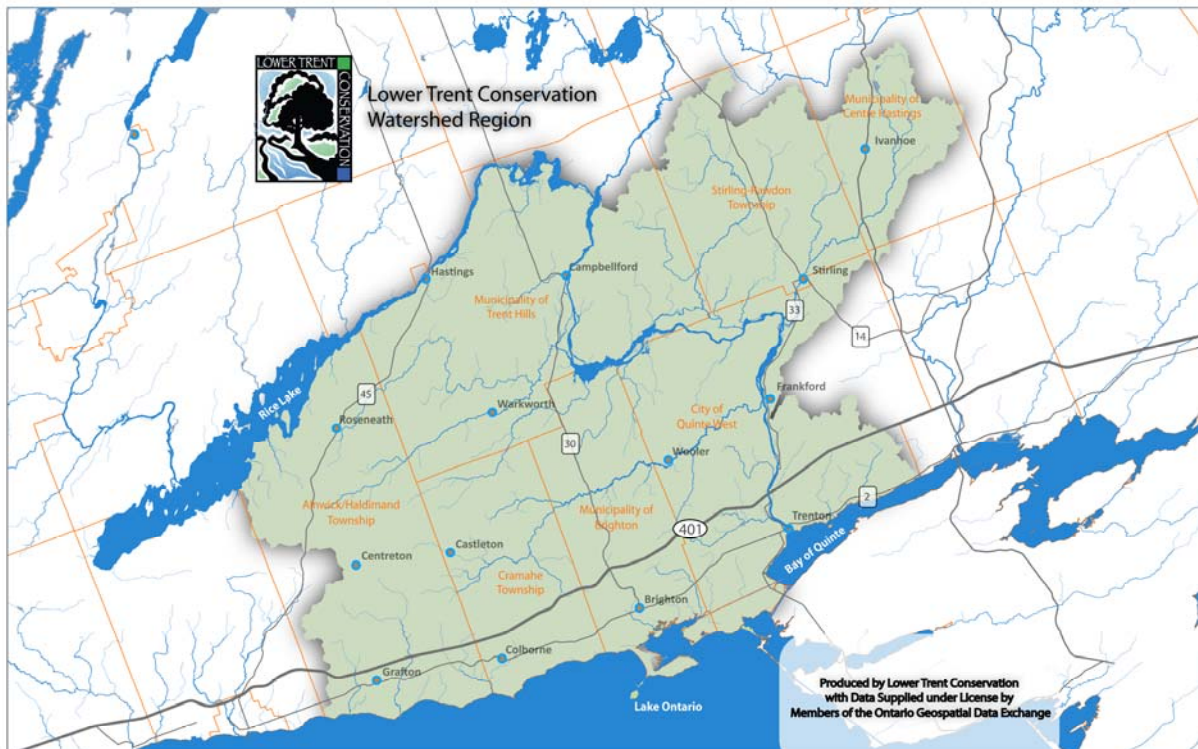




Municipal Plan Review Manual

Lower Trent Conservation



December 2008



Resolution of Adoption

This Plan Review Manual was adopted by the Full Authority Board of the Lower Trent Region Conservation Authority, through resolution G102-08, dated December 10, 2008. It updates and replaces the original Lower Trent Region Conservation Authority Plan Input and Review Policy dated April 1992. This policy shall be subject to a comprehensive review no later than 2012.



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Please note: Wording that appears in *italics* refers to approved legislation. Each planning policy contains separate subsections that address background information; policy context, objectives and implementing guidelines.



1.0 Introduction

This document outlines the guiding principles of The Lower Trent Region Conservation Authority (LTC) as they relate to the Conservation Authority's role in municipal planning matters. It integrates provincial policy and reflects accepted technical guidelines as they relate to the environmental components of our watershed landscape and public safety.

It is recognized that the primary boundary for an ecosystem approach to land use planning should be the watershed. Section 2.2.1 (a) of the *Provincial Policy Statement* states that: "planning authorities shall protect, improve or restore the quality and quantity of water by using the watershed as the ecologically meaningful scale for planning". By providing a broad understanding of ecosystem function and status at the watershed level relevant ecosystem considerations can be integrated into land use planning and decisions.

1.1 Purpose

This document is intended to be an internal guide for reviewing and providing recommendations to our watershed municipalities with regards to applications circulated to LTC under the *Ontario Planning Act* R.S.O. 1990 c.P.13. This document is a written record of our general practices and interpretations of federal, provincial and municipal legislation and policies. This document may be amended from time to time to ensure consistency with any future amendments to the Provincial Policy Statement or any other legislative or regulatory policy or document that impact on the implementing guidelines of this document. Additionally, we will work with our member municipalities to ensure consistency of policy or policy interpretation between this document and municipal Official Plans and other policy documents.

Where there are inconsistencies amongst member municipalities, the implementing guidelines will be clarified in the Service Agreement for plan review with each municipality and the Agreement will take precedent.

1.2 Background

LTC provides comments, recommendations and clearances to our municipalities as they relate to the following land-use planning issues:

- Consent applications;
- Site specific Zoning By-Law Amendments;
- Site specific Official Plan Amendments;
- Minor Variances;
- Applications for Plans of Subdivision;
- Applications for Plans of Condominium;
- Comprehensive Zoning By-Laws;
- Official Plans;
- Secondary Plans;
- Community Improvement Plans; and
- Site Plan Control.



The types of applications circulated to LTC for comment are dependent on formal plan review agreements between LTC and both upper and lower tier municipalities. The provisions within these plan review agreements are reviewed with each Municipality periodically. In addition, LTC provides formal comments to the Ministry of Municipal Affairs and Housing and the Pine Ridge Municipal Planning Agency.

In order to outline the implementation guidelines that will provide clarity and consistency for the purpose of making plan review recommendations, each specific planning policy within this document will address the components of background information, policy context, objectives, and implementation guidelines.

It is important to note that each of the implementation guidelines within this document should not be considered in isolation. For example, consideration for the avoidance of potential adverse impacts on natural features should also include an assessment for the avoidance of natural hazards. By implementing a holistic approach that recognizes natural features, ecological functions and natural hazards, LTC will make recommendations and encourage decisions that identify the relationships between issues relating to the natural environment.



2.0 Framework

Legislation and policies that directly and indirectly relate to LTC's role in municipal plan review are amended periodically. Recent notable changes include the amendments to the *Ontario Conservation Authorities Act* and the 2005 *Provincial Policy Statement* issued under Section 3 of the *Ontario Planning Act*.

This document has been developed with consideration for the legislation and policies relating to the Conservation Authority and all three levels of government. The result of such consideration is the maintenance of consistency and the strengthening of both internal and external policies. The documents outlined below provide the context upon which LTC's plan review implementation guidelines have been developed.

2.1 Ontario Planning Act and the Provincial Policy Statement

The *Planning Act* is the principle legislation that guides land use planning in the Province of Ontario. The *Planning Act* prescribes when an approval authority must circulate applications to the Conservation Authority. The *Planning Act* also identifies the matters that must be considered in the review and decisions made under the *Act*. In addition the *Planning Act* contains a process for which decisions may be appealed to the Ontario Municipal Board (OMB).

Under Section 3 of the *Planning Act*, the Minister of Municipal Affairs and Housing is capable of issuing policy statements to guide land use planning matters that are of provincial interest. The *Act* requires that planning authorities "shall be consistent with" these policy statements when providing comments and making decisions on land use planning issues. The most recent *Provincial Policy Statement* was introduced by the Minister in March 2005.

In 2001, under a memorandum of understanding, Conservation Authorities have been delegated responsibility under the Provincial One Window Planning System for Natural Hazards. These include hazards related to flood plain management, hazardous slopes, Great Lakes shorelines, unstable soils and erosion. In this delegated role, the CA is responsible for representing the "Provincial Interest" on these matters in planning exercises where the Province is not involved. In this regard, Lower Trent will review policy documents and development proposals processed under the *Planning Act* to ensure that the application has appropriate regard to Section 3.1 of the PPS.

