damage or destruction of property.

It is acknowledged that all Conservation Authorities will work with applicants to expedite emergency approvals. Depending upon the severity of the situation, this interim approval could be done by electronic communications e.g., email.

CAs should develop an “emergency works” protocol for Section 28 permits. CAs are encouraged to include the following:

- The requirements for emergency applications will be determined on a site specific basis by the local Conservation Authority, with input from the applicant, based on:
    - the level of risk associated with the natural hazard,
    - the nature and extent of the threat(s) to the safety of people and property,
    - the effectiveness,
    - cost and longevity of available solutions, and
    - the timeliness with which the applicant can carry out the emergency works;
- Decisions will be based on best available science, applicable provincial standards, and professional judgment;
- All solutions will be designed such that they do not compromise public safety or increase the risk of the hazard on the applicant site or neighbouring sites;
- Consistency with other provincial guidance for Conservation Authorities will be maintained, including the *Drainage Act and Conservation Authorities Act Protocol* *that states “[Exceptions from the general mitigation requirements (emergency measures) should occur only in situations on a municipal drain that demand the immediate attention of the municipality. Examples include the structural failure or complete collapse of a crossing on a* drain or the flooding of property caused by the blockage of a municipal drain. In situations where emergency measures are undertaken by the municipality, the drainage superintendent should notify the appropriate CA as soon as is practical”;
- CA staff will work collaboratively with the applicant and seek to find the best solution to the issue;
- A statement regarding how the Conservation Authority will process approvals;
- The onus is placed on the applicant to contact all other required approval authorities (e.g., the Municipality, the Ontario Ministry of Natural Resources and Forestry, and Fisheries and Oceans Canada) to proceed with the necessary reviews and legislative approvals;
- Emergency applications are not a substitute for the regular permit process, particularly as it relates to routine maintenance; and
- For municipal infrastructure, if the Municipality deems that there is the potential for immediate loss of life or property, the Municipality should initiate necessary works to make the site safe and contact the Conservation Authority as soon as reasonably possible.

An example of an emergency works protocol is included in the CO Guidance Issuance of “Emergency Works” Section 28 Permissions (see Appendix A – April 2020 as may be amended). This CO document could be considered for adaptation and adoption in CA policies.

## 2.14 Compliance - Issuance of Permit after Work has Commenced

This document provides an overview of the legislation and policy guidance for s. 28.1 permit applications. Section 30.1 of the CA Act outlines the compliance requirements for s. 28 permits. CAs should develop compliance policies (see the Conservation Ontario Conservation Authority Regulatory Compliance Guidelines: Sample Policies and Procedures (2011) for an example) as well as procedures to address applications that are submitted after work has commenced. There is some guidance regarding the Issuance of s. 28 Permits after Work has Commenced (2020) however CAs are strongly encouraged to seek legal counsel in these circumstances.

# PART 2

# CONSERVATION AUTHORITY POLICY GUIDANCE FOR NATURAL HAZARDS

# 3.0 RIVER OR STREAM VALLEYS

The current legislative structure embeds requirements for administration of s. 28 in both the CA Act and Ontario Regulation 41/24. CA staff and legal counsel must refer to both pieces of legislation to make decisions and develop policies and guidelines related to s. 28.1 permit applications.

## 3.1 Conservation Authorities Act

The CA Act contains the following sections dealing with river or stream valleys:

**Activities prohibited (Prohibited activities re watercourses, wetlands, etc.)**

**"28** (1) No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority: …

2. Development activities in areas that are within the authority's area of jurisdiction and are, …

iii. river or stream valleys the limits of which shall be determined in accordance with the regulations, …"

**Permits**

**28.1** (1) An Authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by s. 28, if, in the opinion of the authority,

a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and
b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; …

The permit shall be given in writing, with or without conditions.

## 3.2 Ontario Regulation 41/24

The following section identifies how the extent of river or stream valleys are determined for the purpose of administering the Regulation. Inland lakes that do not meet the definition of "large inland lake" (i.e., waterbody that has a surface area equal to or greater than 100 square kilometres where there is no measurable or predictable response to a single runoff event) should be treated in a manner similar to a river or stream valley. The CA Regulation contains the following sections dealing with river or stream valleys.

**Prohibited activities, subparagraph 2 of ss. 28 (1) of the Act**

**2.** (1) For the purposes of subparagraph 2 iii of subsection 28 (1) of the Act, river or stream valleys include river or stream valleys that have depressional features associated with a river or stream, whether or not they contain a watercourse, the limits are determined as follows:

1. where the river or stream valley is apparent and has stable slopes, the valley extends from the stable top of bank, plus 15 metres, to a similar point on the opposite side,
2. where the river or stream valley is apparent and has unstable slopes, the valley extends from the predicted long term stable slope projected from the existing stable slope or, if the toe of the slope is unstable, from the predicted location of the toe of the slope as a result of stream erosion over a projected 100-year period, plus 15 metres, to a similar point on the opposite side,
3. Where the river or stream valley is not apparent, the valley extends,

    (i) to the furthest of the following distances:

    A. the distance from a point outside the edge of the maximum extent of the flood plain under the applicable flood event standard to a similar point on the opposite side; and
    B. the distance from the predicted meander belt of a watercourse, expanded as required to convey the flood flows under the applicable flood event standard to a similar point on the opposite side; and

    (ii) an allowance of 15 metres on each side.

**Permits**

The Authority may grant a permit for development activity in or on a river or stream valley subject to the tests or criteria in the CA Act. The permit from the Authority shall be given in writing, with or without conditions.

## 3.3 Additional Definitions

The following section outlines additional definitions to those provided in Section 1.5 and Section 8.0 of this document.

To define the Regulation Limits for river and stream valleys, it is important to understand the landforms through which they flow. While there are many different types of systems, the application of the Regulation Limit for rivers and stream systems is based on two simplified landforms, as explained in the Technical Guides for River and Stream Systems (MNRF, 2002a; and MNRF, 2002b):

**“Apparent[3] (confined) river and stream valleys**: are ones in which the physical presence of a valley corridor containing a river or stream channel, which may or may not contain flowing water, is visibly discernible (i.e., valley walls are clearly definable) from the surrounding landscape by either field investigations, aerial photography and/or map interpretation. The location of the river or stream channel may be located at the base of the valley slope, in close proximity to the toe of the valley slope (i.e., within 15 metres), or removed from the toe of the valley slope (i.e., greater than 15 metres).”

**Not Apparent (unconfined) river and stream valleys:** are ones in which a river or stream is present but there is no discernible valley slope or bank that can be detected from the surrounding landscape. For the most part, unconfined systems are found in fairly flat or gently rolling landscapes and may be located within the headwater areas of drainage basins. The river or stream channels contain either perennial (i.e., year round) or ephemeral (i.e., seasonal or intermittent) flow and range in channel configuration from seepage and natural channels to detectable channels.

Development associated with existing uses in river or stream valleys such as non-habitable structures and minor additions to existing buildings or structures is often differentiated from new development to allow landowners to maintain, and to a limited extent, improve their properties. Each CA should define within their own policy document what constitutes a **minor addition** within their area of jurisdiction; however, a minor addition definition should not exceed Provincial Guidelines of 50% of the total floor area for riverine flood hazards[4]. It is recommended that each CA should consider the following in developing their definition:

a) the type of use (i.e., residential habitable, residential non-habitable, commercial, industrial, institutional, etc.);
b) the total floor area and the footprint area within the floodplain when determining the permissible area increase;
c) in addition to the traditional percentage increase of existing floor/footprint area, a cap on the permissible addition in terms of total square footage;
d) a means of addressing cumulative impacts over time, such as applying the permissible area increase and cap to all additions from an appropriate time designated within the CAs policy document;
e) no increase in the number of dwelling units; and
f) that the minor addition is protected against the flood and erosion hazard (as applicable).

---

[3] The CA Regulation describes river or stream valleys as “apparent” and “not apparent”. Provincial Technical Guides utilize the terminology “confined” and “unconfined”, respectively.

[4] MNRF (1996). *Technical Guide for Large Inland Lakes* (see Section 8.2.1, Page 8-4)

## 3.4 Discussion of River or Stream Valleys

To provide guidance in regulating river and stream valleys, it is necessary to highlight their hydrological functions.

### 3.4.1 Processes and Functions of River or Stream Valleys

River or stream valleys are shaped and re-shaped by the natural processes of erosion, slope stability and flooding. Erosion and slope stability are two natural processes that are quite different in nature yet often linked together. Erosion is essentially the continual loss of earth material (i.e., soil or sediment) over time as a result of the influence of water or wind. Slope stability, usually described in terms of the potential for slope failure, refers to a mass movement of earth material, or soil, sliding down a bank or slope face as a result of a single event in time.

The degree and frequency with which the physical change will occur in these systems depends on the interaction of a number of interrelated factors including hydraulic flow, channel configuration, sediment load in the system, storage and recharge functions, and the stability of banks, bed and adjacent slopes. The constant shaping and re-shaping of the river and stream systems by the physical processes results in hazardous conditions which pose a risk to injury or life and cause property damages.

Erosion hazards pose an injury or threat to life and property through the loss of land due to human or natural processes. The erosion hazard limit is determined using the 100 year erosion rate (the average annual rate of recession extended over a hundred year time span), and includes allowances for toe erosion, meander belt, and slope stability. The erosion hazard component of river and stream systems is intended to address both erosion potential of the actual river and stream bank, as well as erosion or potential slope stability issues related to valley walls.

Flooding of river or stream systems typically occurs following the spring freshet and may also occur as a result of extreme rainfall events. Rivers naturally accommodate flooding within their valleys. Historically, development occurred in floodplain areas because of the availability of water for power, transportation, energy, waste assimilation, and domestic and industrial consumption. However, floodplain development is susceptible to flooding which can result in property damage and/or loss of life.

In Ontario, either storm centred events, observed events, or a flood frequency based event may be used to determine the extent of the Regulatory floodplain, as prescribed by the CA Regulation.

River or stream systems may contain lands that are not subject to flooding or erosion. Examples of these non-hazardous lands include isolated flat plateau areas or areas of gentle slopes (see Figure 4). In these situations, the CA shall determine the applicability of the Regulation.

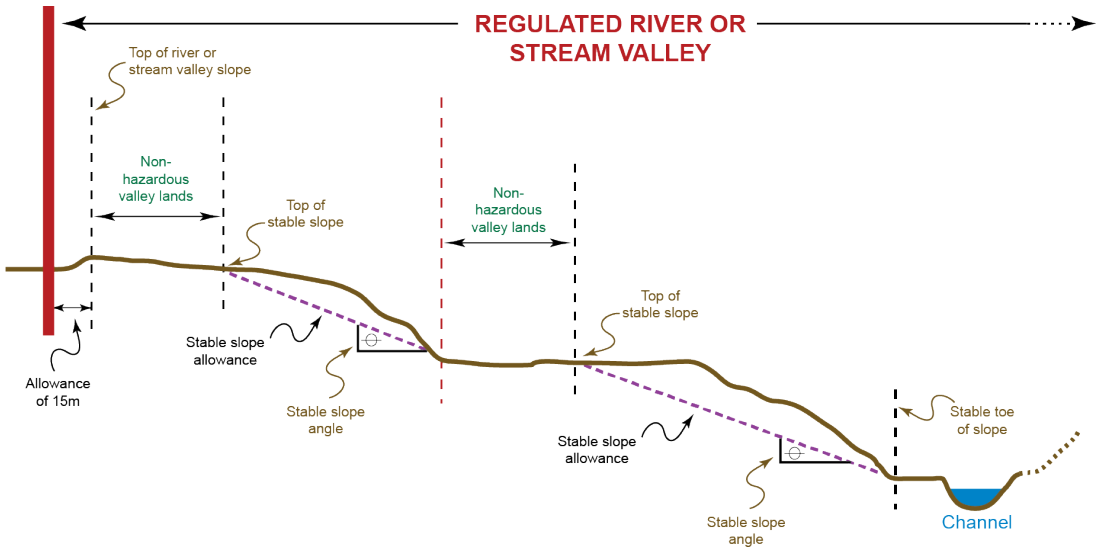



**Figure 4 Regulated river or stream valley containing non-hazardous valley lands.**

Although the regulation is focused on natural hazards, river and stream systems also provide physical, biological and chemical support functions for sustaining ecosystems. These functions are directly associated with the physical processes of discharge, erosion, deposition and transport which are inherent in any river and stream system. The interplay between surface and ground water and the linkages, interactions and inter-dependence of aquatic environments with terrestrial environments supply hydrologic and ecological functions critical to sustaining watershed ecosystems.

### 3.4.2 Defining River or Stream Valleys

The limit of the river or stream valley is the furthest extent of the erosion hazard or flooding hazard plus a 15m allowance. The following sections describe how the various components of a river or stream valley are determined.

#### 3.4.2.1 Erosion Hazard/ Physical Feature

For the purpose of defining the regulated area, the extent of the erosion hazard is based on whether or not a valley is apparent (confined) or not apparent (unconfined) and whether or not the valley slopes are stable, unstable, and/or subject to toe erosion.

Apparent (Confined) River or Stream Valley where the valley slopes are stable (see Figure 5):

The Regulation Limit associated with the erosion hazard consists of:

- the river or stream valley extending to the stable top of slope; and
- an allowance of 15 metres from the stable top of slope.

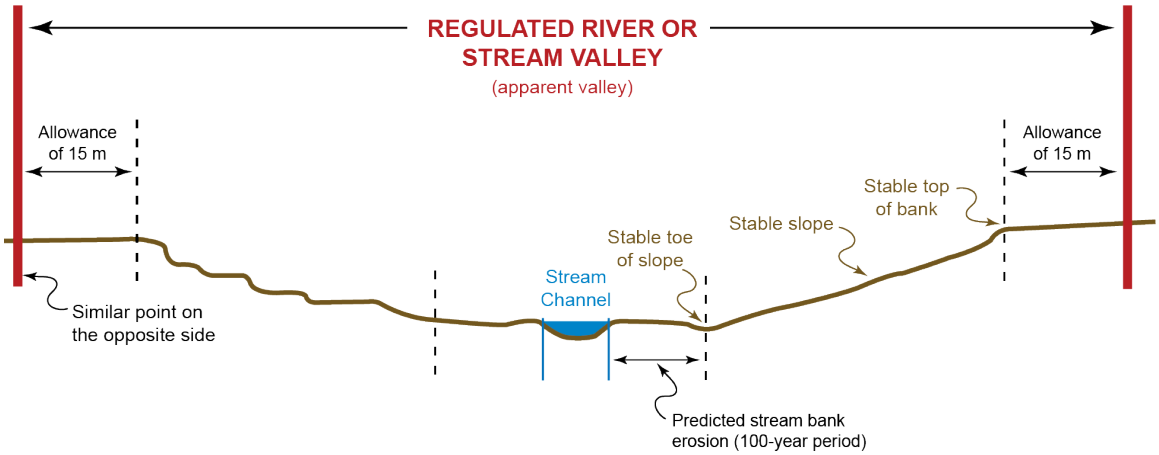



**Figure 5 Apparent River or Stream Valley where the valley slopes are stable.**

Apparent (Confined) River or Stream Valley associated with unstable slopes and stable toe (see Figure 6):

The Regulation Limit associated with the erosion hazard consists of:

- the river or stream valley including the predicted long term stable slope projected from the existing stable toe of slope; and
- an allowance of 15 metres from the stable top of slope.

