

Policies for the Implementation of Ontario Regulation 168/06

Development, Interference with Wetlands and
Alterations to Shorelines and Watercourses
Regulation

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PART A - PREAMBLE

1.0 PURPOSE

The purpose of this document is to provide a framework under which applications for permission under Ontario Regulation 168/06 can be consistently and comprehensively assessed in a timely fashion. Approved by the Ganaraska Region Conservation Authority Board of Directors, this document will act as a tool which will guide staff in making recommendations to the Board of Directors, to approve or refuse applications made under its Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation. This document is intended to provide transparency and consistency in determining whether the control of flooding, erosion, dynamic beaches, pollution or the conservation of lands will be affected, or whether an interference with a watercourse or wetland is acceptable.

2.0 BACKGROUND

The Province of Ontario enacted *the Conservation Authorities Act* in 1946, enabling a group of municipalities in a watershed or group of watersheds to form a Conservation Authority for the purpose of carrying out programs to conserve the natural resources of the area over which a particular Authority has jurisdiction. The Act was passed in response to flooding and erosion events which had occurred throughout the Province. Since the Act was passed, Conservation Authorities have assumed a key role in watershed planning and water resource management.

On July 31, 1946 the Ganaraska Advisory Board met to discuss and recommend conditions for the establishment of a Conservation Authority. On October 8, 1946, The Ganaraska River Conservation Authority was formed, with jurisdiction over the 280 square kilometer Ganaraska River watershed. Two expansions of the Authority occurred over the years. One in 1962, to include the watersheds of Wilmot Creek and the smaller watercourses flowing into Lake Ontario between the Ganaraska River and Wilmot Creek. The second expansion occurred in 1970 to include the Cobourg Creek watershed and surrounding tributaries. This expansion led to the Authority's present area of jurisdiction which encompasses approximately 935 square kilometers.

3.0 LEGISLATIVE CONTEXT

Subject to the approval of the Minister, Section 28(1) of the *Conservation Authorities Act*, enables Conservation Authorities to make regulations applicable in the area under its jurisdiction which:

- a) restrict and regulate the use of water in or from rivers, streams, inland lakes, ponds, wetlands and natural or artificially constructed depressions in rivers or streams;
- b) prohibit, regulate or require the permission of the Authority 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;
- c) prohibit, regulate or require the permission of the Authority for development if, in the opinion of the authority, the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land may be affected by the development;

Following amendments to the *Conservation Authorities Act* as part of the *Red Tape Reduction Act* in 1998, Ontario Regulation 97/04 “Content of Conservation Authority Regulations under Subsection 28 (1) of the Act: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses” (i.e., Generic Regulation) was approved in May 2004. This Regulation established the content requirements to be met in a regulation made by a Conservation Authority (Conservation Authority) under Subsection 28(1) of the *Conservation Authorities Act*.

In 2006, the Minister of Natural Resources approved Ontario Regulation 168/06, this Authority’s Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, consistent with Ontario Regulation 97/04 of the *Conservation Authorities Act*. Ontario Regulation 168/06 includes regulation of the following:

- a) development in river or stream valleys, wetlands, shorelines and hazardous lands and associated allowances;
- b) the straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream, watercourse or for changing or interfering in any way with a wetland; and,
- c) development in other areas where, in the opinion of the Minister, development should be prohibited or regulated or should require the permission of the Authority.

Unlike its predecessor, the Fill, Construction and Alteration to Waterways Regulation, it is not necessary for a feature to be mapped for it to be regulated. The legal basis for defining regulated areas remains with the written text of Ontario Regulation 168/06. Estimates of the regulation limits within GRCA’s jurisdiction are contained in mapping available at the Administration Offices, and are based on the best available information; however site specific determination of regulation limits is still often required.

4.0 NATURAL HAZARD MANAGEMENT PROGRAM COMPONENTS

The following objectives will be applied when implementing the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation.

- To prevent loss of life and/or property damage resulting from flooding and/or erosion on lands subject to the Regulation by minimizing hazardous and unnecessary development of lands within the Regulatory Flood Plain;
- To promote the conservation and wise use of watercourses and their associated valleylands in the context of an interconnected natural heritage system;
- To require mitigating measures to be undertaken for works within regulated areas, which singly or cumulatively may cause an increase in flooding or erosion, or adversely affect natural heritage systems;
- To reduce the necessity for public and private expenditures for emergency operations, evacuation and restoration of properties subject to flooding;
- To regulate uses of floodplains and any development within them which in future years may require emergency operations and expensive protective measures;

- To direct development away from potentially dangerous slopes associated with valleylands and shorelines;
- To manage soil erosion from valley slopes and shorelines;
- To regulate the draining or filling of wetlands which may reduce natural water storage capacity and protect both provincially significant and other wetlands; and,
- To minimize water pollution associated with filling and construction activities.

The management of natural hazards involves a combination of four main program components:

1. *Prevention* – of new development located within areas subject to loss of life and property damage from natural hazards.
2. *Protection* – of existing development from natural hazards through the application of structural and non-structural measures/acquisition.
3. *Emergency Response* – to evacuate and mitigate existing residents through flood forecasting and warning including disaster relief.
4. *Co-ordination* – between natural hazard management, and planning and development.

The guiding principles behind natural hazard management are:

- Proper natural hazard management requires natural hazards (flooding, erosion, leda clay, organic soils, karst bedrock, dynamic beaches) to be simultaneously recognized and addressed in a manner that is integrated with land use planning and maintains environmental and ecosystem integrity;
- Effective floodplain management can only occur on a watershed and littoral reach basis with due consideration given to development effects and associated environmental and ecosystem 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 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 environmental impacts must not be permitted to occur unless the natural hazard and environmental 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, Conservation Authorities, the Ministry of Natural Resources (MNR) and the Ministry of Municipal Affairs and Housing (MMAH).

5.0 EXEMPTIONS

Section 28 of the *Conservation Authorities Act* includes the following sections dealing with exceptions:

Exceptions

- (10) No regulation made under subsection (1),
- a) shall limit the use of water for domestic or livestock purposes;
 - b) shall interfere with any rights or powers conferred upon a municipality in respect of the use of water for municipal purposes;
 - c) shall interfere with any rights or powers of any board or commission that is performing its functions for or on behalf of the Government of Ontario; or
 - d) shall interfere with any rights or powers under the *Electricity Act*, 1998 or the *Public Utilities Act*, 1998.

Activities under the *Aggregate Resources Act*

- (11) A requirement for permission of an Authority in a regulation made under clause (1) (b) or (c) does not apply to an activity approved under the *Aggregate Resources Act* after the *Red Tape Reduction Act*, 1998 received Royal Assent.

While Section 28 (11) provides an exemption to the requirement for a Conservation Authority's permission, Section 28 (10) does not. As such, a proponent is still required to obtain permission from a Conservation Authority for any development within a regulated area or interference to a wetland or watercourse associated with the items listed in Section 28 (10). However, a Conservation Authority must ensure their Regulation and policies do not limit the uses or interfere with the rights or powers listed in Section 28 (10). This allows a Conservation Authority to ensure that there is no interference with a wetland or watercourse or that the interference is minimized to the extent possible, and that the control of flooding, erosion, dynamic beaches or pollution or the conservation of land are either not affected by the development or the impacts are minimized to the extent possible.

Additionally, 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 permission under the *Conservation Authorities Act*.

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

6.0 ADMINISTRATIVE PROCEDURES

To receive permission for development, it must be demonstrated in an application to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. The control of dynamic beaches is generally applicable to the Great Lakes shorelines and large inland lakes regulated areas. To receive permission to interfere with a watercourse or wetland, it must be demonstrated in an application to the satisfaction of the Conservation Authority, that the interference on the watercourse or wetland is acceptable in terms of the natural features and hydrologic and ecological functions of the watercourse or wetland. To receive permission for development within “other areas” associated with wetlands, it must be demonstrated in an application that interference on the hydrologic functions of the wetland is deemed acceptable by the Conservation Authority. Permission from a Conservation Authority 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. These 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 Conservation Authority. These established procedures should be in keeping with MNR Technical Guides for Natural Hazards (MNR, 2002a; MNR, 2002b; MNR, 1996a; MNR, 1996b; and MNR 1996c), other Provincial guidelines and/or guidelines approved by the local Conservation Authority Board. The Conservation Authority may request that technical studies be carried out at the expense of the applicant. Expertise for reviewing technical studies varies among Conservation Authorities. Where expertise within the Conservation Authority is not available, the Conservation Authority 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 Conservation Authority Board or Executive Committee (sitting as a Hearing Board). The Section 28 (3) *Conservation Authorities Act* Hearing Guidelines (Conservation Ontario and MNR, 2005) provides a step-by-step process for conducting hearings required under Section 28 (12), (13), (14) of the *Conservation Authorities Act* (Appendix 4). Conservation Authorities should conduct a hearing under their individual 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 Conservation Authority staff and the applicant and to decide whether the application will be approved with or without conditions or refused.

An applicant who has been refused permission or objects to conditions imposed on a permission may, within 30 days of receiving the written notice of the hearing decision, appeal to the Minister of Natural Resources, who may refuse the permission or grant permission, with or without conditions. The Mining and Lands Commissioner has been

assigned the authority, duties and powers of the Minister of Natural Resources under the *Ministry of Natural Resources Act* to hear appeals from the decisions of a Conservation Authority made under the *Conservation Authorities Act*. The Commissioner's decision is final and binding. There are no further appeal procedures with the exception of a "judicial review" based on a decision where there is a perceived "error in law".

7.0 PRE-CONSULTATION

Prior to formal submission of an application under Ontario Regulation 168/06, to the purchase of lands subject to the regulation, or submission of a *Planning Act* application within Conservation Authority regulated lands, pre-consultation is encouraged to provide clarity and direction and to facilitate receipt of complete applications and to streamline the *Conservation Authorities Act* Section 28 permission (permit) review and decision making process. Pre-consultation provides an opportunity for Conservation Authorities and applicants to determine complete application requirements for specific projects.

In order to determine complete application requirements, applicants must submit in writing adequate information for effective pre-consultation to occur. This should include items such as property information (lot number, concession number, township, etc.), a conceptual plan of the nature and extent of development proposed which includes the property limits, all existing and proposed grades and a description of what is being proposed.

8.0 APPLICATION COMPLETENESS

In making an application for permission to develop, Ontario Regulation 168/06 requires the following to be submitted along with a signed application:

- Four copies of a plan of the area showing the type and location of the development;
- The proposed use of the buildings and structures following completion of the development;
- The start and completion dates of the development;
- The elevations of existing buildings, if any, and grades and the proposed elevations of buildings and grades after development;
- Drainage details before and after development;
- A complete description of the type of fill proposed to be placed or dumped;
- A signed land owner authorization for the Conservation Authority to enter the property;
- Depending on the proposed extent of intrusion or encroachment into a regulated area and/or the associated potential negative impacts, technical studies/plans as required to meet the regulatory provisions of Section 28 of the *Conservation Authorities Act*. Applications for major applications generally require more complex supporting technical studies; and,
- Submission of the prescribed fee set by the Conservation Authority for review of the application.

In making an application to straighten, change, divert, or interfere with an existing channel of a river, creek, stream, or watercourse or to change or interfere with a wetland, the following information will be required:

- Four copies of a plan of the area showing plan view and cross-section details of the proposed alteration;
- A description of the methods to be used in carrying out the alteration;
- The start and completion dates of the alteration;
- A statement of the purpose of the alteration;
- A signed land owner authorization for the Conservation Authority to enter the property;
- Depending on the proposed extent of intrusion or encroachment on a regulated area and/or the associated potential negative impacts, technical studies/plans as required to meet the regulatory provisions of Section 28 of the *Conservation Authorities Act*. Applications for major applications generally require more complex supporting technical studies; and,
- Submission of the prescribed fee set by the Conservation Authority for review of an application.

When all of the information listed above is received in a form satisfactory to the Conservation Authority, an application will then be deemed to be complete. An application can be put “on hold” or returned to the applicant pending the receipt of further information.

The Ganaraska Region Conservation Authority will notify applicants, in writing, within 21 days of the receipt of a permission (permit) application, if that application is deemed to be incomplete. The applicant will be provided with a written list of missing/required information when the applicant is notified that the application has been deemed incomplete.

If not satisfied with the decision on whether an application is deemed complete, the applicant can request an administrative review by the Conservation Authority Chief Administrative Officer (CAO) and then if not satisfied, by the Conservation Authority Board of Directors. This review will be limited to a review of the completeness of the application and will not include review of the technical merits of the application.

During the review of a “complete application”, a Conservation Authority may request additional information if the Conservation Authority deems a permission (permit) application does not contain sufficient technical analysis. Delays in decision making may occur due to Conservation Authority requests for additional information to address errors or gaps in information submitted for review. Thus, an application can be put “on hold” or returned to the applicant pending the receipt of further information. If necessary, this could be confirmed between both parties as an “Agreement to Defer Decision”.

PART B – GENERAL POLICIES

1.0 GENERAL POLICIES

The following sections describe the general policies to be applied in areas regulated by the Ganaraska Region Conservation Authority (GRCA).