2.2 Ontario Conservation Authorities Act

The role of the Lower Trent Region Conservation Authority is mandated by the *Ontario Conservation Authorities Act* as follows:

"The objects of an authority are to establish and undertake, in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals." R.S.O. 1990, c. C.27, s. 20.

Conservation Authorities are seen as the embodiment of a provincial-municipal partnership which can respond to a variety of resource management issues, including flooding and soil erosion.



Section 28 of the *Conservation Authorities Act*, as amended, provides the ability for a Conservation Authority, with the approval of the Minister, to apply jurisdictional regulations that prohibit altering or interfering in any way with the channel of a watercourse or with a wetland without the written permission of the Authority. It also provides the ability to regulate development within hazard lands, if, in the opinion of the Authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land would be affected by the development.

The Lower Trent Region Conservation Authority has a regulation (163/06) made pursuant to Section 28 of the *Conservation Authorities Act* known as the *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Regulation*. LTC has prepared and approved a policy to guide the implementation of this regulation.

It is the intent of the Conservation Authority to ensure consistency between its *Ontario Regulation 163/06 Policy and Procedures Manual* and *Plan Review Manual*. However in such a case where a matter being considered is subject to both Manuals and there is an apparent conflict, the more stringent of the two shall apply.

2.3 Municipal Official Plans and Zoning By-Laws

Official Plans and Zoning By-Laws provide the mechanism to implement the guiding principles in this document. Municipalities are encouraged to involve LTC early in the process of Official Plan and Comprehensive Zoning By-law reviews to ensure that appropriate schedules, overlays and text are incorporated to adequately address issues related to natural heritage features, water and natural hazards.

When providing comments on applications subject to the *Planning Act*, LTC staff may refer to specific municipal policies or provisions. Reference to specific municipal policies or provisions should ensure that comments made by LTC are reflective of municipal documents and may demonstrate the linkage between LTC's technical advice and municipal policy.

2.4 Federal Fisheries Act

LTC has an agreement with the Department of Fisheries and Oceans Canada (DFO) for the review of proposals for development and site alteration that have the potential to impact fish and fish habitat pursuant to Section 35(1) of the Federal *Fisheries Act*, as amended. This agreement, known as a Level 2 agreement, allows the LTC to review applications on behalf of DFO. If it is apparent that potential harmful impacts to fish habitat can be mitigated the LTC will issue a Letter of Advice. If it is determined that a harmful alteration, disruption or destruction (HADD) to fish habitat can not be avoided, the application will be referred to Fisheries and Oceans Canada for an Authorization pursuant to the Federal *Fisheries Act*.



3.0 Plan Review Implementation Guidelines

This section details the guiding principles of LTC with respect to the roles, actions and recommendations of the Conservation Authority in its involvement with the plan input and review process. The implementation of specific context based policies pertaining to environmental issues is intended to provide clarity and consistency for planning approval authorities and members of the public.

3.1 General

- I. LTC utilizes a holistic and watershed based approach when providing comments on applications under the *Planning Act*. LTC will also encourage and support planning initiatives such as watershed plans and sub-watershed plans.
- II. LTC staff will conduct a site inspection in cases where related studies, mapping or aerial photography indicate the presence of natural features or natural hazards that could possibly be impacted by the planning proposal.
- III. This Conservation Authority aims to utilize the best available and technically sound information when making planning recommendations. This information may include, but is not limited to, flood plain studies and mapping, watershed plans, wetland mapping, natural heritage reports and Lake Ontario and Bay of Quinte shoreline reports.
- IV. LTC staff shall consider both the site specific and cumulative impacts of development and site alteration proposals.
- V. Decisions related to specific policies within this document shall consider the implications and not unduly compromise the intent of other policies within this document.
- VI. The receipt of a formal application under the *Planning Act* will be considered as a request for LTC staff to gain access onto private lands associated with the application under the *Planning Act* in question. Section 21(1) (b) of the *Conservation Authorities Act* gives authority to staff to enter into and upon any land in order to accomplish work (objects) for any purpose necessary for a project (proposal) under consideration by the Authority.
- VII. LTC will generally require a minimum of 10 working days (7 days for a minor variance) between the receipt of an application under the *Planning Act* and the provision of written comments to the approval authority.
- VIII. From time to time LTC staff may request that a decision on an application under the *Planning Act* be deferred until additional required information is provided and/or LTC staff has had the opportunity to consult with the applicant or other applicable agencies and/or a site inspection is conducted at a specific time of year to allow for a comprehensive recommendation to be made.
- IX. When requested to give evidence before the Ontario Municipal Board, or a similar judicial body, the requirement of a written subpoena will be at the discretion of the LTC General Manager.
- X. In the event that LTC staff recommends against the approval of an application under the *Planning Act* and permission is granted by the approval authority, LTC staff will present to the Conservation Authority's Board of Directors a report detailing the reason(s) why the approval of the application



was not recommended. Following a review of the report LTC staff will seek the board's direction with regards to lodging an appeal to the Ontario Municipal Board.

- X. When reviewing Municipal Official Plans and Comprehensive Zoning By-Law Amendments, LTC staff will work with a Municipality to achieve consistency between the policies contained within LTC's plan review manual and the specific wording or provisions contained within a Municipality's Official Plan and Zoning By-Law. LTC encourages municipalities to involve LTC staff early in the process.
- XI. Proponents are encouraged to consult with LTC staff prior to submission of an application under the *Planning Act*. LTC does not currently charge a fee for this service.



3.2 Floodplain Management

3.2.1 Background information

LTC has had a long-standing involvement in floodplain management following its formation in 1968. As noted in the policy framework portion of this document, Section 28 of the *Conservation Authorities Act* has enabled LTC to implement a regulation that empowers LTC to regulate development in and adjacent to floodplain lands.

3.2.2 Policy Context

Section 3.1 of the *PPS* provides direction with regards to development (including lot creation) and site alteration as it relates to flooding hazards. The *PPS* directs the majority of development and site alteration to areas outside of the regulatory floodplain and states that development and site alteration shall not be permitted in a floodway or areas that would be rendered inaccessible to people and vehicles during times of a flooding hazard.

The *PPS* does provide some limited flexibility for development associated with flooding hazards; however these permitted uses are generally limited and must satisfy safe access and flood proofing provisions.

3.2.3 Objectives

LTC's objectives with regards to floodplain management as it relates to plan input and review recommendations are to:

- I. minimize the potential for loss of life and property damage;
- II. reduce the necessity for public and private expenditures for emergency operations, evacuation and restoration of properties subject to flooding;
- III. discourage development and site alteration which could affect natural ecosystems, channel capacity and flood flow.
- IV. protect and maintain watercourses and enhance their biodiversity through consistent planning recommendations; and
- V. minimize water pollution and/or degradation of water quality associated with development activities adjacent to water bodies and floodplains.

