

envision
GUELPH

**Official Plan
Amendment
Number 42:**

Natural Heritage System

Adopted by Guelph City Council -
July 27, 2010

Approved by Minister of Municipal
Affairs and Housing - Feb 22, 2011



growth ▶ community ▶ environment



ATTACHMENT 1: Official Plan Amendment No. 42

AMENDMENT NUMBER 42 TO THE OFFICIAL PLAN FOR THE CORPORATION OF THE CITY OF GUELPH:

NATURAL HERITAGE SYSTEM AMENDMENT

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The Preamble provides an explanation of the amendment including the purpose, background, location, basis and summary of the policies and public participation, but does not form part of this amendment.

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PART A - THE PREAMBLE

TITLE AND COMPONENTS

This document is entitled 'Envision Guelph: Official Plan Update (Natural Heritage System Amendment)' and will be referred to as 'Amendment 42'. Part A – 'The Preamble' provides an explanation of the amendment including the purpose, location, background, summary of the policies and public participation, but does not form part of this amendment. Part B – 'The Amendment' forms Amendment 42 to the Official Plan of the City of Guelph and contains a comprehensive expression of the new, deleted and amended text as illustrated through various font types in the text (e.g. struck-out is to be deleted and bold text is to be added), revised Official Plan Schedules 1 and 2 and new Schedules 10, 10A, 10B, 10C, 10D, and 10E.

PURPOSE

The purpose of this Amendment is to replace the current Core and Non-Core Greenlands policies and mapping within the City's Official Plan with a Natural Heritage System that is consistent with the 2005 Provincial Policy Statement (PPS), conforms with the Growth Plan for the Greater Golden Horseshoe, and has regard to matters of provincial interest.

Specifically, Amendment 42:

- Replaces existing *Natural Heritage Features* policies (all of Chapter 6) and Greenlands System Policies (Section 7.13) with Natural Heritage System policies developed through Guelph's Natural Heritage Strategy process;
- Revises existing Official Plan Schedule 1 (Land Use Plan) to incorporate the new Natural Heritage System, removes the *Natural Heritage Features* from Schedule 2 (*Natural Heritage Features* and *Development Constraints*) and renames the schedule accordingly, and adds a new Schedule 10 illustrating the comprehensive Natural Heritage System along with new Schedules 10A, 10B, 10C, 10D, and 10E that illustrate the components of the Natural Heritage System; and
- Modifies the necessary references and definitions throughout the Plan to implement the Natural Heritage System.

BACKGROUND

Natural Heritage Strategy: Phase 1 (2004-2006)

The preparation of a citywide Natural Heritage Strategy was recommended by the City's Environmental Action Plan which was endorsed by Council in 2003. Dougan and Associates, was retained by the City to undertake the Natural Heritage Strategy. Phase 1 of the Natural Heritage Strategy commenced in 2004 with:

- a review of the City's existing natural heritage resources and features;
- a review of other municipal approaches to natural heritage protection;
- the *development* of working criteria for the identification of locally significant natural areas; and
- public consultation which included a community survey, community forum, and a stakeholder workshop.

Phase 1 culminated with a report in March 2005, which recommended eight (8) draft working criteria for the identification of locally significant natural areas.

Natural Heritage Strategy: Phase 2 (2007-2009)

Phase 2 was focused around the updating and collection of ecological field data for the City's terrestrial natural areas (i.e., areas outside the flood plains and wetlands). This data was used to apply the draft criteria recommended through Phase 1 to develop a recommended Natural Heritage System for the City. The draft criteria were further refined based on the review of the draft mapping throughout 2007 and 2008. Updated base data (i.e. aerial photography and recently approved Environmental Impact Studies and draft plans of subdivision) were also incorporated. Updated information was also obtained from the Ministry of Natural Resources and the Grand River Conservation Authority.

1. Revised Guelph Natural Heritage Strategy (July 2008) prepared by Dougan and Associates

A Draft Natural Heritage Strategy was provided to City staff in 2007 for review. Following internal review, a Revised Draft Natural Heritage Strategy was produced in July 2008. On September 5, staff were directed to circulate the City of Guelph Draft Natural Heritage Strategy for public and stakeholder input in order to proceed with finalization of the Strategy. Attachment 3 provides a summary of the Draft Natural Heritage System criteria recommended in the July 2008 Revised Natural Heritage Strategy.

Public consultation was undertaken regarding the Natural Heritage System draft criteria and mapping throughout 2008.

2. Final Guelph Natural Heritage Strategy (March 2009) prepared by Dougan and Associates

The Final Natural Heritage Strategy report was released in March 2009, along with draft policy directions. Both the Final Natural Heritage Strategy (NHS) and the draft policy directions were presented to the public and stakeholders in March 2009. Significant response was received and individual meetings were conducted with a number of landowners and their representatives.

On July 27, 2009, the Natural Heritage Strategy (March 2009), draft policy directions and a summary of the public and stakeholder comments was presented to Council. **Attachment 3** provides a summary of the Natural Heritage System criteria recommended in the March 2009 Final Natural Heritage Strategy and the main changes made to the NHS approach, which included:

- the primary and secondary criteria approach to defining the NHS was changed to discrete primary criteria;
- the Significant Landform was revised to a standalone criteria and refined to include 20% slope concentrations instead of 15% and included closed depressions in association with the 20% slopes¹;

¹ Groundwater experts consulted indicated that by capturing the combination of slopes and closed depressions helped to define groundwater recharge areas and surface water catchment areas.

- locally significant species were refined to remove species considered to be more common.

At the July 27, 2009 meeting, Council directed staff to apply the criteria developed through the Final Natural Heritage Strategy Phase 2 Report as the basis for identifying the Natural Heritage System and policies to be incorporated into the Official Plan Update. Council also directed that staff address protection of the Paris Galt Moraine through the Natural Heritage System and policies to be incorporated into the Official Plan Update.

The Council motion of July 27, 2009 was as follows:

"THAT the Community Design and Development Services Report 09-40 regarding the Natural Heritage Strategy, dated July 20, 2009, Be Received;

AND THAT staff be directed to apply the criteria developed through the Natural Heritage Strategy Phase 2 Report – Terrestrial Inventory & Natural Heritage System prepared by Dougan and Associates, dated March 2009 and summarized in Attachment 2, as the basis for identifying the Natural Heritage System and policies to be incorporated into the Official Plan Update;

AND THAT staff be directed to address the protection of significant portions of the Paris/Galt Moraine through the Natural Heritage System and policies to be incorporated into the Official Plan Update."

Draft Natural Heritage Mapping and Official Plan Policies: Phase 3 (2010)

Following the public input in 2009, draft natural heritage mapping and Official Plan policies were developed and released in March 2010 for public review and input. Two public meetings were held on March 10 and 11, 2010, as well as a number of focused consultation sessions with ministries and agencies, interest groups, and the Guelph and Wellington Development Association.

The input from the draft mapping and policies was considered and informed the draft Natural Heritage policies and mapping as incorporated into the Envision Guelph: Official Plan Update document released on April 19, 2010.

Envision Guelph: Official Plan Update (April 19, 2010)

The April 19, 2010 draft Envision Guelph: Official Plan Update document, in addition to including the Natural Heritage mapping and policies, proposes revisions to the current Official Plan that address recent changes to provincial legislation, e.g., the *Ontario Heritage Act*, the *Planning Act*, the *Clean Water Act*, detailed policies to implement the growth management framework and the 2005 Provincial Policy Statement.

A series of public open houses were held on April 20, 21, and 22 at City Hall (the *Planning Act* requires one open house to be held). The purpose of the open houses was to provide the public with an opportunity to review the draft policies, proposed mapping and related background material, and to ask questions of planning staff in order to obtain an understanding of the proposed changes.

The 15% slope criteria was a secondary criteria which was required to overlap with another secondary criteria to be included in the NHS.

Envision Guelph: Official Plan Update, which was presented as OPA 42 at the May 20, 2010 Statutory Public Meeting of Council, constitutes the second phase of the City's comprehensive Official Plan Update. Phase One of the Official Plan Update, Official Plan Amendment No 39, was approved in June 2009 and established the growth management framework for the City to the year 2031 in conformity with the Provincial Growth Plan.

At the May 20, 2010 Statutory Public Meeting, Council heard delegations as well as received written submissions. At the Statutory Public Meeting Council directed staff to proceed with the Natural Heritage System components of OPA 42 for Council's consideration on July 27, 2010, and delay consideration of the balance of the Official Plan Update to provide more opportunity for input, as follows:

"THAT Report 10-59 dated May 20, 2010 from Community Design and Development Services regarding proposed Official Plan Amendment No. 42 be received;

AND THAT staff be directed to bring forward the Natural Heritage System component of the draft Official Plan Amendment to the July 27, 2010 Council meeting;

AND THAT the remainder of the draft Official Plan Amendment be deferred to provide more time for the public to review and provide comments."

Accordingly, OPA 42 has been scoped to address the Natural Heritage System and includes only Sections 4.0, 4.1 and 4.2 from the April 19, 2010 version of the Envision Guelph document along with the associated mapping, definitions and applicable changes to the existing Official Plan.

OPA 42 is being undertaken in accordance with Section 26 of the *Planning Act*, is part of the City's mandatory 5-year Official Plan update process, and is primarily intended to achieve consistency with Sections 2.1 and 2.2 of the 2005 Provincial Policy Statement.

LOCATION

The changes made through Amendment 42 apply to all land within the municipal boundaries of the City of Guelph.

The text changes made through Amendment 42 apply to all land within the municipal boundaries of the City of Guelph. Schedules 1, 2, 10, 10A, 10B, 10C, 10D, and 10E of the amendment identify areas where specific Natural Heritage System policies apply, e.g. Significant Wetlands, Significant Woodlands, Restoration Areas, etc.

BASIS OF THE AMENDMENT

Amendment 42 updates the existing 2001 Official Plan and addresses the necessary changes to ensure that the City's policies and mapping relating to natural heritage are consistent the 2005 Provincial Policy Statement, conform with the Growth Plan for the Greater Golden Horseshoe, and have regard to matters of provincial interest. Amendment 42 forms part of the City's requirement under Section 26 of the Planning Act.

The basis for the policy and mapping amendments come from recommendations put forward as part of the Natural Heritage Strategy (Phase 2), which was endorsed by Council at its

July 27, 2009 meeting as the basis for identifying the Natural Heritage System and policies to be incorporated into the Official Plan Update. The delineation of the new Natural Heritage System is based on criteria that were developed through Phases 1 and 2 of the Natural Heritage Strategy in consultation with the public and stakeholders between 2004 and 2009. Policies associated with the Natural Heritage System are based on policy direction provided in the 2005 PPS and a review of best practices conducted in other jurisdictions.

The final mapping and policies were modified accordingly following public and stakeholder input since their draft release in February 2010.

SUMMARY OF CHANGES TO THE OFFICIAL PLAN

The following is summary of OPA 42:

General Modifications

As a result of the substantive portions of Amendment 42 (i.e. natural heritage policies and mapping) there are a number of minor modifications required. References to 'Core Greenlands' and 'Non-Core Greenlands Overlay' must be changed to 'Natural Heritage System'. References to Schedule 2 associated with *natural heritage features* must be changed to Schedule 10 a) – e).

Natural Heritage System Policies

The primary focus of Amendment 42 is to replace the existing Chapter 6 entitled '*Natural Heritage Features*' with a new chapter entitled 'Natural Heritage System'. This new chapter includes the Natural Heritage policies and replaces the current Core and Non-Core Greenlands policies in Section 7.13 of the Official Plan. The new Natural Heritage System identifies Significant Natural Areas for long term permanent protection (i.e. Significant Areas of Natural and Scientific Interest, Significant Habitat for Endangered and Threatened Species, Significant Wetlands, Surface Water and Fish Habitat, Significant Woodlands, Significant Valleylands, Significant Landform, Significant Wildlife Habitat - including Ecological Linkages, and Restoration Areas) and their established buffers. The Natural Heritage System policies also identify Natural Areas where *development* may be permitted provided Environmental Impact Studies demonstrate that there will be no negative impacts to the *natural heritage features* or their *ecological functions*. (e.g. Other Wetlands, Cultural Woodlands and Potential Habitat for Significant Species). Wildlife crossings are identified and environmental stewardship and monitoring programs are also outlined to address such issues as invasive species, deer, and pollinator habitat.

Requirements with respect to environmental studies have been revised to implement the natural heritage policies.

Land Use Policies

The existing Section 7.13 entitled 'Greenlands System' contains objectives and policies that apply to the Core Greenlands and Non-Core Greenlands Overlay designations. The text within Section 7.13 is deleted and replaced with a new text setting out the 'Significant Natural Areas' and 'Locally Significant Natural Areas' designations and referring to the objectives, permitted uses and policies contained within the revised Section 6.

Definitions

The glossary has been updated, including additional terms that are consistent with the 2005 Provincial Policy Statement and implement the new Natural Heritage System policies.

PUBLIC PARTICIPATION

The *development* of the Official Plan Update has involved significant community stakeholder engagement that included surveys, public meetings, stakeholder meetings, open houses, and workshops.

Special Meeting to Commence Official Plan Update

A special meeting of Council was held on September 10, 2007, to initiate the Official Plan Update and provide the public with an opportunity to provide input at the outset of the process.

