

CHAPTER 13

ENVIRONMENTAL PROTECTION AND STEWARDSHIP POLICIES

13.1 BASIS OF ENVIRONMENTAL STEWARDSHIP POLICIES

The Township contains a diverse range of *environmental features* that provide a foundation for the Greenlands Network. This network encompasses a system of *woodlands, wetlands, watercourses, recharge areas* and other natural heritage areas that are connected, or will be connected, through a series of *linkages*. The Greenlands Network provides a variety of *ecological functions* and contributes to the long-term quality of life, economic prosperity and environmental health of the township and the Grand River watershed. The policies of this Plan therefore seek to maintain, enhance or wherever feasible, restore the elements of the township's Greenlands Network including the Grand River and its tributaries for current and future generations.

This Plan also recognizes the need to identify the township's water resource system and protect its key hydrologic features and key hydrologic areas. These valuable resources provide a variety of environmental benefits, ecological services and are fundamental components of the overall ecosystems.

It is recognized that the responsibilities for protection of the natural environment are spread among Federal and Provincial governments, the Region, the Township and private stakeholders. All have an important role in enhancing the natural environment with the township, and all have the responsibility to be good stewards.

- 13.1.1 Council shall support private landowners in their efforts to manage property in a way that maintains, enhances and where feasible restores *environmental features* by encouraging publicly funded programs that seek to:
- a) Increase connectivity between natural habitat areas;
 - b) Increase native vegetative cover within and around *significant* natural areas, on steep slopes and adjacent to watercourses;
 - c) Support environmentally sustainable agriculture, including the development of Environmental Farm Plans to minimize soil degradation, protect the *quality and quantity of water resources*;
 - d) Make available information to landowners on environmental issues; and
 - e) Pursue opportunities to combine education and communication on environmental issues with other Township activities.

13.2 GREENLANDS NETWORK

- 13.2.1 The Greenlands Network is designated on Map 13.1 of this Plan, and comprises of the following key elements:
- a) Landscape Level Systems and components thereof– see Section 13.3 to 13.6;
 - b) Core Environmental Features – see Section 13.7;
 - c) *Fish Habitat* – see Section 13.8,
 - d) Supporting Environmental Features – see Section 13.9; and
 - e) *Environmental Linkages* – see Section 13.10.
- 12.2.2 The boundaries of the *environmental features* that make up the Greenlands Network will be interpreted, as required to support the review of *development applications*, through *Environmental Impact Statements*, *watershed / subwatershed* study, or other appropriate studies accepted by the Township, the Region and other agencies having jurisdiction. The *environmental features* comprising Core Environmental Features and Supporting Environmental Features are mapped collectively. Consultation with the Township and/or the Region is required for further categorization of these features.
- 13.2.3 Any boundary interpretations of the Greenlands Networks not generally in conformity with the boundaries shown on Map 13.1 will require an amendment to this Plan and/or the Regional Official Plan as applicable.
- 13.2.4 *Development applications* or *site alteration* will be prohibited on lands where elements of the Greenlands Network have not been adequately identified and evaluated through a *watershed/subwatershed study* or any other appropriate natural heritage review, until such time as an *Environmental Impact Statement* has been prepared by an owner/applicant in accordance with the policies of this Plan and/or the Regional Official Plan, to identify and evaluate any such elements located on the subject lands and, wherever appropriate, *contiguous* lands.
- 13.2.5 Where lands have been identified by the Province, or through a *watershed/subwatershed study* in Section 13.12 or other appropriate field studies, including those undertaken in Section 13.13 as fulfilling the criteria to be designated as a Core Environmental Feature, an amendment to this Plan and the Regional Official Plan will be required to designate such lands as part of the Greenlands Network. Prior to the approval of the amendment, any *development* or *site alteration* proposed within or *contiguous* to the feature will be considered premature by the Township and the Region or will proceed on the basis that the lands identified as meeting the criteria as a Core Environmental Feature are protected as though they were a Core Environmental Feature in accordance with the policies of the Regional Official Plan.

- 13.2.6 Illegal acts resulting, or having resulted, in a reduction in the form or function of an *environmental feature* within the Greenlands Network, including but not limited to such acts as tree removal, wetland filling or draining, or the alteration of watercourses, will not be recognized as existing conditions within the development review process. Restoration of the damaged area may be required prior to, or as a condition of, approval of any *development applications*.
- 13.2.7 Privately-owned portions of the Greenlands Network are not for public use, except at the discretion of the owner.
- 13.2.8 The acquisition of portions of the Greenlands Network by the Township or other public agencies will be promoted wherever feasible.
- 13.2.9 As part of the next *municipal comprehensive review* of the Regional Official Plan, the Township will collaborate with the Region to refine and implement the Provincial mapping of the *Natural Heritage System* for the Greater Golden Horseshoe. The following policies will apply with respect to the Provincial *Natural Heritage System*:
- a) Until the mapping of the *Natural Heritage System* has been updated by the Region and approved by Province, the Township will continue to protect the Greenlands Network designated in this Plan in accordance with the policies of this Plan; and
 - b) Following the approval of the mapping of Waterloo Region's *Natural Heritage System* by the Province, the Township will update this Plan to:
 - i) Incorporate the *Natural Heritage System* as an overlay in this Plan; and
 - ii) Establish appropriate policies to maintain, restore, or enhance the diversity and connectivity of the system and the long-term ecological or *hydrologic functions* of the features and areas as set out in the policies in Sections 4.2.2, 4.2.3 and 4.2.4 of the Growth Plan.

13.3 LANDSCAPE LEVEL SYSTEMS

- 13.3.1 Landscape Level Systems are recognized within the Greenlands Network as large-scale *environmental features* or as *significant concentrations of environmental features*. Landscape Level Systems are designated on Map 4 of the Regional Official Plan and Map 13.1 of this Plan. Landscape Level Systems comprise:
- a) Environmentally Sensitive Landscapes;
 - b) Significant Valleys; and
 - c) Regional Recharge Areas.

- 13.3.2 The designation of lands as Landscape Level Systems will not affect *agricultural uses* and associated *normal farm practices* as defined in applicable Provincial legislation and regulations in conformity with this Plan, applicable Zoning By-laws, statutes, policies and regulations of other government agencies, including agricultural drainage through municipal or agreement drains.
- 13.3.3 The Township will maintain, enhance or, wherever feasible, restore the scenic qualities of Township Roads within Landscape Level Systems.

13.4 ENVIRONMENTALLY SENSITIVE LANDSCAPES

- 13.4.1 *Environmentally Sensitive Landscapes* are designated on Map 13.1 of this Plan. This designation identifies broad areas with distinct geographical and ecological characteristics and compositions which support and sustain a range of *ecological functions*.
- 13.4.2 All *development applications* within *Environmentally Sensitive Landscapes* are subject to all applicable policies of this Chapter and Chapter 7 of the Regional Official Plan.
- 13.4.3 Future expansions of the Urban Area, Township Urban Areas, Rural Settlement Areas or Rural Employment Areas are not permitted within or into *Environmentally Sensitive Landscapes*.
- 13.4.4 The creation of new lots for *non-farm related residential units* within *Environmentally Sensitive Landscapes* is only permitted within Rural Settlement Areas.
- 13.4.5 The Township Zoning By-law will not permit the land uses identified in Policy 7.B.10 of the Regional Official Plan within *Environmentally Sensitive Landscapes* outside of Rural Employment Areas and Rural Settlement Areas.
- 13.4.6 Where *development* or *site alteration* is proposed on lands within or *contiguous* to an Environmentally Sensitive Landscape, the owner/applicant will be required to submit an *Environmental Impact Statement* which addresses landscape impacts in addition to any other requirements in accordance with the policies in Section 13.13 of this Plan.
- 13.4.7 Where construction of a road on a new right-of-way, widening or upgrading of an existing roadway, construction or upgrading of a trunk sewer, trunk watermain, gas pipeline or electrical transmission line, wastewater treatment facility, waste management facility or groundwater taking project is proposed

within or *contiguous* to an *Environmentally Sensitive Landscape*, the submission of an *Environmental Impact Statement*, or other appropriate study, in accordance with the policies in Section 13.13, which evaluates landscape level impacts, will be required.