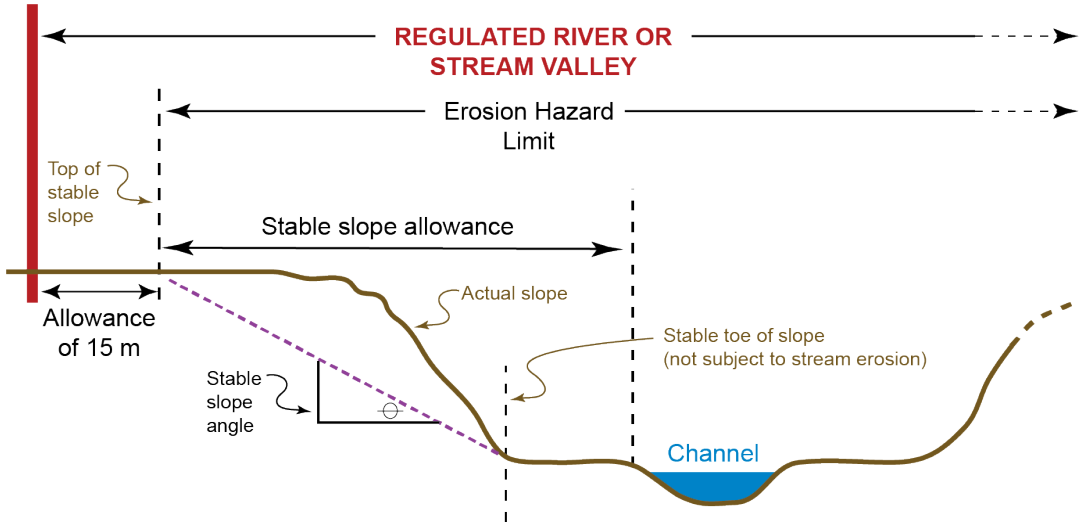



**Figure 6 Apparent River or Stream Valley associated with unstable slopes and stable toe.**

Apparent (Confined) River or Stream Valley with unstable slopes and active toe erosion (see Figure 7):

The Regulation Limit associated with the erosion hazard consists of:

- the river or stream valley including the long term stable slope projected from the predicted stable toe of slope; and
- an allowance of 15 metres from the stable top of slope.

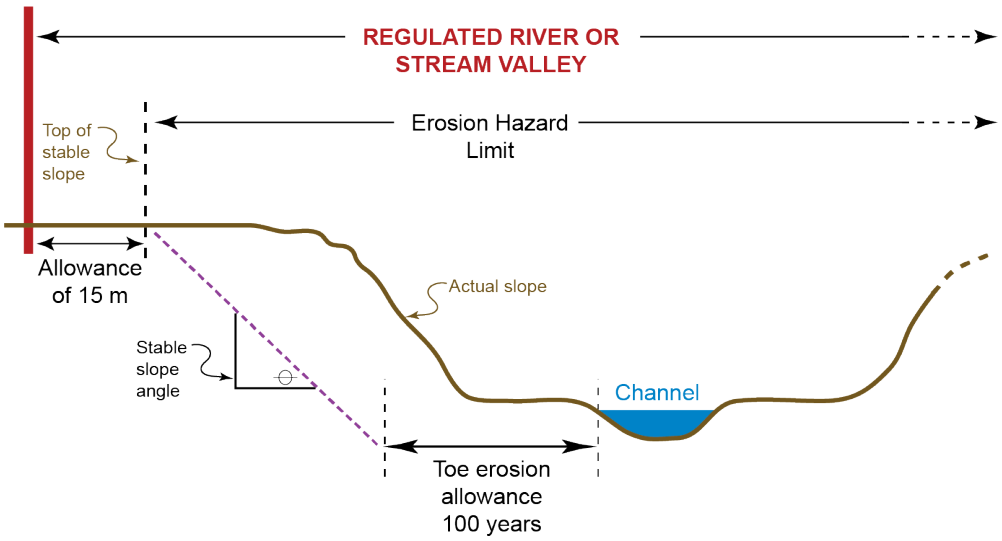


**Figure 7 Apparent River or Stream Valley with unstable slopes and active toe erosion**

Not Apparent (Unconfined) River or Stream Valley (see Figure 8):

The Regulation Limit associated with the erosion hazard consists of[5]:

- the maximum extent of the predicted meander belt of the river or stream; and
- an allowance of 15 metres from the edge of the predicted meander belt.

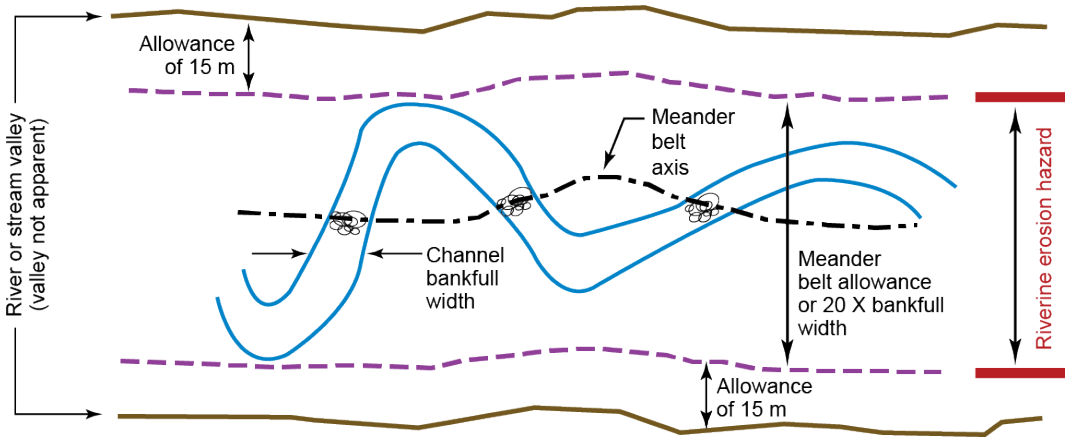



**Figure 8 Not Apparent River or Stream Valley (Meander Belt)**

### 3.4.2.2 Technical Analysis for Erosion Hazards

Frequently technical analysis is required to determine the appropriate toe erosion, slope stability, and meander belt allowances. Technical studies should be carried out by a qualified professional, with recognized expertise in the appropriate discipline, and should be prepared using established procedures and recognized methodologies to the satisfaction of the CA. With respect to riverine erosion hazards, technical studies should be in keeping with the Technical Guide – River and Stream Systems: Erosion Hazard Limit, (MNRF, 2002b) and must demonstrate that there is no increased risk to life or property.

---

[5] In river or stream valleys that are not apparent (unconfined), the regulated area is the greater of the maximum extent of the Regulatory floodplain or the maximum extent of the predicted meander belt plus an allowance not to exceed 15 metres.

The Technical Guide provides four methods of determining the toe erosion allowance. The technical guide also states that toe erosion rates are best determined through long-term measurements and that a minimum of 25 years of data is recommended for erosion assessment rates. Sections 3.0, 3.1, 4.1, and 4.3 of the Technical Guide are particularly relevant in this regard. It is essential that qualified professionals properly characterize the watercourse in question to identify what processes are occurring. For channels where processes indicative of instability, such as downcutting, are identified, very detailed fluvial geomorphic analyses would likely be required to predict erosion rates. As well, watercourses in catchments experiencing rapid land use change where the sediment and hydrologic regimes are changing could be experiencing erosion rates that are shifting in response, and that rate of change may not be quantifiable without significant detailed analysis.

Sections 3.0, 3.2, 4.1, and 4.3 of the Technical Guide provide important guidance with respect to slope stability analysis. Slope stability analysis should also be undertaken in accordance with the Geotechnical Principles for Stable Slopes (Terraprobe Limited and Aqua Solutions, 1998 or more current provincial or CA technical guidelines). Recognized analytical methods should be utilized. An appropriate Factor of Safety should be incorporated into all designs/analysis based on the consequences or risks to land use or life in the event of a slope failure. Recommended minimum Factors of Safety are provided in the Technical Guide based on land use above or below the slope (Table 4.3, Page 4-31, Technical Guide – River and Stream Systems: Erosion Hazard Limit (MNRF, 2002b)). These Factors of Safety should also be increased when necessary to account for the reliability of the information available for the technical analysis due to aspects such as natural soil variability in the subject area, limited site work due to constraints, etc.

The determination of the appropriate meander belt allowance usually involves a wide range of study areas such as geomorphology and engineering. The existing and the ultimate configuration of the channel in the future must be considered. Due to the challenges in assessing meander belt widths, more than one method of determining the meander belt width may be required for any given application. Sections 3.0, 3.3 and 4.4 of the Technical Guide and the supporting documentation entitled “Belt Width Delineation Procedures” (Prent and Parish, 2001)

Within not apparent valleys, there may be on occasion areas within the meander belt allowance that are not actually susceptible to erosion within a 100 year planning horizon. These areas may arise for a variety of reasons such as, but not limited to, soil type, hydraulic regime changes, implementation of publicly owned erosion protection works, etc. In these areas, some development, particularly development associated with existing uses, may be considered as the development would not be susceptible to actual stream erosion over the 100 year planning horizon.

When assessing an application for development within any type of valley system, consideration must be given to the ability for the public and emergency operations personnel to safely access

through the valley system for emergency access purposes, regular maintenance to existing structures or to repair failed structures.

#### 3.4.2.3 Flooding Hazard

In Ontario, either storm-centred events, flood frequency based events, or an observed event may be used to determine the extent of the Regulatory floodplain[6]. These events are:

a) A **storm-centred event**, either Hurricane Hazel storm (1954) or Timmins storm (1961). A storm-centred event refers to a major storm of record which is used for land use planning purposes. The rainfall actually experienced during a major storm event can be transposed over another watershed and when combined with the local conditions, Regulatory floodplains can be determined. This centring concept is considered acceptable where the evidence suggests that the storm event could have potentially occurred over other watershed in the general area;
b) **100 year flood event** is a frequency based flood event that is determined through analysis of precipitation, snow melt, or a combination thereof, having a return period (or a probability of occurrence) of once every 100 years on average (or having a 1% chance of occurring or being exceeded in any given year). The 100 year flood event is the minimum acceptable standard for defining the Regulatory floodplain; and
c) An **observed event**, which is a flood that is greater that the storm-centred events or greater that the 100 year flood and which was actually experienced in a particular watershed, or portion thereof, for example as a result of ice jams[7], and which has been approved as the standard for that specific area by the Minister of Natural Resources.

The Province has adopted flood event standards for addressing floodplain management. Unless otherwise approved by the Minister of Natural Resources and Forestry, the regulatory flood event standard is the Hurricane Hazel (1954) standard for the south and central part of the province, the Timmins Storm (1961) for the central and northern part of the province and the 100 year flood for the eastern part of the province. The CA and applicable flood event standard are included in Schedule 1 of Ontario Regulation 41/24.

---

[6] High points of land not subject to flooding but surrounded by floodplain or ”flooded land” are considered to be within the flood hazard and part of the regulated floodplain.

[7] Localized chronic conditions (e.g., ice or debris jams) related to flood prone areas may be used to extend the regulated area beyond the Regulatory Flood limit without the approval of the Minister of Natural Resources and Forestry. It will be necessary to inform the property owner(s) as well as ensuring that the revised limits are reflected in the appropriate municipal documents at the first opportunity.

The map titled “Flood Hazard Criteria in Ontario” (Figure 9) illustrates the Province of Ontario and the three different flood hazard limit criteria zones. An observed event may take place in any part of the province, exceeding either the storm-centred events or the 100 year frequency based flood. These standards may be modified by the Minister of Natural Resources and Forestry if a known flood (maximum observed) exceeds these criteria (Natural Hazards Technical Guidelines, 2002 (MNRF) – Section 2.3, River and Stream Systems: Flooding Hazard Limit Technical Guide and River and Stream Systems of Understanding Natural Hazards).


**Figure 9: The Flood Hazard Criteria Zones of Ontario and the Conservation Authorities watershed boundaries.**

The Regulatory floodplain for river or stream valley systems is defined as the area adjacent to the watercourse which would be inundated by a flood event resulting from either Hurricane Hazel, the Timmins Storm, an observed event, or by the 100 year frequency based event.

The regulated area includes the floodplain and for apparent and not apparent valley systems, an allowance of 15 metres from the hazard (Figure 10).

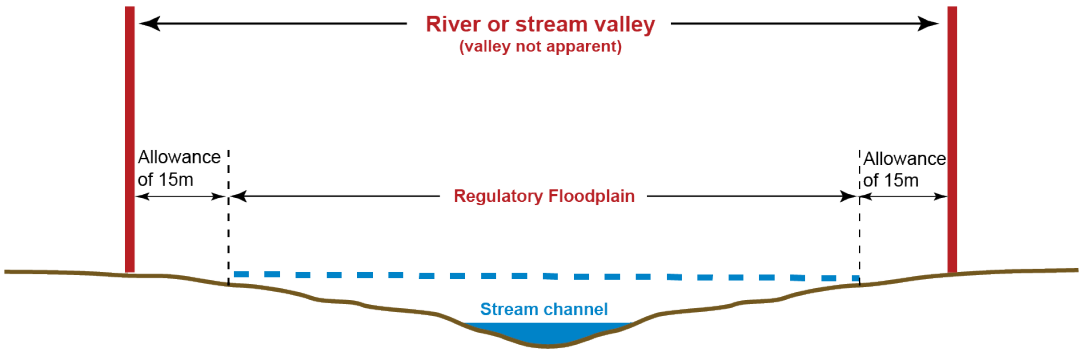



**Figure 10 Regulated area of floodplain for a not apparent valley**

Within Ontario, there are three policy concepts for floodplain management: One Zone (Figure 11), Two Zone, and Special Policy Area (SPA). In most river or stream valleys in Ontario, a One Zone concept is applied. This area encompasses the entire floodplain.

For areas adjacent to existing urban or built-up areas, where it can be demonstrated by the municipality that the One Zone approach is too restrictive, selective application of the Two Zone concept may be considered. The municipality and CA must agree to this approach and the MNRF Regional Engineer or equivalent role at the MNRF Resources Planning and Development Policy Branch (Peterborough) must be consulted. Development may be permitted within those portions of the floodplain where the depths and velocities of flooding are low (flood fringe) and provincial floodproofing and access standards can be met.

**It should be noted that ERCA, in coordination and through past consultation with the member municipalities, has operated with a two-zone approach. ERCA will continue with this approach.**

Where the One Zone or Two Zone approaches have been demonstrated to be too stringent and would likely cause significant social and economic hardships to the community, SPAs may be considered. Where an SPA is applied, the municipality, CA, and the Province of Ontario (MNRF and MMAH) must agree to relax provincial floodproofing and technical standards and accept a higher level of risk. SPA application is generally limited to areas of historic development that qualify on the basis of community and technical criteria. Two Zone and SPA concepts are

discussed in more detail in Appendix 4 and 5 in the MNRF Technical Guide: River and Streams Systems: Flooding Hazard Limit (2002). Note: CA staff should reference the updated (2009) SPA information Procedures for Approval of New Special Policy Areas (SPAs) and Modifications to Existing SPAs Under the Provincial Policy Statement, 2005 (PPS, 2005), Policy 3.1.3 – Natural Hazards – Special Policy Areas.

> Note: The River or Stream Valley suggested policies within this document assume the One Zone concept applies.

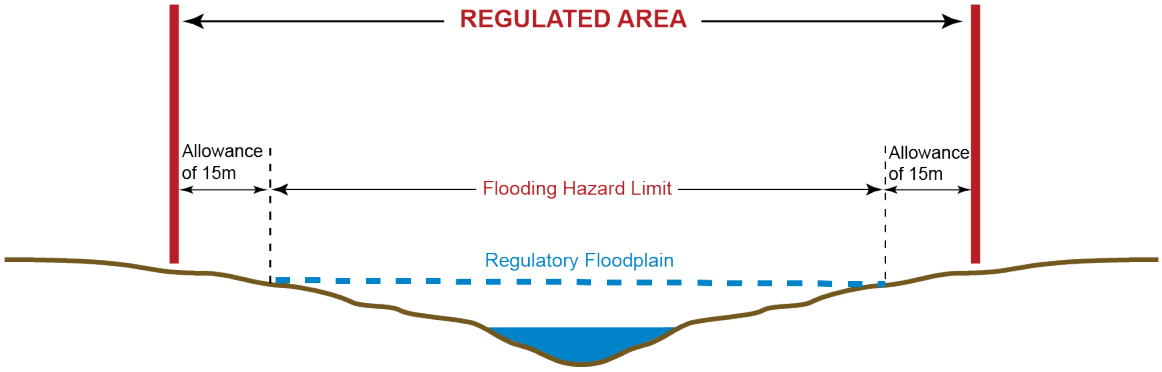



**Figure 11 One-Zone policy approach**

#### 3.4.2.4 Technical Standards for the Flooding Hazard (Access)

The ability for public and emergency operations personnel (police, firefighters, ambulance etc.) to safely access the floodplain during regulatory flood events is a paramount consideration in any application for development within the riverine floodplain. Ingress and egress should be "safe" pursuant to Provincial floodproofing guidelines (MNRF, 2002a). Depths and velocities should be such that pedestrian and vehicular emergency evacuations are possible. For minor additions and re-development on existing lots as a minimum, access should achieve the maximum level of flood protection determined to be feasible and practical based on existing infrastructure.