3.2.4 Implementation Guidelines

- I. Lower Trent Conservation staff will recommend against the approval of an application under the *Planning Act* in the following circumstances:
 - a. The application proposes new development entirely within the regulatory floodplain, unless the development by its nature must necessarily be located within the regulatory floodplain (i.e. flood control structure or associated infrastructure);
 - b. The application proposes to sever or subdivide a parcel of land that will result in the creation of new lot that has insufficient space to accommodate a development envelope outside of the regulatory floodplain;



- c. The application proposes a change in land use that would increase the risk to life by increasing occupancy levels within a regulatory floodplain;
 - d. The proposed development is unable to meet the Conservation Authority's safe access standards as defined in the Ontario Regulation 163/06 Policies and Procedures Manual (refer to Section 4.0 Definitions - Safe Access table), regardless of whether the lands subject to the planning application are located outside of the regulatory floodplain; or
 - e. The subject lands are within the regulatory floodplain and the proposal is for an institutional use, essential emergency service or proposes the storage of hazardous substances.
- II. Lower Trent Conservation staff will only recommend the approval of an application under the *Planning Act* that proposes development or site alteration within the regulatory floodplain in the following circumstances:
- a. The application is within the flood fringe of an approved two-zone area, and provided that the development can be flood-proofed in accordance with LTC's flood proofing standards as defined in the *Ontario Regulation 163/06 Policies and Procedures Manual*; or
 - b. It replaces an existing structure within the regulatory floodplain on an existing lot of record and all of the following conditions must be met:
 - i. New hazards will not be created and existing hazards are not aggravated; and
 - ii. The development proposed is consistent with the policies outlined in *Ontario Regulation 163/06 Policies & Procedures Manual*; and
 - iii. There are no reasonable alternatives for locating the development entirely outside of the regulatory floodplain, other setback requirements have been minimized, the surface area occupied by the development has been consolidated, the placement of fill, if any will be minimized and any loss of floodplain storage compensated for.
- III. When providing plan review comments, LTC staff shall request that the applicant be informed by the approval authority of the applicability of *Ontario Regulation 163/06* when it is apparent that any part of the lands subject to the planning application are within an area subject to the Conservation Authority's regulation.
- IV. When reviewing planning applications the Conservation Authority will request that the regulatory floodplain plus an emergency vehicle access allowance of 6 metres be placed in an appropriate hazard or environmental zone that would prohibit development within this area.

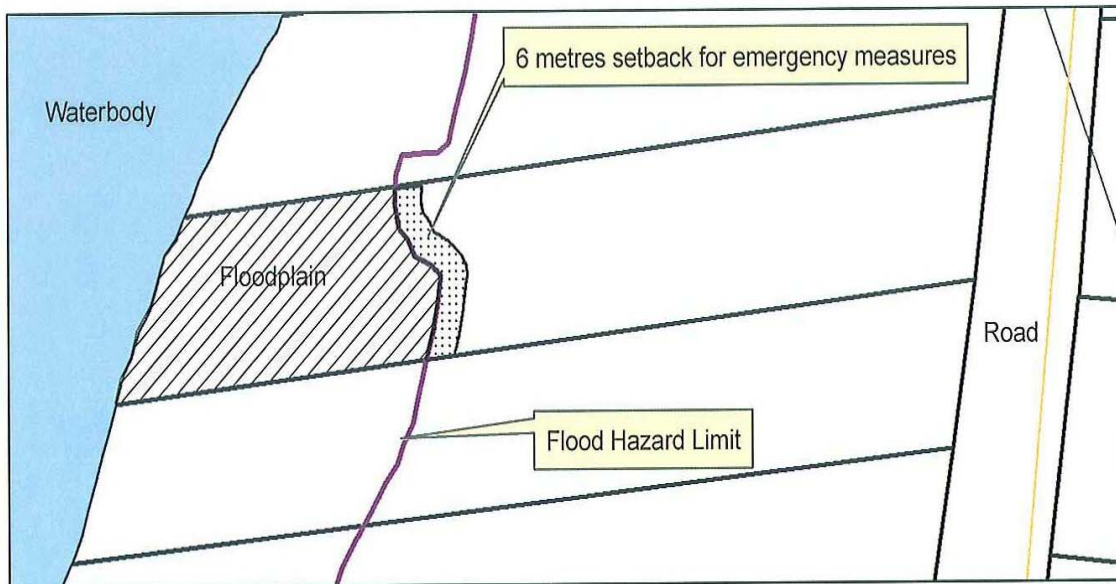


Figure 2 : Regulatory floodplain plus an emergency vehicle access allowance of 6 metres

- V. When the amount of developable land outside of the regulatory floodplain appears marginal, LTC staff may request that an elevation survey be completed by an Ontario Land Surveyor prior to the recommendation of approval or as a condition of approval. The survey will demonstrate that there is sufficient developable land beyond the flood plain including the 6 metre allowance.
- VI. When the extent of the regulatory floodplain is unknown, and it would appear that the application may be impacted by the floodplain, LTC staff will request the completion of certain engineering studies at the cost of the proponent. The requirements for such study will be determined by LTC staff on an individual basis.



3.3 Erosion and Dynamic Beach Hazards

3.3.1 Background information

Erosion hazards within the Lower Trent watershed are generally associated with steep slopes that are the result of glacial and lake deposits, steeply eroded riverine valleys, and the shoreline of Lake Ontario and the Bay of Quinte,

The risks associated with development on or adjacent to erosion hazards may include the potential loss of property and life, the public cost of related damages and environmental degradation.

3.3.2 Policy Context

Erosion and dynamic beach hazards are addressed in Section 3.1 of the *Provincial Policy Statement*.

The *PPS* states that development shall be generally directed outside of areas that are subject to erosion hazards. One hundred years is considered to be the provincial planning timeline, meaning that new development undertaken today should not be subject to an erosion hazard over the following one hundred years.

The *PPS* specifically states that no development should be permitted within a dynamic beach hazard.

3.3.3 Objectives

LTCs objectives with regards to erosion and dynamic beach hazards as they relate to the Conservation Authority's plan input and review recommendations are to:

- I. minimize the potential for loss of life and property damage;
- II. reduce the necessity for public and private expenditures for emergency operations, evacuation and restoration of properties subject to erosion hazards; and
- III. encourage a technically sound approach to addressing planning issues as they relate to erosion hazards.
- IV. ensure that the development will not impact the natural environment, coastal process, and /or adjacent lands.

3.3.4 Implementation Guidelines

- I. LTC staff will recommend against the approval of an application under the *Planning Act* in the following circumstances:
 - a. The application proposes any development or site alteration within a dynamic beach hazard;
 - b. The application proposes to sever or subdivide a parcel of land that will result in the creation of a new lot that has insufficient space to accommodate a development envelope outside of an erosion hazard; or
 - c. The subject lands are within an erosion hazard and the proposal is an institutional use, essential emergency service *or* proposes the storage of hazardous substances.



- d. The application is to permit development closer to an erosion hazard and the hazard can not or has not been addressed.
- II. LTC staff will only recommend the approval of an application under the *Planning Act* that proposes development or site alteration within an erosion hazard if the proposal is to replace an existing structure that lies within the erosion hazard or for new development on a vacant existing lot of record and all of the following conditions are satisfied:
- a. New hazards will not be created and existing hazards are not aggravated;
 - b. There are no reasonable alternatives for locating the development entirely outside of the erosion hazard, the front yard setback requirements have been reduced and the scale of development is consolidated;
 - c. Access and environmentally benign protection works can be provided; and
 - d. The proposal is supported by sound technical information appropriate to the scale of development and nature of the hazard.
- III. LTC staff will recommend that the planning approval authority require a geotechnical investigation or a Report from a Coastal Engineer to be completed to the satisfaction of LTC and the planning authority prior to the granting of an application under the *Planning Act* in the following circumstances:
- a. An application proposes new development on or immediately adjacent to slopes equal to or greater than 3(h):1(v); or
 - b. An application proposes new development on or immediately adjacent to sites where active or historic erosion has been observed; or
 - c. An application proposes new development on or immediately adjacent to a dynamic beach and we are unsure of the landward limits of the dynamic beach.
- IV. For river and stream valleys, the stable slope is defined as being no steeper than 3(h):1(v), where there is no evidence of active erosion.
- V. For Lake Ontario, the dynamic beach, stable slope and 100 year erosion allowances shall be determined in accordance with the findings of the following applicable studies (or as updated or amended):
- “Lake Ontario Shoreline Management Plan”, Sandwell Swan Wooster Inc., December, 1990.
 - “Regulatory Dynamic Beach Delineation” (Memorandum re: Distribution of Technical Support Material) Ministry of Natural Resources, March 1995;
 - “Our Great Lakeshore: Cramahe Shorelands Project, Final Report”, December, 1997;
 - “Our Great Lakeshore: Alnwick/Haldimand Lake Ontario Shorelands Project, Final Report”, September, 2003.