- 13.4.8 Nothing in this Plan will prevent the owner of a legal lot of record in an *Environmentally Sensitive Landscape* from obtaining a building permit to construct or enlarge a single detached dwelling, accessory building or farm structure, provided it is in conformity with all other Township, Region and GRCA policies and regulations.
- 13.4.9 The designation of an Environmentally Sensitive Landscape will not affect existing aggregate extraction and processing operations licensed under the Aggregate Resources Act.

13.5 SIGNIFICANT VALLEYS

- 13.5.1 *Significant* Valleys are designated on Map 13.1 of this Plan. This designation identifies valleys of the Grand River and Conestogo River which are together nationally recognized as a Canadian Heritage River. *Significant* Valleys comprise the entire river channel within the region and run up to the point where the slope of the valley begins to grade into the surrounding upland.
- 13.5.2 All *development applications* within or *contiguous* to *Significant* Valleys will be in accordance with the policies of this Chapter and Chapter 7 of the Regional Official Plan.

13.6 REGIONAL RECHARGE AREAS (ENVIRONMENTAL PROTECTION)

- 13.6.1 Regional Recharge Areas are designated on Map 13.1 of this Plan. This designation identifies a large *environmental feature* which consists of considerable deposits of sand and gravel that allow for the infiltration of large quantities of rainfall and snowmelt deep into the ground. Regional Recharge Areas serve two functions, to sustain a wide range of aquatic habitats and ecosystems within the Greenlands Network and serve to replenish deep underground aquifers that serve as a source for a significant share of the township's drinking water.
- 13.6.2 Expansions of the Urban Area, Township Urban Area, and Rural Settlement Areas or Rural Employment Areas will not be permitted onto lands designated as Regional Recharge Areas, except as provided for in policy 13.6.3 of this Plan and the Regional Official Plan.

- 13.6.3 Minor expansions of Rural Settlement Areas located within Regional Recharge Areas may be permitted to facilitate the enlargement of an existing employment, recreational or institutional use subject to the provisions of the Regional Official Plan. Such expansions will not be permitted where the lands subject to the expansion proposal are also designated as *Environmentally Sensitive Landscape*.
- 13.6.4 *Development applications* within Regional Recharge Areas on lands already designated for urban *development* in this Plan may be permitted in accordance with the policies of this Plan and Section 7.B of the Regional Official Plan.

13.7 CORE ENVIRONMENTAL FEATURES

- 13.7.1 Core Environmental Features are designated on Map 13.1 of this Plan. This designation identifies those *environmental features* that are provincially or regionally *significant*. These features are the most significant elements of the regional landscape in terms of maintaining, protecting and enhancing *biodiversity* and important *ecological functions*.
- 13.7.2 The Core Environmental Features designation applies to lands that meet the criteria set out in the Regional Official Plan as:
- a) *Habitat of Endangered Species and Threatened Species;*
 - b) *Provincially Significant Wetlands;*
 - c) *Environmentally Sensitive Policy Areas;*
 - d) *Significant Woodlands;*
 - e) *Environmentally Significant Valley Features; or*
 - f) *Significant Areas of Natural and Scientific Interest.*
- 13.7.3 The Region may revise the boundaries of Core Environmental Features through future amendments to the Regional Official Plan. The Township will update the boundaries of these areas in conformity with the Regional Official Plan as part of the statutory review of this Plan. Where there is a discrepancy between the boundaries of Core Environmental Feature shown in this Plan and the Regional Official Plan, the boundaries shown in the Regional Official Plan will be used to implement the policies of this Plan.
- 13.7.4 *Development or site alteration* will not be permitted within Core Environmental Features, except for:
- a) Forest, fish or wildlife management and conservation;
 - b) Flood or erosion control projects demonstrated to be in the public interest and for which no other alternative is feasible;

- c) Minor alterations to legal non-conforming land uses within Core Environmental Features;
- d) *Infrastructure* projects in accordance with the policies of the Regional Official Plan; or
- e) New *mineral aggregate operations* in accordance with the policies of the Regional Official Plan.

Any *development application* or *site alteration* for the above uses will require the submission of an *Environmental Impact Statement*, to the satisfaction of the Region, to determine the mitigation measures to be implemented, as appropriate, through the development review process.

13.7.5 *Development applications, site alteration or infrastructure* projects will only be permitted on lands *contiguous* to a Core Environmental Feature where an *Environmental Impact Statement*, or similar study, submitted in accordance with the policies in Section 13.13 has determined to the satisfaction of the Township, the Region, the Grand River Conservation Authority and/or the *Province*, as appropriate, that approval of the proposed *development* or *site alteration* would not result in *adverse environmental impacts* on the features and *ecological functions* of the Core Environmental Feature.

13.7.6 Core Environmental Features that are privately owned are not for use by the public, except at the discretion of the owner.

13.8 FISH HABITAT

13.8.1 Fish Habitat will be identified through *watershed/subwatershed studies, Environmental Impact Statements* or other appropriate studies accepted by the Township and other public agencies having jurisdiction.

13.8.2 *Development* or *site alteration* will not be permitted within *fish habitat*, except in accordance with *Provincial and Federal requirements*.

13.8.3 *Watershed/subwatershed studies, Environmental Impact Statements* and other appropriate studies will be used to determine appropriate means to implement fishery policy and the specification of protective mitigation measures.

13.8.4 Any requirements imposed through *watershed/subwatershed studies, Environmental Impact Statements* and other appropriate studies must be implemented by the proponent to the satisfaction of the Federal Ministry of Fisheries and Oceans or its delegate.

13.9 SUPPORTING ENVIRONMENTAL FEATURES

13.9.1 Supporting Environmental Features are designated on Map 13.1 of this Plan. These *environmental features* do not meet the criteria for designation as Landscape Levels Systems or Core Environmental Features, but which are locally significant. Supporting Environmental Features play an important role in maintaining the *ecological functions* provided by the Greenlands Network and will be maintained, enhanced or, wherever feasible, restored.