In the absence of a site-specific detailed analysis, it is recommended that the depths for safe access not exceed 0.3 m and velocities not exceed 1.7 m/s consistent with the Provincial Technical Guide. Notwithstanding provincial guidance, each CA may determine, based on the best available information, to be more restrictive or CAs may consider other factors in individual CA policies. Modification of this recommended option may consider the abilities of local emergency responders to access flooded lands and undertake emergency evacuation in that CA jurisdiction. CAs are encouraged to discuss access into flooded lands with their local emergency responders to ascertain a maximum water level above which emergency access

would no longer be possible. A CA may require confirmation, in writing, from the municipality that they are aware of the depth of flooding during a flood event and the municipality's equipment is able to reach the site. The municipality should confirm their emergency response plan addresses these situations, and they have the resources to provide an emergency response during a flood event. CAs should have this confirmation before a permit is considered for approval. CAs should be aware that the current design of the exhaust systems of many emergency vehicles may not allow the vehicles to go through extensive flooding e.g., at level of flooding above 0.3 m (approx.) or municipalities' procedures may not allow emergency vehicles to enter areas covered by water or large areas of flooding.

Safety risks are a function of the occupancy of structures as well as the flood susceptibility of the structures and the access routes to those structures. Risk should be controlled by limiting the size and type (and thereby limiting the occupancy) of additions or reconstruction projects in dangerous or inaccessible portions of the Regulatory floodplain. Floodproofing measures should be in keeping with the standards of the River and Stream Systems Flooding Hazard Limit, Technical Guide – Appendix 6 (MNRF, 2002a). Where floodproofing standards or safe access cannot be obtained for development, generally the development should be prohibited.

Section 1.5.5 of this document also provides information to CAs on considerations for ingress/egress and floodproofing.

Under the CA Act each application will be reviewed on its own merits to determine if it can meet the 'tests' outlined in the Act. A permit application for development activity may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

#### 3.4.2.5 Regulation Allowances

River or stream valley allowances allow CAs to regulate development adjacent to erosion and flooding hazards in a manner that provides protection against unforeseen or predicted external conditions that could have an adverse effect on the natural conditions or processes of the river or stream valley.

Allowances give the CA the opportunity to protect access to and along a valley and/or floodplain. This access may be required for emergency purposes, regular maintenance to existing structures or to repair failed structures.

Development within the allowance must be regulated to ensure that existing erosion and flooding hazards are not aggravated, that new hazards are not created, and to ensure that the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

Regulation of development in the allowance is also required to deal with issues related to accuracy of the modeling and analysis tools utilized to establish the limits of the erosion and flooding hazards. The Regulation includes an allowance of 15 metres.

To provide access and protection against unforeseen conditions, provincial guidelines recommend that development should generally be set back a minimum of 6 metres adjacent to erosion and flooding hazards (Sections 3.0 and 3.4, Erosion Access Allowance, Technical Guide – River and Stream Systems: Erosion Hazard Limit (MNRF, 2002b)). MNRF recommends that this setback not only be applied to the erosion hazards discussed in the sections above, but also adjacent to the flooding hazard because of the potential for erosion throughout the flooding hazard as a result of the flow of water during significant runoff events. For those situations where additional study is warranted to determine the development setback to provide the required public safety and access, a study should be undertaken to the satisfaction of the CA by a qualified professional using accepted scientific, geotechnical, and engineering principles.

Protection of public safety and access, however, may not be sufficient to provide for all of the above noted requirements or purposes for the allowances. Additional technical studies by qualified professionals may be required to establish the appropriate extent and location of development within the allowance. A CA may also determine in their individual policies that a permit may be considered with a reduced development setback where the existing development already encroaches within the 15 metre allowance, and where further development will not aggravate the erosion or flooding hazard.

#### 3.4.2.6 Floodplain Spill Zones

Spill areas are locations where flood waters may leave the flood plain of a watercourse and “spill” into surrounding lands, rejoining the watercourse at a distance downstream or moving into another watershed. In the past, it was not possible to map spills since available technology could not accurately determine where the water would flow and at what speed and depth. With new tools and technologies, spill areas can be more accurately defined. Spills are considered flood hazards/hazardous lands and permission should be required to develop or redevelop these areas. CAs have identified spill zones as floodplain in the past and/or may consider these areas as hazardous lands. CO/CA guidelines for mapping regulated features should be updated to provide guidance to CA staff for these areas.

## 3.5 Suggested Policy Guidelines

The following sections outline the suggested policy guidelines for implementing CA Regulation(s) with respect to river and stream valleys and the associated allowances. CAs, in their role through the planning process, should review planning applications to ensure that, in general, all development activity occurs outside and set back an appropriate distance from the river and stream valley hazards.

### 3.5.1 Development within the Erosion Hazard of an Apparent (Confined) River or Stream Valley

The following policies are focused on the physical features and erosion hazard associated with apparent river or stream valleys. See Sections 3.5.5 and 3.5.6 for suggested policies for development within the Regulatory floodplain.

1) In general, development shall not be permitted within the erosion hazard of an apparent river or stream valley;
   a) Stabilization works are generally permitted in the erosion hazards of apparent and non apparent reiver or stream valleys; provide they meet the requiremetns set out in Section 6.

2) In general, stabilization works within the erosion hazard of an apparent river or stream valley to allow for future/proposed development or an increase in development envelope or area shall not be permitted;

3) In general, development within the erosion hazard of an apparent river or stream valley on vacant lots of record shall not be permitted;

4) In general, stormwater management facilities within the erosion hazard of an apparent river or stream valley shall not be permitted;

5) Further to Section 3.5.1.1), development activity shall be prohibited within the erosion hazard of an apparent river or stream valley where the use is:

   a) An institutional use including hospitals, long term care homes, retirement homes, pre-schools, school nurseries, day care and schools, where there is a threat to the safe evacuation of vulnerable populations such as older persons, persons with disabilities, and those who are sick or young, during an emergency as a result of erosion and/or failure of protection works/measures; or

   b) an essential emergency service such as that provided by fire, police and ambulance stations and electrical substations which would be impaired during an emergency as a result of erosion, or any other hazard associated with erosion and/or as a result of failure of protection works/measures; or

c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances.

Sections 3.5.1 6) to 14) - In each policy noted below, the activity may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

6) Notwithstanding Section 3.5.1 1), public infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within the erosion hazard of an apparent river or stream valley;

7) Notwithstanding Section 3.5.1 1), development activity associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the erosion hazard of an apparent river or stream valley;

8) Notwithstanding Section 3.5.1 1), stream bank, slope and valley stabilization to protect existing development and conservation or restoration projects may be permitted within the erosion hazard of an apparent river or stream valley;

9) Notwithstanding Section 3.5.1 1), and 3.5.1 3), minor removal and placement of fill and site grading within the erosion hazard of an apparent river or stream valley may be permitted;

10) Notwithstanding Section 3.5.1 1), development activity associated with the construction of a driveway or access way through the erosion hazard of an apparent river or stream valley to provide access to lands outside of the apparent river or stream valley, may be permitted. The submitted plans should demonstrate that;

    a) there is no viable alternative outside of the regulated area; and

    b) the provisions of safe access as identified in Section 1.5.5 have been met.

11) Notwithstanding Section 3.5.1 1), development activities associated with existing uses located within the erosion hazard of an apparent river or stream valley such as minor additions, non-habitable accessory buildings, pools, landscaping retaining walls, grading, decks, etc., may be permitted. The submitted plans should demonstrate that:

    a) there is no feasible alternative site outside of the apparent river or stream valley or in the event that there is no feasible alternative site, that the

proposed development activity is located in an area of least (and acceptable) risk;

b) no development activity is located on an unstable slope[8] except for those works that by their nature must be located on an unstable slope such as slope stabilization works (Policy 3.5.1 8);

c) there is no impact on existing and future slope stability;

d) bank stabilization or erosion protection works are not required;

e) development activities will have no negative impacts on natural stream meandering/fluvial processes;

f) structural development activity would not be susceptible to stream erosion;

g) development activity will not prevent access into and through the valley in order to undertake preventative actions/maintenance or during an emergency;

h) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and

i) flooding hazards have been adequately addressed.

12) Notwithstanding Section 3.5.1 1), where technical assessment or studies demonstrate that lands within the erosion hazard of an apparent river or stream valley are not subject to an erosion or flooding hazard, development activity may be permitted. The submitted plans should demonstrate that:

a) no access through the erosion susceptible area is required;

b) development activity will not prevent access into and through the valley in order to undertake preventative actions/maintenance or during an emergency;

c) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans;

d) there is no impact on existing and future slope stability;

e) bank stabilization or erosion protection works are not required; and

e) flooding hazards have been adequately addressed.

13) Notwithstanding Section 3.5.1 1), the replacement of sewage disposal systems may be permitted within the erosion hazard of an apparent river or stream valley. The replacement system should be located outside of the erosion hazard where possible, and only permitted within the erosion hazard subject to being located in the area of lowest risk. CAs should encourage applicants to consider modernized septic systems that have a smaller footprint to enable re-location to the area of lowest risk.

14) For greater clarity the stable slope or stable slope allowance of an apparent valley or stream system is considered part of the erosion allowance.

### 3.5.2 Development activity within the Allowance Adjacent to the Erosion Hazard of an Apparent (Confined) River or Stream Valleys

1) Development activity may be permitted within the allowance adjacent to the erosion hazard of an apparent river or stream valley if it has been demonstrated to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property. The submitted plans should demonstrate that:

a) development activity does not create or aggravate an erosion hazard;

b) development activity is set back a sufficient distance from the stable top of bank to avoid increases in loading forces on the top of the slope;

c) development activity does not change drainage or vegetation patterns that would compromise slope stability or exacerbate erosion of the slope face;

d) development activity does not prevent access to and along the top of the valley slope;

e) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/restoration plans; and

f) flooding hazards have been adequately addressed;

### 3.5.3 Development activity within the Erosion Hazard of a Not Apparent (Unconfined) River or Stream Valleys (Meander Belt)

The following policies are focused on the erosion hazards associated with not apparent valleys. See Sections 3.5.5 and 3.5.6 for suggested policies for development within the Regulatory floodplain and its associated allowances.

1) In general, development activity within the meander belt of a not apparent river or stream valley shall not be permitted;

2) In general, stabilization works within the meander belt of a not apparent river or stream valley to allow for future/proposed development activity or an increase in development envelope or area shall not be permitted;

3) In general, stormwater management facilities within the meander belt of a not apparent river or stream valley shall not be permitted;

4) In general, development activity within the meander belt of a not apparent river or stream valley on vacant lots of record shall not be permitted;

5) Further to Section 3.5.3 1), development activity shall be prohibited in the meander belt of a not apparent river or stream valley where the use is:

   a) an institutional use associated with hospitals nursing homes, preschool, school nurseries, day care and schools, where there is a threat to the safe evacuation of vulnerable populations such as older persons, persons with disabilities, and those who are sick or young, during an emergency as a result of erosion and/or failure of protection works/measures; or

b) an essential emergency service such as that provided by fire, police and ambulance stations and electrical substations which would be impaired during an emergency as a result of erosion, or any other hazard associated with erosion and/or failure of protection works/measures; or

c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances;

Sections 3.5.3 6) to 12) - In each policy noted below, the activity may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

6) Notwithstanding Section 3.5.3 1), public infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within the meander belt of a not apparent river or stream valley;

7) Notwithstanding Section 3.5.3 1), development activities associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the meander belt of a not apparent river or stream valley;

8) Notwithstanding Section 3.5.3 1), stream bank stabilization to protect existing development and conservation or restoration projects may be permitted within the meander belt of a not apparent river or stream valley;

9) Notwithstanding Section 3.5.3 1), minor placement and removal of fill and site grading within the meander belt of a not apparent river or stream valley may be permitted;

10) Notwithstanding Section 3.5.3 1), development activity associated with the construction of a driveway or access way through the meander belt of a not apparent river or stream valley in order to provide access to lands outside of the erosion hazard may be permitted subject to the provisions of safe access as identified in Section 2.5.5;

11) Notwithstanding Section 3.5.3 1), development activities associated with existing uses located within the meander belt of a not apparent river or stream valley such minor additions, non-habitable accessory buildings, pools, landscaping retaining walls, grading, decks, etc., may be permitted. The submitted plans should demonstrate that:

a) there is no feasible alternative site outside of the meander belt of a not apparent river or stream valley or in the event that there is no feasible alternative site, that the proposed development activity is located in an area of least (and acceptable) risk;

b) development activity will not prevent access into and through the meander belt in order to undertake preventative actions/maintenance or during an emergency;

c) development activity will have no negative impacts on natural stream meandering/fluvial processes;

d) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans;

e) flooding hazards have been adequately addressed;

f) non-habitable structural development would not be susceptible to stream erosion; and

h) minor additions would not be susceptible to stream erosion within the 100 year planning horizon;

12) Notwithstanding 3.5.3 1), development activity may be permitted for the reconstruction or relocation of a building within the meander belt of a not apparent river or stream valley, provided that it has not been damaged or destroyed by erosion. The submitted plans should demonstrate that the building:

a) cannot be relocated to an area outside the erosion hazard and if there is no feasible alternative site, that it is located in an area of least (and acceptable) risk;
b) will be protected from the erosion hazard through incorporation of appropriate building design parameters; and
c) will not exceed the original habitable floor area nor the original footprint area of the previous structure.

### 3.5.4 Development Activity within the Allowance Adjacent to the Erosion Hazard of a Not Apparent (Unconfined) River or Stream Valleys (Meander Belt)

1) Development activity may be permitted within the allowance adjacent to the meander belt if it has been demonstrated to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property. The submitted plans should demonstrate that:

   a) development activity does not create or aggravate the erosion hazard;

   b) development activity does not prevent access to and along the meander belt;

   c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/restoration plans; and

   d) flooding hazards have been adequately addressed.

### 3.5.5 Development Activity Within Two-Zone Regulatory Floodplain of River or Stream Valleys

ERCA regulates with a two-zone approach with applicable policies included in ERCA's *2006 Draft Regulations and Planning Policy Manual*, and the *1987 Policies, Guidelines and Procedures for Fill, Construction and Alteration to Waterways Regulations and Review of Planning Documents and Development Proposals.* Reference should be made to the applicable and relevant sections within those manuals, along with applicable hazard related technical resource manuals, documents, and reports.

### 3.5.6 Development activity Within the Allowance of the Regulatory Floodplain of River or Stream Valleys

1) Development activity may be permitted within the allowance of a Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or

destruction of property. The submitted plans should demonstrate that:

a) development activity does not aggravate the flood hazard or create a new one;

b) development activity does not impede access for emergency works, maintenance and evacuation;

c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/ restoration plans; and

d) erosion hazards have been adequately addressed.

e) Minimum floodproofing standards, acceptable to the Conservation Authority, are met. These standards are described in more detail in the 2006 Draft Regulations and Planning Policy Manual, and the 1987 Policies, Guidelines and Procedures for Fill, Construction and Alteration to Waterways Regulations

# 4.0 GREAT LAKES - ST. LAWRENCE RIVER SYSTEM OR LARGE INLAND LAKES (SHORELINES)

The current legislative structure embeds requirements for the administration of s. 28 in both the CA Act and Ontario Regulation 41/24. CA staff and their legal counsel must refer to both pieces of legislation to make decisions and develop policies and guidelines related to s. 28.1 permit applications.

## 4.1 Conservation Authorities Act

The CA Act contains the following sections dealing with watercourses and shorelines:

Activities prohibited (Prohibited activities re watercourses, wetlands, etc.)

"**28 (1)** No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority: …

2. Development activities in areas that are within the authority's area of jurisdiction and are, …

iv. areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, such areas to be further determined or specified in accordance with the regulations, or,…

**Permits**

**28.1** (1) An Authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by section 28, if, in the opinion of the authority,

a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and
b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; …

The permit shall be given in writing, with or without conditions.