3.4 Surface Water Quality and Quantity

3.4.1 Background Information

Development and site alteration may influence the quality and quantity of surface water by altering the volume of water and/or the nutrients and sediment (in conjunction with associated contaminants) that may flow from the ground surface into waterbodies. Often these effects are a result of an increase in the percentage of impervious lands or an acceleration of overland stormwater flow. There are a number of techniques that may be employed to minimize surface water contamination and the disruption of natural flow regimes, including the maintenance or enhancement of naturalized, vegetated buffer areas adjacent to waterbodies and/or the construction of stormwater management facilities for larger scale developments (see Section 3.6).

The hydrologic cycle includes flows on the surface and through the ground. Surface water can infiltrate the ground, thereby recharging groundwater supplies. Groundwater can be discharged into lakes, rivers and wetlands and also emerge from the ground through springs and seeps. Due to the direct relationship between surface and groundwater, the guiding principles contained within this section should be read in conjunction with the groundwater guiding principles in Section 3.5 of this document.

It is important to note that surface and groundwater quality and quantity are presently being studied by the Conservation Authority, local Municipalities and their partners through the Drinking Water Source Protection program. It is anticipated that as this program proceeds, the relationships currently established between LTC and local Municipalities as a result of the plan review program will be strengthened with the need to implement Source Protection Plans as required by the *Clean Water Act*.

3.4.2 Policy Context

Section 2.2 of the *Provincial Policy Statement* states the “planning authorities shall protect, improve or restore the quality and quantity of water”. Furthermore the *PPS* recognises the importance of protecting vulnerable water supplies and sensitive surface water and groundwater features.

Other applicable provincial policies that require consideration with regards to surface water features include but are not limited to the “Ontario Permit to Take Water Program”, under the *Ontario Water Resources Act*, administered by the Ontario Ministry of the Environment and the installation of private sewage systems as guided by provincial regulations and policies enacted under the Ontario *Building Code Act*.

3.4.3 Objectives

LTCs objectives with regards to surface water features as it relates to plan input and review recommendations are to:

- I. protect surface water features that act as a source of drinking water, support ecological functions, industry, tourism, recreation and other uses;
- II. ensure that adequate naturalized vegetated buffers are established, maintained or enhanced adjacent to a waterbody;



- III. avoid development adjacent to a waterbody that may have a negative impact on surface water quality or quantity; and
- IV. ensure that adequate measures for erosion and sediment control are implemented during development and site alteration.

3.4.4 Implementation Guidelines

Note: *The guiding principles contained within this section relate to the protection of surface water quality and quantity. Where the extent of the regulatory floodplain or other natural hazards would further constrain development the more stringent setback must be applied.*

- I. LTC staff will recommend that new development and site alteration, including sewage systems, open or enclosed patios or decks attached to the main dwelling, and swimming pools, shall be setback a minimum distance of 30 metres from the top of bank of a waterbody. This recommendation may be reduced to a minimum of 15 metres from the top of bank of an intermittent watercourse provided that fisheries and floodplain concerns are fully addressed. LTC may recommend additional setbacks, based on site-specific characteristics such as slope, soil type and/or sensitive fish habitat or flood plain studies.
- II. LTC staff will recommend that the lands described in subsection I above be placed in an appropriate environmental or hazard land zone to ensure the exclusion of development within this area.
- III. With regards to surface water quality and quantity LTC staff will only recommend the approval of an application under the *Planning Act* that proposes development or site alteration within setbacks described in subsection I above in the following circumstances:
 - a. It replaces an existing structure where there is no area on the lot that would satisfy the setbacks noted in I above and the new construction is setback from the waterbody at least as far as the existing structure and will lead to no negative impacts beyond that of the existing situation; or
 - b. It is a new use of an existing structure and there shall be no increase in the potential for surface water quality impacts; or
 - c. The property is an existing lot of record and there are no reasonable alternatives for locating the development outside of the specified setback area, the setbacks from property boundaries are reduced and suitable methods to minimize negative impacts on water quality are incorporated into the development
- IV. LTC staff will generally recommend against the approval of an application under the *Planning Act* that proposes the channelization and / or rerouting of a watercourse unless the following is able to be demonstrated:
 - a. The proposed re-alignment or channelization will result in an improvement of the natural features and functions of the watercourse;



- b. All other legislative requirements are able to be satisfied, including, but not limited to, the Federal *Fisheries Act* and the Conservation Authority's *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation*; and
 - c. The proposed re-routing will not increase the hazard risk to adjoining properties.
- V. When reviewing a plan of subdivision, LTC will encourage the maintenance of public or communal lands adjacent to a waterbody that will provide for shared access (i.e. a communal dock) thereby limiting cumulative negative impacts.
- VI. If the approval of an application under the *Planning Act* may have the potential to interfere with a waterbody the following recommendations will be made to the planning approval authority:
 - a. Sediment and erosion control measures be required as a condition of planning approval. These works must be established prior to disturbance of the site and be maintained in correct working order until comprehensive ground cover has been re-established;
 - b. The applicant be advised of the possible applicability of the Conservation Authority's *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation* and the landowner must contact LTC to determine possible permit requirements;
 - c. The applicant be advised of the possible applicability of the Federal *Fisheries Act* and the landowner must contact LTC to determine possible approval requirements.



3.5 Groundwater

3.5.1 Background Information

Groundwater is a component of the hydrologic cycle that is closely linked to surface water features including lakes, rivers and wetlands. These linkages are found in the form of both groundwater recharge and discharge functions. Due to this interaction this section should be reviewed in conjunction with a number of other areas within this document including, Surface water Quality and Quantity, Stormwater Management and Master Drainage Planning and Wetland Guiding Principles.

A number of studies relating to the groundwater resources within Lower Trent Conservation's watershed planning area have been completed to date and include but are not be limited to the following:

- Brownell, V.R., Blaney, C.S. 1995. Lower Trent Region Natural Areas – volume 1: A Biological Inventory and Evaluation of 20 Natural Areas in the Lower Trent Region, 1994. Trenton, Ontario: Lower Trent Region Conservation Authority.
- Brownell, V.R., Blaney, C.S. 1995. Lower Trent Region Natural Areas – volume 2: A Biological Inventory and Evaluation of 20 Natural Areas in the Lower Trent Region, 1994. Trenton, Ontario: Lower Trent Region Conservation Authority.
- Brownell, V.R., Blaney, C.S. 1996. Lower Trent Region Natural Areas – volume 3: A Biological Inventory and Evaluation of 23 Natural Areas in the Lower Trent Region, 1995. Trenton, Ontario: Lower Trent Region Conservation Authority.
- Brownell, V.R., Blaney, C.S. 1996. Lower Trent Region Natural Areas – volume 4 – Wetlands: A Biological Inventory and Evaluation of 23 Natural Areas in the Lower Trent Region, 1995. Trenton, Ontario: Lower Trent Region Conservation Authority.
- Morrison Environmental Limited. 2004. Municipal Groundwater Study – Paleozoic Area: Volume 1 – Aquifer Characterization. Lindsay, Ontario: Trent Conservation Coalition.
- Morrison Environmental Limited. 2004. Municipal Groundwater Study – Paleozoic Area: Volume 2 – Wellhead Protection. Lindsay, Ontario: Trent Conservation Coalition.
- Morrison Environmental Limited. 2004. Report Lower Trent Conservation part of Municipal Groundwater Study for the Trent Conservation Coalition. Trenton, Ontario: Trent Conservation Coalition.
- Bonta, C., G. Rodgers. 2005. Wetland-Groundwater Linkage Study for the Lower Trent Conservation Watershed. Trenton, Ontario: Lower Trent Conservation and Ducks Unlimited Canada.
- Lower Trent Conservation. 2001. Natural Heritage Report Campbellford/ Seymour/Percy/Hastings, Quinte West and Belleville. Trenton, Ontario: Lower Trent Conservation.