Background Studies

The Numerous studies and initiatives have been completed with public input in support of the Official Plan Amendment No. 42. The Natural Heritage Strategy is an integral part of OPA 42 and was initiated in 2004. The *development* of the criteria for the Natural Heritage System underwent extensive public engagement in 2008 and 2009. In July 2009, Council directed staff to use the March 2009 Natural Heritage Strategy as the basis for the *development* of the Natural Heritage System and policies for inclusion in the Official Plan Update. In February 2010, the City released the draft mapping and policies for the Natural Heritage System for public review and input. The Natural Heritage System and policies included in OPA 42 include the refined mapping and policies resulting from the input received since February 2010.

Community Survey

In 2008, the City retained Ipsos Ried to conduct a telephone survey of Guelph residents to gauge public opinion regarding the City's Local Growth Management Strategy. The survey included the following description of the Natural Heritage Strategy, which respondents were asked if they support:

'Guelph's Natural Heritage Strategy will identify locally and provincially significant natural heritage features within the City. The aim is to provide permanent protection to features such as wetlands, woodlands, wildlife habitat, and landscape features such as the Paris-Galt Moraine. This strategy would restrict new development within and next to significant natural areas.'

Ninety One per cent (91%) of respondents supported the Natural Heritage Strategy after hearing its description (54% strongly support and 37% somewhat support).

Amendment 42 Public Engagement

In March 2010, the Key Directions for Amendment 42 were posted on the City's web site. Two public meetings were held on March 10 and 11, 2010, as well as a number of focused consultation sessions with ministries and agencies, interest groups, and the Guelph and Wellington Development Association.

The full DRAFT Official Plan Update was available for public review on April 19, 2010 and a series of public open houses were held on April 20, 21, and 22 at City Hall. The purpose of the open houses was to provide the public with an opportunity to review the draft policies, proposed Schedules and related background material, and to ask questions of planning staff in order to obtain an understanding of the Draft Plan.

Council held a statutory public meeting in accordance with the *Planning Act* on May 20, 2010 to hear public input and comments regarding the draft Official Plan Update. Council heard from sixteen (16) verbal presenters who provided comments on a variety of issues,

including five (5) directly related to the Natural Heritage System policies and mapping. In addition to these verbal comments, approximately sixty (60) written comments were also submitted. Where site specific issues have been raised, Planning staff have met with affected landowners, and in some cases conducted on-site inspections, to resolve the issues.

Planning staff have also consulted with the Province, agencies, and First Nations with regard to Amendment 42.

Amendment 42 addresses consistency with the Provincial Policy Statement, and therefore, the Minister of Municipal Affairs and Housing is the approval authority pursuant to Section 26 of the *Planning Act*. The Minister has 180 days to make a decision after receiving Amendment 42, after which any person or public body that provided input (verbal or written) before Council's adoption may appeal the Minister's decision, or non-decision, to the Ontario Municipal Board.

PART B - THE AMENDMENT

Format of the Amendment

This section (Part B) of Amendment 42 sets out additions and changes to the text and mapping in the Official Plan. Sections of the Official Plan that are being added or changed are referred to as "ITEMs" in the following description. Entire sections to be deleted are described, however, the text is not shown in ~~strike-out~~. Entire sections to be added are described and the new text is shown in regular font type (i.e. as it would appear in the Official Plan with titles appearing in **bold**). Text to be amended is illustrated by various font types (e.g. ~~struck-out~~ is to be deleted and **bold** text is to be added). Unchanged text has been included for context and does not constitute part of Amendment 42. *Italicized* font indicates defined terms.

Implementation and Interpretation

The implementation of this amendment shall be in accordance with the provisions of the *Planning Act*. The further implementation and associated interpretation of this amendment shall be in accordance with the relevant text and mapping schedules of the existing Official Plan of the City of Guelph and applicable legislation.

Amendment 42 should be read in conjunction with the current Official Plan (November 2006 Consolidation), which is available on the City's website at **guelph.ca/OPupdate**, at any branch of the Guelph Public Library, or at the Planning and Building Services office located at 1 Carden Street on the 3rd Floor.

Details of the Amendment

ITEM 1: The purpose of 'ITEM 1' is to articulate that the City is taking an environment first approach in growth management and land use planning.

The introductory paragraph of Section 2.4.14 of the Official Plan under the heading, 'Natural Heritage System', which was incorporated into the Official Plan through Official Plan Amendment No. 39, is hereby amended as follows:

2.4.14 Natural Heritage System

One of the City's most valuable assets is its natural heritage system. The City **takes an environment first approach and** is committed to protecting, maintaining, enhancing and restoring the diversity, function, linkages, and connectivity between and among *natural heritage features* and areas and surface and ground water features within the City over the long term in accordance with the Provincial Policy Statement.

ITEM 2: The purpose of 'ITEM 2' is to delete the existing Section 6, entitled '*Natural Heritage Features*' and replace it with a new Section 6, entitled 'Natural Heritage System'.

Section 6 (including subsections 6.1 - 6.10) of the Official Plan entitled, '*Natural Heritage Features*' is hereby deleted and replaced with the following:

6.0 Protecting what is Valuable

This part of the Plan addresses the features, resources and built form that are highly valued and essential to the protection of the natural and cultural heritage resources, ensure health and safety, enhance energy sustainability and enhance the quality of life within the City and includes:

- the *Natural Heritage System*
- Water Resources
- Public Health and Safety
- Community Energy Planning
- Cultural Heritage Resources.

6.1 Natural Heritage System

The City's *Natural Heritage System (NHS)* is comprised of a combination of *natural heritage features*, including Significant Natural Areas and established buffer, Natural Areas, Ecological Linkages, Restoration Areas and Wildlife Crossings as identified on Schedule 10. Together, these elements maintain local biological, hydrological and geological diversity, *ecological functions*, connectivity, support viable populations of indigenous species, and sustain local biodiversity.

A diverse and well-connected *Natural Heritage System* contributes to the City's environmental, social, cultural and economic values. The wide range of ecological services provided by the *Natural Heritage System* includes, but is not limited to, the protection of *natural heritage features* and *ecological functions*, biodiversity and water resources, reduced need for engineered storm water management, attenuation of air and water pollutants, moderation of the urban heat island effect, the provision for natural and open spaces for leisure activities and aesthetic enjoyment, and opportunities for residents and visitors to experience nature in the City.

6.1.1 Purpose

The purpose of the *Natural Heritage System* is to protect *natural heritage features and areas* for the long term, and maintain, restore and where possible, improve the biodiversity and connectivity of *natural heritage features* and *ecological function* of the *Natural Heritage System* in the long term, while recognizing and maintaining linkages between and among *natural heritage features and areas* and surface water and groundwater features.

In order to achieve this purpose, the *Natural Heritage System*:

- i) provides permanent protection to the Significant Natural Areas, *established buffers*, and *Ecological Linkages*,
- ii) identifies Natural Areas for further study to determine the features and functions that should be incorporated into the *Natural Heritage System* for permanent protection or alternatively, identify the areas that may be developed; and
- iii) identifies wildlife crossings to ensure that mitigative measures are undertaken to minimize any harm to wildlife, the public and/or property.

The NHS policies aim to strike a balance between protection of the Natural Heritage System while providing for limited compatible *development*. The NHS fosters partnerships with public agencies, community organizations and private land owners by promoting stewardship and enjoyment of these natural assets.

The *Natural Heritage System* is identified on Schedules 2 and 10 and consists of:

1. Significant Natural Areas (and the established and *minimum buffers*); and
2. Natural Areas.

The components that make up the *Natural Heritage System* are listed below and are illustrated on Schedules 10 and 10A through 10E and must be read in conjunction with Schedule 2.

Each of the *Natural Heritage System* components has specific policies as outlined in this section. Where *minimum buffers* are identified on Table 6.1, the designations on Schedule 1 may include the *minimum buffers* except where existing *development* has been previously approved within the *minimum buffers*.

1. Significant Natural Areas
 - *Significant Areas of Natural and Scientific Interest (ANSI)*
 - *Significant Habitat for Provincially Endangered and Threatened Species*
 - *Significant Wetlands*
 - *Surface Water Features and Fish Habitat*
 - *Significant Woodlands*
 - *Significant Valleylands*
 - *Significant Landform*
 - *Significant Wildlife Habitat (including Ecological Linkages)*
 - Restoration Areas
2. Natural Areas
 - *Other Wetlands*
 - *Cultural Woodlands*
 - Habitat for Significant Species
3. Wildlife Crossings, as identified on Schedule 10.

6.1.2 Objectives

- a) To implement a systems approach that ensures interconnectivity between and among *natural heritage features and areas*, surface water and groundwater features, and that maintains *ecological* and *hydrologic functions*.
- b) To identify Significant Natural Areas for long term protection.
- c) To identify Natural Areas for further study to determine whether long term protection is warranted.
- d) To protect *endangered* and *threatened species* and their significant habitats.
- e) To recognize that the *Natural Heritage System* contributes to important *ecosystem services* that benefit current and future generations.
- f) To protect, maintain, enhance and restore the *Natural Heritage System* to the greatest extent possible, while providing for compatible *development* and activities as identified that do not negatively impact the *natural heritage features* and their *ecological* or *hydrologic functions* now and in the long term.
- g) To protect and enhance *tree canopy cover* while providing for meadow habitat at appropriate locations to ensure biodiversity is maintained.

- h) *To protect significant portions of the Paris-Galt Moraine identified by the City in recognition of its role in contributing to wildlife habitat and ecological linkages, continuity of the Natural Heritage System, surface water and groundwater features, biodiversity, aesthetic value in the landscape, and local geologic uniqueness.*
- i) *To ensure that the criteria identifying the Natural Heritage System are applied in a transparent and consistent manner.*
- j) *To implement an ecosystem based approach on a watershed and subwatershed basis.*
- k) *To provide clear mechanisms for assessing the potential immediate and long term impacts of development, site alteration and other activities on the Natural Heritage System.*
- l) *To recognize that natural heritage features and areas in urban settings are subject to a variety of impacts and stresses, and seek to identify opportunities to mitigate against these influences through ongoing stewardship, monitoring and ecological management.*
- m) *To foster appreciation and local stewardship of the Natural Heritage System.*
- n) *To support the ongoing monitoring and management of the City's Natural Heritage System to ensure its long-term sustainability and resilience in relation to the impacts and stresses associated with being in an urban context, as well as other factors, such as climate change.*

6.1.3 General Policies

1. *The City shall ensure the long term protection of the Natural Heritage System and associated ecological and hydrological functions.*

Significant Natural Areas

2. *Development or site alteration shall not be permitted within Significant Natural Areas or their minimum buffers, as illustrated on Schedule 2. Exceptions are identified in the General Permitted Uses listed below and within the Significant Natural Areas policies.*
3. *Development or site alteration may be permitted within the adjacent lands to Significant Natural Areas provided it has been demonstrated through an Environmental Impact Study (EIS) or Environmental Assessment (EA) that there will be no negative impacts on the protected natural heritage features or their associated ecological functions. Exceptions are identified in the General Permitted Uses listed below and within the Significant Natural Areas policies.*

Natural Areas

4. *Development or site alteration may be permitted within all or parts of identified Natural Areas, provided it has been demonstrated through an EIS or EA that all, or parts of such areas do not meet the criteria in Section 6.1.6 that require their protection. Exceptions are identified in the General Permitted Uses listed below and within the Natural Areas policies.*
5. *Development or site alteration may be permitted within the adjacent lands of Natural Areas provided it has been demonstrated through an EIS or EA that there will be no negative impacts on the protected natural heritage features or their associated*

ecological functions. Exceptions are identified in the General Permitted Uses listed below and within the Natural Areas policies.

6. The City will work with the County to maintain connectivity between the Natural Heritage System within the City and the County.

6.1.4 General Permitted Uses

1. *Development and site alteration* shall not be permitted within the *Natural Heritage System*, and *established buffers to natural heritage features*, except for the following uses:
 - i) legally existing uses, buildings or structures;
 - ii) passive recreational activities;
 - iii) low impact scientific and educational activities;
 - iv) fish and wildlife management;
 - v) *forest management*;
 - vi) *habitat conservation*; and
 - vii) *restoration* activities.
2. Notwithstanding the provisions of Section 6.1.4, an EIS may be required for the construction of trails and walkways, *fish and wildlife management*, and *habitat conservation*, where the proposed work has the potential to result in negative impacts to the Natural Heritage System.
3. The above uses may be further limited or expanded upon through the specific policies of the Significant Natural Areas and Natural Areas.
4. If, through the preparation and review of a *development* application, it is found that important *Natural Heritage features* or functions have not been adequately identified or new information has become available, the applicant may be required by the City to prepare a scoped EIS of the *natural heritage features* and functions in consultation with the City of Guelph, and where appropriate the OMNR and the GRCA. If the *natural heritage features* or *ecological functions* meet the criteria of the NHS, the applicable Natural Heritage policies shall apply.
5. Where two or more *Natural Heritage System* features or areas overlap, the policies that provide the most protection to the *natural heritage feature* or area shall apply.
6. Permitted *development and site alteration* within and adjacent to the *Natural Heritage System* (as outlined in Table 6.1) shall be required to demonstrate, through an EIS or EA to the satisfaction of the City, in consultation with the Grand River Conservation Authority (GRCA), the Province and federal government, as applicable, that there will be no negative impacts on the *natural heritage features and areas* or their *ecological and hydrological functions*.