## 4.2 Ontario Regulation 41/24

The following section indicates how the extent of Great Lakes and large inland lakes shorelines are determined for the purpose of administering the Regulation. The Regulation contains the following sections dealing with Great Lakes and large inland lakes shorelines.

Prohibited activities, subparagraph 2 of ss. 28 (1) of the Act (development activity prohibited)

**2.** (2) For the purposes of subparagraph 2 iv of subsection 28 (1) of the Act, areas adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to inland lakes that may be affected by flooding, erosion or dynamic beaches include,

(a) the area starting from the furthest offshore extent of the Authority's boundary to the furthest of the following distances:

(i) the 100-year flood level, plus the appropriate allowance for wave uprush, and, if necessary, for other water-related hazards, including ship generated waves, ice piling and ice jamming;

(ii) the predicted long term stable slope projected from the existing stable toe of the slope or from the predicted location of the toe of the slope as that location may have shifted as a result of shoreline erosion over a 100-year period; and

(iii) where a dynamic beach is associated with the waterfront lands, an allowance of 30 metres inland to accommodate dynamic beach movement; and

(b) the area that is an additional 15 metres allowance inland from the area described in clause (a).

**Permits**

The Authority may grant a permit for development activity adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to inland lakes subject to the tests or criteria in the CA Act.

## 4.3 Additional Definitions

The following section outlines additional definitions to those provided in Section 1.5 of this document.

Development activity associated with existing uses within Great Lakes and large inland lakes shorelines such as non-habitable structures and minor additions to existing buildings or structures is often differentiated from new development activity to allow landowners to maintain, and to a limited extent, improve their properties.

Each CA should define within their own policy document what constitutes a **minor addition** within their area of jurisdiction; however, a minor addition definition should not exceed Provincial Guidelines of 30% of the foundation area for shoreline erosion hazards and 50% of the foundation area for shoreline flooding hazards[9]. It is recommended that each CA should consider the following in developing their definition:

a) the type of use (i.e., residential habitable, residential non-habitable, commercial, industrial, institutional, etc.;
b) the total floor area and the footprint area within the floodplain when determining the permissible area increase;
c) in addition to the traditional percentage increase of existing floor/footprint area, a cap on the permissible addition in terms of total square footage;
d) a means of addressing cumulative impacts over time, such as applying the permissible area increase and cap to all additions from an appropriate time designated within the CA's policy document;
e) no increase in the number of dwelling units; and
f) that the minor addition is protected against the flood and erosion hazard.

## 4.4 Discussion of Shorelines

From a regulatory perspective, shorelines are comprised of three components: 1) flooding hazards, 2) erosion hazards, and 3) dynamic beach hazards. Some CAs have completed specific Great Lakes and large inland lakes studies for their area of jurisdiction.

### 4.4.1 Processes and Functions Along Shorelines

In general, flooding is a phenomenon influenced by and sensitive to water level fluctuations. Inundation of low-lying Great Lakes – St. Lawrence River System shorelines in and of itself does not necessarily constitute a significant hazard. The

[9] MNRF (1996). *Technical Guide for Large Inland Lakes* (see Section 8.2.1, Page 8-4)

hazard is dependent on the type, design, location and density of any development activity in or near the flood inundated shorelines. However, where flooded lands are coupled with storm events, the cumulative impact can and frequently does pose significant degrees of risk. Of importance in managing a potential flood susceptible shoreline is the need to understand the interrelationship between pre-storm flooding, storm setup, wave height, wave uprush and other water related hazards (e.g., wave spray, ice). If the area of inundation is a wetland or an undeveloped area, the resultant “damage” caused by a storm event may be minimal if measured in terms of human losses (i.e., property and life). Indeed, periodic flooding of wetland complexes have been found to be beneficial for the continued maintenance and enhanced diversity of wetland vegetation itself, by helping to eliminate the invasion of water sensitive upland vegetation into low-lying shorelines during periods of low water levels. In terms of human use and occupation of the low-lying Great Lakes – St. Lawrence River System shorelines, development activity decisions based on or during periods of low water levels can present the most serious problem. During lower water levels, the potential flood hazard to homes, cottages and other development activity often goes unrecognized. Consequently, when water levels return to long-term averages or high water levels, flood damage is sustained. These damages are frequently quite significant (MNRF, 1996b).

Erosion within the Great Lakes – St. Lawrence River System is a concern. Erosion rates are dependent upon a number of lakes and land processes as well as the composition and morphology of the shore. In general terms, identification of erosion susceptible shorelines is rather simple in that erosion of bedrock and cohesive shores involves a unidirectional process. In the absence of human intervention and/or the installation of remediation measures, once material is removed, dislodged or extracted from the shore face and near shore profile it cannot reconstitute with the original material and is essentially lost forever. Even with the installation of remedial measures (i.e., assumed to address the erosion hazard), the natural forces of erosion, storm action/attack and other naturally occurring water and erosion related forces may prove to be such that the remedial measures may only offer a limited measure of protection and may only reduce or address the erosion hazard over a temporary period of time.

Given the naturally complex and dynamic nature of the beach environment, determining hazard susceptibility of a given beach formation requires careful assessment of a wide range of parameters. Over the short term, beach environments, impacted by flood and erosion processes, may undergo alternating periods of erosion and accretion as they attempt to achieve a dynamic equilibrium with the forces acting upon them. Over the long term, beaches experiencing a positive sediment budget (i.e., more sand and gravel is incoming than outgoing) are generally in fact accreting shore forms while those experiencing a negative sediment budget are eroding. As such, the depiction and evaluation of the hazard susceptibility of dynamic beaches should be dependent on the level of information,

knowledge and understanding of the beach sediment budget and the cross-profile width over which most of the dynamic profile changes are taking place.

### 4.4.2 Shoreline Flood Hazard

The variable nature of water elevations of the Great Lakes is apparent from historical records. Of the two key factors influencing long-term and short-term changes in lake levels, natural phenomena (e.g., rainfall, evaporation, wind, storms, etc.) by far, cause the greater magnitudes of changes, than does human intervention (i.e., diversions, water control structures, etc.).

The most familiar changes in lake levels are seasonal fluctuations as evidenced by average differences of about 0.6 to 1.1 metres in lake levels between the summer and winter months. Superimposed on these seasonal fluctuations are some extremely short periods of significantly larger magnitudes of lake level changes. The most temporary of these are caused by storm winds which blow over the lake surfaces pushing the water to the opposite side or end of the lake. These “wind setups”, or “storm surges” have frequently caused total differences of more than 4 metres and occasionally as high as 5 metres in lake levels at opposite ends of some of the Great Lakes.

The shoreline refers to the furthest landward limit bordering a large body of water. Factors to be addressed in the areas susceptible to flooding along the shoreline include: the 100 year flood level; and flood allowance for wave uprush and/or other water related hazards (Figure 12).

The 100 year flood level is the water level due to the combined occurrences of mean monthly lake levels and wind set up having a 1% chance of occurring during any year.

The 100 year wave uprush level is based on mean monthly lake levels, wind setup and wind generated waves.

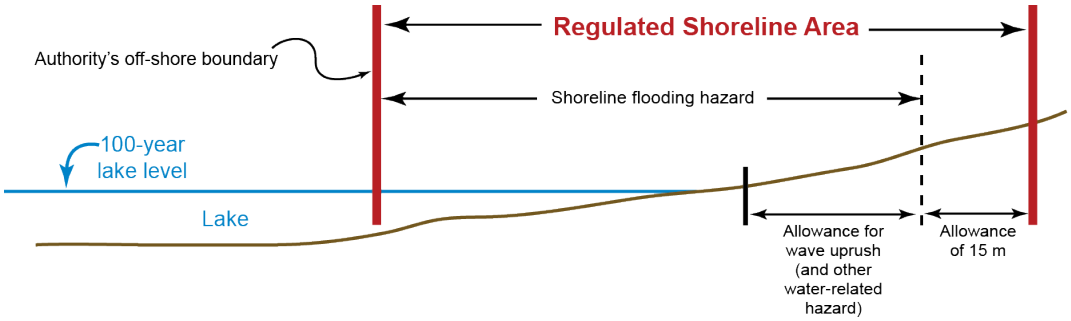



**Figure 12 Shoreline/Lake Flooding**

In areas susceptible to wave action, shoreline flood hazards extend landward beyond the 100 year flood level to the limit of wave action. All shorelines should be considered susceptible to wave action unless site specific studies using accepted engineering principles demonstrate that wave action is not significant.

Wave action includes wave uprush, wind setup, wave overtopping and/or wave spray. Wind setup is the mean increase in the water level caused by the onshore transport of water due to waves breaking at the shoreline, while wave uprush is the distance that the water will run-up on the shoreline. For straight, uniform shoreline reaches without protection works, the landward limit of wave action can be represented by the maximum sum of wave setup and wave uprush.

In areas where waves act on shore protection works and other structures, and in areas with irregular shorelines, the wave action may include wave overtopping and wave spray which are more difficult to determine and may require detailed study.

Shoreline flood hazards include, but are not limited to:

- wave overtopping;
- wave spray;
- ice piling;
- ice jamming; and
- ship generated waves

Wave overtopping essentially occurs when the height of the natural shoreline, or of the protection work, above the still water line is less than the limit of the wave uprush. As a result, waves overtopping the shoreline or protection work can cause flooding of the onshore area and can threaten the structural stability of protection works.

Wave spray has been observed passing over structures (houses) and well past them. The landward extent and quantity of wave spray depends on such factors as the type of shore, nearshore bathymetry, type of protection works, size of incident waves and wind conditions. Generally, during storms a significant amount of wave spray will occur behind structures that are near vertical and subjected to large breaking waves.

All shoreline areas and connecting channels form an ice cover. There are two types of ice which impact on shoreline features: drift ice (slush, frazil, pancake, floe and composite ice) and shorefast ice (anchor ice). The impact on the shoreline by drift ice is dependent on the physical orientation and composition of the shoreline, wave action, wind setup and duration of ice action as the ice is transported alongshore and thrown onshore and then drawn offshore by wave action. Anchor or shorefast ice action on a shoreline has a horizontal and vertical impact on shoreline features as

the stationary ice grows or diminishes in response to the temperature fluctuations over the winter period.

Ice piling results from wind blowing over the ice, pushing the ice landward. This can produce ridging and a large build–up of ice at the shore. This shore ice can then scour sections of the beach and nearshore as well as destroy structures close to the shore. The moving ice can also remove boulders from the shallow areas, thereby reducing the level of shore protection provided by the boulders.

Ice jamming, the build-up of ice at the outlets of the lakes into the connecting channels, can cause extensive damage to shore structures and nearshore profiles. At the same time, ice jams frequently pose problems by impeding water flows outletting from the lakes and into the connecting channels causing varying magnitudes in lake level increases depending on the size and duration of the ice jam blockage.

Depending on the shoreline configuration and slope characteristics, ship generated waves can rush up the shoreline past the 100 year flood level. In addition to ship generated wave uprush, the subsequent ship generated wave drawdown can scour and damage a shoreline or protection work.

High points of land not subject to flooding but surrounded by the shoreline flood hazard or “flooded land” are considered to be within the flood hazard and part of the shoreline flood hazard.

### 4.4.3 Shoreline Erosion Hazard

Many geological, topographical and meteorological factors determine the erodibility of a shoreline. These include soil type, surface and groundwater, bluff height, vegetation cover, shoreline orientation, shoreline processes, wind and wave climate and lake level fluctuations. Erosion over the long-term is a continuous process influenced by these lakeside (i.e., wave action, water levels) and landside factors (i.e., surface/subsurface drainage, loading/weight of buildings, removal of surface vegetation).

The rate of erosion may be heightened during severe storm events, resulting in large losses of land over a very short period of time. These large losses, which are more readily visible immediately following major storm events, at times can obscure the more continuing long-term processes.

The risk of erosion is managed by planning for the 100 year erosion rate (the average annual rate of recession extended over a one hundred year time span). The extent of the shoreline erosion hazard limit depends on the shoreline type: bluff or beach. Dynamic Beach hazards are outlined below.

The shoreline erosion hazard (bluff) limit includes the following (Figure 13):

- stable toe of slope (as may be shifted as a result of erosion over a 100 year period);
- predicted long term stable slope projected from the stable toe of slope; and
- an additional allowance inland of 15 metres on large inland lakes and 15 metres on the Great Lakes.

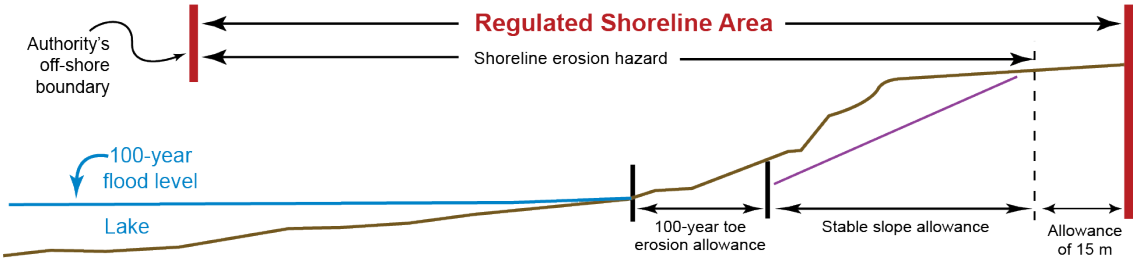



**Figure 13 Lake Erosion**

To slow the erosion of shorelines, structures such as breakwaters, seawalls and revetments have been used. Technical Guidelines- Great Lakes –St. Lawrence River Shorelines- Part 7 – Addressing the Hazard (MNRF, 1996b) provide guidance for considering how such structures may be considered to modify the Shoreline Erosion Hazard.

Specifically, a Protection Works Standard- Erosion Hazard is provided to illustrate how shoreline erosion prevention structures should be evaluated.

However, even with the installation of remedial measures (i.e., assumed to address the erosion hazard), the natural forces of erosion, storm action/attack and other naturally occurring water and erosion related forces may prove to be such that the remedial measures may only offer a limited measure of protection and may only reduce or address the erosion hazard over a temporary period of time. Even if the shoreline is successfully armoured, the near shore lake bottom continues to erode or down cut eventually on all shorelines. This process is more active typically on cohesive shorelines. Eventually the lakebed down cutting will undermine the shoreline armouring causing the structure present to ultimately fail (Figure 14). The failure and ultimate property loss may extend back to the point at which the natural shoreline occurs. The natural shoreline position is typically not the present waterline or break wall interface, but actually some point inland from the armoured shoreline position.

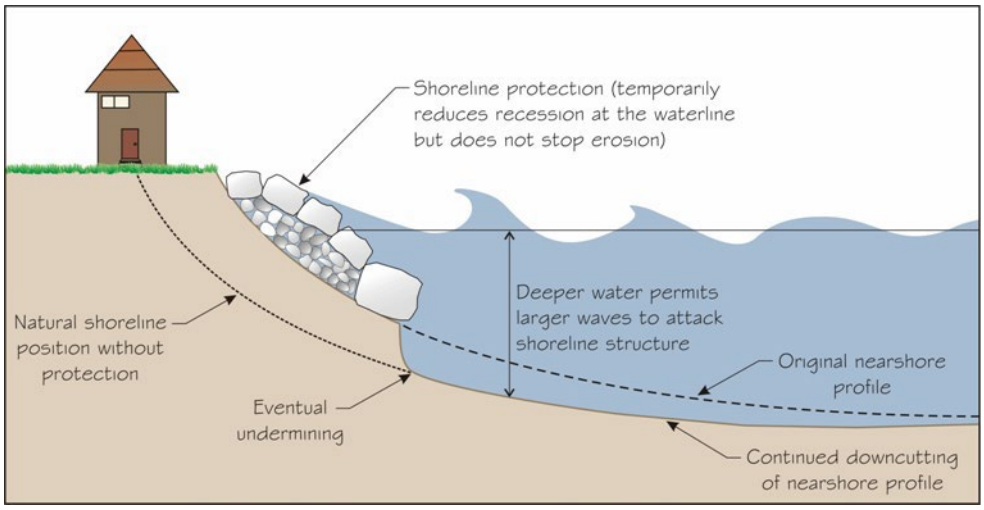



**Figure 14 Lake Erosion Down Cutting. See also Technical Guidelines - Great Lakes - St. Lawrence River (MNRF, 1996b)**

These problems usually occur on updrift and/or downdrift properties, aggravating existing off-site hazards, and/or posing unacceptable detrimental impacts on a wide array of environmental components of the shoreline ecosystem (e.g., fisheries, wetlands, water quality). The natural movement of the shoreline due to erosion can be aggravated by these human activities and the impact of the activity can be transferred some distance from the impact site.