In addition to the above noted reports, a number of programs including Drinking Water Source Protection and the Provincial Groundwater Monitoring Network are currently underway to gain an improved understanding of both the quality and quantity of groundwater resources within LTC's watershed planning area.



3.5.2 Policy Context

Section 2.2 of the *Provincial Policy Statement* states that, “planning authorities shall protect, improve or restore the quality and quantity of water”. The PPS recognizes the importance of protecting vulnerable water supplies and groundwater features by restricting development and *site alteration* in or near these sensitive areas.

3.5.3 Objectives

Lower Trent Conservation’s objectives regarding groundwater as it relates to plan input and review recommendations are to:

- I. protect groundwater features that act as a source for drinking water, ecological functions, and other uses;
- II. encourage Municipalities to consider groundwater quality and quantity when reviewing planning applications and amending Official Plans and Zoning By-Laws;
- III. ensure that groundwater quality and quantity are not subject to negative impacts due to development and / or site alteration;
- IV. ensure that the natural environment is not subject to negative impacts from alterations to the landscapes recharge and discharge characteristics; and
- V. ensure that land use planning decisions that have the potential to impact groundwater resources are based on the best available technical information.

3.5.4 Implementation Guidelines

- I. LTC staff will recommend against the approval of an application under the *Planning Act* that proposes development and/or site alteration, including the construction of buildings, the placement of fill and the installation of sewage systems within or directly adjacent to an area that appears to have a direct connection to groundwater as determined by the following:
 - a. Site specific conditions indicate the area is performing the function of either a groundwater discharge or groundwater recharge area; or
 - b. Technical study information indicates a groundwater to surface water interaction and site conditions confirm these findings.
- II. Within an area identified to contain a sensitive groundwater feature LTC staff will recommended that the feature and adjacent lands necessary for it’s protection be placed in an appropriate zone that will ensure the exclusion of development;
- III. Groundwater quality and quantity will be considered by LTC staff when reviewing watershed plans, master drainage plans or stormwater management reports;
- IV. Where appropriate, development proposals will be encouraged to minimize the percentage of *impervious* area and promote on-site infiltration, doing so should ensure a reduced impact on the surrounding groundwater regime;



- V. LTC will encourage planning approval authorities to evaluate the impacts of potential large scale development (i.e. non-serviced rural residential subdivisions) on the groundwater resources by ensuring the necessary technical studies are undertaken by the proponent prior to the granting of approval; and
- VI. LTC will encourage planning approval authorities to consider the cumulative impacts to groundwater associated with un-serviced rural developments with 5 or more residential lots within 300m.



3.6 Stormwater Management and Master Drainage Planning

3.6.1 Background Information

Development, whether it be commercial or residential has the potential to change existing hydrological conditions such that the quality and quantity of stormwater runoff are altered. When reviewing development proposals, Lower Trent Conservation is concerned with flood control, maintaining base flow in watercourses, minimizing water temperature impacts, erosion and sediment control, limiting nutrient and bacteria loading, maintaining fish habitat and groundwater recharge.

There are three levels at which stormwater management can be considered. Ideally, the impacts from stormwater runoff should be considered at the highest level possible.

- A watershed plan provides overall management objectives and targets which could be incorporated into a municipal Official Plan.
- A master drainage plan is prepared on a sub-watershed basis and incorporated into secondary plans or Official Plan. It should identify the approach to meet the identified targets, specify methods of stormwater control, and outline the general location and size of stormwater facility options.
- A stormwater management report is normally prepared for each residential subdivision, or in support of a commercial development site plan. It is the basis for detailed construction plans for control facilities and best management techniques.

Centralized stormwater control is a particular strategy with residential subdivisions and large commercial developments. For small projects such as a single family residence, lot level and conveyance controls should be utilized (e.g. discharging roof runoff to vegetated areas etc.)

3.6.2 Policy Context

Section 2.2 of the *Provincial Policy Statement* states that “planning authorities shall protect, improve or restore the quality and quantity of water” more specifically, Section 2.2.1 (g) indicates a need to ensure that “stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces”.

The documents guiding stormwater management design released by the Ontario Government include the “Stormwater Management Practices Planning and Design Manual” (2003) and the “Pollution Prevention Guidelines” (2002).

In addition to these guidelines a portion of Lower Trent Conservation’s watershed falls within an area subject to specific guidelines for the Bay of Quinte Remedial Action Plan Area. These requirements include the need for end-of-pipe stormwater facilities that must be designed to provide a MOE “Enhanced” level of stormwater treatment (formerly referred to as “Level 1” treatment).



3.6.3 Objectives

Lower Trent Conservation's objectives with regards to stormwater management requirements and review are to ensure the following:

- I. That development proposals, individually or cumulatively, shall not result in any increased flood elevations or velocities upstream or downstream in the receiving water body;
- II. That post development controls ensure that pre-development hydraulic conditions are maintained;
- III. Base flow within watercourses is maintained or enhanced;
- IV. Development will not result in new or increased erosion and sedimentation problems to receiving waterbodies both during and after construction;
- V. Fish habitat, wetlands and other environmental features are not adversely affected;
- VI. Innovative approaches to stormwater management shall be encouraged, where such approaches are supported by research and/or successful applications in settings that are similar to those within the Lower Trent Region; and
- VII. Groundwater recharge shall be encouraged in a manner that will not contaminate the resource.

3.6.4 Implementation Guidelines

- I. A stormwater management report will be required for all residential or commercial developments equal to or greater than 1.0 hectare or if the development will result in an increase in impervious cover equal to or greater than 0.5 hectare. A report should be prepared using the following principles:
 - a. Maintain the integrity of natural drainage patterns and processes, both on-site and downstream;
 - b. Consider runoff from all forms of precipitation;
 - c. Incorporate natural methods whenever possible;
 - d. Control stormwater runoff at its source by utilizing, in order of preference, lot level controls, conveyance controls, and end-of-pipe facilities; and
 - e. Incorporate facilities as an amenity in the design of a neighbourhood or site.
- II. Lower Trent Conservation will require that master drainage plans and stormwater management reports be prepared by a qualified Professional Engineer with stormwater management design experience;
- III. The level of stormwater quality treatment will be either "enhanced", "normal" or "basic", formerly known as level 1, 2 and 3 respectively. The level of treatment will be dependent on the characteristics of the receiving body and consider the sensitivity of aquatic habitat. It should be



noted that cold water fish habitat and/or habitat of Species at Risk will always require an “enhanced” level of protection;

- IV. All proposed development requiring stormwater management within the Bay of Quinte Remedial Action Plan Area will be required to achieve an “enhanced” level of treatment;
- V. For development areas smaller than 1.0 hectare within Lower Trent Conservation’s planning area, lot level control requirements may be recommended and will be based on the characteristics of the site and adjacent lands as determined by LTC staff;
- VI. Stormwater management facilities and/or measures must be designed to ensure that the 1:100 year rainfall event is controlled to pre-development conditions. In addition a stormwater management report must demonstrate that the Regional “Timmins” storm has been considered in the design and is able to be safely passed without resulting in elevated flooding impacts on adjacent lands;
- VII. Lower Trent Conservation, when reviewing stormwater management reports will ensure the proponent is advised that a permit will be required under the *Development Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation* for any outlet to a watercourse, waterbody or wetland;
- VIII. Lower Trent Conservation will recommend that development within the catchment area of end-of-pipe facilities, other than local roads, shall be deferred until the facilities are fully constructed and ready to accept water (i.e. the facility will perform its intended control and treatment functions, and there is suitable vegetation and/or erosion protection measures in place);
- IX. The planning approval authority will be strongly encouraged to require a master drainage plan when large areas of land become designated for development. Master drainage planning is also appropriate for existing urban areas that are undergoing significant redevelopment activity, and/or there is a need to add or retrofit stormwater controls. When developing master drainage plans consideration should be given to the following:
 - a. Structuring the plan to account for a variety of scenarios, in terms of the order and timing of development, the type and form of development and land tenure;
 - b. Placing an emphasis on reducing the number of stormwater management facilities thereby reducing ongoing maintenance burdens often borne by Municipalities; and
 - c. Encouraging cost sharing arrangements between landowners within the catchment which may result in improved economies of scale.