6.1.4.1 Adjacent Lands and Buffers

Adjacent Lands are 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 *natural heritage feature or area*. Generally, an EIS/EA is required to assess potential impacts of the proposed activities, and recommend appropriate setbacks (i.e., established *buffers*) from the Natural Heritage feature within the *adjacent lands*, to ensure no negative impacts (see Table 6.1). The *minimum buffers* apply within the adjacent lands and are identified to prevent damage and degradation to the identified *Natural Heritage features* and are part of the Natural Heritage System.

1. *Adjacent lands* and *minimum buffers* for all components of the *Natural Heritage System* are identified on Table 6.1.
2. *Development and site alteration* within the *minimum buffers* are subject to the Significant Natural Areas and Natural Areas policies.
3. The final width of *established buffers* may be greater than the *minimum buffers* identified on Table 6.1 and shall be established through an approved EIS or EA, or through approved subwatershed plans or Secondary Plans.
4. *Adjacent lands* and *buffers* shall be measured from the field-verified edge of an identified feature or area (e.g. drip line of a woodland, boundary of a wetland).
5. With the exception of the uses permitted by this Plan, established *buffers* shall be restored to, or maintained in a natural state in support of the *ecological* and /or *hydrological functions* of the adjacent protected *natural heritage features and areas*.
6. *Minimum buffers* identified on Table 6.1 have generally been incorporated into the Significant Natural Areas designation on Schedules 1 and 2 except where existing *development* has been permitted.
7. New *development* including redevelopment will be subject to the provisions of this plan.

Table 6.1 *Minimum Buffers* and Adjacent Lands to the Components of the Natural Heritage System

Significant Natural Areas	Width of <i>Minimum Buffers</i>	Width of <i>Adjacent Lands</i>
<i>Significant Areas of Natural and Scientific Interest (ANSIs)</i>	To be established through an EIS or EA in consultation with the Ontario Ministry of Natural Resources (OMNR)	50 m – 120 m
<i>Significant Habitat for Provincially Endangered and Threatened Species</i>	To be established through an EIS in consultation with MNR or Recovery Plans where available	120 m
<i>Significant Wetlands</i> i. <i>Provincially Significant Wetlands</i> ii. <i>Locally Significant Wetlands</i>	i. 30 m ii. 15 m	i. 120 m ii. 120 m
<i>Surface Water and Fish habitat¹</i> i. <i>Cold/cool water fish habitat</i> ii. <i>Warm water fish habitat, permanent and intermittent streams and undetermined fish habitat</i>	i. 30 m ii. 15m	i. 120 m ii. 120 m
<i>Significant Woodlands</i>	10 m from the drip line	50 m

<i>Significant Valleylands</i>	To be established by an EIS.	50 m
<i>Significant Landform</i>	No buffer required	50 m
<i>Significant Wildlife Habitat</i> i. Deer Wintering Areas and Waterfowl Overwintering Areas ii. Significant Wildlife Habitat iii. Ecological Linkages	i. To be established through an EIS. ii. No buffer required. iii. No buffer required	i. 50 m ii. 50 m iii. 50 m
Restoration Areas	No buffer required	No Adjacent Lands
Other Wetlands	To be established through an EIS.	30 m.
<i>Cultural Woodlands</i>	To be established through an EIS.	50 m
Potential Habitat for Significant Species (excluding provincially <i>Endangered</i> and <i>Threatened Species</i>)	To be established through an EIS.	50 m

6.1.4.2 Existing Uses

1. Legally existing uses, existing utilities, facilities and *infrastructure* and their *normal maintenance* are recognized and may continue within the *Natural Heritage System*.
2. An expansion of a legally existing building or structure may be permitted within the *Natural Heritage System* without an amendment to this Plan provided that it can be demonstrated, to the satisfaction of the City and the GRCA, where applicable, through an EIS, that the objectives of the designation can be met and that the proposed expansion will not have a negative impact on the *natural heritage features* or *ecological functions* for which the area is identified. Existing uses will be discouraged from expanding further into Significant Natural Areas and *minimum buffers*. Such expansions shall be minor in proportion to the size and scale of the building or use and shall not result in further intensification of the use.
3. *Development, site alteration* or activities carried out within the *Natural Heritage System*, without prior approval by the City, which result in reduction in the extent of the *natural heritage features* or the associated *ecological function* will not be recognized as a new existing condition. *Restoration* of the disturbed area shall be required to the satisfaction of the City. If the unapproved *development* or *site alteration* is carried out in conjunction with a *development* application, *restoration* will be required prior to or as a condition of approval of any permitted *development*.

6.1.4.3 Study Requirements Within and Adjacent to the Natural Heritage System

1. The scope of the required EIS will depend on the scale and nature of the proposed *development* and/or *site alteration* and the specific *natural heritage features* potentially impacted.

2. Within the *Built-Up Area* identified on Schedule 1, the study requirements on the *adjacent lands* may be reduced by the City under limited circumstances where existing *development* exists between the proposed *development* and the *natural heritage feature or area*.

6.1.4.4 Interpretation

1. The boundaries of the *natural heritage features and areas* that make up the *Natural Heritage System* are based on criteria for designation and the best information available at the time of completion of this Plan.
2. In the event that there is a discrepancy between the Schedules and the policies, the policies shall prevail.
3. Species designations and rankings change over time. As new information becomes available and is assessed at the national, provincial, and local level, the most current species designations shall apply and will not require an amendment to this Plan.
4. Boundaries of *natural heritage features and areas* that make up the *Natural Heritage System* shown on Schedules 1, 2, 10, and 10A-E and shall be delineated using the criteria for designation and the most current information, and are required to be field verified and staked as part of an EIS or EA, to the satisfaction of the City, in consultation with the Ontario Ministry of Natural Resources (OMNR) and/or the Grand River Conservation Authority (GRCA), as applicable. Once confirmed in the field, and approved by the City, boundaries of *natural heritage features and areas* and *established buffers* shall be required to be accurately surveyed and illustrated on all plans submitted in support of *development* and *site alteration* applications. Such boundary interpretations will not require an amendment to this Plan. Minor refinements to the boundaries may be made on the basis of the criteria for designation, without an amendment to this Plan.
5. Where land is under private ownership within the *Natural Heritage System* or determined through subsequent EIS to meet the criteria for inclusion in the *Natural Heritage System*, nothing in this Plan will be construed to imply that such lands are open for public use or that the City or other public agency are obliged to purchase the lands.
6. The City may consider alternative means to protecting and managing the *Natural Heritage System* including, but not limited to:
 - i) partnerships with the GRCA and other public or non-profit agencies;
 - ii) entering into agreements such as conservation easements;
 - iii) conveyance of land to the City, a public agency or a land trust; and
 - iv) implementing municipal by-laws.

6.1.5 Significant Natural Areas

This section outlines specific objectives, criteria for designation and policies for Significant Natural Areas and their *buffers*. Specific policies related to *Natural Heritage System* management and stewardship are provided in Section 6.

6.1.5.1 Significant Areas of Natural and Scientific Interest (ANSI)

6.1.5.1.1 Objectives

- a) To protect Significant Areas of Natural and Scientific Interest (ANSIs) identified by the Ontario Ministry of Natural Resources (OMNR) for their life science or earth science values related to *natural heritage features*, scientific study or education and significance within the Province.
- b) To promote the value and importance of ANSIs within the City through education and stewardship.

6.1.5.1.2 Criteria for Designation

1. Provincially Significant Earth Science ANSIs as identified by the OMNR;
2. Provincially Significant Life Science ANSIs as identified by the OMNR;
3. Regionally Significant Earth Science ANSIs as identified by the OMNR; and
4. Regionally Significant Life Science ANSIs as identified by the OMNR.

6.1.5.1.3 Policies

Provincially and Regionally Significant Earth Science ANSIs

1. *Development and site alteration* shall not be permitted within a provincially or regionally significant Earth Science ANSI and *established buffer*, except for uses permitted by the General Permitted Uses of Section 6.
2. *Buffers* to a provincially and regionally significant Earth Science ANSI will be determined through an EIS or EA to the satisfaction of the City and the OMNR.
3. *Development and site alteration* may be permitted *adjacent* to a provincially and regionally Significant Earth Science ANSI where it has been demonstrated, through an EIS or EA, to the satisfaction of the City and the MNR, that there will be no *negative impacts* on the geological features, or the interpretative and scientific value for which the ANSI was identified.

Provincially and Regionally Significant Life Science ANSI

4. *Development and site alteration* shall not be permitted within a provincially or regionally Significant Life Science ANSI or *established buffers*, except for uses permitted by the General Permitted Uses of Section 6.
5. *Buffers* to provincially and regionally significant Life Science ANSI's will be determined through an EIS study to the satisfaction of the City and the OMNR.
6. *Development and site alteration* may be permitted *adjacent* to a provincially and regionally Significant Life Science ANSI where it has been demonstrated, through an EIS or EA, to the satisfaction of the City and the OMNR, that there will be no *negative impacts* on the *natural heritage features* or on their *ecological functions* for which the ANSI was identified.

6.1.5.2 Significant Habitat for Provincially Endangered and Threatened Species

6.1.5.2.1 Objectives

- a) To protect the *Significant Habitat of Provincially Endangered and Threatened Species*.
- b) To work with the OMNR to identify and protect *Significant Habitat for Provincially Endangered and Threatened Species* in the City, and potentially implement mitigative measures to support the long-term sustainability of the species.

6.1.5.2.2 Criterion for Designation

1. The *Significant Habitat of Provincially Endangered and Threatened Species* as approved by OMNR.

6.1.5.2.3 Policies

1. *Development and site alteration* shall not be permitted within the *Significant Habitat of Provincially Endangered and Threatened Species* and *established buffers*, except for uses permitted by the General Permitted Uses of Section 6 in accordance with provincial requirements.
2. The extent of the *significant habitat* and *buffers* for the species in question will be established to the satisfaction of the City, in consultation with the OMNR or its designate, and will be consistent with any applicable Recovery Strategy for the species identified.
3. In cases where the *Significant Habitat of Provincially Endangered and Threatened Species* is defined, decisions shall be consistent with the extent of the habitat required.

6.1.5.3 Significant Wetlands

6.1.5.3.1 Objectives

- a) To protect *Provincially Significant Wetlands (PSWs)* and *Locally Significant wetlands (LSWs)* and their *established buffers*.
- b) To recognize the important role that *Significant Wetlands* play in maintaining the ecological health of the *Natural Heritage System*, including moderating the flow of water, contributing to groundwater recharge, improving water and air quality, storing carbon, and providing habitat for a broad range of species.
- c) To work with various government agencies, (e.g. the GRCA and the OMNR) to protect *Significant Wetlands* through integrated land use planning, site design, and implementation of best management practices.

6.1.5.3.2 Criteria for Designation

1. *Provincially Significant Wetlands (PSWs)* as designated by OMNR, and a 30m minimum buffer.

2. *Locally Significant Wetlands* (LSWs), and a 15m minimum buffer for:
 - i) evaluated *wetlands* or *wetland* complexes of at least 2 ha identified by OMNR that do not meet provincial criteria for significance but are considered significant at the City level; and
 - ii) unevaluated *wetlands* identified by the City in consultation with the GRCA that are at least 0.5 ha in size.

6.1.5.3.3 Policies

1. *Development and site alteration shall not be permitted within Significant Wetlands, or established buffers* except for uses permitted by the General Permitted Uses of Section 6.
2. The *established buffer* will be determined through an EIS, and may be greater than the minimums identified on Table 6.1.
3. *Significant Wetland* features or ecological function that are impaired during the *development* process will require mitigation, including remedial measures to restore wetland features and functions.
4. In addition to the uses permitted by the General Permitted Uses of Section 6, the following additional uses may be permitted within the *established buffers* to *Significant Wetlands* where it has been demonstrated through an EIS or EA to the satisfaction of the City, in consultation with the GRCA and/or the OMNR, that there will be no *negative impacts* on the *Significant Wetland* or its *ecological and hydrological functions* and *no feasible alternative exists*:
 - i) *essential* public and private *linear infrastructure* lines and their *normal maintenance*; and
 - ii) storm water management facilities and structures and their *normal maintenance*, where low impact *development* measures have been implemented to the extent possible outside the buffer and provided they are located a minimum distance of 15 m from a PSW and 7.5 m from a LSW. *Established buffers will be naturalized or restored* with site-appropriate indigenous plants.
5. Notwithstanding the General Permitted Uses of Section 6, trails within *Significant Wetlands* are subject to the following additional limitations. The formalization of existing ad hoc trails through formal trails and walkways may be permitted within *Significant Wetlands* and their *established buffers* where:
 - i) they are considered *essential* to the City's trail system or integral to the scientific, educational or passive recreational use of the property;
 - ii) no reasonable alternative *location* exists;
 - iii) the environmental impacts of the proposed trails have been assessed and mitigated through design that minimize impacts to the *natural heritage features* and *ecological functions*; and
 - iv) where appropriate, they consist primarily of boardwalks and viewing platforms and are accompanied with educational signs.