Therefore, it is recommended as a general principle that measures which harden the shoreline be avoided. Further, it is recommended that Shoreline Management Plans be undertaken to assist in development of shoreline specific policies and, specifically to evaluate whether the implementation of erosion protection structures (revetments, seawalls, etc.) are appropriate in the context of the overall shoreline processes (MNRF, 1987).

### 4.4.4 Dynamic Beach Hazard

To define a dynamic beach, the flooding hazard limit must be known. The flooding hazard limit combines the 100 year flood elevation plus wave uprush. In dynamic beach areas, elevations can change quite dramatically from season to season and year to year due to build up and erosion of sand, cobbles and other beach deposits. A dynamic beach is considered an unstable accumulation of shoreline sediments generally along the Great Lakes – St. Lawrence River System and large inland lakes. In dynamic beach areas, topographic elevations can change quite rapidly due to the accumulation or loss of beach materials through the effects of wind and wave action. These changes can occur seasonally or yearly and, at times, quite rapidly and dramatically.

To determine the limit of a dynamic beach, the flooding hazard must be established. The flooding hazard is defined as the aggregate of the 100 year lake level plus a landward allowance to accommodate wave uprush and other water related hazards.

It is important that the 100 year lake level be established as a historic location rather than as an elevation.

If considered as an elevation, the location of the 100 year lake level will move with the accretion or loss of beach materials. For example, during a period of low lake levels, it is expected that the accretion of beach materials would occur. If established as an elevation, the 100 year lake level (and the subsequent flood hazard) would move lakeward. Under this approach the Regulation Limit could be construed as also moving lakeward. This area of accretion could rapidly be lost during a storm or when lake levels return to normal. Development activity permitted under this standard would be at risk.

Historic information about the location of the farthest landward extent of the 100 year lake level will be an important consideration for the long term management of dynamic beach hazards. It's important to note that many CAs, with input from MNRF, have completed shoreline management plans that have updated the 100 year lake level information.

When topographic elevations change, so does the location of the flooding hazard limit. This is an especially important consideration, because in times of low lake levels, (as has been the case on the Great Lakes), the near shore areas that have been submerged under normal or high lake levels are exposed, subjected to accretion and erosion processes. It may seem that the landward extent of the dynamic beach has changed, thereby introducing potential for development or expansion of existing development. Historic information about the farthest landward extent of flooding will be an important consideration for good long-term management of dynamic beach hazards. The balance of various coastal processes, which allows for the state of dynamic equilibrium for these beach areas, only exists in the natural environment. Human intrusion within these areas can significantly and negatively impact on the form and function of the dynamic beach. Development activity should only be considered in limited defined areas outside of the dynamic beach hazard, following the appropriate level of scientific investigation and assessment.

The dynamic beach hazard is applied to all shorelines of the Great Lakes – St. Lawrence River System where there is an accumulation of surficial sediment landward of the still water line (defined at the time of mapping under non-storm conditions), such that action by waves and other water and wind-related processes can lead to erosion of the sediments and a resultant landward translation of the shore profile.

The dynamic beach hazard is only applied where:

- beach or dune deposits exist landward of the water line (e.g., land/water interface);
- beach or dune deposits overlying bedrock or cohesive material are equal to or greater than 0.3 metres in thickness, 10 metres in width and 100 metres in length along the shoreline; and
- where the maximum fetch distance measured over an arc extending 60 degrees on either side of a line perpendicular to the shoreline is greater than 5 km (this normally does not occur where beach or dune deposits are located in embayment's, along connecting channels and in other areas of restricted wave action where wave related processes are too slight to alter the beach profile landward of the waterline.

The criteria used to define and classify a section of shoreline as a dynamic beach are intended to be applied over a stretch of shoreline on the order of 100 metres or more in length. Where shorter sections of sediments occur on a rocky or cohesive shoreline they are likely to be transitory. Beach width and thickness should be evaluated under calm conditions and at water levels between datum (IGDL) and the average annual low water level. When lake level conditions are higher, consideration should be given to the submerged portion of the beach. If possible, mapping should not take place during high lake level conditions. It is expected that the person carrying out the mapping will exercise judgment, based on knowledge of the local area and historical evidence, in those areas where the beach width is close to the suggested criteria for defining a dynamic beach.

Some Dynamic Beaches have been identified by MNRF and shoreline management plans. Where information is limited or dated a technical study should be completed.

The Shoreline Dynamic Beach Hazard includes the following (Figure 15):

1. 100 year flood level, plus the appropriate allowance for wave uprush, and, if necessary, for other water-related hazards, including ship-generated waves, ice piling and ice jamming; [flooding];
2. an allowance inland of 30 metres to accommodate for dynamic beach movement; and
3. an additional allowance inland of 15 metres.

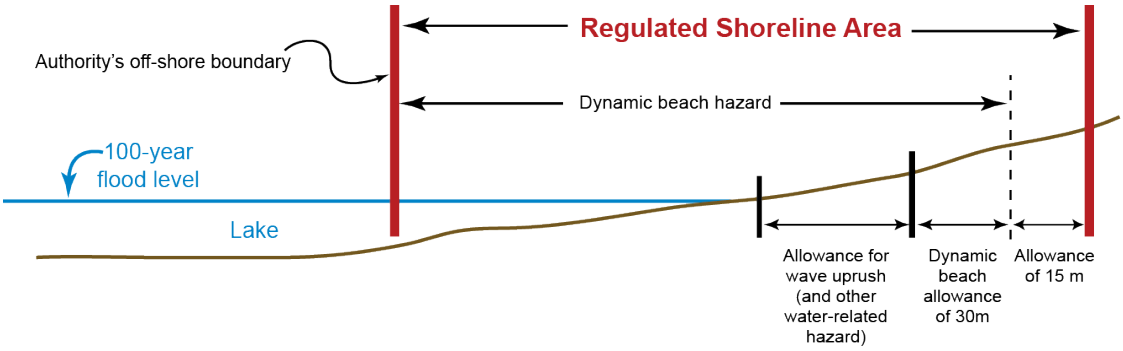



**Figure 15 Dynamic Beach**

### 4.4.5 Regulation Allowances

Similar to the more detailed discussion provided in Section 4.4.2, the allowances adjacent to shoreline flood, erosion and dynamic beach hazards allow CAs to regulate development in these areas in a manner that:

- Provides protection against unforeseen or predicted external conditions such as climate change, that could have an adverse effect on public safety, property damage and the natural conditions or processes of the shoreline;
- Protects access to and along the shoreline hazard areas. Access may be required for emergency purposes, regular maintenance to existing structures or to repair failed structures;
- Ensures that existing erosion, flooding and dynamic beach hazards are not aggravated and that new hazards are not created;
- Addresses issues related to accuracy of the modeling and analysis tools utilized to establish the limits of the flooding, erosion and dynamic reach hazards.

## 4.5 Suggested Policy Guidelines

The following sections outline the suggested policy guidelines for implementing CA Regulation(s) with respect to Great Lakes and Large Inland Lakes shorelines and the associated allowances. CAs, in their role through the planning process, should review planning applications to ensure that, in general, all development activity occurs outside and set back an appropriate distance from the shoreline hazards. Inland lakes that do not meet the definition of “large inland lake” (i.e., waterbody that has a surface area equal to or greater than 100 square kilometers where there is no measurable or predictable response to a single runoff event) should be treated in a manner similar to a river or stream valley and the reader should refer to Section 2.4 for policies that apply to these areas.

### 4.5.1 Development activity Within the Shoreline Flood Hazard

For the purposes of the following policies, the shoreline flood hazard is the limit of the landward extent of flooding accounting for the 100 year flood elevation, plus the appropriate allowance for wave uprush, and, if necessary, for other water-related hazards, including ship-generated waves, ice piling and ice jamming; [flooding].

To regulate development within the shoreline flood hazard, ERCA staff will refer to ERCA's *2006 Draft Regulations and Planning Policy Manual*, and the *1987 Policies, Guidelines and Procedures for Fill, Construction and Alteration to Waterways Regulations and Review of Planning Documents and Development Proposals.* Reference should be made to the applicable and relevant sections within those manuals, along with applicable hazard related technical resource manuals, documents, and reports.

### 4.5.2 Development activity within the Allowance Adjacent to the Shoreline Flood Hazard

1) Development activity may be permitted within the allowance adjacent to the shoreline flood hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property. The submitted plans should demonstrate that:

    a) development activity does not aggravate the flood hazard or create a new one;

    b) development activity does not impede access for emergency works, maintenance and evacuation;

    c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/ restoration plans; and

    d) erosion and dynamic beach hazards have been adequately addressed.

    e) Minimum floodproofing standards, acceptable to the Conservation Authority, are met.

### 4.5.3 Development activity within the Shoreline Erosion Hazard

For the purpose of the following policies the shoreline erosion hazard is the limit of the 100-year erosion allowance, plus the landward extent of the predicted long term stable slope, which is measured from the predicted toe of slope (the toe of slope may have shifted as a result of predicted shoreline erosion).

1) In general, development activity shall not be permitted within the shoreline erosion hazard;

2) In general, stormwater management facilities within the shoreline erosion hazard shall not be permitted;

3) Further to Section 4.5.3 1), a development activity shall be prohibited in the shoreline erosion hazard where the use is:
    a) an institutional use associated with hospitals nursing homes, preschool, school nurseries, day care and schools, where there is a threat to the safe evacuation of vulnerable populations such as older persons, persons with disabilities, and those who are sick or young, during an emergency as a

result of erosion and/or failure of protection works/measures; or

b) an essential emergency service such as that provided by fire, police and ambulance stations and electrical substations which would be impaired during an emergency as a result of erosion, or protection works/measures; or

c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances;

Sections 4.5.3 6) to 11) - In each policy noted below, the activity may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

4) Notwithstanding Section 4.5.3 1), public and private infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within the shoreline erosion hazard;

5) Notwithstanding Section 4.5.3 1), development activity associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the shoreline erosion hazard;

6) Notwithstanding Section 4.5.3 1), shoreline, bank, and slope stabilization to protect existing development and conservation or restoration projects may be permitted within the shoreline erosion hazard;

7) Notwithstanding Section 4.5.3 1), development activity associated with minor additions, non-habitable accessory, buildings and pools may be permitted within the shoreline erosion hazard. The submitted plans should demonstrate that:

a) there is no feasible alternative site outside of the shoreline erosion hazard or in the event that there is no feasible alternative site, that the proposed development activity is located in an area of least (and acceptable) risk;

b) no development activity is located within the stable slope allowance;

c) there is no impact on existing and future slope stability and bank stabilization;

d) development activity will not prevent access into and along the shoreline erosion hazard in order to undertake preventative actions/maintenance or

during an emergency;

e) development activity will have no negative impacts on natural shoreline processes;

f) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and

g) dynamic beach hazards have been adequately addressed;

8) Notwithstanding Section 4.5.3 1), development activity associated with existing uses located within the shoreline erosion hazard such as landscaping retaining walls, grading, decks, stairs, etc., may be permitted. The submitted plans should demonstrate that:

a) there is no feasible alternative site outside of the shoreline erosion hazard or in the event that there is no feasible alternative site, that the proposed development activity is located in an area of least (and acceptable) risk;

b) development activity will not prevent access into and through the shoreline erosion hazard in order to undertake preventative actions/maintenance or during an emergency;

c) there is no impact on existing and future slope stability and bank stabilization;

d) development activity will have no negative impacts on natural shoreline processes;

e) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and

f) flooding hazards, and dynamic beach hazards have been adequately addressed.

### 4.5.4 Development activity within the Allowance Adjacent to the Shoreline Erosion Hazard

1) Development activity may be permitted within the allowance adjacent to the shoreline erosion hazard. The submitted plans should demonstrate that:

a) development activity does not aggravate the erosion hazard or create a new one;

b) development activity does not impede access for emergency works, maintenance and evacuation;

c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/restoration plans; and

d) dynamic beach hazards have been adequately addressed.

e) All other applicable hazard management criteria are met to the satisfaction of the Conservation Authority.

### 4.5.5 Development activity within the Dynamic Beach Hazard

For the purpose of the following policies the Dynamic Beach Hazard is the limit of the landward extent of the 100 year flood elevation limit, plus the allowance for wave uprush and other water-related hazards, plus the dynamic beach allowance. The dynamic beach allowance is 30 metres on the Great Lakes and interconnecting channels and 15 metres on large inland lakes.

1) In general, development activity shall not be permitted in the dynamic beach hazard;

2) Further to Section 4.5.5 1), development activity shall be prohibited in the dynamic beach hazard where the use is:
   a) An institutional use associated with hospitals, nursing homes, pre-school, school nurseries, day care and schools, where there is a threat to the safe evacuation of vulnerable populations such as older persons, persons with disabilities, and those who are sick or young, during an emergency as a result of erosion or any other hazard associated with dynamic beaches or as a result of failure of protection works/measures; or

   b) An essential emergency service such that provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of erosion or any other hazard associated with dynamic beaches and/or as a result of failure of protection works/measures; or

   c) Associated with the disposal, manufacture, treatment or storage of hazardous substances;

3) Notwithstanding Section 4.5.5 1), underground public infrastructure (i.e. sewers) and various utilities (e.g., pipelines) may be permitted within the dynamic beach hazard subject to the completion of applicable studies and plans that demonstrate to the satisfaction of the Conservation Authority that the

activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property;

4) Notwithstanding Section 4.5.5 1), development activity associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the dynamic beach hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

5) Notwithstanding Section 4.5.5 1), conservation or restoration projects may be permitted within the dynamic beach hazard subject to the completion of applicable studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

### 4.5.6 Development activity within the Allowance Adjacent to the Dynamic Beach Hazard

1) Development activity may be permitted within the allowance adjacent to the dynamic beach hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property. The submitted plans should demonstrate that:

   a) development activity does not create or aggravate the dynamic beach hazard;

   b) development activity does not prevent access to and along the dynamic beach;

   c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/ restoration plans; and

   d) flooding and erosion hazards have been adequately addressed.

# 5.0 HAZARDOUS LANDS

The current legislative structure embeds requirements for the administration of s. 28 in both the CA Act and O. Reg 41/24 CA staff and their legal counsel must refer to both pieces of legislation to make decisions and develop policies and guidelines related to s. 28 permit applications.

## 5.1 Conservation Authorities Act

The CA Act contains the following sections dealing with watercourses:

**Activities prohibited (Prohibited activities re watercourses, wetlands, etc.)**

"**28 (1)** No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority: …

3. Development activities in areas that are within the authority's area of jurisdiction and are, …

   i. hazardous lands, …, or

**Permits**

**28.1** (1) An Authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by section 28, if, in the opinion of the authority,

a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and
b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; …

The permit shall be given in writing, with or without conditions.

## 5.2 Ontario Regulation 41/24

The following section indicates the extent of hazardous lands for the purpose of administering the Regulations. The Authority may grant a permit for development activity in or on Hazardous Lands subject to the tests or criteria in the CA Act. The Regulation contains the following definition for hazardous lands.

**"hazardous land"** means land that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock.

Sections 4.0 – 8.0 also provide policy guidance on some of the natural hazards included in the definition of hazardous lands.

## 5.3 Discussion of Hazardous Lands

As identified in Section 1.5.2 of this document, hazardous land means land that could be unsafe for development activities because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock. If the activity is within unstable soil and/or unstable bedrock hazardous lands then this chapter applies, otherwise refer to the River or Stream Valleys and Great Lakes and Large Inland Lakes Shorelines chapters for other hazards such as flooding, erosion, and dynamic beaches.

Due to the specific nature of areas of unstable soil or unstable bedrock, it is difficult to identify these hazards. The potential for catastrophic failures in some areas of unstable soil and unstable bedrock warrant site specific studies to determine the extent of these hazardous lands, and therefore the appropriate limits of the hazard and Regulation Limits. The regulated area is based on the conclusions and recommendations of such studies.