1.1 GENERAL POLICIES

Within areas defined by the Regulation (Regulated Area) including river or stream valleys and an allowance; wetlands or other areas where development could interfere with the hydrologic function of a wetland (areas of interference); lands adjacent or close to the shoreline of Lake Ontario and inland lakes and an allowance; watercourses, or hazardous lands, the following general policies will apply:

1.1.1 Development, interference or alteration will not be permitted within a Regulated Area, except in accordance with the policies in Part B (General Policies) Part C (Specific Policies) and Part D (Special Policies);

1.1.2 Development, interference or alteration within a Regulated Area may be permitted where it can be demonstrated through appropriate technical studies and/or assessments, site plans and/or other plans as required by the GRCA that:

- a) There is no feasible alternative location for the development outside of the hazard;
- b) The risk to public safety is not increased;
- c) Susceptibility to natural hazards is not increased or new hazards created;
- d) There are no adverse hydraulic or fluvial impacts on rivers, creeks, streams, or watercourses;
- e) That adverse impacts on the natural shoreline processes of Lake Ontario are avoided and mitigated to the extent possible;
- f) Grading (e.g., placing and removing fill) is minimized and maintains stage-storage discharge relationships and floodplain flow regimes for a range of rainfall events, up to and including the Regional Storm;
- g) Negative or adverse hydrologic and ecological impacts on natural features and functions are avoided and mitigated to the fullest extent possible;
- h) Pollution, sedimentation and erosion during construction and post construction is minimized using best management practices including site, landscape, infrastructure and/or facility design (whichever is applicable based on the scale and scope of the project), construction controls, and appropriate remedial measures;
- i) Intrusions within and encroachment on significant natural features are, to the extent possible, avoided;
- j) Groundwater discharge areas which support significant natural features or hydrologic or ecological functions on-site and adjacent to the site are, to the extent possible, avoided;
- k) Groundwater recharge areas which support significant natural features or hydrologic or ecological functions on-site and adjacent to the site will be maintained or enhanced;

- l) Access for emergency works and maintenance of flood or erosion control works is available;
- m) Works are constructed, repaired and/or maintained according to accepted engineering principles and approved engineering standards or to the satisfactions of the GRCA, whichever is applicable based on the scale and scope of the project;
- n) All new buildings must have safe ingress/egress in accordance with the definitions of this policy;
- o) The control of flooding, erosion, dynamic beaches, pollution or the conservation of land is not adversely affected during and post development, interference or alteration; and,
- p) Development may be permitted within a natural hazard if that development is associated with a use that by its nature must be located in or on the natural hazard.

1.2 TECHNICAL STUDIES REQUIREMENTS

Applications for permission to undertake development, interference or alteration in Regulated Areas must be accompanied by appropriate technical studies and/or assessments, site plans and/or other plans as required by the GRCA. These studies/plans must demonstrate to the satisfaction of the GRCA, how the applicable policies in Parts B, C and D have been met.

1.3 QUALIFIED PROFESSIONAL REQUIREMENTS

Technical studies and/or assessments, site plans and/or other plans submitted as part of an application for permit to undertake development, interference or alteration in Regulated Areas must be completed by a qualified professional to the satisfaction of the GRCA in conformance with the most current technical guidelines approved by the GRCA.

1.4 PROHIBITED USES

- 1.4.1 Notwithstanding Sections 1.1.2 a) - 1.1.2 p) – General Policies, development will not be permitted within a riverine flooding or erosion hazard or wetland where the use is:
- a) an institutional use associated with hospitals, nursing homes, pre-school, nurseries, day care or schools, where there is a threat to the safe evacuation of the sick, the elderly, persons with disabilities or the young, or
 - b) an essential emergency service such as fire, police, ambulance or electrical substation, or
 - c) associated with the disposal, manufacture, treatment, transfer or storage of hazardous substances.

1.5 VALIDITY OF PERMITS

- 1.5.1 A permit issued by the Ganaraska Region Conservation Authority will be valid for a period up to and including 24 months (two years).
- 1.5.2 Notwithstanding Section 1.5.1, a permit issued by the Ganaraska Region Conservation Authority may be valid for a period up to and including 60 months (5 years) for large-scale public infrastructure where it can be demonstrated that multiple approvals taking greater than 24 months are required.

PART C – SPECIFIC POLICIES

ONTARIO REGULATION 168/06

1.0 RIVER AND STREAM VALLEYS

BACKGROUND

Ontario Regulation 168/06 contains the following with respect to river and stream valleys:

Development prohibited

2. (1) Subject to section 3, no person shall undertake development or permit another person to undertake development in or on areas within the jurisdiction of the Authority that are,
- (b) 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 in accordance with the following rules:
 - (i) 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,
 - (ii) 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 toe of the slope or, if the toe of the slope is unstable, from the predicted location of the toe of slope as a result of stream erosion over a projected 100 year period, plus 15 to a similar point on the opposite side,
 - (iii) where the river or stream valley is not apparent, the valley extends the greater of,
 - (A) the distance from a point outside the edge of the maximum extent of the floodplain under the applicable Regulatory floodplain event standard, plus 15 metres 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, plus 15 metres, to a similar point on the opposite side;

Permission to develop

3. (1) The Authority may grant permission for development in or on the areas described in subsection 2(1) if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development.
- (2) The permission of the Authority shall be given in writing, with or without conditions.

DISCUSSION OF RIVER AND STREAM VALLEYS

In its Technical Guides for River and Stream Systems, the Ministry of Natural Resources characterizes valleys based on two simplified landforms. *Apparent* or 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. *Not Apparent* 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.

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 are 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 life and cause property damages.

Erosion hazards pose a 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 occur again 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 centered events, observed events, or a flood frequency based events may be used to determine the extent of the Regulatory floodplain, as prescribed by each individual Conservation Authority 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. In these situations, the Conservation Authority shall determine the applicability of the Regulation.

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. Given that ecological sustainability is based on the dynamic nature of these systems, it is essential that they be allowed to function in as natural a state as possible.

POLICIES – RIVER AND STREAM VALLEYS

1.1 DEVELOPMENT WITHIN THE EROSION HAZARD OF AN APPARENT (CONFINED) RIVER OR STREAM VALLEY

In general, development shall not be permitted within the erosion hazard of an apparent river or stream valley except in accordance with the policies of 1.1.1 – 1.1.11;

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 except in accordance with the policies of 1.1.1 – 1.1.11;

In general, development within the erosion hazard of an apparent river or stream valley on vacant lots of record shall not be permitted except in accordance with the policies of 1.1.1 – 1.1.11;

In general, storm water management facilities within the erosion hazard of an apparent river or stream valley shall not be permitted except in accordance with the policies of 1.1.1 – 1.1.11;

1.1.1 Development shall be prohibited within the erosion hazard of an 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 the sick the elderly, persons with disabilities or the 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 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;

1.1.2 Non-habitable development (excluding commercial, industrial and institutional uses) may be permitted within the erosion hazard of an apparent river or stream valley if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected; 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 is located in an area of least (and acceptable) risk;
- b) no development is located on an unstable slope except for those works that by their nature must be located on an unstable slope such as slope stabilization works;
- c) development is protected from the erosion hazard;
- d) there is no impact on existing and future slope stability and bank stabilization or erosion protection works are not required;
- e) development will have no negative impacts on natural stream meandering/fluvial processes;
- f) structural development would not be susceptible to stream erosion (100 year planning horizon);
- g) development 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) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed;

1.1.3 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 subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

1.1.4 Development 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 if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

1.1.5 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 subject to the activity being approved

through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

- 1.1.6 Minor removal and placement of fill and site grading within the erosion hazard of an apparent river or stream valley may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.1.7 Development associated with the construction of a driveway or access way through the erosion hazard of apparent river or stream valley in order to provide access to lands outside of the apparent river or stream valley may be permitted subject to the provision of safe ingress/egress as identified in Appendix 1 (Definitions) and if it has been demonstrated to the satisfaction of the Conservation Authority that there is no viable alternative outside of the regulated area and that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.1.8 Development 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 if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. 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 is located in an area of least (and acceptable) risk;
 - b) no development is located on an unstable slope except for those works that by their nature must be located on an unstable slope such as slope stabilization works;
 - c) development is protected from the erosion hazard;
 - d) there is no impact on existing and future slope stability and bank stabilization or erosion protection works are not required;
 - e) development will have no negative impacts on natural stream meandering/fluvial processes;
 - f) structural development would not be susceptible to stream erosion (100 year planning horizon);
 - g) development 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) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed;

1.1.9 Development may be permitted for the reconstruction or relocation of a building within the erosion hazard of an apparent river or stream valley provided that it has not been damaged or destroyed by erosion and if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or dynamic beaches or conservation of land will not be affected. 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 original habitable floor area nor the original footprint of the previous structure;

1.1.10 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 may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected. The submitted plans should demonstrate that:

- a) no access through the erosion susceptible area is required;
- b) development 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 and bank stabilization or erosion protection works are not required; and,
- e) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed;

1.1.11 The replacement of sewage disposal systems may be permitted within the erosion hazard of an apparent river or stream valley if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected. 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.

1.2 DEVELOPMENT WITHIN THE ALLOWANCE ADJACENT TO THE EROSION HAZARD OF AN APPARENT (CONFINED) RIVER OR STREAM VALLEYS

1.2.1 Development 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 control of flooding, erosion, pollution or the conservation of land will not be affected. The submitted plans should demonstrate that:

- a) development does not create or aggravate an erosion hazard;
- b) development 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 does not change drainage or vegetation patterns that would compromise slope stability or exacerbate erosion of the slope face;
- d) development 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) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed.

1.3 DEVELOPMENT WITHIN THE EROSION HAZARD OF A NOT APPARENT (UNCONFINED) RIVER OR STREAM VALLEYS (MEANDER BELT)

In general, development within the meander belt of a not apparent river or stream valley shall not be permitted except in accordance with the policies of 1.3.1 – 1.3.9;

In general, stabilization works within the meander belt of a not apparent river or stream valley to allow for future/proposed development or an increase in development envelope or area shall not be permitted except in accordance with the policies of 1.3.1 – 1.3.9;

In general, storm water management facilities within the meander belt of a not apparent river or stream valley shall not be permitted except in accordance with the policies of 1.3.1 – 1.3.9;

In general, development within the meander belt of a not apparent river or stream valley on vacant lots of record shall not be permitted except in accordance with the policies of 1.3.1 – 1.3.9;

1.3.1 Development 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 the sick the elderly, persons with disabilities or the 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 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;

1.3.2 Non-habitable development (excluding commercial, industrial and institutional uses) may be permitted within the meander belt of a not apparent river or stream valley if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected; 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 is located in an area of least (and acceptable) risk;
- b) development will not prevent access into and through the meander belt in order to undertake preventative actions/maintenance or during an emergency;
- c) development is protected from the erosion hazard;
- d) development will have no negative impacts on natural stream meandering/ fluvial 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;
- f) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed; and,
- g) structural development would not be susceptible to stream erosion (100 year planning horizon);

1.3.3 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 subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

1.3.4 Development 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 if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

- 1.3.5 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 subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.3.6 Minor fill and site grading within the meander belt of a not apparent river or stream valley may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.3.7 Development 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 ingress/egress as defined in Appendix 1 (Definitions), and if it has been demonstrated to the satisfaction of the Conservation Authority that there is no viable alternative outside of the regulated area and that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.3.8 Development associated with existing uses located within the meander belt of a not apparent river or stream valley such as minor additions, non-habitable accessory buildings, pools, landscaping retaining walls, grading, decks, etc., may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. 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 is located in an area of least (and acceptable) risk;
 - b) development will not prevent access into and through the meander belt in order to undertake preventative actions/maintenance or during an emergency;
 - c) development is protected from the erosion hazard;
 - d) development will have no negative impacts on natural stream meandering/ fluvial 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;

- f) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed; and,
 - g) structural development would not be susceptible to stream erosion (100 year planning horizon);
- 1.3.9 Development 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 and if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or dynamic beaches or conservation of land will not be affected. 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 or the original footprint area of the previous structure.

1.4 DEVELOPMENT WITHIN THE ALLOWANCE ADJACENT TO THE EROSION HAZARD OF A NOT APPARENT (UNCONFINED) RIVER OR STREAM VALLEYS (MEANDER BELT)

- 1.4.1 Development 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 control of flooding, erosion, pollution or the conservation of land will not be affected. The submitted plans should demonstrate that:
- a) development will not create or aggravate the erosion hazard;
 - b) development will 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) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed.

1.5 DEVELOPMENT WITHIN ONE-ZONE REGULATORY FLOODPLAIN OF RIVER OR STREAM VALLEYS

In general, development within the Regulatory floodplain, including any high points of land not subject to flooding but surrounded by floodplain or 'flooded land', shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

In general, flood hazard protection and bank stabilization works to allow for future/proposed development or an increase in development envelope or area within the Regulatory floodplain shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

In general, development associated with new and/or the expansion of existing trailer parks/campgrounds in the Regulatory floodplain shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

In general, storm water management facilities within the 100 year floodplain shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

In general, development within the Regulatory floodplain on vacant lots of record shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

In general, basements within the Regulatory floodplain shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

In general, underground parking within the Regulatory floodplain shall not be permitted except in accordance with the policies of 1.5.1 – 1.5.12;

1.5.1 Development shall be prohibited within the Regulatory floodplain 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 the sick the elderly, persons with disabilities or the young during an emergency as a result of flooding and/or failure of flood proofing measures or protection works, 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 result of flooding, the failure of flood proofing measures and/or protection works, or
- c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances;

1.5.2 Non-habitable development (excluding commercial, industrial and institutional uses) may be permitted within Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

1.5.3 Development on a vacant lot of record may be permitted within the Regulatory floodplain if safe ingress/egress is provided and it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. The

submitted plans shall demonstrate to the satisfaction of the Conservation Authority that:

- a) there is no feasible alternative site outside of the Regulatory floodplain for the proposed development or in the event that there is no feasible alternative site, that the proposed development is located in an area of least (and acceptable) risk;
 - b) the proposed works do not create new hazards or aggravate flooding on adjacent or other properties and there are no negative upstream and downstream hydraulic impacts;
 - c) the development is protected from the flood hazard in accordance with established flood proofing and protection techniques;
 - d) the proposed development will not prevent access for emergency works, maintenance, and evacuation;
 - 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) natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion hazards have been adequately addressed;
- 1.5.4 Public infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within the Regulatory floodplain subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.5.5 Development associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.5.6 Stream, bank, slope, and valley stabilization to protect existing development and conservation or restoration projects may be permitted within the Regulatory floodplain subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 1.5.7 Development associated with existing uses located within the Regulatory floodplain such as minor additions, non-habitable detached accessory buildings, pools, landscaping retaining walls, grading, decks, etc., may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of

land will not be affected. The submitted plans shall demonstrate to the satisfaction of the Conservation Authority that:

- a) there is no feasible alternative site outside of the Regulatory floodplain for the proposed development or in the event that there is no feasible alternative site, that the proposed development is located in an area of least (and acceptable) risk;
- b) the proposed works do not create new hazards or aggravate flooding on adjacent or other properties and there are no negative upstream and downstream hydraulic impacts;
- c) the development is protected from the flood hazard in accordance with established flood proofing and protection techniques;
- d) the proposed development will not prevent access for emergency works, maintenance, and evacuation;
- 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) natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion hazards have been adequately addressed;

1.5.8 Development may be permitted for the reconstruction or relocation of a building within the Regulatory floodplain, provided that it has not been damaged or destroyed by flooding and if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or conservation of land will not be affected. The submitted plans should demonstrate that the building:

- a) cannot be relocated to an area outside the flood 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 flood hazard through incorporation of appropriate building design parameters; and,
- c) will not exceed original habitable floor area of the previous structure or the original footprint area of the previous structure;

1.5.9 Development associated with the construction of a driveway or access way through the Regulatory floodplain in order to provide access to lands outside of the Regulatory floodplain may be permitted subject to the safe ingress/egress as identified in Appendix 1 (Definitions) and if it has been demonstrated to the satisfaction of the Conservation Authority that there is no viable alternative outside of the regulated area and that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

1.5.10 Minor fill and site grading may be permitted within the Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the

control of flooding, erosion, pollution or the conservation of land will not be affected;

1.5.11 The replacement of sewage disposal systems may be permitted within the Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected. The replacement system should be located outside of the floodplain where possible, and only permitted within the floodplain subject to being located in the area of lowest risk;

1.5.12 Above ground parking lots may be permitted within the Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected, and that safe pedestrian and vehicular access is achieved in accordance with provincial guidelines.