6.1.5.4 Surface Water Features and Fish Habitat

6.1.5.4.1 Objectives

- a) To protect, improve or restore the quality and quantity of *Surface Water* features and *Fish Habitat*.
- b) To maintain and where possible enhance linkages and related functions among surface water features, groundwater features, *hydrologic functions* and *natural heritage features*.
- c) To maintain, protect and enhance all types of *Fish Habitat*, as defined by the federal *Fisheries Act*.

6.1.5.4.2 Criteria for Designation

1. Cold and Cool Water *Fish Habitat* as identified by the OMNR/GRCA and a 30 m minimum buffer.
2. Warm water and undetermined *Fish Habitat* as identified by the OMNR/GRCA and a 15 m minimum buffer.
3. Permanent and *intermittent streams*, as identified by the City and/or the OMNR/GRCA and a 15 m minimum buffer.

6.1.5.4.3 Policies

1. *Development* and *site alteration* shall not be permitted within *Surface Water Features* and *Fish Habitat* or *established buffer*, except for uses permitted by the General Permitted Uses of Section 6.
2. In addition to the General Permitted Uses of Section 6, the following additional uses may be permitted within *Surface Water Features*, *Fish Habitat* and *established buffer*:
 - i) *essential* public and private *linear infrastructure* lines and their *normal maintenance*, provided no feasible alternative exists;
 - ii) *essential transportation infrastructure* including roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists;
 - iii) flood and erosion control facilities or other similar works and their normal maintenance; and
 - iv) storm water management facilities and structures and their normal maintenance.
3. These additional uses may only be permitted where it has been demonstrated through an EIS, EA or subwatershed study, to the satisfaction of the City, in consultation with the MNR and/or the GRCA, and/or the Department of Fisheries and Oceans (DFO), that:
 - i) there will be no *negative impacts* on the water resources, *fish habitat* or related *ecological* and *hydrological functions*;
 - ii) there will be no net loss of *fish habitat*, and no harmful alteration, disruption, or destruction of *fish habitat*;
 - iii) where authorization for the harmful alteration, disruption, or destruction of *fish habitat* has been obtained from DFO under the Fisheries Act using the

guiding principle of no net loss of productive capacity, and the impact of *development* on *fish habitat* will be avoided or fully mitigated; and if not, the loss of *fish habitat* will be adequately compensated for through a compensation plan approved by the GRCA and/or the DFO ; and

- iv) all applicable protocols or policies of the provincial and federal government have been met.
- 4. The *established buffer* is to be determined through an EIS or EA and may be greater than the recommended minimum buffer.
- 5. For permanent and *intermittent streams* and *fish habitat*, the buffer will be measured from the *bankful channel*.
- 6. Construction within or across *surface water features* or *fish habitat* shall:
 - i) adhere to OMNR fisheries timing windows so as to avoid or minimize impacts on fish, wildlife and water quality; and
 - ii) implement the best management practices related to construction.
- 7. Opportunities to restore permanent and *intermittent stream* and *fish habitat* shall be encouraged and supported.
- 8. Where *fish habitat* is undetermined, an EIS, EA or subwatershed study, shall assess and determine, to the satisfaction of the City and the GRCA, the presence and type of *fish habitat* and the level of protection required.
- 9. The City will continue to investigate the feasibility of removing/modifying structural barriers to fish passage in the Speed and Eramosa Rivers and their tributaries in order to permit natural stream processes, improve *fish habitat* and the *restoration* of natural stream morphology.

6.1.5.5 Significant Woodlands

6.1.5.5.1 Objective

- a) To protect, maintain and enhance *Significant Woodlands* for the ecological, social, economic and environmental services they provide including but not limited to enhancing biodiversity, providing *wildlife habitat*, moderating temperatures, erosion control and pollution filtration.

6.1.5.5.2 Criteria for Designation

- 1. *Woodlands* (not identified as *cultural woodlands* or plantations) of 1 ha or greater in size, and a 10 m *minimum buffer*.
- 2. *Woodlands* 0.5 ha in size or greater consisting of Dry-Fresh Sugar Maple Deciduous Forest and a 10 m minimum buffer, or
- 3. *Woodland* types ranked as S1 (Critically Imperiled), S2 (Imperiled) or S3 (Vulnerable) by the OMNR Natural Heritage Information Centre, and a 10 m minimum buffer.

6.1.5.5.3 Policies

1. *Development and site alteration* shall not be permitted within *Significant Woodlands* and *established buffers* except for uses permitted by the General Permitted Uses of Section 6.
2. All *Significant Woodlands* require a minimum *buffer* of 10 m from the drip line of the trees at the woodland edge, except where existing *development* precludes it. The *established* buffer is to be determined through an EIS, and may be greater than the 10m minimum buffer.
3. In addition to the General Permitted Uses of Section 6, storm water management facilities and structures may be permitted in the *established buffers to Significant Woodlands* where it has been demonstrated through an EIS or EA study, to the satisfaction of the City that there will be no *negative impacts* on the feature or its *ecological* and *hydrological functions* and provided a minimum distance of 5 m from the *woodland* is maintained. Buffers outside storm water management facilities shall be naturalized with site-appropriate indigenous species.
4. Notwithstanding the General Permitted Uses of Section 6, trails within *Significant Woodlands* are subject to the following additional limitations. Formalization of existing ad hoc trails through construction of formal trail(s) and walkway(s) *may be permitted within Significant Woodlands* and their *established buffers* where:
 - i) they are considered *essential* to the City's trail system or integral to the scientific, educational or passive recreational use of the *property*;
 - ii) *no reasonable* alternative location exists;
 - iii) *the environmental impacts of the proposed trails* have been assessed and mitigated through design that minimizes impacts to the *natural heritage features* and *ecological functions*; and
 - iv) they are accompanied with educational signs.

6.1.5.6 Significant Valleylands

6.1.5.6.1 Objectives

- a) To protect *Significant Valleylands* associated with the Speed and Eramosa Rivers, including the remnant representative valley features and apparent valleys associated with the river system and their tributaries.
- b) To support flood protection, erosion control, and passive recreational activities within *Significant Valleylands*.

6.1.5.6.2 Criteria for Designation

1. Undeveloped areas within the regulatory floodplain areas, *riverine flooding hazards*, *riverine erosion hazards*, as identified by the GRCA.
2. The remnant portions of the Speed and Eramosa Rivers, identified by the City that are relatively undisturbed and represent the quality and diversity of the physical expression of the river system on the landscape and measured to the uppermost break in slope associated with the valley and including the terraces on the valley slopes.

6.1.5.6.3 Policies

1. *Development and site alteration* shall not be permitted within *Significant Valleylands* and *established buffers* except for uses permitted by the General Permitted Uses of Section 6.
2. In addition to the General Permitted Uses of Section 6, the following additional uses may be permitted within *Significant Valleylands* and *established buffers* where it has been demonstrated through an EIS or EA, to the satisfaction of the City, and where applicable the GRCA, that there will be no *negative impacts* on the natural characteristics of the valley features or its *ecological* or *hydrological functions*, nor will there be increased susceptibility to natural hazards:
 - i) *essential* public and private *linear infrastructure* lines and their *normal maintenance*, provided no feasible alternative exists;
 - ii) *essential transportation infrastructure* including roads and sidewalks and their *normal maintenance*;
 - iii) flood and erosion control facilities or other similar works;
 - iv) *renewable energysystems*; and
 - v) storm water management facilities and structures and their normal maintenance in accordance with the *surface water features* and *fish habitat* policies of this Plan.
3. Where the *Significant Valleylands* are disturbed, the City promotes the *restoration/naturalization* of the *Significant Valleylands* aimed at improving water quality and quantity, ensuring bank and slope stabilization, and enhancing *wildlife habitat*.

6.1.5.7 Significant Landform

6.1.5.7.1 Objectives

- a) To identify and protect the *significant* portions of the *Paris Galt Moraine* within the City that play a role in contributing to:
 - i) important environmental services including, *surface water features* and *groundwater resources*, providing *wildlife habitat* and linkages, and supporting biodiversity; and
 - ii) the City's geologic and aesthetic uniqueness.
- b) To protect vulnerable *surface water* and *ground water resources*, maintain and enhance linkages, connectivity and related functions between and among *natural heritage features and areas*, *surface water* and *groundwater features* and related *hydrological functions* within the *Paris Galt Moraine*.

6.1.5.7.2 Criterion for Designation

1. Hummocky topography of the *Paris Galt Moraine* that exhibit slope concentrations where the slope is 20% or greater and located in association with closed depressions identified by the GRCA, and in proximity to other *natural heritage features* or areas included in the *Natural Heritage System*.

6.1.5.7.3 Policies

1. *Development and site alteration* shall not be permitted within the *Significant Landform* except for uses permitted by the General Permitted Uses of Section 6.
2. In addition to the General Permitted Uses of Section 6.1, the following uses may be permitted within the *Significant Landform* where it has been demonstrated through an EIS or EA to the satisfaction of the City, in consultation with the GRCA, where appropriate, that there will be no *negative impacts* to the natural characteristics and contours of the landform feature or its *ecological* and *hydrological functions*:
 - i) *essential* public and private *linear infrastructure* lines and their *normal maintenance*, provided no feasible alternative exists;
 - ii) *essential transportation infrastructure* such as, roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists and the natural contours are maintained outside the right-of-way to the greatest extent possible; and
 - iii) municipal water supply wells, underground water storage and associated small scale structures (e.g. pumping facility).
3. *Essential* public and private *linear infrastructure* and underground water supply storage shall be required to demonstrate that:
 - i) the natural contours will be maintained or restored;
 - ii) local hydrological regimes will be maintained;
 - iii) works will not result in loss in connectivity within the *Natural Heritage System*; and
 - iv) vegetation removal will be minimal and/or removed vegetation will be restored.
4. Where a Significant Landform feature also meets the criteria for an Ecological Linkage, the Ecological Linkage policies shall also apply.
5. The boundaries of *Significant Landform* must be confirmed on a site-specific basis by a topographic survey certified by a professional Ontario Land Surveyor.
6. Minor modifications to the boundaries of the *Significant Landform* may be made without an amendment to this Plan provided it is demonstrated through an EIS or EA with a topographic survey, to the satisfaction of the City that:
 - i) there will be a no net loss of total area of the *Significant Landform* on the property(ies) affected by the *development* application;
 - ii) the areas identified for protection about other protected components of the *Natural Heritage System* and maintain continuity of the *Significant Landform*;
 - iii) modification to the originally identified areas does not result in loss of connectivity within the *Natural Heritage System*;
 - iv) the alternative areas identified for protection contain hummocky topography of the *Paris Galt Moraine* with slopes of at least 15%; and
 - v) pre-*development* hydrological regimes on the site as a whole will be maintained.

6.1.5.8 Significant Wildlife Habitat (including Ecological Linkages)

6.1.5.8.1 Objectives

- a) To protect and enhance *Significant Wildlife Habitat* and support the local occurrence of the full range of significant wildlife species that occur within the City.
- b) To recognize, protect and enhance *ecological linkages* between and among *natural heritage features and areas* including surface water and ground water features.

6.1.5.8.2 Criteria for Designation

1. Deer wintering and waterfowl overwintering areas identified by the OMNR.
2. *Identified habitat* of species considered provincially significant by the Natural Heritage Information Centre (OMNR) (i.e. ranked as S1, S2 or S3).
3. *Identified habitat* of species designated as globally significant, nationally *endangered* or *threatened* by COSEWIC but not protected by regulation under Ontario's *Endangered Species Act* (e.g. Western Chorus Frog, Great Lakes / St. Lawrence – Canadian Shield population).
4. *Identified habitat* of species designated as *Special Concern* (SC) by COSEWIC or COSSARO at the federal or provincial level.
5. *Ecological linkages* (i.e. areas that provide connectivity between *natural heritage features and areas* including surface water and ground water features).

6.1.5.8.3 Policies

1. *Development* and *site alteration* shall not be permitted within *Significant Wildlife Habitat* or the *established buffers* except for uses permitted by the General Permitted Uses of Section 6.
2. In addition to the General Permitted Uses of Section 6, the following additional uses may be permitted within *Significant Wildlife Habitat* where it has been demonstrated through an EIS, or EA, to the satisfaction of the City, in consultation with OMNR, that there will be no *negative impacts* on the identified *wildlife habitat*:
 - i) *essential* public and private *linear infrastructure* lines and their normal maintenance; and
 - ii) flood and erosion control facilities and their *normal maintenance*, provided no feasible alternative exists.
3. The extent of the habitat and *buffers* for *Significant Wildlife Habitat* will be established through an EIS or EA, to the satisfaction of the City, in consultation with the OMNR or its designate, and will be consistent with the status, habitat requirements and any applicable Recovery Strategy for the species identified.
4. Additional areas of *Significant Wildlife Habitat* may be identified through detailed studies based on criteria established by OMNR for Ecoregion 6E. These additional areas will be subject to the General Policies and may require an EIS by the City.