Development activities within areas deemed as hazardous are considered through the “development activity” provision of the Regulation. Activities proposed within unstable soil and unstable bedrock hazardous lands must therefore meet the definition of “development activity” (see ss.1 (1) in *O. Reg 41/24)* to be regulated.

Unstable soil includes, but is not necessarily limited to, areas identified as containing sensitive marine clays (e.g., leda clays) or organic soils (MNRF & CO, 2005).

### 5.3.1 Sensitive Marine Clays (Leda Clay)

Sensitive marine clays, also known as leda clays, are clays that were deposited as sediment during the last glacial period in the Champlain Sea. Undisturbed, the clays can appear solid and stable. When disturbed by excessive vibration, shock or when they become saturated with water, the clays can turn to liquid (MNRF, 2001). The resulting failures or earthflows can be sudden and catastrophic.

Sensitive marine clays are restricted to specific locations in the province; however, they are not restricted to just along rivers and streams. In addition to the mapping that individual CAs may have developed or obtained, information is also available from Geological Survey of Canada and MNRF.

To determine Regulation Limits, it is recommended that site specific studies be undertaken to determine the full extent of the sensitive marine clays and their full potential for retrogressive failures. While useful standards for defining the limits of the hazardous lands are provided within the “Understanding Natural Hazards”

(MNRF, 2001) document and Hazardous Sites Technical Guide (MNRF, 1996a), it is crucial to recognize that these standards only address a first occurrence of slope failure. As such, the Guidelines for Developing Schedules of Regulated Areas recommend the use of a site/area specific study in defining the appropriate hazard (and therefore the Regulation Limit) to account for the potential of subsequent failures.

Section 3.0 of the Hazardous Sites Technical Guide (MNRF, 1996a) provides important guidance with respect to assessing marine sensitive clays and the potential for development within this type of hazardous lands.

### 5.3.2 Organic Soils

Organic soils are normally formed by the decomposition of vegetative and organic materials into humus, a process known as humification. A soil is organic when the percentage weight loss of the soil, when heated, is five to eighty per cent (MNRF, 2001).

As a result, organic soils can cover a wide variety of soil types. Peat soils, however, are the most common type of organic soil in Ontario. Therefore, a CA's wetland inventory may provide guidance in the location of organic soils. In addition, maps by the Geological Survey of Canada, MNRF, Ministry of Mines, and the Ministry of Agriculture, Food and Rural Affairs may provide additional information on the location of organic soils.

Due to the high variability of organic soils, the potential risks and hazards associated with development activity in this type of hazardous land are also highly variable. As such, assessment of development potential in areas of organic soils is site specific. Section 4.0 of the Hazardous Sites Technical Guide (MNRF, 1996a) provides important guidance in this regard.

### 5.3.3 Unstable Bedrock

Unstable bedrock includes, but is not necessarily limited to, areas identified as karst formations. Karst formations may be present in limestone or dolomite bedrock and are extremely variable in nature. Local, site-specific studies are required to identify karst formations. Maps completed by the Ontario Geological Survey, (Ministry of Mines) may identify areas of potential karst formations. In addition, air photo interpretation of surface features such as sink holes may provide an indication of karst formations (MNRF and CO, 2005).

As with unstable soils, the potential for development to be undertaken safely in an area of unstable bedrock is site specific. Section 5.0 of the Hazardous Sites Technical Guide (MNRF, 1996a) provides important guidance in this regard.

## 5.4 Suggested Policy Guidelines

The following sections outline the suggested policy guidelines for implementing CA Regulation(s) with respect to unstable soil and bedrock. CAs, in their role through the planning process, should review planning applications to ensure that, in general, all development activity occurs outside the unstable soil and bedrock boundaries.

### 5.4.1 Development activity Within Unstable Soil and Unstable Bedrock Hazardous Lands

1) In general, development activity shall not be permitted within hazardous lands associated with unstable soils or unstable bedrock;

2) Further to Section 5.4.1 1), development activity shall be prohibited in hazardous lands associated with unstable soils or unstable bedrock where the use is:

a) An institutional use associated with hospitals, nursing homes, preschool, school nurseries, day care and schools, where there is a threat to the safe evacuation of vulnerable populations such as older persons, persons with disabilities, and those who are sick or young, during an emergency as a result of erosion or any other hazard associated with unstable soils and unstable bedrock and/or as a result of failure of protection works/measures; or

b) An essential emergency service such as that provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of erosion or any other hazard associated with unstable soils and unstable bedrock and/or as a result of failure of protection works/measures; or

c) Associated with the disposal, manufacture, treatment or storage of hazardous substances;

3) Notwithstanding Section 5.4.1 1), public infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within hazardous lands associated with unstable soil or bedrock subject to the completion of applicable studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and

4) Notwithstanding 5.4.1 1), development activity may be permitted for the reconstruction or relocation of a building within hazardous lands associated with unstable soils or bedrock provided it has been demonstrated to the satisfaction of the CA that the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property. The submitted plans for the building should demonstrate that:

   a) There is no feasible alternative site outside of the hazardous lands;

   b) The control of flooding, will not likely be affected; and,

   c) All hazards/risks associated with unstable soils or unstable bedrock have been adequately addressed.

**It should be noted that Hazardous Lands (unstable soils and bedrock) differs from other hazards associated with rivers, streams, valleys, and lakes (i.e., erosion, flooding, and dynamic beaches).**

# 6.0 WATERCOURSES

The current legislative structure embeds requirements for the administration of s. 28 in both the CA Act and O. Reg. 41/24. CA staff and their legal counsel must refer to both pieces of legislation to make decisions and develop policies and guidelines related to s. 28 permit applications.

## 6.1 Conservation Authorities Act

The CA Act contains the following sections dealing with watercourses.

Activities prohibited (Prohibited activities re watercourses, wetlands, etc.)

**"28** (1) No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:

1. Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.
2. Development activities in areas that are within the authority's area of jurisdiction and are, …

iii. river or stream valleys the limits of which shall be determined in accordance with the regulations, …, or

**Permits** (for activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse)

"**28.1** (1) An Authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by section 28, if, in the opinion of the authority,

a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and
b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; …"

The permit shall be given in writing, with or without conditions.

## 6.2 Ontario Regulation 41/24

Ontario Regulation 41/24 includes the following definition of a watercourse:

**“watercourse”** means a defined channel, having a bed and banks or sides, in which a flow of water regularly or continuously occurs.

The following section indicates how watercourses are defined for the purpose of administering the Regulations. A watercourse shall have a 15 metre allowance in accordance with the Regulation for River or Stream Valleys.

## 6.3 Discussion of Watercourses

These policies should be read in conjunction with the River or Stream Valleys section of this document. All watercourses shall have an allowance of 15 metres. This section includes the following graphics (Figures 16 and 17) that include the 15 metre allowance. The allowance may be located adjacent to slopes associated with the watercourse or may be located immediately adjacent to the watercourse and its’ meanderbelt (whichever is greater).

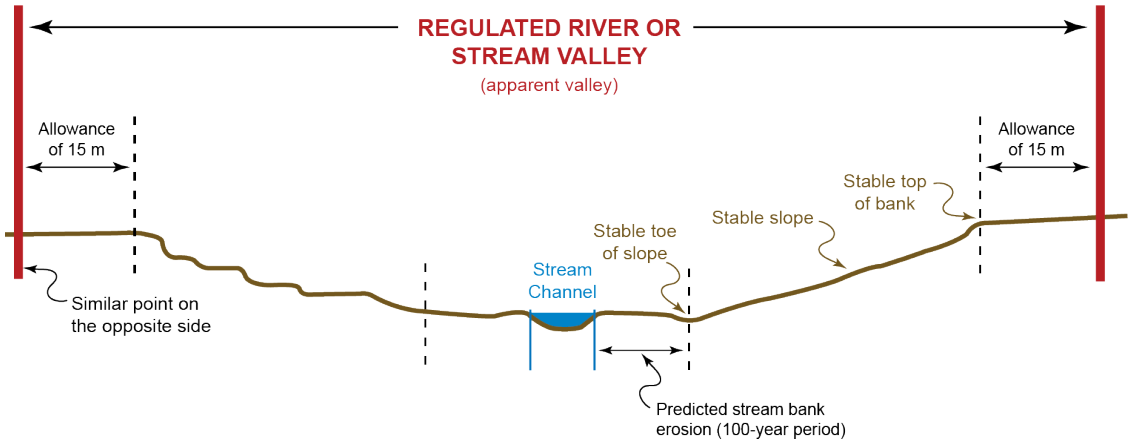



**Figure 16 Apparent River or Stream Valley where the valley slopes are stable.**

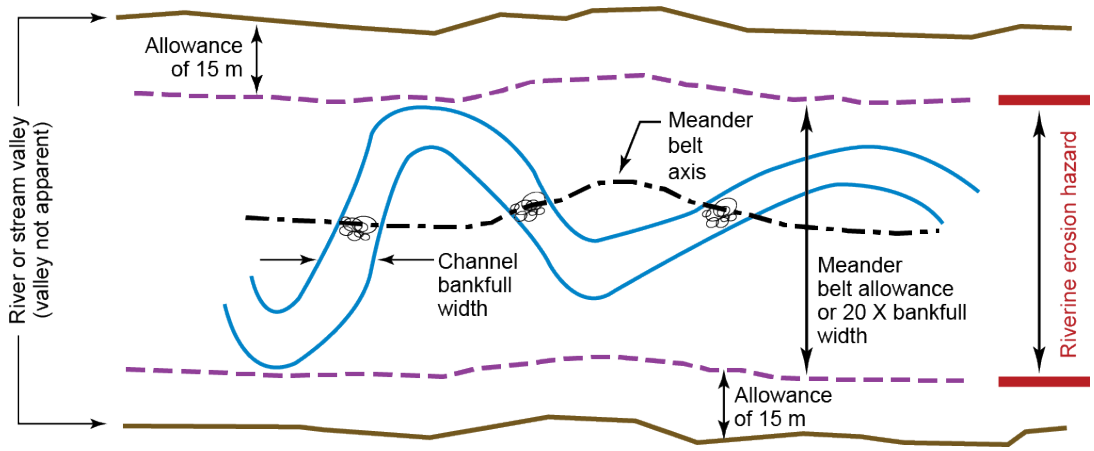



**Figure 17 Not Apparent River or Stream Valley (Meander Belt)**

To provide guidance in the Regulation of watercourses, it is necessary to highlight the functions of watercourses.

### 6.3.1 Function of Watercourses

Watercourses transport both water and sediment from areas of high elevation to areas of low elevation. Watercourses also transfer energy (e.g., heating and cooling of stream waters) and organisms (e.g., movement of mammals, fish schooling and insect swarming) and provide habitat for fish and other species either in-stream or at the air-water interface. Watercourses also provide a source of water supply for wildlife and livestock.

From a human perspective, watercourses provide social and economic values such as water supply, food resources, recreational opportunities (canoeing and fishing), hydro generation, land drainage, education experiences, and aesthetics.

Watercourses are dynamic, living systems with complex processes that are constantly undergoing change. The structure and function of watercourses are influenced by channel morphology, sediment characteristics (soil type, bedrock, and substrate characteristics) and the nature of the riparian vegetation both on the overbank and rooted in the bed of the watercourse. Any changes to one of these influences can have significant impacts upon other parts of the system. One of the key influences on the structure and function of a watercourse is related to the hydrology of the stream and its normal hydrograph. Changes in the volume, peaks and timing of flows can significantly impact the stream morphology, sediment transport and even riparian vegetation.

Changes to channel morphology reduce the ability of the watercourse to process sediment causing erosion and changing the amount or size of bed load being moved. Loss of 'natural features' such as riparian vegetation results in erosion, flooding etc. to downstream reaches and may result in pollutants and run-off being transferred from the land to the water that impact water quality. These changes, in turn, also degrade near shore and aquatic habitat and impair the watercourse for human use (note: aquatic habitat form or function is not a regulated activity).

## 6.4 Suggested Policy Guidelines

The following sections outline the suggested policy guidelines for implementing CA Regulation(s) with respect to watercourses. The term "interference" below includes all alterations mentioned within the CA Regulation (straighten, change, divert or interfere in any way). CAs, in their role through the planning process, should review planning applications to ensure watercourse alterations associated with development activity are appropriate.

Sections 6.4.1 1) to 6) - In each policy noted below, the activity may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

### 6.4.1 Interference with a Watercourse

1) In general, interference with a watercourse shall not be permitted;

2) Notwithstanding Section 6.4.1 1), public infrastructure (e.g., roads, sewers, flood and erosion control works, outlet of a storm water management facility) and various utilities (e.g., pipelines) may be permitted within a watercourse subject to the activity being approved through any studies deemed necessary by the Conservation Authority and/ or if the interference on the natural features and hydrologic functions of the watercourse has been deemed to be acceptable by the Conservation Authority;

3) Notwithstanding Section 6.4.1 1), stream, bank, and channel stabilization to protect existing development or conservation or restoration projects may be permitted within a watercourse if the interference on the natural features and hydrologic functions of the watercourse has been deemed to be acceptable by the Conservation Authority;

4) Notwithstanding Section 6.4.1 1), any works that are to be located below the bed of the river within a watercourse shall be located below the long term scour depth to the satisfaction of the Conservation Authority;

5) Notwithstanding Section 6.4.1 1), minor interference and/or alteration may be permitted within a watercourse if it has been demonstrated to the satisfaction of the Conservation Authority that the interference is acceptable on the natural features and hydrologic functions of the watercourse;

6) Notwithstanding Section 6.4.1 1), major interference (e.g., realignment, dam, enclosure, pond) with a watercourse may be permitted where supported by the recommendations of a sub-watershed study, Environmental Assessment and/ or equivalent study if it has been demonstrated to the satisfaction of the Conservation Authority that the interference is acceptable for the natural features and hydrologic functions of the watercourse;

7) Notwithstanding Section 6.4.1 1), watercourse crossings may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the interference on the natural features and hydrologic functions of the watercourse has been deemed to be acceptable by the Conservation Authority. At a minimum, the submitted plans should demonstrate the following based on morphological characteristics of the watercourse system[10];

   a) culverts have an open bottom where it is feasible, or where it is not feasible, the culverts should be appropriately embedded into the watercourse;

   b) crossing location, width, and alignment should be compatible with stream morphology, which typically requires location of the crossing on a straight and shallow/riffle reach of the watercourse with the crossing situated at right angles to the watercourse;

   c) the crossing is sized and located such that there is no increase in upstream or downstream erosion or flooding; and

   d) have regard for upstream and downstream effects when installing/ replacing a culvert.

   e) have regard to existing and/or planned level of service of the drain/drainage system, with consideration for minimum acceptable design standards that are appropriate for the nature of any proposed development.

---

[10] Refer to Adaptive Management of Stream Corridors in Ontario (Stream Corridors Project Management Team, 2001) for more information.

# 7.0 WETLANDS AND OTHER AREAS

The current legislative structure embeds requirements for the administration of s. 28 in both the CA Act and O. Reg. 41/24. CA staff and their legal counsel must refer to both pieces of legislation to make decisions and develop policies and guidelines related to s. 28 permit applications.

## 7.1 Conservation Authorities Act

The CA Act contains the following sections dealing with wetlands.

**Activities prohibited (Prohibited activities re watercourses, wetlands, etc.)**

**"28** (1) No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:

1. Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.

2. Development activities in areas that are within the authority's area of jurisdiction and are, …

   a. wetlands, …, or

      v. other areas in which development should be prohibited or regulated, as may be determined by the regulations. 2017, c. 23, Sched. 4, s. 25."

**Permits for development activity or change or interfere in any way**

**28.1** (1) An Authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited by section 28, if, in the opinion of the authority,

a) the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and

b) the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; …

The tests in the clauses outlined above apply to change or interfere with a wetland and development activities in the wetland and 'other area' (s. 28 (1) 1 and 2)). The tests will be used by CA staff in the review of a permit for both of these regulated

areas and types of activities. The permit shall be given in writing, with or without conditions.