13.9.2 Supporting Environmental Features are areas that meet the following criteria:

- a) Is designated by the Ministry of Natural Resources and Forestry as a locally *significant wetland*, including all non-provincially *Significant Wetlands* designated by the Ministry of Natural Resources and Forestry and the Grand River Conservation Authority; or
- b) Is identified as a locally *significant woodland*; or
- c) Is identified as a locally *significant Environmental Linkage* by a study or studies completed in accordance with Section 13.13 of this Plan; or
- d) Is identified as a locally *significant valley*; or
- e) Is identified as a locally *significant wildlife habitat area*; or
- f) is identified as a permanent or intermittent watercourse; or
- g) Provides a connection or acts as a buffer or supporting area to *environmental features*, thus maintaining ecological connection between communities; or
- h) Performs vital hydrogeological functions, such as serving as headwaters of a stream, groundwater recharge and discharge areas; or fulfils at least three of the following criteria:
 - i) Is a good quality, representative example of a particular type of ecosystem native to the Township;
 - ii) Contains uncommon or rare ecological communities such as old growth forests, savannas, prairies, bogs, fens, meadows and so on;
 - iii) Is a natural area of over 1.0 hectare (2.5 acres);
 - iv) Supports a moderate to high diversity of native species and ecological communities due to varied topography, microclimates, soils, and/or drainage;
 - v) Contains nationally, provincially, or regionally *significant species*;
 - vi) Contains “special” physical features (e.g. landforms, springs, fossils);
 - vii) Is important or has the potential for ecological research, education and/or passive recreation due to location or features; or
 - viii) Has a high aesthetic or scenic value in the Township.

- 13.9.3 The submission of an *Environmental Impact Statement* for review by the Township in consultation with the Region and the Grand River Conservation Authority will be required for all *development* proposed within or adjacent to a Supporting Environmental Feature, not already prohibited through Grand River Conservation Authority Policy. For the purposes of interpretation of this policy, “adjacent” will be defined as lands within 120 metres of the boundary of the Supporting Environmental Feature.
- 13.9.4 Where an *Environmental Impact Statement* demonstrates that the proposed *development* will not result in *adverse environmental impacts* upon environmental features and functions of a Supporting Environmental Feature identified in this Plan, the Township may, subject to appropriate conditions, approve or recommend approval of the application without amendment to this Plan.
- 13.9.5 Where an *Environmental Impact Statement*, submitted in accordance with Section 13.13, demonstrates that *development* may have an *adverse environmental impact* upon the *environmental features* and functions of a Supporting Environmental Feature, the Township will undertake one of the following:
- a) Negotiate an agreement with the owner of the land requiring conditions of approval, or dedication of land to protect lands supporting the environmentally significant features and functions of the Supporting Environmental Feature;
 - b) Request the Province, the Region, or the Grand River Conservation Authority to use powers within their jurisdiction to enable acquisition of the Supporting Environmental Feature;
 - c) Encourage public and/or private agencies to acquire all or the affected portion of the Supporting Environmental Feature;
 - d) Require a Conservation Easement;
 - e) Consider rehabilitation, restoration, compensation and net-gain as a potential tool to mitigate any potential adverse impacts on the Supporting Environmental Feature; or,
 - e) Refuse the application.
- 13.9.6 The interpretation and definition of the limits of a Supporting Environmental Feature and *adjacent lands* will be the responsibility of the Township in consultation with the Province, the Region and the Grand River Conservation Authority.

- 13.9.7 Where a Supporting Environmental Feature is subsequently designated by the Region as a Landscape Level Feature or a Core Environmental Feature, the provisions of Section 13.3 and Section 13.7 will apply, respectively.
- 13.9.8 Where lands are identified through a *watershed/subwatershed* study or other appropriate field study as fulfilling the criteria for a Supporting Environmental Feature designation in accordance with Section 13.12 an amendment to this Plan will be considered to designate such lands as a Supporting Environmental Feature.
- 13.9.9 Where the Township, in consultation with Region and/ or the Grand River Conservation Authority, determines that the preparation of an *Environmental Impact Statement* for *development* proposed in or adjacent to a Supporting Environmental Feature, would serve no useful purpose, it may waive the requirement to complete such a study, subject to terms and conditions of approval that the Township may deem appropriate to *conserve* natural features.
- 13.9.10 The interpretation and definition of the boundaries of a Supporting Environmental Feature and *contiguous* lands will be determined by the Township in consultation with the Province, the Region and the Grand River Conservation Authority.
- 13.9.11 Supporting Environmental Features that are privately owned are not for use by the public, except at the discretion of the owner.

13.10 ENVIRONMENTAL LINKAGES

- 13.10.1 Environmental Linkages are areas intended to provide opportunities for plant and animal movement within and between environmental features, support hydrological and nutrient cycling, and contribute to the overall ecological integrity of the Greenlands Network. The Township, in consultation with the Region, Grand River Conservation Authority and other stakeholders, will assist in identifying Environmental Linkages through appropriate studies as determined by the Region or Grand River Conservation Authority.
- 13.10.2 The Township will require the incorporation of any Environmental Linkages, identified in accordance with the policies of this Plan and the Regional Official Plan, into the design of new *development* to maintain, enhance or, wherever feasible, restore the Environmental Linkages within and between environmental features.

13.10.3 The Township will enhance Environmental Linkages, where appropriate, by restoring natural habitat on lands owned by the Township.

13.10.4 The Township will encourage the naturalization of inactive sections of parks and open space areas under the jurisdiction of other agencies and in private ownership, wherever appropriate, to enhance Environmental Linkages.

13.11 ENVIRONMENTALLY SIGNIFICANT RECHARGE AND DISCHARGE AREAS

13.11.1 The Township will, in consultation with the Province, the Region, the Grand River Conservation Authority and affected landowners, provide for the protection, enhancement or, wherever feasible, restoration of *Environmentally Significant Recharge Areas* and *Environmentally Significant Discharge Areas*, not fulfilling the criteria for designation as Regional Recharge Areas.

13.11.2 Where *Environmentally Significant Discharge Areas* and/or *Environmentally Significant Recharge Areas* sustain a Core Environmental Feature as documented through a study prepared in accordance with the policies of the Regional Official Plan, the Township will:

- a) Not permit *development* or *site alteration* within or *contiguous* to the *Environmentally Significant Discharge Areas* and/or *Environmentally Significant Recharge Areas*, except where it has been determined to the satisfaction of the Region and/or other applicable agencies that the *development* or *site alteration* would not result in *adverse environmental impacts* on the features and *ecological functions* of the Core Environmental Feature; and
- b) Ensure that any proposed public *infrastructure* projects will avoid *Environmentally Significant Discharge Areas* and *Environmentally Significant Recharge Areas*, wherever feasible. Where it is not feasible to avoid these areas, the construction of the infrastructure project will be designed to maintain the *hydrologic functions* that sustain Core Environmental Features.

13.12 WATERSHED/SUBWATERSHED PLANNING

The Township recognizes the direct relationship between human activities and impacts on water and other natural resources. *Watershed/subwatershed studies* help assess the nature of impacts from *development* on ecosystem features and functions by assessing the interconnections between human activities and environmental resources. They also provide recommendations concerning land use planning actions and conditions of *development* approval the Township can implement to prevent or minimize those impacts.

13.12.1 The Township will participate in co-operation with other municipalities, the public, landowners, the Grand River Conservation Authority, the Region, the Provincial Ministries and other interested agencies in the completion of *watershed/subwatershed studies* for watersheds within the Township.

13.12.2 Priorities and guidelines for the completion of publicly funded *watershed/subwatershed studies* will be determined in accordance with Section 7.F of the Regional Official Plan.

13.12.3 The Township will amend this Plan, as required, to implement appropriate recommendations from *watershed/subwatershed studies*.

13.12.4 The Township will consider applicable recommendations of *watershed/subwatershed studies* not implemented through amendment to this Plan, during the development approval process.