5. *Ecological Linkages* should be at least 50 m wide but ideally closer to 100 m except where existing narrower linkages have been approved or identified on Schedule 10.
6. *Ecological Linkages* may incorporate remnant natural or semi-natural heritage features in the landscape (e.g. *plantations* and *hedgerows*).
7. *Ecological Linkages* shall be maintained, and where appropriate, enhanced to ensure connectivity and diversity of the *Natural Heritage System*.
8. Portions of *Ecological Linkages* may be maintained as open meadow to provide habitat for meadow species including birds, butterflies and other insects, while other portions may be allowed to naturalize or be actively restored to allow regeneration into wooded areas.
9. *Development* and *site alteration* on lands adjacent to *Ecological Linkages* may be permitted provided it has been demonstrated through an EIS or EA, to the satisfaction of the City that there will be no *negative impacts* on the *Ecological Linkages* and its ecological and *hydrological functions*.
10. In addition to the General Permitted Uses of Section 6, the following uses may be permitted within *Ecological Linkages*, where it has been demonstrated through an EIS or EA to the satisfaction of the City, that there will be no *negative impacts* on the natural heritage feature or its ecological and *hydrological functions*:
 - i) *essential* public and private *linear infrastructure* lines;
 - ii) *transportation infrastructure* such as roads and sidewalks and their *normal maintenance*, provided no feasible alternative exists; and
 - iii) storm water management facilities and structures and their normal maintenance.
11. Notwithstanding the above policies, the location of *Ecological Linkages* identified on Schedule 10 may be refined or additional linkages added through an EIS, EA or subwatershed plan that demonstrates, to the satisfaction of the City, in consultation with the GRCA that:
 - i) the proposed change should not result in a linkage less than 50 m wide;
 - ii) the linkage will provide connectivity between *Significant Natural Areas*;
 - iii) the linkage is designed based on the most current conservation biology principles; or
 - iv) proposed changes to the location or width of the linkage do not result in loss in connectivity within the *Natural Heritage System*.
12. Where *Ecological Linkages* are located such that wildlife will need to cross a road, these areas shall also be identified as wildlife crossings and mitigative measures shall be required in accordance with the provisions of Section 6.1.7 (Wildlife Crossings).

6.1.5.9 Restoration Areas

Restoration Areas are identified on Schedule 10 and are generally located on public lands, and identify potential areas where *restoration* may be directed.

6.1.5.9.1 Objectives

- a) To identify opportunities for *restoration* throughout the City, including opportunities to increase and/or maintain open meadow landscapes for pollinators, birds and other wildlife to ensure diversity within the *Natural Heritage System*.
- b) To identify areas where replacement trees and shrubs will be focused in conjunction with Tree Compensation Plans.
- c) To provide opportunities to increase the City's *tree canopy cover*.

6.1.5.9.2 Criteria for Designation

1. Existing and new storm water management areas abutting the *Natural Heritage System*.
2. Areas within City parkland (including portions of the Eastview Community Park) and GRCA lands which are not intended for active uses.
3. Isolated gaps within the *Natural Heritage System*.

6.1.5.9.3 Policies

1. *Development* and *site alteration* shall not be permitted within Restoration Areas except for the uses permitted by the General Permitted Uses of Section 6.1.
2. In addition to the uses permitted by the General Permitted Uses of Section 6, storm water management facilities and their normal maintenance, and *renewable energy* systems may be permitted.
3. The primary use of the lands within the Restoration Areas will be *restoration* and existing or approved storm water management facilities and their *normal* maintenance.
4. Opportunities for *restoration* on *public and private* lands abutting the *Natural Heritage System* beyond those identified in Schedule 10 will be encouraged.
5. Outside active stormwater management facilities, Restoration Areas may be maintained, restored or managed to provide habitat for birds, butterflies, and other insects that play an important role in pollination.
6. New Restoration Areas may be added without an amendment to this Plan where new stormwater management facilities are approved in accordance with the provisions of this Plan and are located adjacent to the Natural Heritage System.
7. The City will undertake a study to prioritize and develop a management plan for Restoration Areas in the City.

6.1.6 Natural Areas

Natural Areas contain features that require further study and that may potentially meet the criteria for *Significant Natural Areas*. *Natural heritage features* identified as

requiring further study include *Other Wetlands*, Cultural Woodlands, and Habitat for Significant Species (excluding provincially *endangered and threatened species*).

6.1.6.1 Other Wetlands

6.1.6.1.1 Objectives

- a) To identify and assess *Other Wetlands* to determine if they meet the criteria for *Significant Wetlands*.
- b) To protect *Other Wetlands* that contribute to the City's biodiversity or the ecological and *hydrological functions* of the *Significant Natural Areas*.

6.1.6.1.2 Criterion for Designation

1. Unevaluated wetlands 0.2 to 0.5 ha in size.

6.1.6.1.3 Policies

1. *Development and site alteration* may be permitted within *Other Wetlands* in accordance with the underlying designation where it has been demonstrated, to the satisfaction of the City, through an EIS, that the wetland does not meet one or more of the following criteria:
 - i) located within a floodplain or riparian community;
 - ii) identified as part of a *Significant Natural Area* in the City;
 - iii) a bog or fen;
 - iv) *Fish Habitat*;
 - v) *Significant Wildlife Habitat*;
 - vi) Confirmed *Habitat for Significant Species* (as identified by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Committee on the Status of Species at Risk in Ontario (COSSARO), the Natural Heritage Information Centre (NHIC), and the Significant Plant List or Significant Wildlife List for Wellington County (Dougan & Associates, Guelph Natural Heritage Strategy, March, 2009) and any updates to those lists);
 - vii) part of an ecologically functional corridor or linkage between larger wetlands or *Significant Natural Areas*; or
 - viii) is part of a seep or spring or is hydrologically linked to a PSW or LSW.
2. *Development and site alteration* shall not be permitted within *Other Wetlands* and their *established buffers* except for uses permitted by the General Permitted Uses of Section 6, where an EIS demonstrates that the *Other Wetland* meets at least one of the above criteria.
3. For *Other Wetlands* that meet the above criteria:
 - i) buffers are to be determined through an EIS, but should be at least 15 m from the limits of the *feature* wherever possible; and
 - ii) features or ecological function that are impaired during the *development* process will require mitigation, including remedial measures to restore wetland features and ecological function.

4. In addition to the General Permitted Uses of Section 6, the following additional uses may be permitted within the *established buffers* to *Other Wetlands* identified for protection where it has been demonstrated through an EIS or EA to the satisfaction of the City, in consultation with the GRCA, that there will be no *negative impacts* on the *wetlands* or their *ecological functions*:
 - i) *essential* public and private *linear infrastructure* lines and their *normal maintenance*, provided no feasible alternative exists; and
 - ii) storm water management facilities and structures and their *normal maintenance*, provided they are *naturalized* or *restored* with site-appropriate indigenous plants.

5. In addition to the General Permitted Uses of Section 6, the construction of new trails and walkways, and formalization of existing trails may be permitted within *Other Wetlands* and their *established buffers* where:
 - i) they are considered *essential* to the City's trail system or integral to the scientific, educational or passive recreational use of the property;
 - ii) no reasonable alternative location exists;
 - iii) the environmental impacts of the proposed trails have been assessed and mitigated through design that minimize impacts to the feature and its functions; and
 - iv) they consist primarily of boardwalks and viewing platforms and are accompanied with educational signs.

6.1.6.2 Cultural Woodlands

Cultural Woodlands are defined in the Glossary and where known are identified on Schedule 10C. These woodlands are generally considered of less ecological value than those categorized *Significant Woodlands*, however the City recognizes the environmental benefits and services they provide.

6.1.6.2.1 Objectives

- a) To promote the protection and management of *Cultural Woodlands* where appropriate, in order to encourage their succession to a mixed woodland community.
- b) To protect *Cultural Woodlands* that support the *ecological functions* of the *Natural Heritage System*.
- c) To protect healthy non-invasive trees within *Cultural Woodlands* to the fullest extent possible.
- d) To recognize that *Cultural Woodlands* contribute to environmental services such as moderating temperatures, erosion control and pollution filtration.
- e) To compensate for loss of trees from *Cultural Woodlands*, where *development* and *site alteration* is permitted.

6.1.6.2.2 Criterion for Designation

1. *Cultural Woodlands* equal to or greater than 1 ha in size.

6.1.6.2.3 Policies

1. *Development and site alteration* may be permitted in accordance with underlying designation within all or part of a *Cultural Woodland* where it has been demonstrated through an EIS or EA, to the satisfaction of the City, that the *cultural woodland* or part thereof:
 - i) does not meet the criteria for one or more *Significant Natural Areas*; and
 - ii) is dominated by non-indigenous *species* (i.e., 60% or more).
2. *Development and site alteration* within or adjacent to a *Cultural Woodland* shall also require a Tree Inventory and Tree Preservation Plan in accordance with Section 6.2.5.
3. Healthy non-invasive trees in *Cultural Woodlands* should be protected to the fullest extent possible.
4. Buffers to *Cultural Woodlands* or portions thereof, that meet the criteria for *Significant Natural Areas* will be determined through an EIS or EA, to the satisfaction of the City.
5. Storm water management facilities and structures may be permitted in the established buffers to *Cultural Woodlands* that meet the criteria for *Significant Natural Areas* where it has been demonstrated through an EIS or EA, to the satisfaction of the City that there will be no *negative impacts* to healthy non-invasive vegetation within the woodland.
6. In addition to the General Permitted Uses of Section 6, new trails and walkways, and formalization of existing trails may be permitted within *Cultural Woodlands* subject to an EIS.
7. A *Vegetation Compensation Plan* shall be required for the replacement of all healthy, non-invasive trees measuring over 10 cm dbh, that are proposed to be removed. The *Vegetation Compensation Plan* requirements are addressed under the Urban Forest provisions of this Plan.

6.1.6.3 Potential Habitat for Significant Species

A number of nationally, provincially and locally significant species (excluding provincially *endangered* or *threatened* species) have been documented and are known to breed within the City. However, the habitat requirements of these species are extremely variable and best determined on a case by case basis. The areas protected as *Significant Natural Areas* are intended to provide habitat for the majority of the significant species known to occur in the City. However, there are some species with unique or specialized habitat needs that will need to be considered and accommodated as *development* proceeds in the City.

Furthermore, the status for federally and provincially significant species is updated regularly, and studies need to reflect these updates as they apply to the species within the City.

6.1.6.3.1 Objectives

- a) To identify and protect the habitat of globally, nationally, provincially and locally significant wildlife species (not designated as provincially *endangered* or *threatened*).
- b) To ensure that where the existing protected areas within the *Natural Heritage System* do not provide adequate habitat for the given species, that suitable additional habitat is identified and protected.

6.1.6.3.2 Criteria for Designation

1. Potential habitat of species designated as globally significant, nationally *endangered* or *threatened* by COSEWIC but not protected by regulation under Ontario's *Endangered Species Act*.
2. Potential habitat of species designated as *Special Concern* (SC) by COSEWIC or COSSARO at the federal or provincial level.
3. Potential Habitat of species considered provincially significant by the Natural Heritage Information Centre (NHIC) (i.e. ranked as S1, S2 or S3).
4. Locally significant species which are considered significant in Wellington County (Dougan & Associates, Guelph Natural Heritage Strategy, March, 2009) (as identified in the *Significant Plant List* and *the Significant Wildlife List* for Wellington County), and any updates to these lists.

6.1.6.3.3 Policies

1. *Development* and *site alteration* shall not be permitted within the potential habitat of globally significant, nationally *endangered* or *threatened* species identified by COSEWIC (not protected by regulation under Ontario's *Endangered Species Act*), species of *special concern* at the federal and provincial level and provincially significant species, and their *established buffers*, except for uses permitted by the General Permitted Uses of Section 6.
2. The extent of the habitat and *buffers* required for globally significant, nationally *endangered* or *threatened* species, or species of *special concern* at the federal and provincial level will be established through an EIS or EA, to the satisfaction of the City, in consultation with the OMNR or other appropriate agencies, and shall be consistent with any applicable Recovery Strategy for the species identified. The extent of habitat required for protection will depend upon the species being considered and their status. Where the habitat is identified and confirmed, as meeting the criteria for Significant Wildlife Habitat, it will be protected.
3. *Development* and *site alteration* may be permitted within all or portions of the habitat of locally significant wildlife species and *established buffers* where it has been demonstrated through an EIS or EA, to the satisfaction of the City, that there will be no *negative impacts* on the local habitat that is necessary for the maintenance and survival of the species.
4. The identification of species considered locally significant in Wellington County will be subject to review and may be updated from time to time through scientific analysis and peer review.

5. Open meadow species and associated habitat are in decline and their protection will be encouraged and supported, where appropriate.

6.1.7 Wildlife Crossing Locations

6.1.7.1 Objective

- a) To minimize and mitigate impacts to wildlife, property damage and threats to human safety (e.g., deer collisions) at locations where wildlife are known or likely to cross roadways.

6.1.7.2 Criteria

1. Confirmed locations where deer and amphibians cross roadways within or abutting City boundaries.
2. Areas where habitat is found on both sides of the roadway where wildlife is likely to cross.

6.1.7.3 Policies

1. At known, confirmed or potential wildlife crossing locations or at locations determined through detailed study in conjunction with *development* or *site alteration* applications:
 - i) the City will implement species-appropriate mitigation measures to minimize the impacts to wildlife and property damage; and
 - ii) the City will require mitigation measures identified through the EIS or EA, to the satisfaction of the City, to be implemented through the related *development*.
2. Where the City is undertaking public *infrastructure* improvements, where warranted species-appropriate mitigative measures will be implemented to minimize the incidence of human-wildlife conflict (e.g., culverts under roads to accommodate amphibian and reptile migration).
3. Where warranted, the City will proactively post signage to warn vehicular traffic of the potential for wildlife crossing such as deer
4. The City will develop wildlife crossing guidelines that identify appropriate mitigation measures.