3.7 Wetlands

3.7.1 Background Information

Wetlands are a sensitive and diminishing ecosystem requiring protection against destruction. They have important hydrologic and ecological roles including providing flood control and wildlife habitat and maintaining water quality and quantity.

Numerous wetlands within Lower Trent's watershed have been identified through the Ministry of Natural Resources Wetland Evaluation System for Southern Ontario. In addition many other wetland areas have been identified and continue to be identified by the Conservation Authority through air photo interpretation, site inspections, broad scale and site specific studies and through consultation with other partners.

3.7.2 Policy Context

Section 2.1 of the *Provincial Policy Statement* states that development (including lot creation) and site alteration shall not be permitted within significant wetlands in Ecoregions 5E, 6E and 7E or within significant coastal wetlands. The entirety of Lower Trent Conservation's watershed planning area falls within the above noted Ecoregions.

The *PPS* indicates that development and site alteration shall not be permitted within the 120 metre adjacent lands around a provincially significant wetland, or a significant coastal wetland, unless the ecological function of the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impact on the natural features or on their ecological functions. This demonstration is normally made through the completion of an Environmental Impact Assessment (EIA). The EIA shall determine the appropriate distance between the provincially significant wetland and the proposed development and/or site alteration including any lot lines.

Wetlands evaluated by the Ontario Ministry of Natural Resources (MNR) are considered to be either provincially significant or regionally/locally important. Wetlands that have been evaluated as Class 1, 2, or 3, or which have been assigned a total score of 600 points or more, or which have a Biological or Special Features component score greater than 200 points are provincially significant (noted in the *PPS* as "significant").

We understand that municipal policy may not reflect those wetlands within their jurisdiction that are not identified as Provincially Significant. However, Lower Trent is responsible for the regulation of all wetlands pursuant to the *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation*. Therefore, we will promote and support municipal policy development for the protection and/or conservation of these local wetlands. Additionally, Lower Trent would not be supportive of site specific *Planning Act* applications which would be contrary to Authority policy under the regulation program.



3.7.3 Objectives

Lower Trent Conservation's objectives regarding Wetlands as they relate to plan input and review recommendations are to:

- I. Ensure the protection of all wetlands as defined in the Provincial Policy Statement;
- II. Ensure that the ecological and hydrological functions of all wetlands are protected and maintained;
- III. Endeavour to make planning recommendations that are consistent with both provincial policy and the *Ontario Regulation 163/06 Policies and Procedures Manual*
- IV. Encourage planning authorities to ensure that the appropriate environmental impact assessments have been undertaken which demonstrate no negative impacts on wetlands prior to the granting of approvals such as consents or zoning by-law amendments; and
- V. Recommend that appropriate zoning restrictions are placed on wetlands and adjacent lands on which future development could impact the wetland;

3.7.4 Implementation Guidelines

- I. An area will be considered to be a wetland if it meets the definition of a wetland as prescribed in the *2005 Provincial Policy Statement*;
- II. If the Ministry of Natural Resources wetland evaluation status is in doubt, MNR district staff will be contacted to obtain the most recent wetland evaluation record;
- III. In general, LTC will recommend that all development be setback a minimum of 30 metres from an area determined to be a wetland;
- IV. LTC will recommend against the approval of an application under the *Planning Act* where the approval would result in a negative impact on or loss of a wetland feature.
- V. LTC staff may assess the dynamic nature of wetlands both from a seasonal and long term perspective by assessing historical air photo coverage and conducting site inspections.
- VI. If in the event the presence of a wetland is unable to be determined due to seasonal conditions (i.e. frozen or snow covered), LTC staff will recommend an application be deferred to allow for an accurate determination at a later date.
- VII. LTC staff will recommend an Environmental Impact Assessment be completed to the satisfaction of the planning approval authority and LTC for any development proposed within 120 metres of a Provincially Significant wetland where there is the potential for interference with the ecological or hydrological function of the wetland. The level of assessment detail will be a function of the scale of development and the proximity to the wetland. Generally the following will apply:
 - a. For all proposed plans of subdivision an environmental impact assessment should be completed by a qualified environmental professional that is able to clearly demonstrate that no negative impacts will occur to the adjacent PSW or the hydrologic function of the wetland as the result of development;



- b. For a single residential development a site specific environmental impact assessment will be recommended to be completed at the discretion of LTC staff;
 - c. For any proposed development LTC staff may recommend the completion of an environmental impact assessment by a qualified environmental professional in situations where there are significant concerns with potential negative impacts to a wetland.
- VIII. When reviewing applications under the *Planning Act* LTC staff will advise the planning approval authority of the applicability of the *Ontario Regulation 163/06* due to the presence or proximity to a wetland. Furthermore LTC will request that the planning approval authority advise the applicant of the regulation's applicability.



3.8 Fish Habitat

3.8.1 Background Information

Fish habitat is typically found where there is enough water to support various life processes. Fish habitat is not restricted to permanent lakes and rivers, but is also found in intermittent streams, agricultural ditches, headwater areas and wetlands. Section 34 of the *Federal Fisheries Act* defines fish habitat as: "spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes."

LTC plays an active role in the protection and maintenance of fish habitat through a "Level 2" agreement with the Federal Department of Fisheries and Oceans (DFO). Under this agreement LTC staff conduct an initial review of a proposal to determine if the proposal will result in a Harmful Alteration, Disruption or Destruction (HADD) of fish habitat. If staff determine that the proposal will not result in a HADD, LTC can write a letter of clearance which will allow the project to proceed. If it is determined that the proposal will result in a HADD but can be mitigated, staff can write a letter of advice which details specific mitigation measures to be implemented as part of the project. If a review determines that a HADD is unable to be mitigated, LTC will forward the file to DFO for review.

3.8.2 Policy Context

Section 2.1.2 of the *Provincial Policy Statement* refers to the maintenance and restoration of the linkages between natural heritage features and areas. Fish habitat is defined to be a *natural heritage feature*.

Furthermore, Section 2.1.5 of the *PPS* directs that development shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

3.8.3 Objectives

Lower Trent Conservation's objectives regarding fish habitat as they relate to plan input and review recommendations are to:

- I. Ensure there will be no disturbance to streams, stream banks, shorelines and adjacent lands;
- II. Consider the level of sensitivity of fish habitat and thus the level of protection required when reviewing planning applications. These considerations may include but are not limited to temperature regimes, habitat sensitivity, the presence of spawning areas, juvenile rearing grounds and/or migration routes;
- III. Promote the maintenance of naturalized buffers adjacent to fish habitat; and
- IV. Ensure that there is an appropriate setback distance from fish habitat to ensure that development will not result in a HADD.