## 7.2 Ontario Regulation 41/24

The Authority may grant a permit to change or interfere in any way with a wetland; or for a development activity, in or near the wetland i.e., in the 'other area' 30 metres from the wetland. O. Reg 41/24 defines wetlands for the purpose of administering the Regulations.

Prohibited activities, subparagraph 2 of ss. 28 (1) of the Act (development activity prohibited) O. Reg. 41/24 defines 'other areas' as:

**2.** (3) For the purposes of subparagraph 28(1) 2.v. of the Act, no person shall carry out development activities in areas that are within an authority's area of jurisdiction and are within 30 metres of a wetland.

**Wetland Definition**

As previously stated in Section 1.4.1, a wetland is defined in the Regulation as:

**"wetland"** means land that,

a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface,
b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse,
c) has hydric soils, the formation of which has been caused by the presence of abundant water, and
d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water,

(2) The definition of "wetland" in subsection (1) does not include periodically soaked or wet land used for agricultural purposes which no longer exhibits a wetland characteristic referred to in clause (c) or (d) of that definition.

The following section outlines additional definitions to those provided in Section 1.5 and Section 8.0 of this document.

### 7.2.1 Provincial Policy Statement

**Hydrologic Function** in the Provincial Policy Statement means: the functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

This is a comprehensive definition for the hydrologic cycle, which allows many factors to be considered when reviewing a change or interference to wetlands. The Southern Ontario Wetland Evaluation System (pg. 85 MNRF, 2022) states "it must be recognized that many of the non-hydrological functions of a wetland depend, in part, on the wetland's hydrological setting and that changes in the basin beyond the boundaries of the wetland could have an effect on the ecological value of the wetland."

### 7.2.2 Additional Definitions and Interpretations

The 'Guidelines for Developing Schedules of Regulated Areas, October 2005' approved by MNRF and CO includes the following "The requisite function of a wetland - `... directly contributes to … hydrological function/through connection with a surface watercourse…' is deemed to exist for all wetlands. Where a surface connection between a wetland and surface watercourse is not apparent, it is assumed that a groundwater connection exists between them, unless there is information to the contrary." (pg. 27). CAs may continue to use this interpretation and require the applicable studies to assess the application e.g., hydrological, hydrogeological, geotechnical study.

It should be noted that the *Conservation Authorities Act* and the CA Regulation uses the wording "in any way" when describing change or interference with a wetland. Activities proposed within the wetland boundary that could interfere in any way with the wetland, including both those activities that meet the definition of "development activity" and those that do not necessarily meet the definition of "development activity". An example of an activity that does not strictly meet the definition of "development activity" and could represent "change or interference" is the removal of hydrophytic or water tolerant plants in the wetland.

The CO Draft Guidelines to Support Conservation Authority Administration of the "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation", 2008 developed in consultation with MNRF, interpreted 'Interference in any way' as:

"any anthropogenic act or instance which hinders, disrupts, degrades or impedes in any way the natural features or hydrologic functions of a wetland or watercourse" (March 2008).

‘Natural features’ include vegetation as outlined in the definition of a wetland “…(d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water, …”.

There are a variety of sources for identifying wetlands. Many wetlands have been identified through the provincial wetland evaluation program and municipalities. A CA may have identified wetlands through a Natural Heritage or Subwatershed Study or technical assessments and site visits. Conservation Authorities may also identify wetlands as part of other natural hazard programs. Soils mapping (OMAFRA) may be useful in identifying organic soils which would indicate the potential for wetlands.

The Province uses the Ontario Wetland Evaluation System (OWES), originally developed in 1983, to identify and evaluate wetlands primarily to support land use planning processes under the *Planning Act*. The OWES currently consists of two manuals: the Southern Ontario Wetland Evaluation System and the Northern Ontario Wetland Evaluation System (MNRF, 2022). However, many of the scientific references in the current OWES guideline are from the 1970s to the early 1990s and more current scientific studies may be considered by CAs. Most components of the manuals are similar but important differences do exist between the evaluation manuals such as differences in climate, geomorphology, hydrology, human uses and other factors between these two parts of the province. Wetlands identified and evaluated using the OWES can be a valuable resource for implementing Section 28 of the *Conservation Authorities Act*, however, it is important to note that a wetland must meet the definition of ‘wetland’ within O. Reg. 41/24.

## 7.3 Discussion of Wetlands and Other Areas

To provide guidance in the regulating of wetlands and the associated allowances, it is necessary to highlight the functions of wetlands.

### 7.3.1 Functions of Wetlands

Wetlands provide functions that have both ecosystem and human values. From an ecosystem perspective these include primary production, sustaining biodiversity, wildlife habitat, habitat for species at risk, maintenance of natural cycles (carbon, water) and food chains. From a human perspective, wetlands provide social and economic values such as flood attenuation, recreation opportunities, production of valuable products, improvement of water quality and educational benefits.

Wetlands retain water during periods of high water levels or peak flows (i.e., spring freshet and storm events) allowing the water to be slowly released into the watercourse, infiltrate into the ground, and evaporate. Also, wetlands within the floodplain of a watercourse provide an area for the storage of flood waters and reduce the energy associated with the flood waters.

Wetlands retain and modify nutrients, chemicals and silt in surface and groundwater thereby improving water quality. This occurs temporarily in the plants of the wetland but long term in the organic soils.

In addition, wetlands provide a variety of hydrologic functions. Over 60 potential hydrological functions were identified and reviewed when developing the Southern Ontario Wetland Evaluation System. However, confirmation of many of these functions requires hydrological experts and field studies by qualified hydrologists. Therefore, the Ontario Wetland Evaluation System utilizes easily identifiable features and measures as surrogate values for these hydrological features.

### 7.3.2 Development Activity and Change or Interference

Applications to undertake a **development activity** must be assessed with respect to the "tests" outlined in the Conservation Authorities Act.

There are three ways through which the *Conservation Authorities Act* and the CA Regulation addresses wetlands and other areas within which development and other activities may interfere with a wetland (includes all components of the definition of a wetland) (Figure 18):

1. Development activities within the wetland boundary (Section 28 (1) 2. ii. of the CA Act)
2. Development activity within the 'other areas' 30 metres from the wetland (Section 28 (1) 2. v. of the CA Act)

To be regulated, the activities must meet the definition of development activity. See below for definition of "other areas" (Section 2. (3) of O. Reg 41/24.

3. Activities to change or interfere in any way with a wetland (Section 28 (1) 1. of the CA Act)

The activity must constitute a change or interference in any way with the wetland and to be regulated, the 'activity' should occur within the wetland boundary. Applications that include change or interference may be assessed with respect to the natural features (e.g., hydrophytic plants) and hydrologic functions etc.

Given the proximity of the 'other area' to a wetland i.e., 30m it is likely that most development activities in these areas will interfere with the adjacent wetland, subject to the scale of the proposed activities in this area. Applications for development activity or change or interference must be assessed using the three components of the definition of a wetland in the Regulation e.g., the effect a permit application may have on the hydrology, hydrologic functions maintaining the wetland, effect on hydrophytic plants etc.

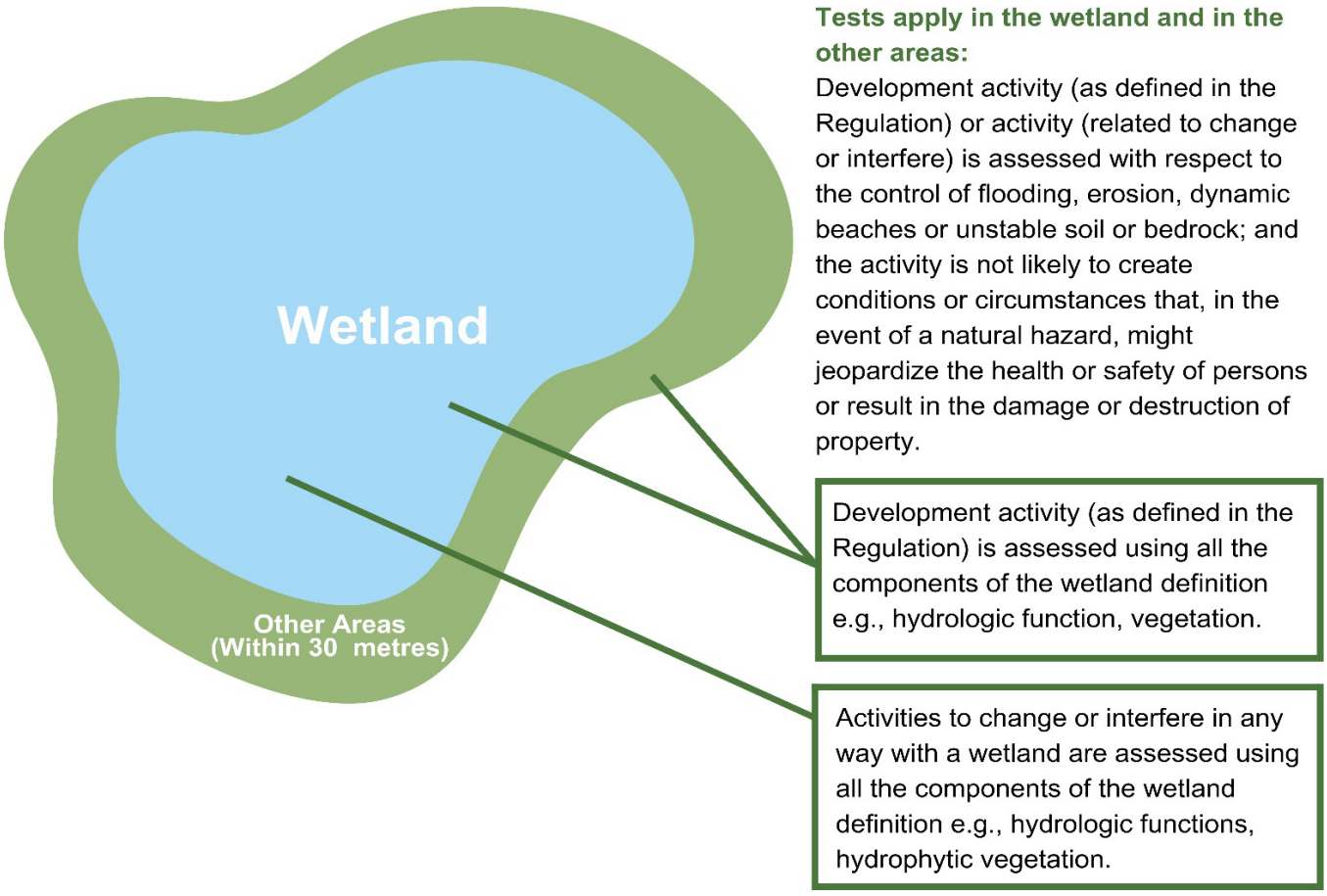



**Figure 18 Three ways the *Conservation Authorities Act* and the CA Regulation addresses wetlands and other areas.**

CAs assessment of the application may consider, depending upon the scope of the proposal, the following direct or indirect effects for activities that may change or interfere with the wetland:

- changes to the hydrologic function e.g., quantity or depth of water based on the existing hydrology and hydroperiod, retention of water; water regime maintaining the wetland (e.g., surface or groundwater, water balance, recharge and/or discharge);
- water quality during or after the activity will not result in filling the wetland or "other areas" with sediment etc. or affect the hydrophytic vegetation;
- impacts to the hydroperiod (seasonally);
- impact to the hydric soils or vegetation (e.g., removal);

- the potential for damage to a wetland or a watercourse associated with the wetland on an adjacent property; and
- other criteria identified by the CA.

To receive a permit for activities associated with wetlands, it must be demonstrated in an application that interference on all components of the definition of a wetland as noted above, are not likely to be affected by any activities of the application (site preparation, during construction and long term).

Portions of wetlands may also be regulated due to presence of hazardous lands such as regulated floodplains or unstable soils. The applicable sections of this document should be referenced with respect to these hazards.

Removal, filling, dredging, or changing the hydrologic regime of wetlands (e.g., ponds or drains) can result in reducing the capacity of wetlands to retain water. This can result in higher flows in watercourses with resulting increases in flooding and erosion. As well, with no ability to retain water, the ability to recharge the aquifer is reduced, and the hydrologic cycle is modified.

Many wetlands develop on organic soils and, as a result, when reviewing development within a wetland the soil composition should be reviewed. Where the soil is organic Section 5.0 (Hazardous Lands) should also be reviewed and the policies from this section should be incorporated in the decision making of the CA.

When reviewing an application with respect to change or interference, or development, the evaluation done under the OWES may be used as an information resource because it identifies the features and functions of the wetland. It should be noted that when reviewing an application with respect to development activity under the Regulation, the significance of the wetland as determined by the Ontario Wetland Evaluation System is not a reason to deny or approve the application. The application must be reviewed with respect to the following: the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

Determining what represents a change or interference can be very challenging and is dependent on a variety of parameters such as the type and the scale of activity. The legal and practical implications associated with regulating change or interference will require ongoing discussions and court decisions over the upcoming years.

Many individual and cumulative hydrologic impacts to a wetland commonly occur within the catchment area of the wetland. It is important to consider the linkages

between small wetlands and headwater areas, stormwater, and upstream constrictions to flow.

Impacts to the components of a wetland e.g., hydrologic function of a wetland due to development within the “other areas” may also result from changes in imperviousness/infiltration due to a removal or change in vegetation, soil compaction during construction, disruption, or alteration of groundwater flow paths due to underground construction, etc.

### 7.3.3 Technical Analysis

#### 7.3.3.1 “Change or Interfere in Any Way”

The definition of a wetland contains multiple components. Any activity that affects one or more components of the definition may be considered change or interference. In many circumstances the activity will also meet the definition of development activity and CA staff should consider reviewing the application using that definition.

As part of the review of a permit application, a CA may request a study(ies) that addresses all components of the wetland definition as well as the CA Act and Regulation requirements related to a change or interference with a wetland. Studies are a mechanism for assessing impacts and to determine the suitability of a proposal. The submission of a technical study does not guarantee approval of the works. The study must be carried out by a qualified professional, with recognized expertise in the appropriate area of concern and shall be prepared using established procedures and recognized methodologies to the satisfaction of the CA. There are two guidelines on the CO website that may assist staff in establishing the scope of the review in relation to the wetland definition (Hydrogeological Assessment Submissions Conservation Authority Guidelines for Development Applications, 2013, Recommendations for Conducting Wetland Environmental Impact Studies (EIS) for Section 28 Regulations Permissions, 2010 (Note: these guidelines require an update to align with current legislation and O. Reg 41/24 e.g. focus on natural hazards).

## 7.4 Suggested Policy Guidelines

The following sections outline the suggested policy guidelines for implementing the CA Regulation(s) with respect to wetlands (Section 7.4.1) and “other areas” (Section 7.4.2). CAs, in their role through the planning process, should review planning applications to ensure that, in general, all development activity can occur outside and be set back an appropriate distance from a wetland boundary.

Sections 7.4.1 4) to 8) - In each policy noted below, the activity will be may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

### 7.4.1 Development activity and Change or Interference Within Wetlands

1) In general, development activity and change or interference shall not be permitted within wetlands;

2) In general, ponds and drains shall not be permitted within wetlands;

3) In general, stormwater management facilities shall not be permitted within wetlands;

4) Notwithstanding Section 7.4.1 1), change or interference with a wetland north of Ecoregions 5E, 6E, and 7E may be permitted if the development activity and interference on the hydrophytic vegetation and hydrologic functions etc. of the wetland has been deemed to be acceptable by the Conservation Authority; (note Essex Region is Ecoregion 7E-1, per The ecosystems of Ontario – Part 1: ecozones and ecoregions | ontario.ca)

5) Notwithstanding Section 7.4.1 1), development activity and change or interference within wetlands north of Ecoregions 5E, 6E, and 7E may be permitted;

6) Notwithstanding Section 7.4.1 1), works to public infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within a wetland if the development activity and change or interference on the hydrophytic vegetation and hydrologic functions etc. of the wetland has been deemed to be acceptable by the Conservation Authority;

7) Notwithstanding Section 7.4.1 1), conservation or restoration projects may be permitted within a wetland if the development activity and change or interference on the hydrophytic vegetation and hydrologic functions etc. of the wetland has been deemed to be acceptable by the Conservation Authority; and

8) Notwithstanding Section 7.4.1 1), development activity associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail system) may be permitted within a wetland if the development activity and

change or interference on the hydrophytic vegetation and hydrologic functions etc. of the wetland has been deemed to be acceptable by the Conservation Authority.