6.1.8 Urban Forest

The City's Urban Forest, includes plantations and smaller wooded areas less than one 1 ha, hedgerows and individual trees that are not included in the City's *Natural Heritage System*. *Plantations* and *hedgerows* are identified on the Ecological Land Classification Map attached as Appendix 1.

These wooded areas and trees provide various benefits and services to the City including reduction of air pollution, moderation of the urban heat island effect, carbon sequestration, shade, habitat for urban adapted wildlife and mental health benefits.

It is also recognized that in some cases wooded areas in the urban matrix are degraded (e.g., dominated by invasive species) and that new *development* may

provide opportunities for enhancement and *restoration* of portions of these *features*, and/or retention of mature and healthy non-invasive trees as part of the proposed *development* or *site alteration*.

6.1.8.1 Objectives

- a) To ensure that opportunities for protection of trees outside the City's *Natural Heritage System* but within the Urban Forest are fully considered through the planning process and implemented wherever possible.
- b) To recognize that the Urban Forest provides important *ecosystem services* that benefit current and future generations by:
 - i) identifying opportunities for protection, enhancement and *restoration* wherever possible; and
 - ii) supporting initiatives that provide for ongoing management and stewardship of the Urban Forest.
- c) To maintain and increase *tree canopy cover* within the City, with a target of 40% by 2031.

6.1.8.2 Policies

Plantations and *hedgerows* will be required to be identified through an Ecological Land Classification (ELC) in conjunction with proposed *development* applications.

1. Healthy non-invasive trees within the *urban forest* shall be encouraged to be retained and integrated into proposed *development*. Where these trees cannot be retained, they will be subject to the *Vegetation Compensation Plan* addressed in Policy 6.1.9.
2. Where the City is undertaking infrastructure work, healthy non-invasive trees within the urban forest will be retained to the fullest extent possible. Where trees are required to be removed, relocation or replacement plantings will be provided by the City.
3. *Development* and implementation of woodlot management plans may be required prior to the conveyance of woodlands to the City.
4. Tree destruction or removal of trees on private property will be regulated by the City's tree by-law.
5. Invasive, non-indigenous trees, shrubs and ground covers, such as European buckthorn, will be encouraged to be eradicated without the need for compensation through the *Vegetation Compensation Plan*.

6.1.8.2.1 Plantations

1. *Development* and *site alteration* may be permitted within all or part of a *plantation* where it has been demonstrated to the satisfaction of the City, that the *plantation* or part thereof:
 - i) does not meet the criteria for a *Significant Natural Area* (e.g., *Significant*

- Woodland*) within the *Natural Heritage System*; and
 - ii) that the plantation does not support an *Ecological Linkage* within the *Natural Heritage System*.
- 2. *Development* and *site alteration* within a plantation shall also require a Tree Inventory and a Tree Protection Plan in accordance with Section 6.2.5.
- 3. A Vegetation Compensation Plan shall be required for the replacement of all healthy non-invasive trees measuring over 10 cm dbh, proposed to be removed.

6.1.8.2.2 Hedgerows and Trees

- 1. *Development* and *site alteration* may be permitted to impact *hedgerows* and individual trees provided it has been demonstrated, to the satisfaction of the City, that the *hedgerows* and trees cannot be protected or integrated into the urban landscape.
- 2. Tree Inventory and Vegetation Compensation Plans shall be required for all new *development* and *site alterations*.
- 3. *Heritage Trees* may be identified by the City in accordance with the Cultural Heritage Policies of this Plan.

6.1.9 Vegetation Compensation Plan

- 1. The detailed requirements for a Vegetation Compensation Plan will be developed by the City through the Urban Forest Management Plan. The requirements, once developed, will be applied to determine appropriate vegetation compensation for the loss of trees through *development* and *site alteration*.
- 2. The Vegetation Compensation Plan shall identify, to the satisfaction of the City, where the replacement vegetation will be planted. Where replanting is not feasible on the subject property, the planting may be directed off-site to lands identified in consultation with the City, including lands within the Natural Heritage System and may include:
 - i) *Established buffers*,
 - ii) *Significant Valleylands*,
 - iii) *Significant Landform*,
 - iv) *Ecological Linkages*, or
 - v) *Restoration Areas*.
- 3. All replacement vegetation should be indigenous species and compatible with the site conditions within which they are proposed. In some cases, re-vegetation may consist of a combination of trees, shrubs and herbaceous species, or may consist exclusively of indigenous herbaceous species and grasses where the *restoration* objective is to establish a meadow habitat.
- 4. The vegetation compensation plantings do not replace the normal landscape planting requirements as part of the approval of any *development* or *site alteration*.
- 5. A Vegetation Compensation Plan is required to be implemented through on site or off site plantings or cash in lieu equal to the value of the replacement vegetation will be required by the City.

6.1.10 Natural Heritage Stewardship and Monitoring

6.1.10.1 Objective

- a) To manage *the City's Natural Heritage System and Urban Forest* through stewardship, monitoring and partnerships between the City, GRCA, the OMNR, private landowners and community organizations.

6.1.10.2 Policies

6.1.10.2.1 Invasive Species

1. Management and control of non-indigenous and *invasive species* will be undertaken on City owned and managed properties.
2. Plantings on municipal properties shall be indigenous species where feasible and appropriate, except where harsh environmental conditions would limit their survival.
3. Management and control of non-indigenous, *invasive species* is encouraged on lands owned by other public agencies and utilities.
4. Plans prepared in conjunction with *development* and *site alteration* applications will require indigenous plants, trees and shrubs except where harsh environments conditions would limit their survival.
5. Indigenous species will be encouraged on private lands and particularly on those *adjacent* to the *Natural Heritage System*.

6.1.10.2.2 Deer

1. Deer wintering habitat for the safety of deer and residents, will be monitored and addressed, as appropriate, in conjunction with the OMNR.
2. The City in consultation with the OMNR, will explore the *development* of a deer management program.

6.1.10.2.3 Land Stewardship

1. Public agencies, community organizations, and private landowners are encouraged to protect and enhance the *City's Natural Heritage System* and the *Urban Forest*.
2. The City will work with the GRCA and other public and private organizations to promote stewardship and leverage funding to support land stewardship activities.
3. Opportunities for plant rescue activities for plants, other than those identified for habitat protection in accordance with the *Significant Natural Area* and *Natural Area* policies will be encouraged. Such rescue activities may only occur with the consent of the land owner and only in situations where the plant is within an area approved for *development* in accordance with the *Significant Natural Area* and *Natural Area* policies of this Plan, and under the supervision of a professional in the field of Botany.
4. Encroachment into the *City's Natural Heritage System* will be discouraged through education and appropriate provisions.

5. The City will promote stewardship of the Natural Heritage System and the Urban Forest.

6.1.10.2.4 Pollinator Habitat

1. The City recognizes the role that *pollinator habitat* plays in supporting ecosystem functions.
2. Opportunities to protect, maintain and enhance *pollinator habitat* within City parks, Restoration Areas and Ecological Linkages, lands *adjacent* to storm water management facilities and open space areas will be encouraged.

6.1.10.2.5 Ecological Monitoring

1. A City-wide environmental monitoring program will be developed and implemented to assess the effectiveness of the policies, decisions and programs in meeting the objectives of the *Natural Heritage System and the Urban Forest*.
2. Opportunities for collaborating with the GRCA and the OMNR will be incorporated into the environmental monitoring program (e.g. fisheries, *threatened species*).
3. Short-term, site-specific monitoring may be required as a condition of the planning approval process and the results will be integrated into the City-wide monitoring program, where applicable.

6.2 Environmental Study Requirements

6.2.1 Objectives

- a) To ensure EIS, EAs or other comparable environmental studies are carried out to assess the potential impacts of *development and site alteration* on *Natural Heritage System, surface water and groundwater features, and the related hydrologic and ecologic functions* and linkages between these features.
- b) To ensure that *development or site alteration* does not result in negative impacts, in the short term or long term to the Natural Heritage System, *surface water and groundwater features, and the related hydrologic and ecologic functions* and linkages between these features.
- c) To provide a mechanism for monitoring the potential impacts and establish strategies and mitigation measures to minimize *negative impacts* on the *Natural Heritage System, surface water and groundwater features, and the related hydrologic and ecologic functions and linkages* between these features.
- d) To support the Grand River Conservation Authority and the Provincial ministries with respect to provincial regulations and policies regarding natural heritage feature, surface water and groundwater features and the related ecological and hydrological functions and linkages between these features.
- e) To implement the EIS/EA process in the planning and implementation of municipal *infrastructure* in a manner that assesses impacts, considers all reasonable alternatives and avoids or minimizes impacts on the *Natural Heritage System, surface water and groundwater features, and the related hydrologic and ecologic functions* and linkages between these features.

6.2.2 General Policies

1. Where *development* or *site alteration* may *negatively impact* the *Natural Heritage System*, *surface water and groundwater features* or related *ecological* or hydrological functions or the linkages between these features, the proponent shall prepare an EIS.
2. The mapping associated with the *Natural Heritage System* (as provided in Schedules 10, 10A through 10E), or subwatershed plans may be refined or updated through new or more detailed information brought forward through Environmental Impact Studies in accordance with the provisions of this Plan.
3. The scope of an EIS must be determined in consultation with the City, the GRCA and applicable Provincial ministry, where one or more of the potentially impacted features or functions fall under their jurisdiction.
4. A scoped EIS, that entails a more narrowly defined assessment may be required by the City where *development* or *site alteration* is:
 - i) minor in nature or small scale and provided negative impacts are anticipated to be negligible;
 - ii) located in a previously disturbed area; or
 - iii) located in an area where recent previous studies have been prepared that provide sufficient detailed information.
5. Consultation with the GRCA is required where any GRCA-regulated lands or wetlands may be impacted by proposed *development* or *site alteration*.
6. An EIS shall be prepared and submitted to the City in support of *development* and *site alterations* that is proposed within or adjacent to the *natural heritage features* identified on Table 6.1.
7. The City shall not permit *development* or *site alteration* *within the Natural Heritage System* or on *adjacent lands* to a *natural heritage feature*, until the required EIS and Environmental Implementation Report (EIR) has been reviewed and approved by the City, in consultation with the Environmental Advisory Committee, and where applicable the GRCA and a provincial ministry or agency.
8. Proposed *development* or *site alteration* shall not be approved where it is in conflict with the provisions of this Plan.
9. Environmental studies include:
 - i) EIS;
 - ii) EIR;
 - iii) EA; and
 - iv) Detailed EIS completed in conjunction with Secondary Plans.
10. An EIS and EIR shall be carried out by professional(s) qualified in the field of environmental and hydrological sciences and shall be acceptable to the City, in consultation with the City's Environmental Advisory Committee, the GRCA and provincial ministry or agency, as applicable.
11. Prior to commencement of the study, terms of reference, acceptable to the City, shall be prepared in consultation with the Environmental Advisory Committee,

GRCA, and provincial ministry or agency, as applicable.

12. EIS and EIRs shall be completed in accordance with Guidelines prepared by the City, as updated from time to time and approved by the City.
13. Additional studies may be required to be submitted in conjunction with an EIS and/or EIR as determined by the City and in accordance with the complete application provisions of this Plan.

6.2.3 Environmental Impact Studies (EIS)

1. The EIS shall as a minimum address the following:
 - i) a description of and statement of the rationale for the *development* and *site alteration* and where appropriate, alternatives to the proposal;
 - ii) a description of the proposed *development* or *site alteration*, including a detailed location map and property survey showing proposed buildings, existing land uses and buildings, existing vegetation, fauna, site topography, drainage, hydrology, soils, hydrogeological conditions, habitat areas and other applicable matters;
 - iii) a description of adjacent land use and the existing regulations affecting the *development* proposal and adjacent lands;
 - iv) a description of the Natural Heritage System, *surface water and groundwater features, hydrologic functions* and the linkages and related *ecological functions* between these features;
 - v) a description of all *natural heritage features* and their *ecological and hydrological functions* that might directly or indirectly be *negatively impacted*;
 - vi) a description of the potential *negative impacts* that might reasonably be caused to the *natural heritage feature, surface water and ground water features, and their associated ecological and hydrological functions* and any linkages between these features and functions. The description shall also include a statement of the *significance* of the *natural heritage feature*;
 - vii) a description of alternates to the proposed *development or site alteration* that has the potential to impact a natural heritage feature or area, including an assessment of the advantages and disadvantages of each;
 - viii) a description of the constraints to *development and site alteration* and mitigative measures necessary to prevent, mitigate or remedy any potential *negative impacts*;
 - ix) where appropriate, measures to provide for the enhancement of *Natural Heritage System, surface water and groundwater features and related ecological function and hydrological functions* and including the linkages between these functions;
 - x) a description of any short and or long term monitoring that will be undertaken by the proponent to determine if *negative impacts* to the Natural Heritage System, *surface water and groundwater features* or related *ecological function or hydrological functions* or the linkages between these functions are occurring which may require remediation measures; and
 - xi) any other information required by the City, in consultation with the City's Environmental Advisory Committee, the GRCA or any provincial ministry or agency that is considered necessary to assess the potential impact of

the proposed *development* or *site alteration*.