3.8.4 Implementation Guidelines

- I. An area will be considered to be fish habitat if it fulfils the definition as outlined in Section 34 of the *Federal Fisheries Act*,



- II. LTC will recommend that development be setback a minimum distance of 30 metres from fish habitat except in the following circumstances:
 - a. The proposed development will replace an existing structure and represents an equal or improved situation with regards to the potential impacts to fish habitat; *or*
 - b. The applicant is able to demonstrate to the satisfaction of the Conservation Authority that development within 30 metres of fish habitat will have no negative impact and there are no reasonable alternatives to locate the development outside of the recommended 30 metre setback.
- III. LTC will recommend against the approval of an application under the *Planning Act* if it is evident that development or site alteration within fish habitat will not conform with or meet Provincial and Federal requirements.
- IV. When reviewing applications under the *Planning Act*, LTC staff will advise the planning approval authority of the apparent or possible applicability of the Federal *Fisheries Act* due to the presence of or proximity to fish habitat. Furthermore, LTC will request that the planning approval authority advise the applicant to contact the Conservation Authority prior to undertaking development within or adjacent to fish habitat.



3.9 Natural Heritage Features and the Natural Heritage System

3.9.1 Background Information

“Natural heritage is a concept that expresses collective and individual roles and responsibilities in relationship to biodiversity. As such it recognizes the role of humans as the critical agents of change who, at the same time, are the stewards responsible for their natural inheritance and legacy” (Riley and Mohr, 1994) – ref. contained in Natural Heritage Report.

A natural heritage system is a system made up of natural heritage features and areas, linked by natural corridors which are necessary to maintain biological and genetic diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas that have the potential to be restored to a natural state.

Natural heritage features include wetlands, coastal wetlands, fish habitat, significant woodlands, significant valleylands, significant habitat of endangered or threatened species and significant areas of natural and scientific interest. It should be noted that specific policies with regards to certain natural heritage features such as wetlands and fish habitat have been addressed in previous sections of this document.

3.9.2 Policy Context

The 2005 revision of the *Provincial Policy Statement* placed a greater degree of emphasis on the importance of protecting and restoring natural heritage within the Province of Ontario. This policy is affirmed in Section 2.1.1 which states that “natural features and areas shall be protected for the long term”.

More specifically Section 2.1.1 of the *Provincial Policy Statement* states the following:

“The diversity and connectivity of natural features in an area and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible improved, recognizing the linkages between and among natural heritage features and areas, surface water features and ground water features”.

Initiatives have been and continue to be undertaken at both the Conservation Authority and Provincial level to better define not only the characteristics and extent of natural heritage features but the linkages and functions between them that form a natural heritage system.

3.9.3 Objectives

In addition to the objectives outlined within this document and specific references made in Section 3.7 - Wetlands and Section 3.8 – Fish habitat, Lower Trent Conservation’s objectives regarding natural heritage features and systems and plan input and review are as follows:

- I. To facilitate the working relationship with Municipal partners to further develop the identification and evaluation of natural heritage features and systems;
- II. To strive to ensure that natural heritage features and systems information are accurately identified and protected in Municipal planning documents such as Official Plans and Zoning By-Laws;



- III. To protect the habitat of endangered or threatened species;
- IV. To encourage the conservation of natural features and ecological functions of significant natural areas; and
- V. To encourage the conservation of natural heritage features such as valleylands and woodlands through the implementation of best management land-use practices.

3.9.4 Implementation Guidelines

- I. LTC will seek to coordinate the efforts for the conservation of natural resources, notably, areas of natural and scientific interest (ANSI) and the habitat of endangered and threatened species with the Ontario Ministry of Natural Resources, municipalities and other appropriate agencies;
- II. Georeferenced data regarding the habitat of endangered and threatened *species* shall be used in accordance with the Natural Heritage Information Exchange Agreement signed between LTC and the Ontario Ministry of Natural Resources (Natural Heritage Information Centre);
- III. LTC shall encourage the conservation of identified woodlands, wetlands, valleylands, wildlife habitat and areas of natural and scientific interest whether or not such features are classified as Provincially Significant;
- IV. New development and site alteration within life science ANSI's, is generally discouraged and should only be approved if the following can be demonstrated:
 - a. The natural features and ecological functions of the area will not be subject to negative impacts as demonstrated by an Environmental Impact Assessment. The detail level of the recommended impact assessment will be at the discretion of Conservation Authority staff and will be determined in consultation with the planning approval authority.
- V. Should new development or site alteration be proposed within 50 metres of an ANSI, LTC shall recommend an Environmental Impact Study be prepared to the satisfaction of the approval authority. The study must demonstrate that no negative impacts from the proposed development will occur. The level of detail of the recommended impact study will be at the discretion of LTC staff and will be determined in consultation with the planning approval authority.
- VI. New development and site alteration proposed within Significant natural areas and Environmentally sensitive areas will be recommended against unless the following can be demonstrated:
 - a. The natural features and ecological functions of the area will not be subject to negative impacts as demonstrated by an Environmental Impact Assessment. The level of the required within the impact assessment will be at the discretion of Conservation Authority staff and will be determined in consultation with the planning approval authority.
- VII. Should new development or site alteration be proposed within areas defined as significant woodlands LTC shall strongly encourage the landowner to undertake best management practices including selective tree clearing, the maintenance of linkage areas and the preservation of interior habitat.



3.10 The Oak Ridges Moraine Conservation Plan

3.10.1 Background Information

The Oak Ridges Moraine is an irregular ridge that stretches 160 kilometres from the Niagara Escarpment in the west to the Trent River in the east. The Moraine possess a unique concentration of environmental, geological and hydrological features that make its ecosystem vital to south-central Ontario including clean and abundant water resources and healthy and diverse plant and animal habitat.

Within Lower Trent Conservation's plan review area the Oak Ridges Moraine directly influences part of the following planning approval authority's jurisdictional areas:

- The Township of Alwick / Haldimand;
- Township of Cramahe;
- The Municipality of Trent Hills; and
- The Pine Ridge Municipal Planning Agency

3.10.2 Policy Context

The *Oak Ridges Moraine Conservation Plan* (ORMCP) was established by the Government of Ontario under the *Oak Ridges Moraine Conservation Act*, 2001.

The Oak Ridges Moraine Conservation Plan is an ecologically based plan established by the Ontario government to provide land use and resource management direction for the 190,000 hectares of land and water within the Moraine. The decisions of provincial ministers, ministries and agencies made under the *Planning Act* or the *Condominium Act*, 1998 or in relation to a prescribed matter are required to conform with this plan.

3.10.3 Objectives

Lower Trent Conservation's objectives regarding the Oak Ridges Moraine Conservation Plan as they relate to plan input and review recommendations are to assist planning approval authority's with the following:

- I. Protecting the ecological and hydrological integrity of the Oak Ridges Moraine Area;
- II. Ensuring that only land and resource uses that maintain, improve or restore the ecological and hydrological functions of the Oak Ridges Moraine Area are permitted;
- III. Maintaining, improving or restoring all elements that contribute to the ecological and hydrological functions of the Oak Ridges Moraine Area, including the quality and quantity of its water and other resources;
- IV. Ensuring the Oak Ridges Moraine Area is maintained as a continuous natural landform and environment for the benefit of present and future generations; and
- V. Providing for land and resource uses and development that are compatible with the other objectives of the Oak Ridges Moraine Conservation Plan.



3.10.4 Implementation Guidelines

- I. In the event that there is a conflict between other applicable policies outlined within this document and the requirements of the *Oak Ridges Moraine Conservation Plan*, the Conservation Authority will make recommendations that adhere to the more conservative of either policy;
- II. LTC Conservation Authority staff will review all applications under the *Planning Act* within the *ORMCP* area and provide planning recommendations that are consistent with the prescribed permitted uses outlined within the *ORMCP*;
- III. LTC will refer inquiries regarding proposed development on existing lots of record that do not require an approval under the *Planning Act* to the applicable planning approval agency. Staff will not make recommendations to landowners regarding the constraints on an existing lot of record as it relates to the *ORMCP*, unless a signed review agreement between the planning approval agency and LTC has been made and an appropriate review fee has been or will be recovered.