13.12.5 *Watershed/subwatershed studies* will be used to identify potential impacts of change on:

- a) Water budget;
- b) Peak run off flows;
- c) Run off volumes;
- d) Time distribution of stormwater run off;
- e) Flood levels and velocities;
- f) Floodplain storage;
- g) Existing storm water management facilities;
- h) Capacities of existing downstream works;
- i) Floodplain buildings and structures;
- j) Erosion and sedimentation of stream systems;
- k) Surface water quality;
- l) Groundwater quantity and quality;
- m) Water supply aquifer;
- n) Infiltration, recharge, discharge;
- o) Baseflow;
- p) wetlands;

- q) *significant* woodlands and other ecosystems;
- r) *significant* flora and fauna, including *Habitat of Endangered Species and Threatened Species*;
- s) aquatic habitat and fisheries;
- t) recreation;
- u) consideration and recommendation of rehabilitation measures for a system which is already impacted; and,
- v) other environmental aspects determined by the *watershed/subwatershed planning* study.

13.12.6 The Township, the Province, the Region, and the Grand River Conservation Authority, in consultation with affected landowners and the general public, will jointly determine the terms of reference for *watershed/subwatershed studies*. At a minimum, the terms of reference for *watershed/subwatershed studies* will include:

- a) Identification, maintenance, restoration and, wherever feasible, enhancement of *environmental features, groundwater features, surface water features and ecological functions* which are necessary for the ecological and hydrological integrity of the watershed;
- b) Identification, maintenance, enhancement and, wherever feasible, restoration of *linkages among environmental features and ecological functions, groundwater features and surface water features*;
- c) Determination of areas where *development or site alteration* will be prohibited to:
 - i) Protect actual and potential municipal drinking-water supplies and identified *vulnerable* areas; and
 - ii) Maintain, or enhance wherever feasible, restore sensitive and *vulnerable* surface water and *groundwater features, and their hydrologic functions, and floodplains*;
- d) Protection of the quality, quantity, distribution and direction of flow of existing surface and groundwater processes;
- e) Identification of stormwater management practices that maintain or enhance the quality, quantity and distribution of stormwater including infiltration measures, and minimize stormwater volumes and contaminant loads;
- f) Identification of areas where site specific *Environmental Impact Statements* may be required for the review of *development applications* in accordance with the policies of the Regional Official Plan. Wherever feasible, *watershed/subwatershed studies* should partially fulfill the *Environmental Assessment* requirements for major *infrastructure* works to be located within that *watershed*, and/or comprehensive *Environmental Impact Statements* for all or part of the *watershed*; and

- g) Develop a monitoring plan and define roles and responsibilities for pre-, during- and post-construction monitoring to determine and address the impact of *development* on the Greenlands Network and surface and groundwater resources.

13.12.7 The Township will support, and participate in, Regional initiatives to undertake *watershed/subwatershed studies* under the policies of the Regional Official Plan. Such studies are intended to both minimize *adverse environmental impacts*, including cross-jurisdictional and cross-*watershed* impacts, and to maintain, enhance or, wherever feasible, restore the Greenlands Network. Such studies will also be used to direct enhancement of the water system, maintenance or improvement of the health of watercourses and to identify natural hazards

13.12.8 The Township will require the finalization of *watershed/subwatershed studies* prior to adopting any Community Plans or amendments to this Plan that would permit *significant* areas of *development* within a *watershed*.

13.12.9 Where *watershed/subwatershed studies* relate to matters of Regional interest, the Township will ensure that the relevant portions of the *watershed/subwatershed studies* are first approved by the Region, prior to Township Council adoption of an Official Plan amendment or Community Plan that would implement the recommendations of the *watershed/subwatershed studies*.

13.13 ENVIRONMENTAL IMPACT STATEMENTS

An *Environmental Impact Statement* is a document describing the effects of proposed activities on the. "Environment," in this case, is defined as the natural and physical environment and the relationship of people with that environment. This means that the "environment" considered in an *Environmental Impact Statement* includes land, water, air, structures, living organisms, environmental values at the site, and the social, cultural, and economic aspects. An "impact" is a change in consequence that results from an activity. Impacts can be positive or negative or both. An *Environmental Impact Statement* describes impacts, as well as ways to "mitigate" impacts. To "mitigate" means to lessen or remove negative impacts. Therefore, an *Environmental Impact Statement* is a document that describes the impacts on the environment as a result of a proposed action. It also describes impacts of alternatives as well as plans to mitigate the impacts.

General Policies

13.13.1 An *Environmental Impact Statement* will be required in accordance with the policies of this Plan to identify and evaluate the potential effects of a proposed

development or site alteration on elements of the Greenlands Network, and recommend means of preventing, minimizing or mitigating these impacts, as well as enhancing or restoring the quality and connectivity of elements of the Greenlands Network. An *Environmental Impact Statement* may also be used to identify and evaluate elements of the Greenlands Network and interpret the boundaries of these elements based on ecological considerations. The Township, the Province, the Region, the Grand River Conservation Authority, *and other affected public agencies* will co-ordinate the requirements for the preparation of an *Environmental Impact Statement*.

13.13.2 Any *Environmental Impact Statement* required under this Chapter will be prepared in accordance with the provisions of the Regional Greenlands Network Implementation Guideline.

13.13.3 The Township may require the submission of a single comprehensive *Environmental Impact Statement* where:

- a) *Development or site alteration* is proposed on multiple *contiguous* properties containing elements of the Greenlands Network; or
- b) A Community Plan or other comprehensive community planning process is being undertaken; or
- c) Environmental studies are required to support the proposed expansion of the Urban Area, Township Urban Area, Rural Settlement Area, or Rural Employment Area boundaries; or
- d) The extent of a *development application* and its anticipated impacts on the Greenlands Network are anticipated by the relevant agency(ies) to be substantial.

13.13.4 The need for, and scope of the *Environmental Impact Statement*, will be determined in collaboration with the Region, the Province, and the Grand River Conservation Authority by:

- a) The Province, for *development or site alteration* potentially affecting *Significant Habitat of Endangered Species* or *Threatened Species* or;
- b) The Region, for *development or site alteration* potentially affecting:
 - i) Landscape Level Systems, not including *Significant Valleys*;
 - ii) Core Environmental Features; or
 - iii) *Environmentally Significant Discharge Areas* and/or *Environmentally Significant Recharge Areas* that sustain Core Environmental Features; or
- c) The Grand River Conservation Authority for *Significant Valleys*, *Provincially Significant Wetlands* located outside Environmentally Sensitive Policy Areas and *wetlands* not identified as provincially significant, including

unevaluated *wetlands*. *Note:* the Grand River Conservation Authority reviews Significant Valleys from a hazard land perspective only;

- d) The Township for *development applications* potentially affecting other elements of the Greenlands Network; or
- e) The Federal Department of Fisheries and Oceans, or its delegate, for *fish habitat*.

13.13.5 The submission of an *Environmental Impact Statement* will not be required by the Township where an Environmental Assessment or alternative environmental review is being undertaken as part of a comprehensive planning process, provided the Environmental Assessment or alternative environmental review fulfils the requirements of an Environmental Impact Statement.

13.13.6 Where an *Environmental Impact Statement* is required, it will be prepared by a qualified professional and submitted with the *development application* for review in accordance with Section 13.2 of this Plan and with the provisions of the Regional Greenlands Network Implementation Guideline.