2. The EIS supplements and provides more detail than the broader watershed and subwatershed studies.

6.2.4 Environmental Implementation Report

1. The City will require, as a condition of *development* or *site alteration*, and prior to final decision on any *development* or *site alteration*, that an Environmental Implementation Report (EIR) shall be prepared and submitted to the City for approval. This EIR will serve as a summary document containing information, including but not limited to the following:
 - i) a description of how all the conditions of the decision have been met;
 - ii) how municipal *infrastructure* servicing, including but not limited to trails, storm water management facilities and the protection of *natural heritage system* and the associated *ecological and hydrological functions* have been addressed; and
 - iii) any other special requirements that are required to protect the overall natural environment of the area.
2. The City's Environmental Advisory Committee will review EIS and EIR to offer advice on environmental matters.

6.2.5 Tree Inventory and Tree Preservation Plan

1. Tree Inventory and Tree Preservation Plans shall as a minimum include:
 - i) a Tree Inventory measuring all trees over 10 cm diameter at breast height (dbh), including the size, species composition and health, and indigenous shrubs in accordance with the City's tree inventory guidelines;
 - ii) a Tree Preservation Plan identifying healthy indigenous and non-invasive trees to be protected, including those that may be transplanted (e.g. smaller specimens);
 - iii) the protective measures required for tree protection during construction; and
 - iv) measures for avoiding disturbance to any breeding birds during construction.

ITEM 3: The purpose of 'ITEM (3)' is to delete the existing land use policies in Section 7.13 entitled, 'Greenlands System' and replace them with a reference to the new Natural Heritage System polices in Section 6.

Section 7.13 of the Official Plan (including sections 7.13.1 – 7.13.10), entitled 'Greenlands System' is hereby deleted and replaced with the following:

7.13 Natural Heritage System Designation

1. The Natural Heritage System designation on Schedules 1 is made up of two areas:
 - Significant Natural Areas
 - Natural Areas

2. The objectives, permitted uses and policies for the Natural Heritage System are addressed in Section 6.

ITEM 4: The purpose of 'ITEM (4)' is to modify existing references to the Core and/or Non-Core Greenlands System throughout the Official Plan to refer to the Natural Heritage System.

Section 3.6.30.3 f) of the Official Plan, under the heading 'Urban Design Polices – Goldie Mill Secondary Plan Area' is hereby amended as follows:

- f) Measures to mitigate environmental impacts, where necessary, in accordance with the Greenlands **Natural Heritage** System policies of ~~subsection 7.13~~ **Section 6**.

Council, at its discretion, may also require a planning impact analysis for any *development* proposal within the Goldie Mill Secondary Plan Area, which requires an Official Plan or Zoning By-law amendment.

Section 4.2.4.7 c) i of the Official Plan, under the heading 'Phasing Polices – Eastview Secondary Plan Area' is hereby amended as follows:

- i. *Development* in or *adjacent* to areas identified as *natural heritage features* **Significant Natural Areas or Natural Areas** ~~as included within the Greenlands System of~~ **on** Schedule 1.

Section 4.2.6.3 d) of the Official Plan, under the heading 'Phasing Polices – Victoria Road North Secondary Plan' is hereby amended as follows:

- d) The completion of a *scoped environmental impact study* for lands within or *adjacent* to the ~~*natural heritage features*~~ **Natural Heritage System** ~~contained within the Greenlands System of~~ Schedule 1.

Section 4.6.4 b) of the Official Plan, under the heading 'Other Servicing Considerations' is hereby amended as follows:

- b) Future high voltage transmission lines and major pipelines will avoid existing residential areas, areas within the ~~Greenlands System~~ **Natural Heritage System** and 'Open Space' designated lands, to the extent possible.

Section 5.2.3 of the Official Plan, under the heading 'Flood Plains' is hereby amended as follows:

- 5.2.3 The One Zone flood plain areas of the City are located within the ~~'Core Greenlands~~ **Significant Natural Areas'** land use designation of ~~subsection 7.13 of this Plan~~. In general location description terms, these flood plains comprise floodway areas and are delineated by the regulatory floodlines of Schedule 2. The following river and creek areas, as illustrated on Schedule 1A comprise the One Zone flood plain areas of Guelph: the upper reach of the Eramosa River (east of Victoria Road), the upper reach of the Speed River (east and west of Victoria Road), the lower reach of the Speed River (west of the Hanlon Expressway), Hadati, Clythe and Watson Creeks, Torrance Creek, Hanlon Creek, Ellis/Chillico Creek, Howitt Creek.

Section 5.3.4 of the Official Plan, under the heading 'Steep Slope, Erosion Hazard Lands and Unstable Soils' is hereby amended as follows:

- 5.3.4 The City's ~~Greenlands~~ **Natural Heritage** System as illustrated on Schedule 1 incorporates lands that have steep slopes, erosion hazards and unstable soils. In addition the Grand River Conservation Authority will prepare updated mapping from time to time which illustrates the extent of these hazard land areas.

Section 7.12.5 of the Official Plan, under the heading 'Linked Open Space Concept' is hereby amended as follows:

- 7.12.5 The "Linked Open Space Concept" which is illustrated on Schedule 7 outlines the long term potential for a city-wide open space system with connections to surrounding municipalities. The "Concept" is structured on the City's ~~Greenlands System~~ **Natural Heritage System** and comprises interconnected open space areas including park and recreation areas, conservation lands, *natural heritage features*, *cultural heritage resources* and other open spaces. This linked system supports biodiversity and plant/animal/organism distribution, especially in portions of the "Concept" comprising *natural heritage features*.

Section 7.12.13.3 of the Official Plan, under the heading 'Regional Open Space (Natural Heritage Features) - Victoria Road North Secondary Plan Area' is hereby amended as follows:

3. The Speed River *flood plain* and associated valleylands and the provincially significant Guelph Northeast Wetland Complex, are situated within the ~~Greenlands System~~ **Natural Heritage System** as denoted on Schedule 1. These lands will remain in their natural state as much as possible. Permitted uses within this area shall be limited to activities not requiring buildings or structures except for erosion or flood control purposes **and as provided for in Section 6**. Fish and wildlife management and low intensity recreational uses may also be permitted. Access shall generally be by means of pedestrian walkways and bicycle paths that minimize road crossings and link these areas in an integrated manner through the community and the open space of the surrounding area. Pedestrian and cycle paths shall form a continuous system, interconnecting the open space and parkland areas.

Section 7.14.2 of the Official Plan, under the heading 'Two Zone Flood Plain' is hereby amended as follows:

- 7.14.2 The floodways of the Speed and Eramosa Rivers are defined as a component of the Natural Heritage System, The following policies are applicable to the floodway:

Section 7.14.3 of the Official Plan, under the heading 'Two Zone Flood Plain' is hereby amended as follows:

- 7.14.3 The Two Zone *flood fringe* for the Speed and Eramosa Rivers is ~~outlined as a~~ **small** component on the ~~Non-Core Greenlands overlay~~ **Natural Heritage System** on Schedule 1. For a more specific definition on its extent, reference can be made to Schedule 2 where the flood fringe is defined as the lands that lie between the *floodways* of these river *flood plains* and the *regulatory flood line*.

ITEM 5: The purpose of 'ITEM (5)' is to introduce new definitions that are required to accompany the Natural Heritage System Policies in Section 6. Where possible the following definitions have been taken directly from the Provincial Policy Statement, Growth Plan for the Greater Golden Horseshoe or Planning Act.

Where necessary, the definitions have been modified to fit within the context of the City's Official Plan.

The following new definitions are added to section 10: Glossary in the appropriate alphabetic order:

Buffers means areas identified *adjacent* to some *natural heritage features or areas* that are intended to be protected and provide a separation between the protected feature and the adjacent *development*, and mitigate against *negative impacts* to the natural heritage feature, area and/or its *ecological function(s)*.

Canopy Cover See *Tree Canopy Cover*

Cultural Woodland means a *woodland* with tree cover between 35% and 60% originating from, or maintained by, anthropogenic influences and culturally based disturbances (e.g., planting or agriculture, clearing, recreation, grazing or mowing); often having a large proportion of introduced (i.e., non-indigenous) species (as per the Ecological Land Classification System for southern Ontario) and with shrubs, grasses, and/or herbaceous ground cover. These may be second or third growth *woodlands* that occur on land that has been significantly altered by human disturbance where the original forest was completely or mostly removed at various points in time (e.g., from agriculture, grazing, gravel extraction) and may include a small proportion of planted trees but has undergone natural succession to the point where tree cover is between 35% and 60%, with grass and herbaceous ground covers, and possibly shrubs as well.

Ecosystem Services means the broad range of services provided by *natural heritage features and areas* within a given jurisdiction. These services include contributions to: surface and groundwater protection, air quality improvement, erosion and flood control, localized temperature moderation, noise attenuation, visual barriers, soil and wildlife protection and regeneration, and pollination of crops and natural vegetation. A number of these services can also be attributed to trees and treed areas outside natural areas but within the urban matrix (e.g., trees on boulevards, in yards and parks, etc.).

Environmental Assessment (EA) means a planning process to determine the potential impacts of an infrastructure project as determined by the Environmental Assessment Act.

Essential means that which is considered by Council to be necessary and in the public interest after all feasible alternatives have been considered.

Established buffers means the *buffers* established and approved by the City following the *adjacent* lands analysis carried out through the required site specific study (e.g. EIS or EA).

Extirpation means a wildlife species no longer existing in a given jurisdiction where it formerly occurred, but still occurring elsewhere.

Feature (See Natural Heritage Features and Areas definition).

Forest Management means the sustainable management of the woodland to maintain, restore or enhance environmental conditions for wildlife, and for the protection of water supplies and may include the removal or pruning of dead, diseased, and hazard trees, and *invasive species*. Management may also include the judicious removal of selected tree(s) to improve the diversity and health of the woodland e.g., selective cutting of *plantations* to permit natural succession to occur. However, *forest management* does not include the removal of trees solely for commercial purposes.

Groundwater Feature means water-related features in the earth's subsurface, including recharge/discharge areas, water tables, *aquifers* and unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations.

Habitat Conservation means management practices that aim to conserve, protect and restore *wildlife habitat* in order to increase biodiversity, including but not limited to: introduction of indigenous species and removal of non-indigenous *invasive species*.

Hedgerow means trees left standing or planted along the edge of a former or existing agricultural field or laneway to create a physical and/or visual barrier. Hedgerows also typically include trees remaining along former fence lines.

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

Identified Habitat means habitat identified through an EIS, EA or similar study in accordance with the Significant Wildlife Technical Guide (OMNR, 2000), as may be amended from time to time.

Intermittent Stream means watercourses that only flow during wet periods (30 to 90% of the time) and flow in a continuous, well-defined channel. These are distinguished from ephemeral streams which refer to water that only flows during storm events and may or may not have a well-defined channel.

Invasive Species means species of plants, animals and microorganisms introduced by human action outside their natural past or present distribution whose introduction or spread threatens the environment. An invasive plant is one that has been moved from its indigenous habitat to a new area (possibly for garden/domestic use), and reproduces so aggressively that it displaces species within indigenous plant communities.

Linear Infrastructure means corridors that include infrastructure such as, the pipes necessary for the transmission and distribution of sewage and water, communication, oil and gas lines and roads.

Low Impact Development means a stormwater management strategy that seeks to mitigate the impacts of increased runoff and stormwater pollution by managing runoff as close to its source as possible. LID comprises a set of site design strategies that minimize runoff and distributed, small scale structural practices that mimic natural or pre-development hydrology through the processes of infiltration, evapotranspiration, harvesting, filtration and detention of stormwater. Site specific designs that can be used to control stormwater include, but are not limited to, rainwater harvesting, green roofs, bio-retention, permeable pavers, infiltration facilities and vegetated swales. These practices can effectively remove nutrients, pathogens and metals from runoff, and they reduce the volume and intensity of stormwater flows.

Minimum Buffer means the *minimum buffers* identified on Table 10.1 of this Plan.

Natural Heritage System means a system comprised of *natural heritage features*, areas and *ecological linkages*, including surface and ground water or areas, including surface and ground water features, and *ecological linkages*. Together, these elements maintain local biological, hydrological and geological diversity and functions, support viable populations of indigenous species, and sustain local ecosystems. The system also includes lands that have been identified for *naturalization* and/or *restoration* or have the potential

to be restored to a natural state.

Naturalization means a process whereby an area that has been previously disturbed by humans or from natural events, is allowed to regenerate naturally with input of seeds and other propagules from the existing soil and/or adjacent natural areas.

Normal Maintenance means activities undertaken in conjunction with public and private infrastructure including energy, communication, waste water, roads, railways, trails, water supply and storage, water management and storm water management to ensure regular operation parameters and public safety in accordance with the associated guidelines, regulations and maintenance policies, procedures and risk mitigation strategies for the infrastructure.

Other Wetlands means unevaluated *wetlands* of at least 0.2 ha and no more than 0.5 ha.