1.6 DEVELOPMENT WITHIN THE ALLOWANCE ADJACENT TO THE REGULATOR FLOODPLAIN OF RIVER OR STREAM VALLEYS

1.6.1 Development may be permitted within the allowance of a Regulatory floodplain if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected. The submitted plans should demonstrate to the satisfaction of the Conservation Authority that:

- a) development does not aggravate the flood hazard or create a new one;
- b) development 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) the natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion hazards have been adequately addressed.

1.7 RIPARIAN ZONE POLICIES

1.7.1 To the extent possible, all development proposals shall include the retention and or establishment of vegetation in the riparian zone for specific aquatic and terrestrial benefits such as food and cover, regulation of stream temperatures and stream bank stability. Riparian habitat should be retained or re-established where absent. The riparian zone shall be a minimum 30 metres from the bank full channel of any cold/cool water watercourse and 15 metres from the bank full channel of any other watercourse;

1.7.2 Any development and/or associated site alterations permitted in accordance with Policies as described in Parts B, C or D (with the exception of watercourse alterations), shall generally maintain a minimum setback of 30 metres from the bank full channel of any cold/cool water watercourse and 15 metres from the bank full channel of any other watercourse;

1.7.3 Exceptions to Policy 1.7.1 and 1.7.2 may be considered in areas of existing development or within the urban areas, where:

- a) the works will not significantly encroach into the setback any further than the existing building/structure/disturbance;
- b) no other reasonable alternative exists;
- c) a lot would be rendered undevelopable through adherence to the setback; and,
- d) the reduction has been justified/rationalized through the preparation and implementation of a riparian planting plan (which establishes or enhances the existing riparian vegetative zone), as determined to be acceptable by the Conservation Authority.

2.0 SHORELINES

BACKGROUND

Ontario Regulation 168/06 contains the following sections pertaining to shorelines:

Development prohibited

2. (1) Subject to section 3, no person shall undertake development or permit another person to undertake development in or on areas within the jurisdiction of the Authority that are:

(a) 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, including the area from the furthest offshore extent of the Authority's boundary to the furthest landward extent of the aggregate of the following distances:

- (i) the 100 Year flood level, plus the appropriate allowance for wave up rush,
- (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,
- (iii) where a dynamic beach is associated with the waterfront lands, the appropriate allowance inland to accommodate dynamic beach movement, and
- (iv) 15 metres inland;

Permission to develop

3. (1) The Authority may grant permission for development in or on the areas described in subsection 2(1) if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development.
- (2) The permission of the Authority shall be given in writing, with or without conditions.

DISCUSSION OF 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 hazard is dependant on the type, design, location and density of any development 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 up rush and other water related hazards (i.e., 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 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 often goes unrecognized. Consequently, when water levels return to long-term averages or high water levels, flood damages are sustained. These damages are frequently quite significant (MNR, 1996b).

Erosion within the Great Lakes–St. Lawrence River System is a concern, particularly within the lower Great Lakes. Erosion rates are dependent upon a number of lake 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.

POLICIES - SHORELINES

2.1 DEVELOPMENT 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 an allowance for wave up rush and other water related hazards.

In general development within the shoreline flood hazard shall not be permitted except in accordance with the policies of 2.1.1 – 2.1.11;

In general, flood hazard protection and bank stabilization works to allow for future/proposed development or an increase in development envelope or area within the shoreline flood hazard shall not be permitted except in accordance with the policies of 2.1.1 – 2.1.11;

In general, storm water management facilities within the shoreline flood hazard shall not be permitted except in accordance with the policies of 2.1.1 – 2.1.11;

2.1.1 Development shall be prohibited in the shoreline flood 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 the sick the elderly, persons with disabilities or the young during an emergency as a result of flooding and/or failure of flood proofing measures or protection works, 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 result of erosion, the failure of flood proofing measures and/or protection works, or
- c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances;

- 2.1.2 Infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within the shoreline flood hazard subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.1.3 Development associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the shoreline flood hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.1.4 Shoreline bank, and slope stabilization to protect existing development and conservation or restoration projects may be permitted within the shoreline flood hazard subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.1.5 A new dwelling/structure on an existing lot of record or a minor addition to an existing dwelling/structure or reconstruction associated with existing uses may be permitted within the shoreline flood hazard if it has been demonstrated to the satisfaction of Conservation Authority that:
- a) the control of flooding, erosion, pollution, or conservation of land will not be affected;
 - b) there is no feasible alternative site outside of the shoreline flood hazard for the proposed development;
 - c) the proposed development does not result in an increase of flooding risk (i.e., flood proofing measures applied) and is located in an area of least risk (i.e., located furthest possible distance from the lake);
 - d) the proposed works do not create new or aggravate flooding on the subject, adjacent or other properties;
 - e) the development is protected from the shoreline flood hazard in accordance with established flood proofing and protection techniques. Habitable buildings must be dry-flood proofed such that the elevation of the building is above the 100 year flood hazard elevation (including wave up rush). Specifications for fill materials and compaction procedures must be prepared or approved by a qualified professional engineer at the applicant's expense and the responsible professional engineer shall certify in writing that the design has taken into account regulatory flood (velocity and depth) and site (soil type, bearing capacity, etc.) conditions encountered at the specific location of the development and, further, the responsible professional engineer must identify maintenance requirements that might be required over the design life of the structure. Non habitable

structures must as a minimum be wet flood proofed whereby the building can be constructed with no openings below the flood elevation, all electrical above flood elevation and a study to address hydrostatic pressures and wave action;

- f) potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans;
- g) natural features and/or ecological functions associated with conservation of land are protected and pollution is prevented; and,
- h) the reconstruction is not for a dwelling/structure that was destroyed by flooding and provided the reconstruction does not exceed original habitable floor area nor the original footprint area of the previous structure and contains the same number of dwelling units;

2.1.6 Development associated with existing uses located within the shoreline flood hazard such as minor additions, non-habitable accessory buildings (e.g., boat house), pools, landscaping retaining walls, grading, unenclosed decks, etc., may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. The submitted plans should demonstrate that:

- a) there is no feasible alternative site outside of the shoreline flood hazard for the proposed development or in the event that there is no feasible alternative site, that the proposed development is located in an area of least (and acceptable) risk;
- b) the proposed works do not create new or aggravate flooding on the subject, adjacent or other properties;
- c) development is protected from the shoreline flood hazard in accordance with established floodproofing and protection techniques;
- d) proposed development will not prevent access for emergency works, maintenance, and evacuation; potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control;
- e) site stabilization/restoration has been addressed; and,
- f) natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion and dynamic beach hazards have been adequately addressed;

2.1.7 Development may be permitted for the reconstruction or relocation of a building within the shoreline flood hazard, provided that it has not been damaged or destroyed by flooding or other water related hazards and if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or conservation of land will not be affected. The submitted plans should demonstrate that the building:

- a) cannot be relocated to an area outside the flood 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 flood hazard; and,
 - c) will not exceed original habitable floor area nor the original footprint area of the previous structure;
- 2.1.8 Development associated with the construction of a driveway or access way through the shoreline flood hazard in order to provide access to lands outside of the flood hazard may be permitted subject to the Provision of Safe Ingress/Egress as identified in Appendix 1 (Definitions) and if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.1.9 Minor placement and removal of fill and site grading within the shoreline flood hazard may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.1.10 The replacement of sewage disposal systems may be permitted within the shoreline flood hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. The replacement system should be located outside of the shoreline flood hazard where possible and only permitted within the shoreline flood hazard in the area of lowest risk;
- 2.1.11 Above ground parking lots may be permitted within the shoreline flood hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected and that safe pedestrian and vehicular access is achieved.

2.2 DEVELOPMENT WITHIN THE ALLOWANCE ADJACENT TO THE SHORELINE FLOOD HAZARD

- 2.2.1 Development 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 control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. The submitted plans should demonstrate that:
- a) development does not aggravate the flood hazard or create a new one;
 - b) development 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) The natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion and dynamic beach hazards have been adequately addressed.

2.3 DEVELOPMENT WITHIN THE SHORELINE EROSION HAZARD

For the purpose of the following policy, the shoreline erosion hazard is the limit of the landward extent of the stable slope measured from the existing protected or unprotected toe of slope, plus the 100 year erosion limit.

In general, development shall not be permitted within the shoreline erosion hazard except in accordance with the policies of 2.3.1 – 2.3.7;

In general, stabilization works within the shoreline erosion hazard to allow for future/proposed development or an increase in development envelope or area shall not be permitted except in accordance with the policies of 2.3.1 – 2.3.7;

In general, development within the shoreline erosion hazard on vacant lots of record shall not be permitted except in accordance with the policies of 2.3.1 – 2.3.7;

In general, storm water management facilities within the shoreline erosion hazard shall not be permitted except in accordance with the policies of 2.3.1 – 2.3.7;

2.3.1 Development shall not be permitted 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 the sick the elderly, persons with disabilities or the young during an emergency as a result of flooding and/or failure of floodproofing measures or protection works, 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 result of erosion, the failure of floodproofing measures and/or protection works, or
- c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances;

2.3.2 Public infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within the shoreline erosion hazard subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the

satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

- 2.3.3 Development associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail systems) may be permitted within the shoreline erosion hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.3.4 Shoreline, bank, and slope stabilization to protect existing development and conservation or restoration projects may be permitted within the shoreline erosion hazard subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;
- 2.3.5 Development associated with minor additions, non-habitable accessory, buildings and pools may be permitted within the shoreline erosion hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. 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 is located in an area of least (and acceptable) risk no development is located within the stable slope allowance;
 - b) there is no impact on existing and future slope stability and bank stabilization;
 - c) development will not prevent access into and along the shoreline erosion hazard in order to undertake preventative actions/maintenance or during an emergency;
 - d) development 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) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented, and flooding, and dynamic beach hazards have been adequately addressed;
- 2.3.6 Development associated with existing uses located within the shoreline erosion hazard such as landscaping retaining walls, grading, decks, stairs, etc., may be permitted if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. 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 is located in an area of least (and acceptable) risk;
- b) development will not prevent access into and through the shoreline erosion hazard in order to undertake preventative actions/maintenance or during an emergency; there is no impact on existing and future slope stability and bank stabilization;
- c) development will have no negative impacts on natural shoreline processes; and,
- d) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans; and natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented, flooding hazards, and dynamic beach hazards have been adequately addressed;

2.3.7 Development may be permitted for the reconstruction or relocation of a building within the shoreline erosion hazard, provided that it has not been damaged or destroyed by erosion and if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or dynamic beaches or conservation of land will not be affected. 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 original habitable floor area nor the original footprint of the previous structure.

2.4 DEVELOPMENT WITHIN THE ALLOWANCE ADJACENT TO THE SHORELINE EROSION HAZARD

2.4.1 Development may be permitted within the allowance adjacent to the shoreline erosion hazard if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected. The submitted plans should demonstrate that:

- a) development does not aggravate the erosion hazard or create a new one;
- b) development 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) the natural features and/or ecological functions associated with conservation of land are protected, pollution is prevented and erosion and dynamic beach hazards have been adequately addressed.

2.5 DEVELOPMENT 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 up rush 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.

In general, development shall not be permitted in the dynamic beach hazard except in accordance with the policies of 2.5.1 – 2.5.4;

2.5.1 Development shall be prohibited in the dynamic beach 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 the sick the elderly, persons with disabilities or the young during an emergency as a result of flooding and/or failure of flood proofing measures or protection works, 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 result of erosion, the failure of flood proofing measures and/or protection works, or
- c) uses associated with the disposal, manufacture, treatment or storage of hazardous substances;

2.5.2 Underground public infrastructure (i.e., sewers) and various utilities (e.g., pipelines) may be permitted within the dynamic beach hazard subject to the activity being approved through a satisfactory environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

2.5.3 Development 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 control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected;

- 2.5.4 Conservation or restoration projects may be permitted within the dynamic beach hazard subject to the activity being approved through a satisfactory Environmental Assessment process and/or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be affected.

2.6 DEVELOPMENT WITHIN THE ALLOWANCE ADJACENT TO THE DYNAMIC BEACH HAZARD

- 2.6.1 Development 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 control of flooding, erosion, pollution, dynamic beach or the conservation of land will not be affected. The submitted plans should demonstrate that:

- a) development does not create or aggravate the dynamic beach hazard;
- b) development 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) the natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding and erosion hazards have been adequately addressed.

3.0 WATERCOURSES

BACKGROUND

Ontario Regulation 168/06 provides for the following with respect to watercourses:

Alteration prohibited

5. Subject to section 6, no person shall straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or change or interfere in any way with a wetland.

Permission to alter

6. (1) The Authority may grant a person permission 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.
(2) The permission of the Authority shall be given in writing, with or without conditions.