4.0 Definitions

Adjacent lands – Those lands contiguous to a specific natural heritage feature or area where it is likely that development or site alteration would have a negative impact on the feature or area and those lands contiguous to a protected heritage property or as otherwise defined in the municipal official plan. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives.

Cumulative Impacts – means long term impacts that increase by successive additions, although such additions might be minor individually.

Development – The creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the *Planning Act* (PPS)

Development envelope – The area of land required to accommodate potential or existing development including buildings, accessory buildings, sewage disposal systems (tank, bed and mantle), decks and required separation distance between such features.

Dynamic beach hazards – 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.

- I. are areas adjacent to the shore of Lake Ontario where accumulated unconsolidated sediment are continuously moving as a result of naturally occurring processes associated with wind, water and changes in the rate of sediment supply. Development in these areas may be subject to the hazard due to changes in the beach area and could impact sediment supply within the *littoral zone*.

Ecological functions – The natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.

Erosion - The displacement of solids (soil, mud, rock and other particles) by the agents of wind, water or ice, by downward or down-slope movement in response to gravity or by living organisms (bioerosion). Erosion is distinguished from weathering, which is the decomposition of rock and particles through processes where no movement is involved, although the two processes may be concurrent.

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

Essential emergency service - means services such as those provided by fire, police and ambulance stations and electrical substations, which would be impaired during an emergency as a result of flooding, the failure of floodproofing measures and/or protection works, and/or erosion.

Existing lot of record - A lot under distinct and separate ownership from all abutting lots.



Fish habitat – As defined in the *Fisheries Act*, c. F-14, means spawning grounds and nursery, rearing, food supply, and migration area on which fish depend directly or indirectly in order to carry out their life processes.

Flood proofed - A combination of structural changes and/or adjustments incorporated into the basic design and/or construction or alteration of individual buildings, structures or properties subject to flooding so as to reduce or eliminate flood damages.

Floodfringe – For river, stream and small inland lake systems, it means the outer portion of the flood plain between the floodway and the flooding hazard limit. Depths and velocities of flooding are generally less severe in the flood fringe than those experienced in the floodway.

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

- I. Along the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes, the flooding hazard limit is based on the one hundred year flood level plus an allowance for wave uprush and other water-related hazards;
- II. Along river, stream and small inland lake systems, the flooding hazard limit is the greater of:
 - a. the flood resulting from the rainfall actually experienced during a major storm such as the Hurricane Hazel storm (1954) or the Timmins storm (1961), transposed over a specific watershed and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over watersheds in the general area;
 - b. the *one hundred year flood*; and
 - c. a flood which is greater than 1. or 2. which was actually experienced in a particular watershed or portion thereof as a result of ice jams and which has been approved as the standard for that specific area by the Minister of Natural Resources; except where the use of the *one hundred year flood* or the actually experienced event has been approved by the Minister of Natural Resources as the standard for a specific watershed (where the past history of flooding supports the lowering of the standard).

Flood proofing standards – The combination of measures incorporated into the basic design and-or construction of buildings, structures, or properties to reduce or eliminate flooding hazards, wave uprush and other water-related hazards along the shorelines of the Great Lakes-St. Lawrence River System and large inland lakes, and flooding hazards along river, streams and small inland lake systems.

Floodway – For river, stream and small inland lake systems, it means the portion of the flood plain where development and site alteration would cause a danger to public health and safety or property damage. Where the one zone concept is applied, the floodway is the entire contiguous flood plain. Where the two zone concept is applied, the floodway is the contiguous inner portion of the flood plain, representing that area required for the safe passage of flood flow and/or that area where flood depths



and/or velocities are considered to be such that they pose a potential threat to life and/or property damage. Where the two zone concept applies, the outer portion of the flood plain is called the flood fringe.

Groundwater – (1) Water occurring below the soil surface that is held in the soil itself. (2) Subsurface water, or water stored in the pores, cracks, and crevices in the ground below the water table. (3) Water occurring in the zone of saturation below the earth's surface.

Hazardous substance – Substances which, individually, or in combination with other substances, are normally considered to pose a danger to public health, safety and the environment. These substances generally include a wide array of materials that are toxic, ignitable, corrosive, reactive, radioactive or pathological.

Institutional use - Those uses 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, the physically challenged or the young during an emergency as a result of flooding, failure of floodproofing measures or protection works, or erosion.

Littoral zone – The nearshore area of a waterbody delineated by the shoreline and the line where light no longer penetrates to the bottom. The littoral zone is the most productive area of a waterbody and is used for spawning, rearing, nurseries, refuge and feeding.

Natural features - Landscape features that were created by natural processes; for example, rivers and mountains

Natural hazards – Processes that occur in nature that can be dangerous to the public health and safety of surrounding humans such as flooding, tornadoes, hurricanes, earthquakes and volcanoes.

Natural heritage features and areas – Features and areas, including significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valleylands south and east of the Canadian Shield, significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social value as a legacy of the natural landscapes of an area.

Negative impacts –means:

I. in regard to policy 2.2, degradation to the *quality and quantity of water, sensitive surface water features and sensitive ground water features*, and their related *hydrologic functions*, due to single, multiple or successive development or *site alteration* activities;

II. in regard to *fish habitat*, the harmful alteration, disruption or destruction of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the *Fisheries Act*, using the guiding principle of no net loss of productive capacity; and

III. in regard to other *natural heritage features and areas*, degradation that threatens the health and integrity of the natural features or *ecological functions* for which an area is identified due to single, multiple or successive development or *site alteration* activities.

New development. Generally refers to vacant lands or the creation of a new lot (see development).



Regulatory floodplain - The approved standard used in a particular watershed to define the lands subject to flooding in a regional storm.

Safe access – Conforming to the depth and velocity criteria for pedestrians and vehicles in the following table:

| Acceptable Vehicle Depths | Acceptable Pedestrian Depths | Acceptable Velocities |
|-------------------------------|------------------------------|-------------------------|
| NEW DEVELOPMENT | | |
| 0.1m | 0.1m | 1.7m/s (max. allowable) |
| 0.2m | 0.2m | 1.7m/s |
| 0.3m (max. allowable) | 0.3m | 1.7m/s |
| EXISTING LOT OF RECORD | | |
| | 0.4m | 1.0 m/s |
| | 0.5m | 0.8m/s |
| | 0.6m | 0.7m/s |
| | 0.7m | 0.6m/s |
| | 0.8m (max. allowable) | 0.5m/s |

Source: Lower Trent Conservation, 163/06 regulation policy document

Significant natural areas – Areas that are ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of the Natural Heritage System and/or areas identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.

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.

Significant woodlands – An area which is ecologically important in terms of features such as species composition, age of trees an stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.

Site alteration – Activities such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site. (PPS)

Stable slope - The angle a slope would achieve when toe erosion is absent.

Structure - Any material, object or work erected either as a unit or constructed or assembled of connected or dependant parts or elements, whether located under, on and/or above the surface of the ground.

Surface water – Water collecting on the ground in a stream, river, lake or ocean.

Top of bank - The point at which a valley wall or other slope feature meets higher table land.

Waterbody – Any significant pool of water including lakes, ponds and rivers.



Watercourse - An identifiable depression in the ground in which a flow of water regularly or continuously occurs.

Wetland – Means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens.

Periodically soaked or wet lands being used for agricultural purposes that no longer exhibit wetland characteristics are not considered to be wetlands for the purpose of this definition (PPS).