Environmental Impact Statements for Supporting Environmental Features

13.13.7 Where an *Environmental Impact Statement* is required for Supporting Environmental Features in accordance with Section 13.9, it will be prepared by a qualified professional and submitted with the *development application* to the Township for review in consultation with the Region. Where the Supporting Environmental Feature is a Locally *Significant* Wetland, the Township will consult with the Grand River Conservation Authority and other affected public agencies.

13.13.8 *Environmental Impact Statements* for *development* affecting Supporting Environmental Feature will be prepared in accordance with the Regional Greenlands Network Implementation Guideline.

13.13.9 Where the Township, in consultation with the Region, the Grand River Conservation Authority, and other affected public agencies determines that the preparation of an *Environmental Impact Statement*, for *development* proposed in or adjacent to a Supporting Environmental Feature, would serve no useful purpose, the Township may waive the requirement to complete such a study, subject to terms and conditions of approval that the Township may deem appropriate to *conserve* natural features.

Environmental Impact Statements for Fish Habitat

- 13.13.10 Any *development* proposed *contiguous* to designated *fish habitat*, will require the preparation and submission of an *Environmental Impact Statement* in accordance with Section 13.8 of this Plan for review by the Federal Department of Fisheries and Oceans, or its delegate.

13.14 NATURAL HAZARDS (PREVIOUSLY RESTRICTED LAND USE AREA)

Natural Hazards identify areas that will generally be restricted from development. These lands contain physical characteristics that could be unsafe to *development* due to naturally occurring hazards, such as flooding, erosion or slope failures. To prevent the loss of life and minimize property damage and social disruption, this Plan seeks to direct *development* away from these natural occurring hazards, except where it is determined to be appropriate and safe. The Grand River Conservation Authority is a key partner in this effort through the administration of its policies and regulations under the Conservation Authorities Act.

- 13.14.1 Natural Hazards are designated on Map 13.2 of this Plan. This designation applies to *hazardous lands* and *hazardous sites* identified and regulated by the Grand River Conservation Authority. The Township will update the boundaries of the Natural Hazards designation in consultation with the Grand River Conservation Authority as part of the statutory review of this Plan.
- 13.14.2 Permitted uses within the Natural Hazards designation may include agriculture, conservation, passive recreational uses, flood infrastructure and forestry and wildlife management.
- 13.14.3 Lands identified on Map 13.2 as being within the Natural Hazards designation will be zoned to prohibit new buildings or structures. Setbacks from lands shown as Natural Hazards will be established and/or modified where appropriate, in consultation with the Grand River Conservation Authority.
- 13.14.4 Where Natural Hazards contain all or a portion of an element of the Greenlands Network identified in this Chapter, the more restrictive policies will apply.
- 13.14.5 Within the Natural Hazards designation, *development* or *site alteration* will not be permitted within:
- a) *Hazardous lands* which are impacted by *flooding hazards* and/or *erosion hazards*;
 - b) Erosion access allowances, which will not be less than six metres; and

- c) *Hazardous sites;*
except where:
- i) A special policy area has been approved by the Province; or
 - ii) The *development* is limited to land uses that, by their nature, must locate within the *floodway*, including flood and/or erosion control works, structures necessary for conservation, water supply, wastewater management, or minor additions or passive non-structural uses which do not affect flood flows and meet all applicable Grand River Conservation Authority policies; or
 - iii) A *two-zone policy area* has been designated in accordance with the policies Section 13.14.15 to permit *development* or *site alteration* in the *flood fringe*, and the effects and risk to public safety are minor so as to be managed or mitigated in accordance with the Province's standards, as determined by the demonstration and achievement of all of the following:
 - *Development or site alteration* is carried out in accordance with *floodproofing standards, protection works standards, and access standards;*
 - Vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies;
 - New hazards are not created, and existing hazards are not aggravated; and
 - No *adverse environmental impacts* will result.

13.14.6 Notwithstanding Section 13.14.5, *development* proposing the following land uses will not be permitted within *hazardous lands* and *hazardous sites*:

- a) An institutional land 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, failure of *floodproofing standards* or *protection works standards*, or erosion;
- b) An *essential emergency service* such as that provided by fire, police and ambulance stations and electrical substations, which would be unacceptably impaired during an emergency as a result of flooding, the failure of *floodproofing standards* or *protection works standards*, or erosion;
- c) Land uses associated with the disposal, manufacture, treatment or storage of *hazardous chemicals and/or substances*;
- d) Fully enclosed underground parking facilities unless otherwise permitted in Grand River Conservation Authority policy; and,
- e) New private sewage disposal systems.

- 13.14.7 Structures which are replaced or reconstructed as a result of fire or other unusual loss, but not including flooding, will be constructed and/or flood proofed to the satisfaction of the Grand River Conservation Authority.
- 13.14.8 Subject to Section 13.14.5, minor expansions and alterations may be made to existing buildings and structures located within that portion of *hazardous lands* or *hazardous sites* identified by the GRCA as *Regulatory Floodplain*, provided that:
- a) It is approved by the Grand River Conservation Authority;
 - b) It has received the appropriate Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit;
 - c) No new habitable floor space is created below the elevation of the first floor, no new basement is proposed, and any crawl space is non-habitable and designated to facilitate services only;
 - d) The renovations, additions, and/or alterations are flood proofed in accordance with the requirements of the Grand River Conservation Authority; and
 - e) All other applicable Grand River Conservation Authority policies are met.
- 13.14.9 Outdoor storage is prohibited within that portion of *hazardous lands* or *hazardous sites* identified by the Grand River Conservation Authority as *Regulatory Floodplain*.
- 13.14.10 An amendment to this Plan will not be required for minor revisions to the boundaries of the *hazardous lands* and *hazardous sites* designations, where such revisions are supported by technical studies approved by the Grand River Conservation Authority.
- 13.14.11 The acquisition of *hazardous lands* or *hazardous sites* by the Township or other public agencies will be promoted wherever feasible.
- 13.14.12 The Township will require detailed hydrogeological and/or geotechnical studies to assess potential risks to persons, buildings, structures, or public *infrastructure* occasioned by groundwater discharge or high-water tables prior to *development*. Such studies should demonstrate that engineering solutions designed to protect structures from the effects of groundwater discharge and high-water tables will be effective, will not require significant on-going maintenance to remain effective, and will not divert or impede natural groundwater flows so as to create hazards or annoyances to *adjacent lands* and buildings. Where *discharge constraint areas* are identified in the above

studies, they will be identified through an amendment to this Plan and/or in Community Plans.

13.14.13 The Township will consider the potential impacts of climate change that may increase the risks associated with natural hazards.

13.14.14 One Zone Flood Plain

13.14.14.1 The “One Zone Flood Plain” concept is used in those areas of the Township where the Grand River Conservation Authority wishes to prohibit *development* within the entire Flood Plain. These areas are found around streams and rivers. All areas of the Township that are contained within regulatory floodlines as identified by the Grand River Conservation Authority are subject to the One Zone Flood Plain policies of this Plan with the exceptions noted in Section 13.14.15.