DISCUSSION OF WATERCOURSES

Watercourses transport both water and sediment from areas of high elevation to areas of low elevation. Watercourses also transfer energy (e.g., temperature), nutrients, pollutants, organic and inorganic materials, and organisms (e.g., movement of

mammals, fish, invertebrates, amphibians) and provide habitat for fish and other species either in-stream, near-channel, or at the air-water interface. Moreover, watercourses 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, assimilative capacity for nutrients, 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, flow regime, sediment characteristics (soil type, bedrock, and substrate characteristics), biota, nutrient load, and landuse (including riparian vegetation). 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 (including erosion rates), aquatic biota, and riparian vegetation.

Changes to channel morphology may reduce the ability of the watercourse to process sediment causing erosion and changing the amount or size of bed load being moved. Channel changes also impact the physical habitat of the stream channel influencing the health of the stream and the organisms that require this habitat. Loss of riparian vegetation results in more pollutants and run-off being transferred from the land to the water, impacting water quality and flooding downstream reaches. These changes, in turn, degrade near shore and aquatic habitat and impair the overall health of the watercourse.

POLICIES - WATERCOURSE

3.1 INTERFERENCE WITH A WATERCOURSE

In general, interference with a watercourse shall not be permitted except in accordance with the policies of 3.1.1 – 3.1.6;

- 3.1.1 Infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within a watercourse subject to the activity being approved through a satisfactory Environmental Assessment process or through other studies deemed necessary by the Conservation Authority and/ or if the interference on the natural features and hydrologic and ecological functions of the watercourse has been deemed to be acceptable by the Conservation Authority;

- 3.1.2 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 and ecological functions of the watercourse has been deemed to be acceptable by the Conservation Authority;
- 3.1.3 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;
- 3.1.4 Minor interference and/or alteration (e.g., tile outlet) 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 and ecological functions of the watercourse;
- 3.1.5 Major interference (e.g., realignment, dredging, dam, enclosure, pond) with a watercourse may be permitted where supported by the recommendations of an Environmental Assessment and if it has been demonstrated to the satisfaction of the Conservation Authority that the interference is acceptable for the natural features and hydrologic, ecological functions of the watercourse;
- 3.1.6 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 and ecological 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.
- 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;
 - d) the design should consider fish and wildlife passage; and,
 - e) consideration for upstream and downstream effects when installing/replacing a culvert.

4.0 WETLANDS

BACKGROUND

Ontario Regulation 168/06 contains the following sections dealing with wetlands.

Development Prohibited

2. (1) Subject to section 3, no person shall undertake development or permit another person to undertake development in or on areas within the jurisdiction of the Authority that are,
- (d) wetlands; or
 - (e) other areas where development could interfere with the hydrologic function of a wetland, including areas within 120 metres of all provincially significant wetlands and wetlands greater than 2 hectares in size, and areas within 30 metres of wetlands less than 2 hectares.

Permission to develop

3. (1) The Authority may grant permission for development in or on the areas described in subsection 2 (1) if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development.

Alterations prohibited

5. Subject to section 6, no person shall...change or interfere in any way with a wetland.

Permission to alter

6. (1) The Authority may grant a person permission...to change or interfere with a wetland.
- (2) The permission of the Authority shall be given in writing, with or without conditions.

DISCUSSION OF WETLANDS

A wetland can be defined as an area 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, but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a wetland characteristic referred to in clause (c) or (d).

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. As well, 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.

4.1 DEVELOPMENT WITHIN A WETLAND

In general, development and interference shall not be permitted within wetlands except in accordance with the policies of 4.1.1 – 4.1.3;

In general, ponds and drains shall not be permitted within wetlands except in accordance with the policies of 4.1.1 – 4.1.3;

In general, stormwater management facilities shall not be permitted within wetlands except in accordance with the policies of 4.1.1 – 4.1.3;

4.1.1 Public Infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within a wetland subject to the activity being approved through a satisfactory Environmental Assessment process and/ or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the Conservation Authority;

4.1.2 Conservation or restoration projects may be permitted within a wetland if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the Conservation Authority;

4.1.3 Development associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail system) may be permitted within a wetland if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be

affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the Conservation Authority.

4.2 DEVELOPMENT WITHIN OTHER AREAS (AREAS OF INTERFERENCE/ADJACENT LANDS WITHIN WHICH DEVELOPMENT MAY INTERFERE WITH THE HYDROLOGIC FUNCTION OF THE WETLAND)

- 4.2.1 Ontario Regulation 168/06 defines other areas as areas where development could interfere with the hydrologic function of a wetland, including areas within 120 metres of all provincially significant wetlands and wetlands greater than 2 hectares in size, and areas within 30 metres of wetlands less than 2 hectares in size.

4.3 AREA WITHIN 30 METRES OF THE WETLAND

In general, development shall not be permitted within 30 metres of the boundary of the wetland except in accordance with the policies of 4.3.1 – 4.3.4;

- 4.3.1 Infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted within 30 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;
- 4.3.2 Conservation or restoration projects may be permitted within 30 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;
- 4.3.3 Development associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail system) may be permitted within 30 meters of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;
- 4.3.4 Single family buildings or structures may be permitted within 30 metres of a wetland on vacant lots of record if the interference on the hydrologic function of the wetland has been deemed to be acceptable by the Conservation Authority. An Environmental Impact Study to assess the hydrologic impact shall be required if the submitted plans do not demonstrate the following:
- a) all development (including grading) is located so as to maintain as much setback from the wetland as is feasible;
 - b) disturbances to natural vegetation communities 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 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;
- g) impervious areas are minimized; and,
- h) best management practices are used to:
 - (i) maintain water balance;
 - (ii) control sediment and erosion; and
 - (iii) buffer wetlands.

4.4 AREA BETWEEN 30 METRES TO 120 METRES OF THE WETLAND

In general, development may be permitted in the area between 30 metres to 120 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority except in accordance with the policies of 4.4.1 – 4.4.5;

- 4.4.1 Infrastructure (e.g., roads, sewers, flood and erosion control works) and various utilities (e.g., pipelines) may be permitted in the area between 30 metres to 120 metres of a wetland subject to the activity being approved through a satisfactory Environmental Assessment process and/or if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;
- 4.4.2 Conservation or restoration projects may be permitted in the area between 30 metres to 120 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;
- 4.4.3 Development associated with public parks (e.g., passive or low intensity outdoor recreation and education, trail system) may be permitted in the area between 30 metres to 120 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority;
- 4.4.4 Single family buildings or structures may be permitted in the area between 30 metres to 120 metres of a wetland on vacant lots of record if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority. An Environmental Impact Study to assess the hydrologic impact shall be required if the submitted plans do not demonstrate the following:
 - a) disturbances to natural vegetation communities contributing to the hydrologic function of the wetland are avoided;
 - b) the overall existing drainage patterns for the lot will be maintained;
 - c) disturbed area and soil compaction is minimized;
 - d) development is located above the high water table;
 - e) all septic systems are located at a minimum 0.9 metres above the water table;
 - f) impervious areas are minimized; and,
 - g) best management practices are used to:

- (i) maintain water balance;
- (ii) control erosion and sediment; and
- (iii) buffer wetlands.

4.4.5 Larger scale development associated with large commercial uses, industrial uses, multiple residential uses (condominiums, apartments, townhouses, etc.) and/or development into the water table may be permitted in the area between 30 metres to 120 metres of a wetland if the interference on hydrologic functions of the wetland has been deemed to be acceptable by the Conservation Authority. An Environmental Impact Study to assess the hydrologic impact shall be required.

PART D – SPECIAL POLICIES

1.0 LARGE FILL SITE POLICY

A large fill site will be considered as any imported fill proposal within a Regulated Area which exceeds 500 cubic metres and will be estimated on the basis of 10 cubic metres per truck delivered.

If approved, following the placement of the volume estimated on that basis, an Ontario Land Surveyor will be required to certify the volumes imported.

LARGE FILL PERMIT APPLICATION REQUIREMENTS

1. Site plan(s) prepared by a certified Ontario Land Surveyor of the existing grades of the property where the fill is proposed to be placed. Contour intervals should be placed at no less than 0.5 metres.
2. Site plan(s) indicating all final grades for the material to be placed or dumped.
3. Information describing timing and quantities (volume and depth) of material to be deposited on site including the proposed phasing of the fill operation.
4. Drainage details before and after development.
5. Mapping of all natural heritage or natural hazard features boundaries and the regulation limit in relation to the proposed fill placement.
6. All materials/structures including quantities needed to be placed to access the fill areas (e.g., road beds, bridges, culverts etc.) and final conditions of these areas.
7. Documentation acceptable to the GRCA, of existing site soil and water conditions to form background information sufficient to determine if the control of pollution is being affected by the proposed activities.
8. Documentation showing that one or more Qualified Person(s) as defined in the *Environmental Protection Act* has been retained to carry out the work described in the requirements below. This requires that written documentation confirming the name, contact information and qualifications of the retained Qualified Person(s) be submitted and accepted by the GRCA.
9. A procedure, acceptable to the GRCA, whereby the Qualified Person(s) will review written documentation for each source site and confirm in writing that the material being received is acceptable for use at the fill site. All documentation from the source site will be provided to the GRCA office along with the written confirmation from the Qualified Person mentioned above and retained on site, prior to fill being placed.
10. A procedure acceptable to the GRCA whereby the Qualified Person(s), shall collect weekly audit soil samples from trucks that represent each source site that has been accepted to ship soil to the fill site. These soil samples shall be

analyzed for metals, soluble chlorides, volatile organic compounds, petroleum hydrocarbons, and benzene, toluene, ethylbenzene, xylenes and semi-volatile organic compounds. Copies of these analysis results shall be provided directly to the GRCA from the reporting laboratory. Should samples indicate levels above the acceptable criteria, additional sampling may be required at the discretion of the GRCA.

11. A plan(s) and procedure for segregating fill material dumped each week, until such time as the weekly audit sample results have demonstrated the material is suitable to remain on site.
12. A plan/procedure acceptable to the GRCA, should any audit sample results indicate levels above Table 2 criteria, for removal of material and grid sampling of the remainder of that weeks material.
13. A procedure whereby the GRCA is provided with certification from the Qualified Person(s) that the audit program demonstrates that imported material meets MOE Guidelines Table 2 (Potable Water Designation), unless the characterization report concludes the site is at a Table 1 background condition, in which case only Table 1 soils will be permitted. The written documentation and written confirmation shall be provided to the GRCA office and be available at the fill site.
14. A procedure for monitoring all vehicle activities at the fill site including documenting the vehicle identity including licence plate, and weigh scale tickets for all vehicles depositing material at the fill site, details of the approved source of the material, and the date, time and location where, material was deposited and / or managed. As site security plan will also be required which ensures no vehicles can access the site outside of normal operating hours.
15. A plan detailing how any on-site works (i.e., grading, fill placement, excavation) will be isolated by silt fencing and a description and timing of how the area will be adequately re-vegetated, to prevent the release of sediment from the work areas. This includes any dust soil and erosion control measures to be employed including timing description of how fill material will be contained to the site, (e.g., mudmats, haul routes, and dust control scheme).
16. Confirmation that authorized representatives of the GRCA may at any time enter onto the lands which are described herein in order to make any surveys, examinations, investigations, take samples or conduct inspections which are required for the purpose of ensuring that the work(s) authorized by this permit are being carried out according to the terms of this permit. At its discretion, the GRCA may retain an independent qualified person to take additional samples at the cost of the proponent.

17. Confirmation that the local Municipality has been consulted with and provision of the details of any municipal requirements under any Site Alteration By-Law, or other requirements relating to noise, dust, traffic, etc.
18. Submission of the large fill site application review fee of \$500.00, in addition to \$1.00 per cubic metre submitted bi-weekly on a schedule agreed to by the GRCA. The GRCA Board of Directors at its discretion may require additional securities as it deems necessary, depending on the nature and scale of the fill operation.

3.12 SPECIAL POLICY AREA

3.12.1 Purpose

The delineation of this area, as originally set forth in the Town of Cobourg Official Plan, approved by Ministry of Municipal Affairs and Housing on August 19, 1986, was subject to the approval of the Ministers of Municipal Affairs and Housing and Natural Resources.

The Special Policy Area designation on Schedule "A" is an overlay designation. The designation applies to areas within the Town that have historically existed in the flood plain and where site specific policies apply which are intended to address the significant social and economic hardships to the community which would result from strict adherence to provincial policies concerning development in the flood plain.

3.12.2 Permitted Uses, Buildings and Structures

The uses, buildings and structures permitted shall be those within the underlying land use designations and shall include new buildings and structures and the renovation, replacement or redevelopment of existing structures in accordance with the relevant flood proofing measures specified in Section 3.12.3.

3.12.3 Land Use Policies

3.12.3.1 Alteration to Watercourses

The placing or removal of fill of any kind, whether originating on the site or elsewhere, or the alteration of any watercourse shall not be permitted within a Special Policy Area without the approval of the Ganaraska Region Conservation Authority and the Town of Cobourg.

3.12.3.2 Building Permit Review

Prior to the issuance of a building permit, the Town of Cobourg shall consult with the Ganaraska Region Conservation Authority regarding the administration of the Authority's fill and construction regulations and to assess any proposed or necessary flood damage reduction measures which may include such matters as:

- i) the design of the structure to withstand hydrostatic forces;
- ii) the strength of structural materials and components to ensure that the materials used will not be subject to deterioration from flooding;
- iii) the elevation of living space and exterior building openings relative to the Regulatory Flood;
- iv) the location and elevation of electrical and heating equipment relative to the Regulatory Flood;
- v) the location, elevation and design of municipal services and public utilities;
- vi) the design of the structure to ensure that the interior ground floor level elevation is as close as possible or above the Regulatory Flood level; and,
- vii) such other additional flood damage reduction measures as may be warranted in the context of the location and nature of the proposed building or structure.

3.12.3.3 Flood Protection Levels

- i) All new buildings and structures or additions to existing buildings or structures, wherever possible, shall be protected from flooding to the level of the Regulatory Flood unless otherwise specified hereunder. However, if it is demonstrated that specified level of protection is not attainable, then a lesser level of protection will be determined by the Town of Cobourg in consultation with the Ganaraska Region Conservation Authority.

In establishing the level of protection, the Ganaraska Region Conservation Authority and the Town of Cobourg shall have regard for the nature and characteristics of development on adjacent lands with specific regard for existing doorway and floor elevations and the elevation of abutting streets and/or sidewalks and the desirability of maintaining a uniform appearance in building elevations.