### 7.4.2 Development Activity Within 'Areas' Adjacent to a Wetland

**Ontario Regulation 41/24 states:**

**2 (3)** For the purposes of subparagraph 28(1) 2.v. of the Act, no person shall carry out development activities in areas that are within an authority's area of jurisdiction and are within 30 metres of a wetland.

Sections 8.4.2 1) to 5) - In each policy noted below, the activity will be assessed on its' own merits and may be permitted subject to the applicant providing complete studies and plans that demonstrate to the satisfaction of the Conservation Authority that the activity will not affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property.

All components of the wetland definition and the CA Act and Regulation requirements related to the development activity or a change or interference with a wetland will be considered in a permit application.

1) In general, development activity shall not be permitted within 30 metres of the boundary of the wetland;

2) Notwithstanding Section 7.4.2 1), development activity within 30 metres of a wetland may be permitted if the development activity and change or interference on the vegetation and hydrologic functions etc. of the wetland has been deemed to be acceptable by the Conservation Authority;

3) Notwithstanding Section 7.4.2 1), public infrastructure (e.g., roads, sewers, flood and erosion control works, outlet of a storm water management facility and various utilities (e.g., pipelines) may be permitted within 30 metres of a wetland if the development activity and change or interference of the wetland has been deemed to be acceptable by the Conservation Authority;

4) Notwithstanding Section 7.4.2 1), conservation or restoration projects may be permitted within 30 metres of a wetland if the development activity and change or interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;

5) Notwithstanding Section 7.4.2 1), development activity associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail system) may be permitted within 30 metres of a wetland if the development activity and change or interference on the wetland has been deemed to be acceptable by the Conservation Authority;

6) Notwithstanding Section 7.4.2 1), single family buildings or structures may be permitted within 30 metres of a wetland on vacant lots of record if the development activity and change or interference of the wetland has been deemed to be acceptable by the Conservation Authority, and if there is no feasible alternative to locate the proposed works at least 30 metres away from the wetland. A study or studies to assess the application and each component of the wetland definition shall be required if the submitted plans do not demonstrate the following:

   a) All development activity (including grading) is located outside the regulated wetland and maintains a minimum 15 metre setback (or as much as is feasible). “As much as feasible” shall not be misconstrued to allow for “excessive” development such that the available setback/buffer is reduced as a result of the desired development;

   b) Disturbances to natural vegetation communities including hydrophytic plants contributing to the hydrologic function of the wetland are avoided;

   c) The overall existing drainage patterns for the lot will be maintained;

   d) Disturbed area and soil compaction is minimized;

   e) Development activity is located above the high water table;

   ~~f) All septic systems are located a minimum of 15 metres from the wetland and a minimum of 0.9 m above the water table;~~ (note – septic design and requirements are covered under the Building Code)

   g) Impervious areas are minimized; and

   h) Best Management Practices are used to:

      i) maintain water balance

      ii) control sediment and erosion

      iii) buffer wetlands.

## 8.0 DEFINITIONS

**100 Year Flood Event Standard**: that flood, based on an analysis of precipitation, snow melt, or a combination thereof, having a return period of 100 years on average, or having a 1% chance of occurring or being exceeded in any given year.

**One hundred year flood level**: means:

a) for the shorelines of the Great Lakes, the peak instantaneous still water level, resulting from combinations of mean monthly lake levels and wind setups, which has a 1% chance of being equalled or exceeded in any given year;
b) in the connecting channels (St. Marys, St. Clair, Detroit, Niagara and St. Lawrence Rivers), the peak instantaneous still water level which has a 1% chance of being equalled or exceeded in any given year; and
c) for large inland lakes, lake levels and wind setups that have a 1% chance of being equalled or exceeded in any given year, except that, where sufficient water level records do not exist, the one hundred year flood level is based on the highest known water level and wind setups[11].

**Access standards:** means methods or procedures to ensure safe vehicular and pedestrian movement, and access for the maintenance and repair of protection works, during times of flooding hazards, erosion hazards and/or other water-related hazards.

**Area of interference:** those lands where development activity, interference, or change to a wetland, could interfere with the natural features or hydrologic functions of a wetland or watercourse.

**Armour:** artificial surfacing of watercourse or shoreline beds, banks, shores or embankments to resist scour or erosion.

**Accepted Engineering Principles:** means those current coastal, hydraulic, and geotechnical engineering principles, methods and procedures that would be judged by a peer group of qualified engineers as being reasonable for the scale and type of project being considered, the sensitivity of the locations, and the potential threats to life and property.

**Basement:** one or more storeys of a building located below the first storey (Building Code). Crawl space or cellar **shall** be considered as a basement if it is,

---

[11] MNRF Technical Flooding Technical Guideline (Glossary)

(a) more than 1 800 mm high between the lowest part of the floor assembly and the ground or other surface below,
(b) used for any occupancy.

**Breakwall/Breakwater:** object (especially a groyne or pier) resisting force of waves.

**Development activity:** a) the construction, reconstruction, erection or placing of a building or structure of any kind, b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure, c) site grading, or d) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere. Development Activity includes a Development Project.

**Development project:** is defined in Section 28.1.2 (2) of the CA Act. In this section," development project means a development project that includes any development activity as defined in subsection 28 (5) and any other act or activity that, without a permit issued under this section or section 28.1, would be prohibited under section 28. 2020, c. 36, Sched. 6, s. 17."

**Dwelling unit:** one or more habitable rooms, occupied or capable of being occupied as an independent and separate housekeeping establishment, in which separate kitchen and sanitary facilities are provided for the exclusive use of the occupants.

**Dike:** an embankment or wall, usually along a watercourse or floodplain, to prevent overflow on to adjacent land. Also spelled dike.

**Dynamic Beach Hazard:** areas of inherently unstable accumulations of shoreline sediments along the Great Lakes – St. Lawrence River System and large inland lakes, as identified by provincial standards, as amended from time to time. The dynamic beach hazard limit consists of the flooding hazard limit plus a dynamic beach allowance.

**Erosion:** continual loss of earth material (i.e., soil or sediment) over time as a result of the influence of water or wind.

**Erosion Hazard:** the loss of land, due to human or natural processes, that poses a threat to life and property. The erosion hazard limit is determined using considerations that include the 100 year erosion rate (the average annual rate of recession extended over a one hundred year time span), an allowance for slope stability and an erosion/erosion access allowance.

**Flooding Hazard:** in Ontario, either storm-centred events, flood frequency based events, or an observed event may be used to determine the extent of the flooding hazard[12]. These events are:

a) A storm-centred event, either Hurricane Hazel storm (1954) or Timmins storm (1961). A storm-centred event refers to a major storm of record which is used for land use planning purposes. The rainfall actually experienced during a major storm event can be transposed over another watershed and when combined with the local conditions, Regulatory floodplains can be determined. This centring concept is considered acceptable where the evidence suggests that the storm event could have potentially occurred over other watershed in the general area;
b) 100 year flood event is a frequency based flood event that is determined through analysis of precipitation, snow melt, or a combination thereof, having a return period (or a probability of occurrence) of once every 100 years on average (or having a 1% chance of occurring or being exceeded in any given year). The 100 year flood event is the minimum acceptable standard for defining the Regulatory floodplain;
c) An observed event, which is a flood that is greater that the storm-centred events or greater that the 100 year flood and which was actually experienced in a particular watershed, or portion thereof, for example as a result of ice jams[13], and which has been approved as the standard for that specific area by the Minister of Natural Resources; and
d) Along the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes, the flooding hazard limit is based on the one hundred year flood level plus an allowance for wave uprush and other water related hazards;

**Gabions:** stone-filled steel wire baskets which can be assembled or stacked to act as retaining walls or provide slope and erosion protection.

**Groyne:** a structure extending from the shore to prevent erosion and arresting sand movement along a shoreline.

---

[12] High points of land not subject to flooding but surrounded by floodplain or ”flooded land” are considered to be within the flood hazard and part of the regulated floodplain.

[13] However, localized chronic conditions (e.g. ice or debris jams) related to flood prone areas may be used to extend the regulated area beyond the Regulatory Flood limit without the approval of the Minister of Natural Resources. It will be necessary to inform the property owner(s) as well as ensuring that the revised limits are reflected in the appropriate municipal documents at the first opportunity.

**Habitable:** suitable to live in or on (American Heritage Dictionary) OR means, that can be inhabited. Inhabit means to dwell in, occupy.

**Hazardous Land:** means land that could be unsafe for development activity because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock.

**Hydrologic Function:** the functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

**Interference in any way:** any anthropogenic act or instance which hinders, disrupts, degrades or impedes in any way the natural features or hydrologic and ecologic functions of a wetland or watercourse.

**Jetty:** pile or mole running out to protect harbour or coast.

**Large Inland Lakes:** waterbody that have a surface area equal to or greater than 100 square kilometers where there is no measurable or predictable response to a single runoff event.

**Minor Addition:** each individual CA should define within their own policy document what constitutes a minor addition within their area of jurisdiction; however, a minor addition definition should not exceed Provincial Guidelines of 50% of the total floor area for riverine and shoreline flood hazards or 30% for shoreline erosion hazards[14]. It is recommended that each CA should consider the following in developing their definition: a) the type of use (i.e. residential habitable, residential non-habitable, commercial, industrial, institutional, etc.; b) the **total floor area** and the **footprint area within the floodplain** when determining the permissible area increase; c) in addition to the traditional percentage increase of existing floor/footprint area, a cap on the permissible addition in terms of total square footage; d) a means of addressing cumulative impacts over time, such as applying the permissible area increase and cap to all additions from an appropriate time designated within the CAs policy document; and e) no increase in the number of dwelling units.

**Qualified Professional:** a person with specific qualifications, training, and experience authorized to undertake work in accordance with accepted engineering

---

[14] MNRF (1996). *Technical Guide for Large Inland Lakes* (see Section 8.2.1, Page 8-4)

or scientific principles as well as provincial standards, criteria, and guidelines to the satisfaction of the CA.

**Regulatory floodplain:** see definition of flooding hazard

**Retaining Wall:** a vertical structure designed to resist the lateral pressure of soil and water behind it.

**Revetment:** a vertical or inclined facing of rip-rap or other material protecting a soil surface from erosion.

**Riprap:** a layer of stone to prevent the erosion of soil.

**Rubble:** waste fragments of stone, brick etc. from old houses; pieces of undressed stone used especially as filling-in, for walls; loose angular stones as covering of some rocks; water worn stones.

**Scour:** local lowering of a stream bed by the erosive action of flowing water.

**Sedimentation:** The deposition of detached soil particles.

**Significant Wetland:** an area identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time. [15]

**Spill Flood Hazard:** Spill flood hazard areas are locations where flood waters may leave the flood plain of a watercourse and “spill” into surrounding lands, rejoining the watercourse at a distance downstream or moving into another watershed.

**Still water line:** the 100 year peak or flood level with a one chance in one hundred of occurring in any given year, without the influences of wave uprush, seche, ship-generated waves, ice-piling or other water-related hazards.

---

[15] Note: The evaluation status of a wetland under OWES is no longer referenced in the CA s. 28 Regulation.

**Storey**[16]**:** the portion of a building;

a) that is situated between the top of any floor and the top of the floor next above it, or

a) that is situated between the top of the floor and the ceiling above the floor, if there is no floor above it.

**Surficial erosion:** the physical removal, detachment and movement of soil at the ground surface due to water or wind.

**Top-of-bank:** the point at which the slope of a valley or shoreline meets the horizontal plain of the adjacent table-land.

**Watercourse:** means a defined channel, having a bed and banks or sides, in which a flow of water regularly or continuously occurs;

**Watershed:** an area that is drained by a river and its tributaries.

**Wave uprush**: means the rush of water up onto a shoreline or structure following the breaking of a wave; the limit of wave uprush is the point of furthest landward rush of water onto the shoreline. (Provincial Policy Statement, 2020).

**Wetland:** means land that,

a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface,
b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse,
c) has hydric soils, the formation of which has been caused by the presence of abundant water, and
d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water,

The definition of “wetland” above does not include periodically soaked or wet land used for agricultural purposes which no longer exhibits a wetland characteristic referred to in clause (c) or (d).

---

[16] Ontario Reg. 332/12: Building Code includes: “Storey means, except for the purposes of Part 7 of Division B, the portion of a building,…”

**Note:** Additional definitions may be found in the MNRF Technical Guidelines and the Provincial Policy Statement and Provincial Plans under the *Planning Act*

# 9.0 REFERENCES AND WEB LINKS

## 9.1 References[17]


MNRF (2023) *Technical Bulletin – Flooding Hazards: Data Survey and Mapping Specifications*

MNRF. (2002 as amended). *River and Stream Systems: Flooding Hazard Limit Technical Guide.*

MNRF (2002). *River and Stream Systems: Erosion Hazard Limit Technical Guide.*

MNRF. (2001). *Understanding Natural Hazards.*

MNRF (2005) Procedures for Approval of New Special Policy Areas (SPAs) and Modifications to Existing SPAs Under the Provincial Policy Statement, 2005 (PPS, 2005), Policy 3.1.3 – Natural Hazards – Special Policy Areas.

MNRF (1996). *Hazardous Sites Technical Guide*.

MNRF (1996). *Technical Guide for Great Lakes – St. Lawrence River System. (See Part One to Part Eight)*

Ministry of Natural Resources and Forestry (MNRF) and Conservation Ontario. (2005). *Guidelines for Developing Schedules of Regulated Areas*.

MNRF (1996). *Technical Guide for Large Inland Lakes.*

MNRF (1997). *Wave Uprush and Overtopping: Methodologies and Applications (Great Lakes - St. Lawrence River Systems)*[11]

MNRF. (2022). Ontario Wetland Evaluation System: Northern Manual.

MNRF. (2022). Ontario Wetland Evaluation System: Southern Manual.

Prent & J. Parish. (2001). Belt Width Delineation Procedures.[12]


[17] Available on the Conservation Ontario, Members page under: “Policy and Planning; Section 28 Regulation; Provincial Guidance or Mapping Guidelines

Terraprobe Limited and Aqua Solutions (for MNRF). (1998). *Geotechnical Principles for Stable Slope, Great Lakes – St. Lawrence River System: Physical features and Processes*, part #1 pp 38-49.[12]

## 9.2 Web Links

**Conservation Authorities Act (CA Act):** References in this document are from the CA Act current as of January 1, 2023.

https://www.ontario.ca/laws/statute/90c27

**Mandatory Programs and Services - O. Reg. 686/21**: References in this document are from O. Reg 686/21 current as of January 1, 2023.

https://www.ontario.ca/laws/regulation/210686

Prescribed Acts (Subsections 21.1.1 (1.1) and 21.1.2 (1.1) of the CA Act - O. Reg. 596/22: References in this document are from O. Reg 596/22 current as of January 1, 2023.

https://www.ontario.ca/laws/regulation/220596

Ontario Regulation 41/24

insert new Regulation link

Conservation Ontario

https://conservationontario.ca

Provincial Technical Guidelines

The technical guidelines referenced in this document are available on the CO website for CA staff use.

Section 28 Regulations // Conservation Ontario

These include but are not limited to: “Technical Guide: River and Stream Systems: Erosion Hazard Limit (MNRF 2002)”, “Technical Guide: River and Stream Systems: Flooding Hazard Limit” (MNRF 2002 as amended), “Adaptive Management in Ontario – Natural Hazards Technical Guides” (MNRF and Watershed Science Centre, 2002) and the Great Lakes-St. Lawrence River System and Large Inland Lakes: Technical Guides (Watershed Science Centre and MNRF, 2001).

Provincial Policy Statement (Natural Hazards)

https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf

Legal Decisions:

Court of Appeal for Ontario:

Gilmor v. Nottawasaga Valley Conservation Authority (2017)

## 10.0 OTHER AGENCY APPROVALS

Issuance of a permit does not relieve the applicant from the responsibility of acquiring approval from other agencies or relieve the applicant from compliance with any conditions that other agencies may impose on the work.