13.14.14.2 No new *development* is permitted within the Flood Plain;

13.14.14.3 Lands within the floodplain may be used for:

- a) Outdoor recreation, including buildings and structures where approved by the Grand River Conservation Authority;
- b) Open space and conservation areas;
- c) Wildlife sanctuaries;
- d) Nurseries and forestry;
- e) Flood infrastructure; and
- f) Agricultural purposes, including accessory buildings and structures where approved by the Grand River Conservation Authority.

13.14.14.4 This Plan does not imply that Flood Plain lands are open to the general public or that the Township, or any other public agency will purchase such lands.

13.14.14.5 Flood Plain lands will be zoned in an appropriate hazard category in the implementing Zoning By-law.

13.14.14.6 Notwithstanding Section 13.14.14.2 minor expansions or alterations may be undertaken to buildings existing in the flood plain at the time of adoption of this plan provided that:

- a) No dwelling units are created;
- b) Such minor expansions or alterations including mechanical and electrical services are generally flood proofed to the Regulatory Flood elevation. Under certain circumstances, reductions in the level of flood

proofing may be permitted where deemed appropriate and feasible by the Grand River Conservation Authority; and

- c) Provided there are no adverse impacts on floodflows.

13.14.15 Two Zone Flood Plain Policies

13.14.15.1 The Two-Zone floodway-flood fringe concept is selectively applied to portions of the flood plain where *development* could potentially occur without adverse impacts on flood flows, flood elevations or adjacent structures.

13.14.15.2 Two-Zone Flood Plain Policies apply to portions of the developed areas of the Canagagigue Creek and its tributaries, Drain Number 1 and the Weigel Drain all within the in Elmira Settlement. The extent of the Two-Zone area will be determined through the completion of detailed technical analysis to the satisfaction of the Grand River Conservation Authority, the Region and the Township. Following the identification of the Two Zone areas through such analysis the policies of Section 13.14.15 apply.

13.14.15.3 Two-Zone Flood Plain Policies apply to areas of existing *built-up areas* only and shall not be applied to rural areas or to new areas of growth.

13.14.15.4 Under the Two-Zone concept, the floodway and the flood fringe shall be identified as follows:

- a) Floodway: the hazardous portion of the flood plain where flood depths and/or velocities are considered to be such that they pose a significant threat to life and/or property. Consequently, the floodway is generally defined as the area required for the safe passage of flood flows. In all circumstances, delineation of the floodway will be approved by the Grand River Conservation Authority based on depth and velocity parameters; and
- b) Flood fringe: the portion of the flood plain between the limits of the floodway and the Regulatory Floodline as defined by the Grand River Conservation Authority. Flood depth and velocity are generally less severe than in the floodway.

Development in the floodway shall be restricted to minor expansions or alterations to buildings existing as of the date of adoption of this Plan in accordance with Section 13.14.14.6.

13.14.15.5 *Development* may be permitted within the flood fringe provided that the following conditions are met:

- a) A permit is issued by the Grand River Conservation Authority, or it's designated, in accordance with the applicable regulations approved under the Conservation Authorities Act;
- b) All *development* is suitably flood proofed to the Regulatory Flood elevation as determined by and to the satisfaction of the Grand River Conservation Authority and the Township;
- c) All habitable floor space is constructed at or above the Regulatory Flood elevation and all essential building services (i.e. electrical, telephone, heating, etc.) are constructed at or above or are protected to the Regulatory Flood elevation;
- d) The creation of any uninhabitable floor space below the Regulatory Flood elevation where there is the possibility of conversion to habitable floor space is not permitted;
- e) Notwithstanding d) above, the creation of uninhabitable floor space below the Regulatory Flood elevation may be permitted if it is associated with an apartment building, commercial, industrial or other non-residential development. Such areas in an apartment building may include foyers, recreation rooms, communal storage areas, or other uninhabitable floor space that is normally associated with this type of development. All such floor space in any *development* must be flood proofed to the Regulatory Flood elevation with the maintenance of safe access ensured;
- f) Access for all new habitable buildings located in the flood fringe shall be such that emergency vehicular and pedestrian movement is not prevented during times of flooding in order that safe access/evacuation is ensured. The determination of "safe" access shall be made by the Grand River Conservation Authority based on the depth and velocity factors as they affect individual sites; and
- g) Conversions of non-residential buildings in the flood fringe to residential use may be permitted provided that the requirements of b) through f) above are satisfied.

13.14.15.6 Outdoor industrial storage is prohibited within the floodway in Two-Zone Flood Plain Policy Areas.

13.14.15.7 Outdoor industrial storage may be permitted within the flood fringe of the Two-Zone Flood Plain Policy Areas, subject to the protection of such storage from flood related damages to the elevation of the Regulatory floodline to the satisfaction of the Grand River Conservation Authority.

- 13.14.15.8 It is the intent of this Plan that Flood Plain lands may be used only in accordance with the statutory regulations of the Grand River Conservation Authority and in accordance with the policies for such lands contained in Chapter 13 of this Plan and the relevant policies of the Regional Official Policies Plan.
- 13.14.16 Lands within river or stream valleys, *floodplains*, *wetlands*, watercourses, lakes or *hazardous lands*, or lands within 120 metres of *Provincially Significant Wetlands* and *wetlands* greater than or equal to two hectares, or lands within 30 metres of *wetlands* less than two hectares, are regulated by the Grand River Conservation Authority. *Development* or *site alteration* within these Regulated Areas will require a permit from the Grand River Conservation Authority in accordance with the applicable regulations approved under the Conservation Authorities Act.

13.15 ENVIRONMENTAL STEWARDSHIP

Biodiversity

- 13.15.1 The Township values its rich natural *biodiversity* and will encourage the conservation and enhancement of the native *biodiversity* of the natural environment in the township.
- 13.15.2 The Township will co-operate with the Region in the development and maintenance of an environmental database to document the occurrence and distribution of *significant* species and other features.
- 13.15.3 The Township will encourage the use of native species appropriate to the Township and will discourage the use of non-native or invasive species in accordance with the Regional List of Native Trees and Shrubs and Non-Native Species, when planting within or *contiguous* to natural areas.
- 13.15.4 The Township will promote the use of native trees, shrubs and herbaceous vegetation for plantings along Township Roads and for new *development* subject to Site Plan Control.

Managing Woodland Resources – Roadside Trees

- 13.15.5 The Township recognizes the environmental, aesthetic and heritage values of trees lining urban streets and rural roads.

- 13.15.6 The Township shall protect and preserve trees located within road rights of way wherever practical. Trees removed from a road right of way due to *development* or public utilities projects shall be required to be replaced wherever possible with native species by the individual or body responsible for their removal, to the satisfaction of the Township.
- 13.15.7 The Township will, wherever feasible and appropriate, use trees and other species native to the region in plantings along Township Roads and on the grounds of Township facilities, stormwater management facilities and park naturalization projects.
- 13.15.8 The Township will implement the use of native trees and shrubs, as identified by the Region, when planting within or *contiguous* to elements of the Greenlands Network and will encourage individuals and agencies to do likewise.
- 13.15.9 The Township encourages private landowners to protect and preserve street trees located outside of road rights of way.
- 13.15.10 The Township shall require, as necessary, the preparation of a Tree Management Plan prior to consideration of a *development* application, with an aim to preserve and protect *significant* individual trees, tree stands, hedgerows, woodlots and forested areas within the township.