- ii) For the purposes of this Plan, the minimum level of flood protection for those lands designated as Special Policy Areas shall be:

- a) the Regional Flood level for those areas adjacent to the Brook Creek and within its associated flood plain to the south of the railway corridor;
 - b) the maximum observed 1980 flood elevation which has an estimated return period of 1 in 100 years for the designated Special Policy Areas adjacent to the Cobourg Creek and the associated flood plain and the area adjacent to Elgin Street in the vicinity of Nickerson Drive; and,
 - c) the flood elevation which has an estimated return period of 1 in 100 years for the designated Special Policy Area adjacent the Midtown Creek and the associated flood plain to the south of the railway corridor.
- iii) Accessory buildings, structures and uses which are normally considered incidental and subordinate to a principal permitted use, exclusive of buildings intended for human habitation, may be exempted from certain flood proofing measures subject to the approval of the Ganaraska Region Conservation Authority and the Town of Cobourg.

3.12.3.4 Limitations on Development

- i) Notwithstanding the policies of this section, no new buildings or structures inclusive of additions to existing structures, shall be permitted within a Special Policy Area designation where, after consulting with the Ganaraska Region Conservation Authority, the Town determines that such structures would be subjected to flows which, due to their velocity and/or depth, would result in an unacceptable high risk to human life or major structural damage as a result of a flood less than or equal to the Regulatory Flood or which will result in a significant increase in "off-site" and/or upstream/ downstream risks.
- ii) Where new development occurs within a Special Policy Area by means of a registered plan of subdivision or consent the Municipality, in conjunction with the Ganaraska Region Conservation Authority, may require as a condition of approval that provisions for warning prospective purchasers that the lands in question are located within an area which is susceptible to flooding be placed on the title of any lots or blocks.

3.12.3.5 Zoning Regulations

- i) Where lands designated as a Special Policy Area are vacant and/or undeveloped as of September 30, 1985, such lands shall be zoned within a holding zone in the implementing by-law in accordance with the provisions of the Planning Act. The Town of Cobourg shall not remove the 'H' prefix until such time as it has consulted with the Ganaraska Region Conservation Authority to determine the feasibility and nature of those flood damage reduction measures as may be necessary. Prior to removal of the 'H' prefix, the Town shall give reasonable notice to the Ganaraska Region Conservation Authority of the intent to remove the holding provision.
- ii) The implementing zoning by-law shall contain provisions, where appropriate, relating to building setbacks, maximum lot coverage, minimum exterior opening elevation or such other matters as may be determined by the Town of Cobourg in consultation with the Ganaraska Region Conservation Authority.

3.13 PARK AREA

3.13.1 Purpose

The Park Area designation recognizes parks which serve the Town as a whole and other municipal parks.

3.13.2 Permitted Uses, Buildings and Structures

The permitted uses are open space and outdoor recreation, including related buildings and structures such as swimming pools, arenas, tennis courts, concession stands, bandstands, greenhouses and playground equipment.

3.13.3 Land Use Policies

- i) Parks shall be planned as part of the Greenlands System described in Section 4 of this Plan and in accordance with the policies of this Section.
- ii) The Town shall continue to maintain and, where financially feasible, enhance the open space and recreation facilities in the existing parks.

3.0 SPECIAL POLICY AREAS – GANARASKA RIVER AND GAGES CREEK

C5. ENVIRONMENT

C5.1 NATURAL HERITAGE AND NATURAL HAZARDS

**Sustainable and
Balanced** The natural heritage policies in this Plan are premised on the belief that a sustainable and healthy environment represents a balance between human activities and natural features and functions. However, nothing in Section C5 is intended to limit the ability of existing agricultural uses to continue.

C5.1.1 Flood Plains

The Flood Plain Areas, including those areas along the Ganaraska River and Gages Creek, subject to the following policies were determined in consultation with the Ganaraska Region Conservation Authority. The general boundaries of the Flood Plain Areas designated on Schedule B reflect the regulatory flood line. In areas where flood information is unavailable, an engineering report in support of a development application proposed within 30 metres of an undesignated stream shall be required to determine the flood plain. Proponents shall consult the Ganaraska Region Conservation Authority for the exact boundary of the flood plain. Revised regulatory flood lines, as a result of new or more accurate information may be incorporated into this Plan without notice or amendment.

C5.1.1.1 Ganaraska River – Urban Area

C5.1.1.1.1 Defined Area

**Defined Area
Schedule B** The Ganaraska River flood plain policy area designation shall apply to those lands within the Regulatory Flood Plain adjacent to the Ganaraska River within the Municipality of Port Hope, as shown on Schedule B1.

C5.1.1.1.2 General Policies

**Filling,
Construction,
Alteration** Prior to any filling, construction or alteration to waterways, a permit shall be obtained from the Ganaraska Region Conservation Authority.

**Floodproof
New Buildings** All new buildings where permitted shall be floodproofed to the Regulatory flood level except where it is not technically practical or economically feasible. In these circumstances, the minimum acceptable level of floodproofing shall in no case be less than the 100 Year Flood level plus 0.3 metres, as determined by the Municipality of Port Hope and in consultation with the Ganaraska Region Conservation Authority.

Any new building or structure shall be designed such that its structural integrity is maintained during a Regulatory Flood.

Building Replacement	Where a building or structure has been destroyed or demolished by fire or causes other than flooding, the building or structure may be constructed or erected on the footprint of the previous building provided the re-development occurs within two (2) years of the structure's demolition or destruction and, where the opportunity exists, a degree of floodproofing shall be carried out to the replacement structure, as determined by the Municipality and the Conservation Authority.
Replacement Limitation	After the said two (2) year period, any such redevelopment shall be considered as new development. The flood plain policies for the Ganaraska River shall then apply. Any change in the use of the building shall require the approval of the Municipality of Port Hope and the Ganaraska Region Conservation Authority prior to construction.
Use Limitation	New development associated with the manufacture and storage of substances of a chemical, hazardous or toxic nature which might pose and unacceptable threat to public safety or significant environmental features if damaged as a result of flooding or failure of floodproofing measures, shall not be permitted to locate in the Ganaraska River flood plain policy area. New nursing homes, hospitals, homes for the aged, senior citizen apartments, group homes, day care centres, schools or other similar institutional facilities for which flooding could pose a significant danger to the inhabitants shall not be permitted to locate in the Ganaraska River flood plain policy area. Protective services such as police, fire, ambulance and public work yards and major electrical substations shall not be located in the Ganaraska River flood plain policy area. Existing facilities shall not be allowed to expand or extend without approval from the Municipality of Port Hope and the Ganaraska Region Conservation Authority and any major renovation shall meet the Provincial requirements for safe ingress/egress for emergency vehicles.
Building Limitation	New building services such as electrical and heating systems should be located above the Regulatory Flood level, but where this is not feasible, building services shall be floodproofed to the Regulatory Flood level. The replacement of existing building services within a building shall be permitted, however, where it is practical, or feasible, the replacement building services should be either located above the Regulatory Flood level, or floodproofed to the Regulatory Flood level. No new basements or expansion of existing basements shall be permitted.

Continuation of Existing Uses	Existing development within the 100 Year Flood plain, as determined by the Municipality of Port Hope, in consultation with the Ganaraska Region Conservation Authority, may continue in its current form notwithstanding non-compliance with the policies in this section. Minor renovations, as defined in Appendix – Definitions to this Plan, shall comply with dry floodproofing and wet floodproofing requirements, as applicable.
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Provincial Policies	All applicable Provincial policies pursuant to the Planning Act shall apply within the Ganaraska River flood plain policy area.
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C5.1.1.1.3 Commercial Uses

Commercial Use Limitations	Commercial development, redevelopment and major renovation/addition of new commercial structures shall be permitted in areas so designated provided:
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- a) the building is floodproofed to the highest extent practical and the building is designed such that structural damage shall not result in the event of a Regulatory Flood;
- b) the minimum floor level shall be the 100 Year Flood level plus 0.3 metres, as determined by the Municipality of Port Hope, in consultation with the Ganaraska Region Conservation Authority;
- c) new mechanical, electrical, heating and air conditioning equipment shall be located above the Regulatory Flood level or floodproofed to the Regulatory Flood level; and
- d) Commercial uses shall not be permitted where the Flood Plain abuts Agricultural-Prime designated land.

Minor Renovation and Addition	Minor renovations/additions to existing commercial uses shall be permitted subject to floodproofing which shall be to the highest extent possible and to the satisfaction of the Municipality of Port Hope and the Ganaraska Region Conservation Authority and in no case shall the proposed floor level be lower than the existing ground floor level.
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New Residential in Commercial Buildings	New residential uses in upper stories shall be permitted provided: a) the habitable floor space shall be located above the Regulatory Flood level; and b) safe ingress/egress and parking can be achieved, as defined in this Plan.
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C5.1.1.1.4 Residential Uses

Cavan Street & Highland Drive	New development shall not be permitted within the Regulatory Flood Plain located north of the existing residential development west of
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Cavan Street and north of Highland Drive as identified as Zone 1 in Schedule B1.

Infilling	New residential uses shall be permitted on an infilling basis within the Regulatory Flood Plain, but outside of the 100 Year Flood Plain for that area located south of that area identified above, and north of the foot bridge in the vicinity of the library (Zone 2 in Schedule B1). Where possible any such development shall be floodproofed to Regulatory Flood levels and under no circumstances shall be less than the minimum standard as established (100 year + 0.3 m.).
South of Rotary Bridge	New development shall be permitted south of the Rotary Bridge, to Lake Ontario (Zone 3 in Schedule B1) subject to floodproofing to Regulatory Flood levels as approved by the Municipality of Port Hope and the Ganaraska Region Conservation Authority.
Safe Ingress and Egress	Where permitted, new residential uses considered within the Ganaraska River flood plain policy area (as shown on Schedule B1) must ensure that safe ingress and egress and parking can be achieved, as defined in this Plan.

C5.1.1.1.5 Implementation

Implementation Measures	It is the policy of Council that the Ganaraska River flood plain policies shall be implemented in the following ways: a) The Municipality's Zoning By-law shall be amended to add an (f) symbol as a suffix to the zone symbol to identify all the lands below the regulatory flood plain as flood susceptible. The (f) suffix indicates that the lands are subject to the Ganaraska River flood plain policies and the Ganaraska Region Conservation Authority regulations for Fill, Construction and Alteration to Waterways regulations under the Conservation Authorities Act. In addition, for those areas which are below the floodway, a more restrictive zoning category may be applied; b) The Municipality's Zoning By-law shall be amended to contain provisions regulating the minimum elevation of doors, windows and other openings or structures, for floodproofing purposes; c) Applications for development within the Ganaraska River flood plain policy area shall not be approved until such time as the Municipality of Port Hope has been notified of the approval of the Ganaraska Region Conservation Authority as required under their Fill, Construction and Alteration to Waterway regulation;
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- d) The proponent of any new development, redevelopment, or major renovation, shall be required to submit to council for approval, a site plan in accordance with Section E11, Site Plan Control;
- e) Approval of site plans shall conform to the Ganaraska Region Conservation Authority Permit with respect to matters such as lot grading and drainage;
- f) Upon completion of the building or structure, the Municipality or the Ganaraska Region Conservation Authority may require a letter of compliance by a professional engineer verifying that the floodproofing measures have been implemented as required and are in conformity to the policies of this plan;
- g) Building permits within the Ganaraska River flood plain policy area shall not be issued until such time as the Municipality of Port Hope has been notified of the approval of the Ganaraska Region Conservation Authority; and
- h) The Municipality shall continue to maintain the flood emergency plan and to cooperate with the Ganaraska Region Conservation Authority in the operation of the Port Hope flood warning system.

C5.1.1.2 Ganaraska River – Rural Area

C5.1.1.2.1 Defined Area

Defined Area
Schedule B

The Ganaraska River flood plain policy area designation shall apply to those lands within the Regulatory Flood Plain adjacent to the Ganaraska River within the Municipality of Port Hope, as shown on Schedule B.

C5.1.1.2.2 General Policies

Filling,
Construction,
Alteration

Prior to any filling, construction or alteration to waterways, a permit shall be obtained from the Ganaraska Region Conservation Authority.

Any new building or structure shall be designed such that its structural integrity is maintained during a Regulatory Flood.

C5.1.1.3 Gages Creek

C5.1.1.3.1 Defined Area

Defined Area
Schedule B

The Gages Creek flood plain policy area designation shall apply to those lands within the flood fringe and floodway of Gages Creek within the Municipality of Port Hope as shown in Schedule B1 – Development Constraints - Gages Creek.

C5.1.1.3.2 General

Permit Required	Any filling, construction or alteration to waterways proposed within the Gages Creek flood plain policy area shall require a permit from the Conservation Authority prior to the issuance of a building permit.
Existing Development Rights	Notwithstanding Schedule B1, where approvals have been given to a site specific development proposal prior to March 30, 1998 in the form of an Official Plan Amendment, Zoning By-law amendment and Draft Plan of Subdivision, the development rights as defined by the approvals shall be provided. However, the approved development must be designed so as not to increase the flooding of properties adjacent to the development or block the flow of flood waters necessary to safely convey the regulatory flood event. All approved development must be floodproofed to the satisfaction of the Municipality in consultation with the Conservation Authority.

C5.1.1.3.3 Construction

Flood Fringe

Flood Fringe Development	Development shall be allowed to occur within the flood fringe subject to any structure being flood proofed to the Gages Creek 100 Year Flood Level plus 0.3 metre freeboard.
Flood Proofing	Any proposal for flood proofing must be approved by the Municipality in consultation with the Conservation Authority prior to a building permit being issued.
Dry Flood Proofing	For residential structures, dry flood proofing must be carried out. Wet flood proofing shall only be allowed under exceptional circumstances, and only for non-residential uses.
Additions to Structures	Additions can be made to existing structures subject to the above flood proofing requirement. Additions of less than twenty percent (20%) of the first floor area (to a maximum of 30 sq. m.) are exempt from this flood proofing requirement. The addition of up to twenty percent (20%) shall only be allowed once during the life of the building. Any further additions shall be treated as a new structure and shall be required to meet the flood proofing requirements. Additions to existing structures shall not be allowed where there is potential for structural damage associated with flooding, as determined by the Municipality in consultation with the Conservation Authority.
Building Conversions	Conversion of non-residential buildings to residential uses can only take place where the building to be converted is properly flood proofed according to the above standards.