Managing Woodland Resources – Woodlands

- 13.15.11 The Township, in collaboration with the Region, will minimize the impact of *development* on *woodlands* by selecting alternative locations for proposed land uses and/or through the implementation of appropriate mitigation measures.
- 13.15.12 The Township will consider the importance of *woodlands* during the development review process, considering:
- a) The potential impact of the proposed land use on the *ecological functions*, productivity or potential productivity of the *woodland* for commercial timber production;
 - b) The impact of the proposed land use on the extent and distribution of *woodland* cover in the *watershed/subwatershed* in which the subject land is situated; and
 - c) Opportunities to restore or re-establish productive forest habitats consisting of native species following the completion of the proposed *development*.

- 13.15.13 The Township will consider adopting a Tree Preservation By-law to prohibit or regulate the destruction or injuring of trees in *woodlands* less than four hectares in area.

Land Stewardship

- 13.15.14 The Township, in co-operation with the Region, encourages landowners to maintain, enhance or, wherever feasible, restore *environmental features* on their property through measures including conservation easements, buffers and wherever appropriate, fencing.
- 13.15.15 The Township will endeavour to secure ownership of elements of the Greenlands Network in conjunction with recreational areas, and to prepare management plans for these lands to maintain, enhance or, wherever feasible, restore their *ecological functions*.
- 13.15.16 The Township will implement the use of native trees and shrubs, as identified by the Region, when planting within or *contiguous* to elements of the Greenlands Network and will encourage individuals and agencies to do likewise.
- 13.15.16 The Township will, wherever feasible and appropriate, use species native to the region in plantings along Township Roads and on the grounds of Township facilities, stormwater management facilities and park naturalization projects.

13.16 SOURCE WATER PROTECTION

The township is reliant on groundwater resources to supply the majority of its drinking-water. Protecting existing and future sources of drinking-water from incompatible land uses and from contamination that could hinder groundwater recharge is essential to maintaining human health, economic prosperity and a high quality of life. The Township will maintain and wherever feasible, enhance the *quality and quantity of water* infiltration and recharge to groundwater aquifers. The Township will support the Region in implementing land use planning decisions to protect the quality and quantity of drinking-water resources, and to limit *development* and *site alteration* that could adversely affect drinking-water supplies drawn from the Grand River and from groundwater resources.

Source Water Protection Areas

- 13.16.1 Source Water Protection Areas are designated on Map 13.3 of this Plan. These areas are significant in that they contribute water or are in close proximity to municipal water service wells and surface water intakes that are *vulnerable* to contamination and/or depletion from incompatible land uses. Within the township, Source Water Protection Areas consist of 1) Wellhead Protection Sensitivity Areas; 2) High Microbial Risk Management Zones; and 3) Regional Recharge Areas.
- 13.16.2 Wellhead Protection Sensitivity Areas are classified from 1 to 8, as designated on Map D of this Plan. This classification allows for varying degrees of management relative to the *vulnerability* of the underlying groundwater to contamination, the importance of the well to the capacity of the municipal water services, and the length of time groundwater within the area will take to reach the municipal water service well.
- 13.16.3 High Microbial Risk Management Zones identify areas where the underlying groundwater is the most *vulnerable* to disease causing organisms. These zones surround municipal water service wells supplied by Groundwater Under the Direct Influence of Surface Water (GUDI). GUDI wells draw groundwater that is directly connected to and dependent upon, surface water in locations where contaminants in the surface water may not be filtered adequately by the overlying soil or subsurface before entering the well.
- 13.16.4 Regional Recharge Areas identify areas that will be protected from land use practices and *hazardous chemicals and/or substances* that could negatively impact the *quality and quantity of water* within and available to the aquifers that contribute to municipal water services.
- 13.16.5 The Township will review and update its Zoning By-law to prohibit land uses that may pose a risk to Source Water Protection Areas in accordance with Schedule 1 of this Plan and Chapter 8 and Schedule 'B' of the Regional Official Plan.
- 13.16.6 *Development applications* within Source Water Protection Areas will be reviewed in accordance with the source water protection policies outlined in Section 8A of the Regional Official Plan.

- 13.16.7 Where the source water protection policies in the Regional Official Plan require one or more studies to be submitted in support of a *development application*, such studies will be completed in accordance with the Section 8A of the Regional Official Plan and the Regional Implementation Guideline for Source Water Protection Studies to the satisfaction of the Region. Studies submitted by the applicant will demonstrate that the proposed use will not negatively impact the quantity and/or quality of drinking-water resources in Source Water Protection Areas for the *development application* to receive approval.
- 13.16.8 The Township, in consultation with the Region, the Province and the Grand River Conservation Authority will provide advice to landowners to promote good stewardship practices for lands and water within Source Water Protection Areas.
- 13.16.9 The Township will, in collaboration with other public agencies having jurisdiction, provide input into and implement the Province’s Source Water Protection Plan.
- 13.16.10 The Township will amend this Plan to conform to an approved Provincial Source Protection Plan, as required.

13.17 A CULTURE OF CONSERVATION

- 13.17.1 As part of the next *municipal comprehensive review* of the Regional Official Plan, the Township will collaborate with the Region in the development and implementation of policies in this Plan and other strategies in support of the following conservation objectives set out in Section 4.2.9 of the Growth Plan:
- a) Water conservation, including through:
 - i) Water demand management for the efficient use of water; and
 - ii) Water recycling to maximize the reuse and recycling of water;
 - b) Energy conservation for existing buildings and planned developments, including municipally owned facilities, including through:
 - i) Identification of opportunities for conservation, energy efficiency and demand management, as well as district energy generation, *renewable energy systems* and *alternative energy systems* and distribution through community, municipal, and regional energy planning processes, and in the development of conservation and demand management plans;
 - ii) Land use patterns and urban design standards that support energy efficiency and demand reductions, and opportunities for alternative energy systems, including district energy systems; and

- iii) Other conservation, energy efficiency and demand management techniques to use energy wisely as well as reduce consumption;
- c) Air quality improvement and protection, including through reduction in emissions from municipal, commercial, industrial, and residential sources; and
- d) Integrated waste management, including through:
 - i) Enhanced waste reduction, composting, and recycling initiatives, and the identification of new opportunities for energy from waste, source reduction, reuse, and diversion, where appropriate;
 - ii) A comprehensive plan with integrated approaches to waste management, including reduction, reuse, recycling, composting, diversion, and disposal of residual waste;
 - iii) Promotion of building conservation and adaptive reuse, as well as the reuse and recycling of construction materials; and
 - iv) Consideration of waste management initiatives within the context of long-term regional planning, and in collaboration with neighbouring municipalities.

13.17.2 The Township will ensure that relevant *development* proposals incorporate best practices for the management of excess soil generated and fill received during *development* or *site alteration*, including *infrastructure* development, so that:

- a) Any excess soil is reused on-site or locally to the maximum extent possible and, where feasible, excess soil reuse planning is undertaken concurrently with development planning and design;
- b) Appropriate sites for excess soil storage and processing are permitted close to areas where proposed *development* is concentrated or areas of potential soil reuse; and
- c) Fill quality received and fill placement at a site will not cause an adverse effect with regard to the current or proposed use of the property or the natural environment and is compatible with adjacent land uses.

13.18. CLIMATE CHANGE

13.18.1 The Township, in collaboration with the Region, will update this Plan following the next *municipal comprehensive review* of the Regional Official Plan to identify actions in the Township that will reduce greenhouse gas emissions and address climate change adaptation goals, aligned with the Ontario Climate Change Strategy, 2015 and the Climate Change Action Plan, 2016, that will include:

- a) Supporting the achievement of *complete communities* as well as the minimum *reurbanization* and density targets in this Plan;

- b) Reducing dependence on the automobile and supporting existing and planned transit and *active transportation*;
- c) Assessing *infrastructure* risks and vulnerabilities and identifying actions and investments to address these challenges;
- d) Undertaking stormwater management planning in a manner that assesses the impacts of extreme weather events and incorporates appropriate green infrastructure and *low impact development*;
- e) Recognizing the importance of *watershed/subwatershed planning* for the protection of the *quality and quantity of water* and the identification and protection of hydrologic features and areas;
- f) Protecting the Greenlands Network and water resource systems;
- g) Promoting local food, food security, and soil health, and protecting the agricultural land base;
- h) Providing direction that supports the culture of conservation policies in accordance;
- i) Encouraging the building of community resiliency to climate change; and
- j) Any additional policies to reduce greenhouse gas emissions and build resilience, as appropriate.

13.18.2

In planning to reduce greenhouse gas emissions and address the impacts of climate change in accordance the actions set out in with Section 8.5.4.1, the Township may:

- a) Develop strategies to reduce greenhouse gas emissions and improve resilience through the identification of vulnerabilities to climate change, land use planning, planning for *infrastructure*, including transit and energy, *green infrastructure*, and *low impact development*, and the conservation objectives described in Section 8.7.1.1 of this Plan;
- b) Develop Township greenhouse gas inventories for transportation, buildings, waste management and municipal operations; and
- c) Establish interim and long-term greenhouse gas emission reduction targets for the Township that support Regional and Provincial targets and reflect consideration of the goal of low-carbon communities and monitor and report on progress made towards the achievement of these targets.



MAP 13.1 Township of Woolwich Greenland Network

Legend

- Settlement Area Boundary
 - Township Boundary
 - Provincial Highway
 - Regional Road
 - Township Road
 - Private Lane
 - Future Road
 - Rail line
 - Airfield
 - Airport
 - Potential Fish Habitat (creek/stream)
 - Fish Habitat Areas
 - Supporting Environmental Feature
 - Core Environmental Features
- ### Landscape Level Systems
- Environmentally Sensitive Landscape (ESL)
 - Regional Recharge
 - Significant Valleys

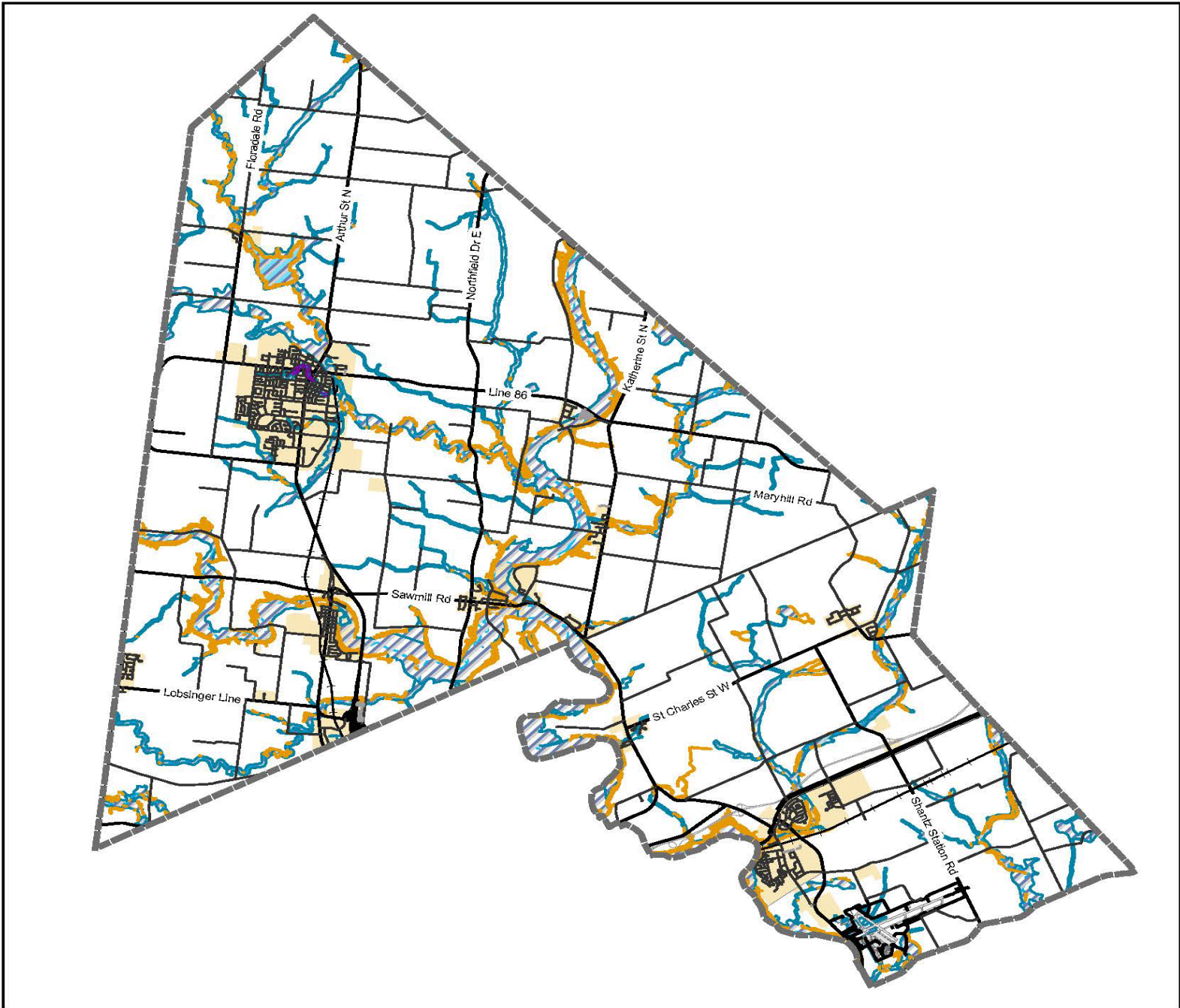
* Environmental Linkages - form part of the Greenland Network. No data currently exists for the same.



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Township of Woolwich
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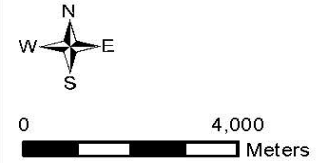
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MAP 13.2 Township of Woolwich Natural Hazards

Legend

- Settlement Area Boundary
- Provincial Highway
- Regional Road
- Township Road
- Private Lane
- Rail line
- Airfield
- Airport
- Erosion Slopes
- Valley Slopes
- Floodplain Area - One Zone
- Floodplain Area - Two Zone
- Township Boundary



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MAP 13.3 Township of Woolwich Source Water Protection

Legend

- Settlement Area Boundary
- Provincial Highway
- Regional Road
- Township Road
- Private Lane
- Rail line
- Airfield
- Airport
- Intake Protection Zones
- Well Head Protection Area 1
- Well Head Protection Area 2
- Well Head Protection Area 3
- Well Head Protection Area 4
- Well Head Protection Area 5
- Well Head Protection Area 6
- Well Head Protection Area 7
- Well Head Protection Area 8
- Township Boundary



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