Building Replacement	Replacement of structures, demolished by whatever means, shall be allowed within the flood fringe. However, the new structure shall be required to be flood proofed as recommended above.
Access to New Development	New development where access must occur across the flood plain must have safe ingress and egress. Proposals that require such access, where flood depths exceed 0.3 metres, must demonstrate that safe access can be provided prior to approval. Any such works required to ensure safe access must be approved by the Municipality in consultation with the Conservation Authority and must not adversely affect adjoining properties. New development must not adversely affect adjoining properties or increase the extent of the flood plain.
Parking Lots	Parking lots can occur in the flood fringe without a provision for flood proofing provided that the flood depths do not exceed 0.5 metres.
Open Storage	Open storage shall normally be allowed within the flood fringe, without flood proofing, provided that the material to be stored is not considered hazardous to the environment. Open storage for any materials can take place within the flood fringe provided that the storage site has been flood proofed.
Underlying Land Use Designation	The Official Plan and Zoning By-law shall maintain the underlying land use designation (reflecting the existing or proposed use) but shall incorporate a prefix to identify that the property is flood susceptible and shall specify the minimum requirements for flood proofing (i.e. elevation).

Floodway

Limitations on New Development	No new development shall be allowed within the floodway with the exception of that required for flood and erosion control, essential municipal services or public utilities.
Additions to Structures	Additions to structures presently within the floodway shall only be allowed if under twenty percent (20%) of the existing first floor area (up to a 30 sq. m. maximum). Where this occurs it is suggested that flood proofing be carried out to a reasonable level. No additions shall be allowed greater than twenty percent (20%). This addition shall be allowed to occur once during the life of the structure. No further additions shall be allowed. Additions shall not be allowed where there is potential for structural damages during a flood event. No new lots shall be allowed to be created within the floodway. Individual severances shall be allowed to incorporate a portion of the floodway provided that there is sufficient area outside of the floodway on which to place the proposed development. Where land severance

is proposed via the subdivision process, no lot lines shall be allowed to extend into the floodway.

Existing Lots	An existing lot of record must have sufficient area outside of the floodway to allow any proposed development to take place. Such development must occur outside of the floodway.
Building Replacement	Where a building or structure in the floodway has been destroyed or demolished by fire or causes other than flooding, the building or structure may be constructed or erected on the footprint of the first floor area of the previous building provided the re-development occurs within two (2) years of the structure's demolition or destruction and, where the opportunity exists, a degree of floodproofing shall be carried out to the replacement structure, as determined by the Municipality and the Ganaraska Region Conservation Authority. Where possible, the new structure shall be placed further away from the watercourse and shall be flood proofed to whatever level is possible.
Replacement Limitation	After the said two year period, any such redevelopment shall be considered as new development. The flood plain policies for the Gages Creek shall then apply. Any change in the use of the building shall require the approval of the Municipality of Port Hope and the Ganaraska Region Conservation Authority prior to construction.
Replacement Prohibition	Where flooding has destroyed the structure, reconstruction shall not be allowed to occur.
Parking	Parking may be allowed to occur within the floodway provided that flood depths are less than 0.5 metres and provided that flood plain characteristics are maintained.
Conversion to Residential	No conversion of a non-residential use to a residential use shall be allowed within the floodway.
Parks and Open Space	Parks and open space uses that do not require construction of facilities or large scale modifications to the flood plain shall normally be allowed within the floodway.
Open Storage	Open storage associated with commercial or industrial uses shall not normally be allowed within the floodway.
Underlying Land Use Designation	The floodway shall be designated as Open Space within the Official Plan and Zoning By-law. Existing structural development within the floodway shall be allowed to maintain the underlying land use designation (reflecting the existing use) subject to a prefix being added identifying the lot as being flood susceptible.

4.0 SPECIAL POLICY AREA – PORT BRITAIN DYNAMIC BEACH

Water Management Policies (Revised August 2003)

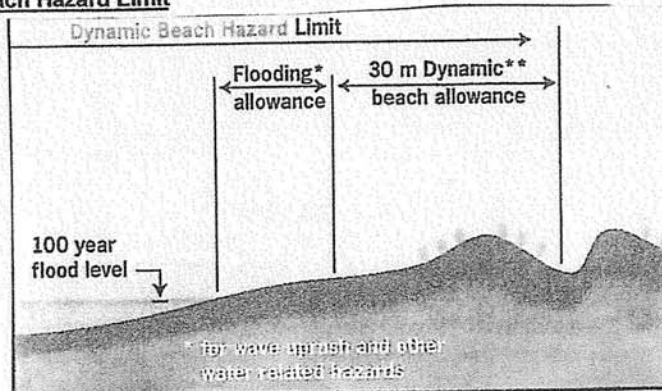
3.4 Dynamic Beach Policies:

- a) Development will generally be directed to areas outside of:
hazardous lands adjacent to the shoreline of Lake Ontario, which are impacted by flooding, erosion, and/or dynamic beach hazards;
- b) ***New development and Site Alteration*** within defined portions of dynamic beach areas (as identified in the Lake Ontario Shoreline Management Study, Sandwell 1990), and as described in the previous section (i.e. section 1.3 - Section E, Lake Ontario Shoreline Management Policy) and Provincial Policy Statements, Natural Hazards Policies, Section 3.1 (Subsections 3.1.1 – 3.1.3) ***will not be permitted.***
- c) The Ganaraska Region Conservation Authority will generally not permit erosion protection works on defined portions of the dynamic beach (as identified in the Lake Ontario Shoreline Management Study, Sandwell 1990);
- d) Notwithstanding the above, existing residences within the Port Britain Area adjacent to the Lake Ontario shoreline (Part Lots 20-24, Concession 1, Municipality of Port Hope) within defined portions of the Dynamic Beach shall be permitted to have one garage and a one-time expansion/addition up to a maximum of twenty percent (20%) of the ground floor living area, provided that:
 - i) the addition/structure is not located in the floodplain area of a stream entering Lake Ontario;
 - ii) the addition is not located within the Lake Ontario Flood Hazard limit [i.e. 100-year Lake Ontario flood level plus allowances for wave uprush and other water related hazards (generally 15 metres measured horizontally from the 100-year flood level)];
 - iii) new or existing hazards or adverse environmental impacts are not created or aggravated;
 - iv) there is no increased risk to life and/or property damage as a result of the expansion/addition;
 - v) every attempt is made to adequately protect the existing and new expansion/addition from the effects of flooding and erosion hazards;
 - vi) vehicles and people have a way of safely entering and exiting the area during times of flooding and erosion emergencies.

The attached figure and description outlines the criteria used for defining dynamic beach areas based on Provincial Policy and technical guidelines.

Dynamic Beach Hazard Limit

Figure 1



(NOT TO SCALE)

** 15 m Dynamic beach allowance for large inland lakes

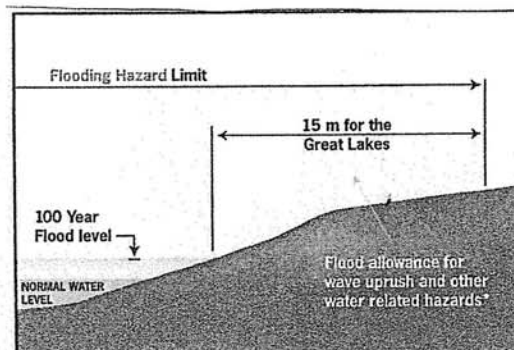
The **dynamic beach hazard limit** is the combined flooding hazard limit* (the 100- year flood level plus an allowance for wave uprush and other water related hazards), **plus the dynamic beach allowance of 30 metres** on the Great Lakes-St. Lawrence River system (See figure above).

If the dynamic beach is subject to erosion or is receding, the **flood hazard limit** is added to the horizontal distance representing 100 times the average annual recession rate, plus **dynamic beach allowance of 30 metres** on the Great Lakes-St. Lawrence River System.

A planning authority may undertake a study to determine the dynamic beach limit which would be based on **the flooding hazard limit** (the 100-year flood level plus an allowance for wave uprush and other water related hazards) plus **Scientific and engineered dynamic beach allowance** as determined by a valid study.

***Note: Flood Hazard Limit as outlined below**

Figure 2



(NOT TO SCALE)

* On connecting channels and large inland lakes, the allowance for wave uprush and other water related hazards is 5 m, measured horizontally from the 100 year flood level.

PART E – APPENDICIES

APPENDIX 1 – DEFINITIONS

Area of Interference: those lands where development could interfere with the hydrologic function of a wetland.

Armour: artificial surfacing of bed, banks, shores or embankments to resist scour or erosion.

Authority: Ganaraska Region Conservation Authority

Basement: one or more storeys of a building located below the first storey (Building Code). A crawl space or cellar shall be considered as a basement if it is:

- a) more than 1,800 millimetres high between the lowest part of the floor assembly and the ground or other surface below, or
- b) used for any occupancy.

Breakwall/Breakwater: object (especially a groyne or pier) resisting force of waves.

Conservation of Land: the protection, management, or restoration of lands within the watershed ecosystem for the purpose of maintaining or enhancing the natural features and hydrologic and ecological functions within the watershed.

Development:

- 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.

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.

Dyke: 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), and an allowance for slope stability.

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. 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 than the storm-centred events or greater than the 100 year flood and which was actually experienced in a particular watershed, or portion thereof, for example as a result of ice jams, and which has been approved as the standard for that specific area by the Minister of Natural Resources.

Gabions: stone-filled steel wire baskets which can be assembled or stacked to act as retaining walls or provide slope and erosion protection.

Habitable: suitable to live in, or on, or means, that can be inhabited. Inhabit means to dwell in, or occupy.

Hazardous Land: land that could be unsafe for development 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.

Major Applications: may include those that are highly complex, requiring full technical review, and need to be supported by comprehensive analysis or do not conform to existing Conservation Authority Board approved Section 28 policies.

Minor Addition: A minor addition is defined as 50% of the total floor area for riverine flooding and erosion hazards and shoreline flood hazards or 30% for shoreline erosion hazards. This also includes:

- a) the permissible area increase and cap to all additions shall be calculated from the time of the approval of the first Conservation Authority regulation in the municipality; and
- b) there shall no increase in the number of dwelling units.

Pollution: any deleterious physical substance or other contaminant that has the potential to be generated by development in an area to which a regulation made under clause (1)(c) (*Section 28 Conservation Authorities Act*) applies.

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.

Safe Ingress/Egress: The ability for people, vehicles and equipment gain safe access to and from areas of hazardous lands. In the absence of a site-specific detailed analysis, depths for safe access not exceed 0.3 metres and velocities not exceed 1.7 metres per second. Additionally, the produce of velocity times depth shall not exceed 0.84 metres square per second (3 foot x 3 foot rule).

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 using evaluation procedures established by the Province, as amended from time to time.

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, seiche, ship-generated waves, ice-piling or other water-related hazards.

Storey: 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
- b) 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: an identifiable depression in the ground in which a flow of water regularly or continuously occurs.

Watershed: an area that is drained by a river and its tributaries.

Wetland: 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, but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a wetland characteristic referred to in clause c) or d).

Conservation Authorities Act

ONTARIO REGULATION 168/06

GANARASKA REGION CONSERVATION AUTHORITY: REGULATION OF DEVELOPMENT, INTERFERENCE WITH WETLANDS AND ALTERATIONS TO SHORELINES AND WATERCOURSES

Consolidation Period: From May 4, 2006 to the e-Laws currency date.

No amendments.

This Regulation is made in English only.

Definition

1. In this Regulation,

“Authority” means the Ganaraska Region Conservation Authority. O. Reg. 168/06, s. 1.

Development prohibited

2. (1) Subject to section 3, no person shall undertake development, or permit another person to undertake development in or on the areas within the jurisdiction of the Authority that are,

- (a) 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, including the area from the furthest offshore extent of the Authority’s boundary to the furthest landward extent of the aggregate of the following distances:
 - (i) the 100 year flood level, plus the appropriate allowance for wave uprush shown in the column headed “100 Year Flood Limit” found in Table 7.1 of the document entitled “Lake Ontario Shoreline Management Plan”, December 1990, which is available at or through the Authority at its head office located at 2216 Northumberland County Road 28, Port Hope, Ontario, L1A 3W4,
 - (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,
 - (iii) where a dynamic beach is associated with the waterfront lands, the appropriate allowance inland to accommodate dynamic beach movement shown in the right-hand column of Table 7.1 of the document entitled “Lake Ontario Shoreline Management Plan”, December 1990, which is available at or through the Authority at the address given in subclause (i),
 - (iv) 15 metres inland;
- (b) 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 in accordance with the following rules:

- (i) 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,
- (ii) 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,
- (iii) where the river or stream valley is not apparent, the valley extends the greater of,
 - (A) the distance from a point outside the edge of the maximum extent of the flood plain under the applicable flood event standard, plus 15 metres, 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, plus 15 metres, to a similar point on the opposite side;
- (c) hazardous lands;
- (d) wetlands; or
- (e) other areas where development could interfere with the hydrologic function of a wetland, including areas within 120 metres of all provincially significant wetlands and wetlands greater than 2 hectares in size, and areas within 30 metres of wetlands less than 2 hectares, but not including those where development has been approved pursuant to an application made under the *Planning Act* or other public planning or regulatory process. O. Reg. 168/06, s. 2 (1).

(2) The areas described in subsection (1) are the areas referred to in section 12 except that, in case of a conflict, the description of the areas provided in subsection (1) prevails over the descriptions referred to in that section. O. Reg. 168/06, s. 2 (2).

Permission to develop

3. (1) The Authority may grant permission for development in or on the areas described in subsection 2 (1) if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development. O. Reg. 168/06, s. 3 (1).

(2) The permission of the Authority shall be given in writing, with or without conditions. O. Reg. 168/06, s. 3 (2).

Application for permission

4. A signed application for permission to undertake development shall be filed with the Authority and shall contain the following information:

1. Four copies of a plan of the area showing the type and location of the development.
2. The proposed use of the buildings and structures following completion of the development.
3. The start and completion dates of the development.
4. The elevations of existing buildings, if any, and grades and the proposed elevations of buildings and grades after development.
5. Drainage details before and after development.
6. A complete description of the type of fill proposed to be placed or dumped. O. Reg. 168/06, s. 4.

Alterations prohibited

5. Subject to section 6, no person shall straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or change or interfere in any way with a wetland. O. Reg. 168/06, s. 5.

Permission to alter

6. (1) The Authority may grant a person permission 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. O. Reg. 168/06, s. 6 (1).

(2) The permission of the Authority shall be given in writing, with or without conditions. O. Reg. 168/06, s. 6 (2).

Application for permission

7. A signed application for permission to straighten, change, divert or interfere with the existing channel of a river, creek, stream or watercourse or change or interfere with a wetland shall be filed with the Authority and shall contain the following information:

1. Four copies of a plan of the area showing plan view and cross-section details of the proposed alteration.
2. A description of the methods to be used in carrying out the alteration.
3. The start and completion dates of the alteration.
4. A statement of the purpose of the alteration. O. Reg. 168/06, s. 7.

Cancellation of permission

8. (1) The Authority may cancel a permission if it is of the opinion that the conditions of the permission have not been met. O. Reg. 168/06, s. 8 (1).

(2) Before cancelling a permission, the Authority shall give a notice of intent to cancel to the holder of the permission indicating that the permission will be cancelled unless the holder shows cause at a hearing why the permission should not be cancelled. O. Reg. 168/06, s. 8 (2).

(3) Following the giving of the notice, the Authority shall give the holder at least five days notice of the date of the hearing. O. Reg. 168/06, s. 8 (3).

Validity of permissions and extensions

9. (1) A permission of the Authority is valid for a maximum period of 24 months after it is issued, unless it is specified to expire at an earlier date. O. Reg. 168/06, s. 9 (1).

(2) A permission shall not be extended. O. Reg. 168/06, s. 9 (2).

Appointment of officers

10. The Authority may appoint officers to enforce this Regulation. O. Reg. 168/06, s. 10.

Flood event standards

11. The applicable flood event standards used to determine the maximum susceptibility to flooding of lands or areas within the watersheds in the area of jurisdiction of the Authority are the Hurricane Hazel Flood Event Standard, the 100 Year Flood Event Standard and the 100 year flood level plus wave uprush, described in Schedule 1. O. Reg. 168/06, s. 11.

Areas included in the Regulation Limit

12. Hazardous lands, wetlands, shorelines and areas susceptible to flooding, and associated allowances within the watersheds in the area of jurisdiction of the Authority are delineated by the Regulation Limit shown on maps 1 to 45 dated January 2006 and filed at the head office of the Authority at 2216 Northumberland County Road 28, Port Hope, Ontario under the map title "Ontario Regulation 97/04: Regulation for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses". O. Reg. 168/06, s. 12.

13. OMITTED (REVOKES OTHER REGULATIONS). O. Reg. 168/06, s. 13.

SCHEDULE 1

1. The Hurricane Hazel Flood Event Standard means a storm that produces over a 48-hour period,
- (a) in a drainage area of 25 square kilometres or less, rainfall that has the distribution set out in Table 1; or
 - (b) in a drainage area of more than 25 square kilometres, rainfall such that the number of millimetres of rain referred to in each case in Table 1 shall be modified by the percentage amount shown in Column 2 of Table 2 opposite the size of the drainage area set out opposite thereto in Column 1 of Table 2.

TABLE 1

73 millimetres of rain in the first 36 hours
6 millimetres of rain in the 37th hour
4 millimetres of rain in the 38th hour
6 millimetres of rain in the 39th hour
13 millimetres of rain in the 40th hour
17 millimetres of rain in the 41st hour
13 millimetres of rain in the 42nd hour
23 millimetres of rain in the 43rd hour
13 millimetres of rain in the 44th hour
13 millimetres of rain in the 45th hour
53 millimetres of rain in the 46th hour
38 millimetres of rain in the 47th hour
13 millimetres of rain in the 48th hour

TABLE 2

Column 1	Column 2
Drainage Area (square kilometres)	Percentage
26 to 45 both inclusive	99.2
46 to 65 both inclusive	98.2
66 to 90 both inclusive	97.1
91 to 115 both inclusive	96.3

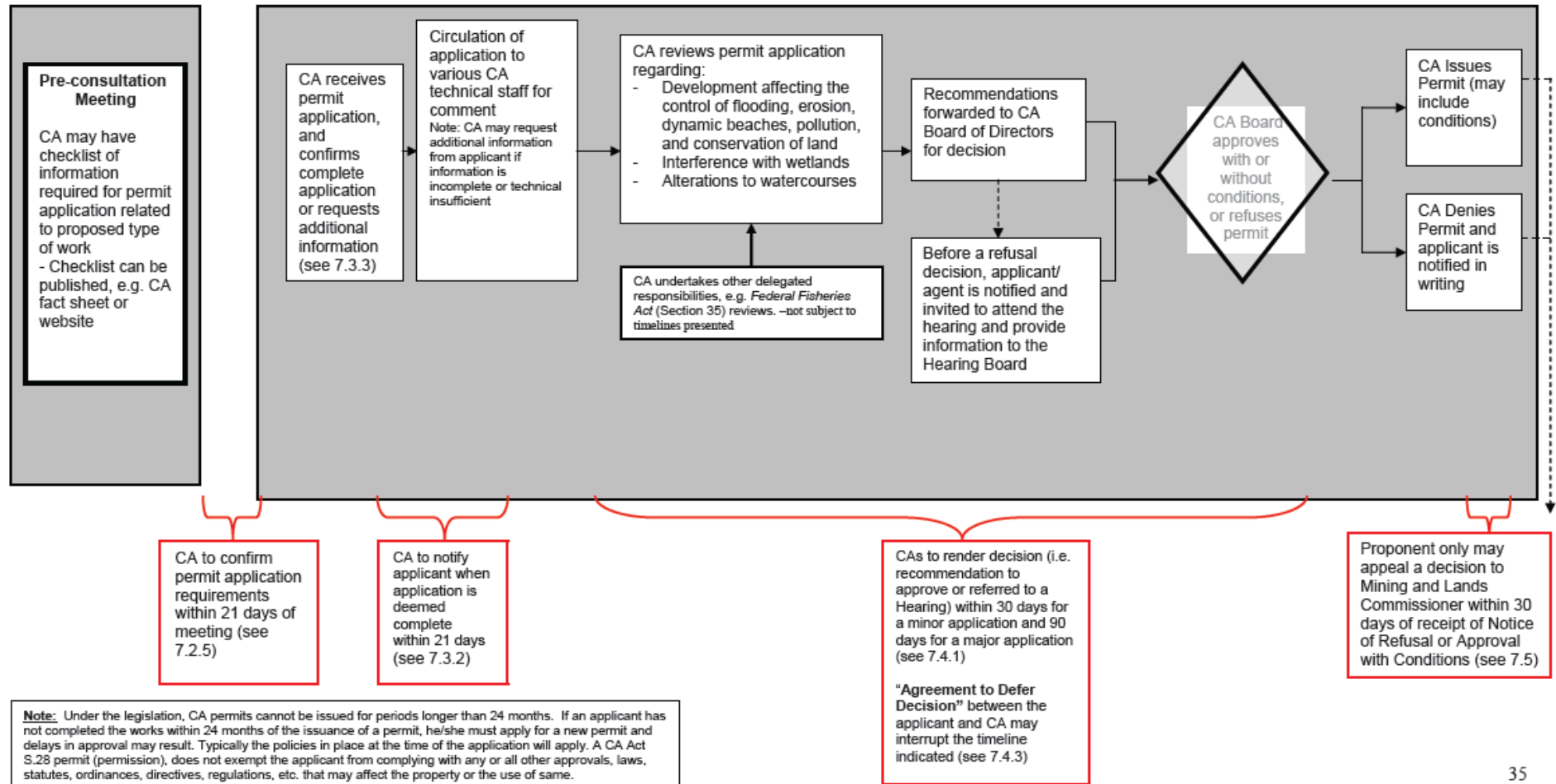
116 to 140 both inclusive	95.4
141 to 165 both inclusive	94.8
166 to 195 both inclusive	94.2
196 to 220 both inclusive	93.5
221 to 245 both inclusive	92.7
246 to 270 both inclusive	92.0
271 to 450 both inclusive	89.4
451 to 575 both inclusive	86.7
576 to 700 both inclusive	84.0
701 to 850 both inclusive	82.4
851 to 1000 both inclusive	80.8
1001 to 1200 both inclusive	79.3
1201 to 1500 both inclusive	76.6
1501 to 1700 both inclusive	74.4
1701 to 2000 both inclusive	73.3
2001 to 2200 both inclusive	71.7
2201 to 2500 both inclusive	70.2
2501 to 2700 both inclusive	69.0
2701 to 4500 both inclusive	64.4
4501 to 6000 both inclusive	61.4
6001 to 7000 both inclusive	58.9
7001 to 8000 both inclusive	57.4

2. The 100 Year Flood Event Standard means rainfall or snowmelt, or a combination of rainfall and snowmelt, producing at any location in a river creek, stream, or watercourse, a peak flow that has a probability of occurrence of one per cent during any given year.

3. The 100 year flood level means the peak instantaneous still water level plus an allowance for wave uprush and other water-related hazards for Lake Ontario in the Great Lakes-St. Lawrence River System, that has a probability of occurrence of one per cent during any given year.

O. Reg. 168/06, Sched. 1.

Appendix 2(c): Stand-Alone CA Act S. 28 “Development, Interference with Wetlands, Alterations to Shorelines and Watercourses” Regulation Permit Application Process



SECTION 28 (3)
CONSERVATION AUTHORITIES ACT
HEARING GUIDELINES
October 2005



Ministry of Natural Resources
Ministère des Richesses naturelles

SECTION 28 (3)
CONSERVATION AUTHORITIES ACT
HEARING GUIDELINES
October 2005

Peter Krause, Chairman
Conservation Ontario

Gail L. Beggs, Deputy Minister
Ministry of Natural Resources

Section 28 (12), Conservation Authorities Act - Hearing Guidelines

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1.0 PURPOSE OF HEARING GUIDELINES:

The purpose of the Hearing Guidelines is to reflect the changes to the 1998 Conservation Authorities Act. The Act requires that the applicant be party to a hearing by the local Conservation Authority Board, or Executive Committee (sitting as a Hearing Board) as the case may be, for an application to be refused or approved with contentious conditions. Further, a permit may be refused if in the opinion of the Authority the proposal adversely affects the control of flooding, pollution or conservation of land, and additional erosion and dynamic beaches. 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 Conservation Authority staff and the applicant and to decide whether the application will be approved with or without conditions or refused.

These guidelines have been prepared as an update to the October 1992 hearing guidelines and are intended to provide a step-by-step process to conducting hearings required under Section 28 (12), (13), (14) of the Conservation Authorities Act. Similar to the 1992 guidelines, it is hoped that the guidelines will promote the necessary consistency across the Province and ensure that hearings meet the legal requirements of the Statutory Powers Procedures Act without being unduly legalistic or intimidating to the participants.

2.0 PREHEARING PROCEDURES

2.1 Apprehension of Bias

In considering the application, the Hearing Board is acting as a decision-making tribunal. The tribunal is to act fairly. Under general principles of administrative law relating to the duty of fairness, the tribunal is obliged not only to avoid any bias but also to avoid the appearance or apprehension of bias. The following are three examples of steps to be taken to avoid apprehension of bias where it is likely to arise.

- (a) No member of the Authority taking part in the hearing should be involved, either through participation in committee or intervention on behalf of the applicant or other interested parties with the matter, prior to the hearing. Otherwise, there is a danger of an apprehension of bias which could jeopardize the hearing.
- (b) If material relating to the merits of an application that is the subject of a hearing is distributed to Board members before the hearing, the material shall be distributed to the applicant at the same time. The applicant may be afforded an opportunity to distribute similar pre-hearing material.
- (c) In instances where the Authority (or Executive Committee) requires a hearing to help it reach a determination as to whether to give permission with or without conditions or refuse a permit application, a final decision shall not be made until such time as a hearing is held. The applicant will be given an opportunity to attend the hearing before a decision is made; however, the applicant does not have to be present for a decision to be made.

Individual Conservation Authorities shall develop a document outlining their own practices and procedures relating to the review and reporting of Section 28 applications, including the role of staff, the applicant and the Authority or Executive Committee as well as, the procedures for the hearing itself. Such policy and procedures manual shall be available to the members of the public upon request. These procedures shall have regard for the above information and should be approved by the Conservation Authority Board of Directors.

2.2 Application

The right to a hearing is required where staff is recommending refusal of an application or where there is some indication that the Authority or Executive Committee may not follow staff's recommendation to approve a permit or the applicant objects to the conditions of approval. The applicant is entitled to reasonable notice of the hearing pursuant to the Statutory Powers Procedures Act.

2.3 Notice of Hearing

The Notice of Hearing shall be sent to the applicant within sufficient time to allow the applicant to prepare for the hearing. To ensure that reasonable notice is given, it is recommended that prior to sending the Notice of Hearing, the applicant be consulted to determine an agreeable date and time based on the local Conservation Authority's regular meeting schedule.

The Notice of Hearing must contain the following:

- (a) Reference to the applicable legislation under which the hearing is to be held (i.e., the Conservation Authorities Act).
- (b) The time, place and the purpose of the hearing.
- (c) Particulars to identify the applicant, property and the nature of the application which are the subject of the hearing.

Note: If the applicant is not the landowner but the prospective owner, the applicant must have written authorization from the registered landowner.

- (d) The reasons for the proposed refusal or conditions of approval shall be specifically stated. This should contain sufficient detail to enable the applicant to understand the issues so he or she can be adequately prepared for the hearing.

It is sufficient to reference in the Notice of Hearing that the recommendation for refusal or conditions of approval is based on the reasons outlined in previous correspondence or a hearing report that will follow.

- (e) A statement notifying the applicant that the hearing may proceed in the applicant's absence and that the applicant will not be entitled to any further notice of the proceedings.

Except in extreme circumstances, it is recommended that the hearing not proceed in the absence of the applicant.

- (f) Reminder that the applicant is entitled to be represented at the hearing by counsel, if desired.

It is recommended that the Notice of Hearing be directed to the applicant and/or landowner by registered mail. Please refer to **Appendix A** for an example Notice of Hearing.

2.4 Presubmission of Reports

If it is the practice of the local Conservation Authority to submit reports to the Board members in advance of the hearing (i.e., inclusion on an Authority/Executive Committee agenda), the applicant shall be provided with the same opportunity. The applicant shall be given two weeks to prepare a report once the reasons for the staff recommendations have been received. Subsequently, this may affect the timing and scheduling of the staff hearing reports.

2.5 Hearing Information

Prior to the hearing, the applicant shall be advised of the local Conservation Authority's hearing procedures upon request.

3.0 HEARING

3.1 Public Hearing

Pursuant to the Statutory Powers Procedure Act, hearings are required to be held in public. The exception is in very rare cases where public interest in public hearings is outweighed by the fact that intimate financial, personal or other matters would be disclosed at hearings.

3.2 Hearing Participants

The Conservation Authorities Act does not provide for third party status at the local hearing. While others may be advised of the local hearing, any information that they provide should be incorporated within the presentation of information by, or on behalf of, the applicant or Authority staff.

3.3 Attendance of Hearing Board Members

In accordance with case law relating to the conduct of hearings, those members of the Authority who will decide whether to grant or refuse the application must be present during the full course of the hearing. If it is necessary for a member to leave, the hearing must be adjourned and resumed when either the member returns or if the hearing proceeds, even in the event of an adjournment, only those members who were present after the member left can sit to the conclusion of the hearing.

3.4 Adjournments

The Board may adjourn a hearing on its own motion or that of the applicant or Authority staff where it is satisfied that an adjournment is necessary for an adequate hearing to be held.

Any adjournments form part of the hearing record.

3.5 Orders and Directions

The Authority is entitled to make orders or directions to maintain order and prevent the abuse of its hearing processes. A hearing procedures example has been included as **Appendix B**.

3.6 Information Presented at Hearings

- (a) The Statutory Powers Procedure Act requires that a witness be informed of his right to object pursuant to the Canada Evidence Act. The Canada Evidence Act indicates that a witness shall be excused from answering questions on the basis that the answer may be incriminating. Further, answers provided during the hearing are not admissible against the witness in any criminal trial or proceeding. This information should be provided to the applicant as part of the Notice of Hearing.
- (b) It is the decision of the hearing members as to whether information is presented under oath or affirmation. It is not a legal requirement. The applicant must be informed of the above, prior to or at the start of the hearing.
- (c) The Board may authorize receiving a copy rather than the original document. However, the Board can request certified copies of the document if required.
- (d) Privileged information, such as solicitor/client correspondence, cannot be heard. Information that is not directly within the knowledge of the speaker (hearsay), if relevant to the issues of the hearing, can be heard.
- (e) The Board may take into account matters of common knowledge such as geographic or historic facts, times measures, weights, etc or generally recognized scientific or technical facts, information or opinions within its specialized knowledge without hearing specific information to establish their truth.

3.7 Conduct of Hearing

3.7.1 Record of Attending Hearing Board Members

A record shall be made of the members of the Hearing Board.

3.7.2 Opening Remarks

The Chairman shall convene the hearing with opening remarks which generally; identify the applicant, the nature of the application, and the property location; outline the hearing procedures; and advise on requirements of the Canada Evidence Act. Please reference **Appendix C** for the Opening Remarks model.

3.7.3 Presentation of Authority Staff Information

Staff of the Authority presents the reasons supporting the recommendation for the refusal or conditions of approval of the application. Any reports, documents or plans that form part of the presentation shall be properly indexed and received.

Staff of the Authority should not submit new information at the hearing as the applicant will not have had time to review and provide a professional opinion to the Hearing Board.

Consideration should be given to the designation of one staff member or legal counsel who coordinates the presentation of information on behalf of Authority staff and who asks questions on behalf of Authority staff.

3.7.4 Presentation of Applicant Information

The applicant has the opportunity to present information at the conclusion of the Authority staff presentation. Any reports, documents or plans which form part of the submission should be properly indexed and received.

The applicant shall present information as it applies to the permit application in question. For instance, does the requested activity affect the control of flooding, erosion, dynamic beach or conservation of land or pollution? The hearing does not address the merits of the activity or appropriateness of such a use in terms of planning.

- The applicant may be represented by legal counsel or agent, if desired
- The applicant may present information to the Board and/or have invited advisors to present information to the Board
- The applicant(s) presentation may include technical witnesses, such as an engineer, ecologist, hydrogeologist etc.

The applicant should not submit new information at the hearing as the Staff of the Authority will not have had time to review and provide a professional opinion to the Hearing Board.

3.7.5 Questions

Members of the Hearing Board may direct questions to each speaker as the information is being heard. The applicant and /or agent can make any comments or questions on the staff report.

Pursuant to the Statutory Powers Procedure Act, the Board can limit questioning where it is satisfied that there has been full and fair disclosure of the facts presented. Please note that the courts have been particularly sensitive to the issue of limiting questions and there is a tendency to allow limiting of questions only where it has clearly gone beyond reasonable or proper bounds.

3.7.6 Deliberation

After all the information is presented, the Board may adjourn the hearing and retire in private to confer. The Board may reconvene on the same date or at some later date to advise of the Board's decision. The Board members shall not discuss the hearing with others prior to the decision of the Board being finalized.

4.0. DECISION

The applicant must receive written notice of the decision. The applicant shall be informed of the right to appeal the decision within 30 days upon receipt of the written decision to the Minister of Natural Resources.

It is important that the hearing participants have a clear understanding of why the application was refused or approved. The Board shall itemize and record information of particular significance which led to their decision.

4.1 Notice of Decision

The decision notice should include the following information:

- (a) The identification of the applicant, property and the nature of the application that was the subject of the hearing.
- (b) The decision to refuse or approve the application. A copy of the Hearing Board resolution should be attached.

It is recommended that the written Notice of Decision be forwarded to the applicant by registered mail. A sample Notice of Decision and cover letter has been included as **Appendix D**.

4.2 Adoption

A resolution advising of the Board's decision and particulars of the decision should be adopted.

5.0 RECORD

The Authority shall compile a record of the hearing. In the event of an appeal, a copy of the record should be forwarded to the Minister of Natural Resources/Mining and Lands Commissioner. The record must include the following:

- (a) The application for the permit.
- (b) The Notice of Hearing.
- (c) Any orders made by the Board (e.g., for adjournments).
- (d) All information received by the Board.
- (e) The minutes of the meeting made at the hearing.

- (f) The decision and reasons for decision of the Board.
- (g) The Notice of Decision sent to the applicant

Appendix A

NOTICE OF HEARING

IN THE MATTER OF

The Conservation Authorities Act,
R.S.O. 1990, Chapter 27

AND IN THE MATTER OF an application by

**FOR THE PERMISSION OF THE
CONSERVATION AUTHORITY**

Pursuant to Regulations made under
Section 28, Subsection 12 of the said Act

TAKE NOTICE THAT a Hearing before the Executive Committee of the Conservation Authority will be held under Section 28, Subsection 12 of the Conservation Authorities Act at the offices of the said Authority (ADDRESS), at the hour of , on the day of , 2001, with respect to the application by (NAME) to permit development within an area regulated by the Authority in order to ensure no adverse affect on *(the control of flooding, erosion, dynamic beaches or pollution or conservation of land./alter or interfere with a watercourse, shoreline or wetland)* on Lot , Plan/Lot , Concession , (Street) in the City of , Regional Municipality of , River Watershed.

TAKE NOTICE THAT you are invited to make a delegation and submit supporting written material to the Executive Committee for the meeting of (*meeting number*). If you intend to appear, please contact (*name*) . Written material will be required by (*date*), to enable the Committee members to review the material prior to the meeting.

TAKE NOTICE THAT this hearing is governed by the provisions of the Statutory Powers Procedure Act. Under the Act, a witness is automatically afforded a protection that is similar to the protection of the Ontario Evidence Act. This means that the evidence that a witness gives may not be used in subsequent civil proceedings or in prosecutions against the witness under a Provincial Statute. It does not relieve the witness of the obligation of this oath since matters of perjury are not affected by the automatic affording of the protection. The significance is that the legislation is Provincial and cannot affect Federal matters. If a witness requires the protection of the Canada Evidence Act that protection must be obtained in the usual manner. The Ontario Statute requires the tribunal to draw this matter to the attention of the witness, as this tribunal has no knowledge of the affect of any evidence that a witness may give.

AND FURTHER TAKE NOTICE that if you do not attend at this Hearing, the Executive Committee of the Conservation Authority may proceed in your absence, and you will not be entitled to any further notice in the proceedings.

DATED the ____ day of , _____200X

The Executive Committee of the
Conservation Authority

Per:

c - 9

Chief Administrative Officer/Secretary-Treasurer

c - 10

Appendix B

HEARING PROCEDURES

1. Motion to sit as Hearing Board.
2. Roll Call followed by the Chair's opening remarks.
3. Staff will introduce to the Hearing Board the applicant/owner, his/her agent and others wishing to speak.
4. Staff will indicate the nature and location of the subject application and the conclusions.
5. Staff will present the staff report included in the Authority/Executive Committee agenda.
6. The applicant and/or his/her agent will speak and also make any comments on the staff report, if he/she so desires.
7. The Hearing Board is open to the public and therefore, the Hearing Board will allow others to speak, and, if necessary, the applicant in rebuttal.
8. The Hearing Board will question, if necessary, both the staff and the applicant/agent.
9. The Hearing Board will move into camera.
10. Members of the Hearing Board will move and second a motion.
11. A motion will be carried which will culminate in the decision.
12. The Hearing Board will move out of camera.
13. The Chairman or Acting Chairman will advise the owner/applicant of the Hearing Board decision.
14. If decision is "to refuse", the Chairman or Acting Chairman shall notify the owner/applicant of his/her right to appeal the decision to the Minister of Natural Resources within 30 days of receipt of the reasons for the decision.
15. Motion to move out of Hearing Board and sit as Executive Committee.

Appendix C

CHAIR'S REMARKS WHEN DEALING WITH HEARINGS WITH RESPECT TO ONTARIO REGULATION 158

We are now going to conduct a hearing under section 28 of the Conservation Authorities Act in respect of an application by _____, for permission to:_____

The Authority has adopted regulations under section 28 of the Conservation Authorities Act which requires the permission of the Authority for development within an area regulated by the Authority in order to ensure no adverse affect on (the control of flooding, erosion, dynamic beaches or pollution or conservation of land) or to permit alteration to a shoreline or watercourse or interference with a wetland.

The Staff has reviewed this proposed work and a copy of the staff report has been given to the applicant.

The Conservation Authorities Act (Section 28 [12]) provides that:

"Permission required under a regulation made under clause (1) (b) or ©) shall not be refused or granted subject to conditions unless the person requesting permission has been given the opportunity to require a hearing before the authority or, if the authority so directs, before the authority's executive committee."

In holding this hearing, the Authority Board/Executive Committee is to determine whether or not a permit is to be issued. In doing so, we can only consider the application in the form that is before us, the staff report, such evidence as may be given and the submissions to be made on behalf of the applicant.

The proceedings will be conducted according to the Statutory Powers Procedure Act. Under Section 5 of the Canada Evidence Act, a witness may refuse to answer any question on the ground that the answer may tend to criminate the person, or may tend to establish his/her liability to a civil proceeding at the instance of the Crown or of any person.

The procedure in general shall be informal without the evidence before it being given under oath or affirmation unless decided by the hearing members.

If the applicant has any questions to ask of the Hearing Board or of the Authority representative, they must be directed to the Chair of the board.

Appendix D

(Date)

BY REGISTERED MAIL

(name)

(address)

Dear:

RE: NOTICE OF DECISION

Hearing Pursuant to Section 28(12) of the Conservation Authorities Act

Proposed Residential Development

Lot , Plan ; ?? Drive City of

(Application #)

In accordance with the requirements of the Conservation Authorities Act, the (name) Conservation Authority provides the following Notice of Decision:

On *(meeting date and number)*, the Hearing Board/Authority/Executive Committee refused/approved your application/approved your application with conditions. A copy the Boards/Committee's resolution # has been attached for your records. Please note that this decision is based on the following reasons: *(the proposed development/alteration to a watercourse or shoreline adversely affects the control of flooding, erosion, dynamic beaches or pollution or interference with a wetland or conservation of land)*.

In accordance with Section 28 (15) of the Conservation Authorities Act, An applicant who has been refused permission or who objects to conditions imposed on a permission may, within 30 days of receiving the reasons under subsection (14), appeal to the Minister who may refuse the permission; or grant permission, with or without conditions. For your information, should you wish to exercise your right to appeal the decision, a letter by you or your agent/counsel setting out your appeal must be sent within 30 days of receiving this decision addressed to:

The Honourable David Ramsay
Minister of Natural Resources
Queen's Park, Whitney Block
99 Wellesley Street West, 6th Floor, Room 6630
Toronto, Ontario M7A 1W3
TEL: (416) 314-2301 FAX: (416) 314-2216

Should you require any further information, please do not hesitate to contact *(staff contact)* or the undersigned.

Yours truly,

Chief Administrative Officer/Secretary Treasurer

Enclosure

PART F – REFERENCES

Stream Corridors Project Management Team. (2001). *Adaptive Management of Stream Corridors in Ontario*.¹¹

Ministry of Natural Resources (MNR) and Conservation Ontario. (2005). *Guidelines for Developing Schedules of Regulated Areas*.

MNR. (2002a). *River and Stream Systems: Flooding Hazard Limit Technical Guide*.¹¹

MNR (2002b). *River and Stream Systems: Erosion Hazard Limit Technical Guide*.¹¹

MNR. (2001). *Understanding Natural Hazards*.¹¹

MNR (1996a). *Hazardous Sites Technical Guide*.^{11 12}

MNR (1996b). *Technical Guide for Great Lakes – St. Lawrence River System*.¹²

MNR (1996c). *Technical Guide for Large Inland Lakes*.¹²

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¹¹ Available within the MNR and Watershed Science Centre (2002) disk *Adaptive Management of Stream Corridors in Ontario including Natural Hazards Technical Guide*.

¹² Available within the Watershed Science Centre and MNR (2001) disk *Great Lakes – St. Lawrence River System and Large Inland Lakes: Technical Guides for flooding, erosion, and dynamic beaches in support of natural hazards policies 3.1 of the Provincial Policy Statement*.