Paris Galt Moraine means the geomorphic feature referred to as the Paris Galt Moraine Complex which is a 6.4 to 8 km wide belt that extends over most of the City's south end (south of Clair Road) and occurs in a few more isolated patches in the central portion of the City. The Paris and Galt Moraines were both deposited by the Ontario ice lobe during the Port Bruce Stadial (15,000 - 14,000 yr. B.P.)

Passive Recreational Activities means a range of outdoor activities and passive uses compatible with protecting the *Natural Heritage features* including, but not limited to, wildlife habitat, wetlands and woodlands. Activities and uses include bird watching, hiking, photography, snowshoeing, and may require the construction of a trail, benches or boardwalks in accordance with the Guelph Trail Master Plan or are integral to the scientific, educational or passive recreational use of a property.

Plantations means where tree cover is greater than 60% and dominated by canopy trees that have been planted:

- i) managed for production of fruits, nuts, Christmas trees or nursery stock; or
- ii) managed for tree products with an average rotation of less than 20 years (e.g. hybrid willow or poplar); or
- iii) established and continuously managed for the sole purpose of tree removal at rotation, as demonstrated with documentation acceptable to the planning authority or the OMNR, without a forest *restoration* objective.

Pollinator Habitat means natural areas within the landscape that contain indigenous plants, shrubs, and trees that provide pollen, nectar, and other floral resources for pollinating insects and other animal pollinators. In addition, these areas may provide appropriate nesting sites, such as exposed soil, rotting logs, cavity trees, hollow-stemmed plants, and host plants specific to local pollinators.

Renewable Energy Systems means the production of power or heat from an energy source that is renewable by natural processes including, but not limited to, wind, water, a biomass resource or product, solar and geothermal energy.

Restoration means active management of an area that results in accelerated regeneration and recovery of a desired vegetation community or habitat, typically one that once occurred naturally in the area. This may include the creation or re-creation of *wetlands*, woodlands or meadows / grasslands.

Sensitive means, in regard to surface water features and groundwater features, areas that are particularly susceptible to impacts from activities or events including but limited to, water withdrawals, and additions of pollutants.

S-Ranks or Provincial Ranks means Provincial (or Subnational) ranks are used by the NHIC to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation, needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually.

- i) S1 Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
- ii) S2 Imperiled—Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
- iii) S3 Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Special Concern means sensitive to human activities or natural events which may cause it to become endangered or threatened species.

Surface water features means water related features, including headwaters, rivers, stream channels, inland lakes and ponds, seepage areas, recharge/discharge areas, springs, *wetlands* and associated riparian lands that can be defined by their soil moisture, soil type, vegetation and topographic characteristics.

Tree canopy cover means the proportion of land area occupied by tree crowns when visualized from above. It is the two-dimensional horizontal extent of the combined canopies of all the trees on a given land area.

Urban Forest means for the purposes of this Plan, plantations, *woodlands*, hedgerows, generally treed areas and individual trees outside the City's *Natural Heritage System*.

Valleylands means a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year.

Vulnerable means *surface and groundwater that can be easily changed or impacted by activities or events, either by virtue of their vicinity to such activities or events or by permissive pathways between such activities and the surface and/or groundwater.*

Wetland Evaluation means evaluation of wetland carried out in accordance with the OMNR *Wetland Evaluation Manual*, as amended from time to time.

ITEM 6: The purpose of 'ITEM (6)' is to add a glossary of acronyms used within the Official Plan.

The following glossary of acronyms is hereby added in Section 10 – 'Glossary':

Glossary of Acronyms

ANSI	Area of Natural and Scientific Interest
EIR	Environmental Implementation Report
EIS	Environmental Impact Study
EA	Environmental Assessment (under the Environmental Assessment Act)
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
dbh	Diameter at breast height (for trees)
DFO	Department of Fisheries and Ocean
GIS	Geographic Information System
GRCA	Grand River Conservation Authority
NHS	Natural Heritage System (see definition in Glossary)
NHIC	Natural Heritage Information Centre (Ontario Ministry of Natural Resources)
OMB	Ontario Municipal Board
OMNR	Ontario Ministry of Natural Resources
PSW	Provincially Significant Wetland
SAR	Species at Risk
S1	Critically Imperiled (see definition under S-Ranks)
S2	Imperiled (see definition under S-Ranks)
S3	Vulnerable (see definition under S-Ranks)
S4	Apparently Secure
S5	Secure

ITEM 7: The purpose of 'ITEM (7)' is to amend the following definitions required to accompany the Natural Heritage System Policies in Section 6. Where possible the following definitions have been taken directly from the 2005 Provincial Policy Statement, Growth Plan for the Greater Golden Horseshoe or Planning Act. Where necessary, the definitions have been modified to fit within the context of the City's Official Plan.

The following definitions in Section 10 – 'Glossary' are amended as follows:

Adjacent Lands means, **for the purpose of the *Natural Heritage System***, those lands ~~containing or~~ contiguous to **specific natural heritage features** or areas, where **it is likely that development or site alteration may would** have a *negative impact* on the feature, **area** or *ecological functions*. The extent of the adjacent lands **are defined in Table 6.1 of this Plan**. ~~will be as described in a *Comprehensive Environmental Impact Study*, where such a study has been completed for the area being considered, or where such a study has not been completed, the following shall apply:~~

~~*Provincially Significant Wetlands* — 120 metres~~

~~*Locally Significant Wetlands* — 30 metres,~~

~~*Endangered Species and Threatened Species habitat* — 50 metres~~

~~Fish habitat—30 metres,
Significant woodlands—50 metres
Environmental corridors and ecological linkages—50 metres
Significant wildlife habitat—50 metres
Areas of Natural and Scientific Interest—50 metres.~~

Area of Natural and Scientific Interest (ANSI) means areas of land and water containing natural landscapes or features ~~which~~ **that** have been identified **by the Province (OMNR)** as having **science or earth science** values related to ~~natural heritage~~ protection, scientific study or education.

Development means:

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

(b) site alteration activities such as fill, grading and excavation that would change the landform and natural vegetative characteristics of a site.

Development does not include activities that create or maintain infrastructure authorized under an environmental assessment process or works subject to the *Drainage Act*.

In spite of the above definition, for the Special Policy Area Flood Plain of this Plan, *development* means the construction, erection or placing of one or more buildings or structures on lands, or an addition or alteration to a building or structure which adds more than 50% of the existing ground floor area to the building or structure.

Ecological Functions means 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, **physical, chemical** and socio-economic interactions.

With ~~respect to~~ ~~Wetlands~~, *Ecological Functions* means the biological, physical and socio-economic interactions that occur in an environment because of the properties of the wetlands that are present, including, but not limited to groundwater recharge and discharge; flood damage reduction; shoreline stabilization; sediment trapping; nutrient retention and removal; food chain support; habitat for fish and wildlife; and attendant social and economic benefits.

Ecological Linkages means **areas that connect natural heritage features and associated areas along which wildlife can forage, genetic interchange can occur, populations can move from one habitat to another in repose to environmental or climatic changes and life cycle requirements, and where species can be replenished. Linkages can also include those areas currently performing, or with the potential to perform linkage functions through restoration measures. Although linkages help to maintain and improve natural heritage features and areas and related ecological functions, they can also serve as habitat in their own right. These linkages should be based on the principles of conservation biology, 100 metres wide but no less than 50 metres wide except in areas where narrower linkages have already been approved** ~~landscape links/connections between remnant natural areas that promote the transfer of genetic material to maintain and enhance genetic viability, health and biological diversity.~~

Endangered Species means ~~any native~~ **a species or extirpation that is listed or categorized as an 'Endangered Species' on the Ontario Ministry of Natural Resources official species at risk list, as updated and amended from time to time,** ~~as listed in the Regulations under the Endangered Species Act, that is at risk of~~

extinction throughout all or a significant portion of its Ontario range if the limiting factors are not reversed.

Environmental Impact Study means **the form or product of a study used in the context of natural heritage features where development provisions on or adjacent to a natural heritage feature have been established through a rigorous ecosystems-analysis approach. This will usually take the form of a (sub) watershed study or environmental overview based on a landscape scale review of the natural features and functions of an area** conducted prior to development to investigate the potential environmental impact of development. This type of study will determine whether a particular development should proceed, and if so, what actions or measures are required to minimize adverse impact on the environment.

Infrastructure means physical structures **and services (facilities and corridors)** that form the foundation for *development*. Infrastructure includes: sewage and water **systems** works, **storm water management facilities, septage treatment systems,** waste management systems, electric power **generation and transmission,** communications/**telecommunications,** transit and transportation corridors and facilities, and oil and gas pipelines and associated facilities.

Locally Significant Wetlands means **evaluated wetland of at least two (2) ha in size and unevaluated wetlands at least 0.5 ha in size that do not meet provincial criteria for significance but may still be considered significant at the City level** areas that are not identified by the Ontario Ministry of Natural Resources as *provincially significant*.

Natural Areas (see Natural Heritage Features and Areas definition).

Natural Heritage Features and Areas means features and areas, including *significant wetlands and other wetlands, significant habitats of endangered and threatened species, significant Areas of Natural and Scientific Interest, surface water features and fish habitat, significant woodlands, significant landform, significant valleylands, ecological linkages and significant wildlife habitat, habitat of significant species and cultural woodlands* as defined by the criteria for designation within the Natural Heritage System.

Negative Impacts means:

- i) **In regard to water resources, 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.**
- a)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;
- b)iii) In regard to other *natural heritage features and areas*, **degradation that threatens the health and integrity of the loss of the natural features or ecological functions** for which an area is identified **due to single, multiple or successive development or site alteration activities.**

Provincially Significant Wetlands means *wetlands* **or a wetland complex** identified by the Ontario Ministry of Natural Resources **OMNR** as being **of provincially significance** **as determined through the Ontario Wetland Evaluation System.**

Scoped Environmental Impact Study means the form of study used in the context of assessing impact on *natural heritage features and areas* where *development* within or adjacent to a natural heritage feature is contemplated and a comprehensive study

(EIS/EA/Subwatershed Plan) has been completed. In this instance an area or site specific study that addresses the issues of particular concern not previously addressed in sufficient detail in the comprehensive studies will be examined for the site specific *development* proposal.

Significant means:

- i) in regard to the habitat of provincially endangered and threatened species, means the habitat, as approved by the OMNR, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of endangered species or threatened species, and where those areas of occurrence are occupied or habitually occupies by the species during all or any part(s) of its life cycle.
- ii) in regard to the habitat of significant species that are not provincially endangered or threatened species, means the habitat that is necessary for the maintenance or survival of naturally occurring populations, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle;
- iii) in regard to landform, means the portions of the Paris Galt Moraine containing concentrations of 20% slopes, and closed depressions located in close proximity to other Significant Natural Areas of the NHS.
- iv) In regard to *natural heritage features or areas* meeting the criteria for one or more of the following NHS components:
 - a. *Areas of Natural and Scientific Interest (Earth and Life Science)*
 - b. *Habitat for Endangered and Threatened Species*
 - c. *Significant Wetlands*
 - d. *Surface Water Features and Fish Habitat*
 - e. *Significant Woodlands*
 - f. *Significant Valleylands*
 - g. *Significant Landform*
 - h. *Significant Wildlife habitat (including Ecological Linkages)*
- v) in regard to *wetlands* means:
 - a. provincially significant wetlands as identified by the OMNR and determined to be provincially significant according to the *Ontario Wetland Evaluation System*; and
 - b. *locally significant wetlands* being (a) evaluated wetlands of at least 2 ha which are not considered to be provincially significant but are still considered locally significant, or (b) unevaluated wetlands of at least 0.5 ha and less than 2 ha also considered locally significant;
- vi) in regard to wildlife habitat (including Ecological Linkages) means areas that are ecologically important in terms of features, functions, representation or amount where plants and animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations contributing to the quality and diversity of the natural heritage system. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual life cycle; and areas which are important to migratory or non migratory species;
- vii) in regard to *woodlands* means *woodlands* that are ecologically important in terms of features such as species composition, age of trees and stand history, functionally important due its contribution to the broader landscape because of its location, size or due to the amount of remaining forest cover in the City;
- viii) in regard to valleylands means a *natural heritage feature or area* that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. This includes regulatory floodplains/riverine flooding

hazards, riverine erosion hazards and apparent/other valleylands ecologically important in terms of features, functions, representativeness, or amount, and contributing to the quality and diversity of an identifiable area or NHS;

- ix) in regard to vegetation types means vegetation types ranked as S, S2 or S3 by the NHIC of Ontario, as well as those determined through analysis to be uncommon or representative with the County of Wellington or City but not already captured as *significant wetlands* or *significant woodlands*.

Threatened Species means ~~a any native species that is at risk of becoming *endangered* that is listed or categorized as a "Threatened Species" on the 'Ontario Ministry of Natural Resources' official Species at risk list, as updated and amended from time to time by the Endangered Species Act through all or a portion of its Ontario range if the limiting factors are not reversed.~~

Wetlands mean 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. ~~For the purposes of this Plan, *wetlands* also include wetland complexes as defined by the Ontario Ministry of Natural Resources.~~

Woodlands means ~~treed areas~~ **treed areas** ~~forested areas, of at least one hectare in size, that contains trees in a natural setting. The forested area~~ **that provides environmental and economic benefits to both the private land owner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and Provincial levels.**

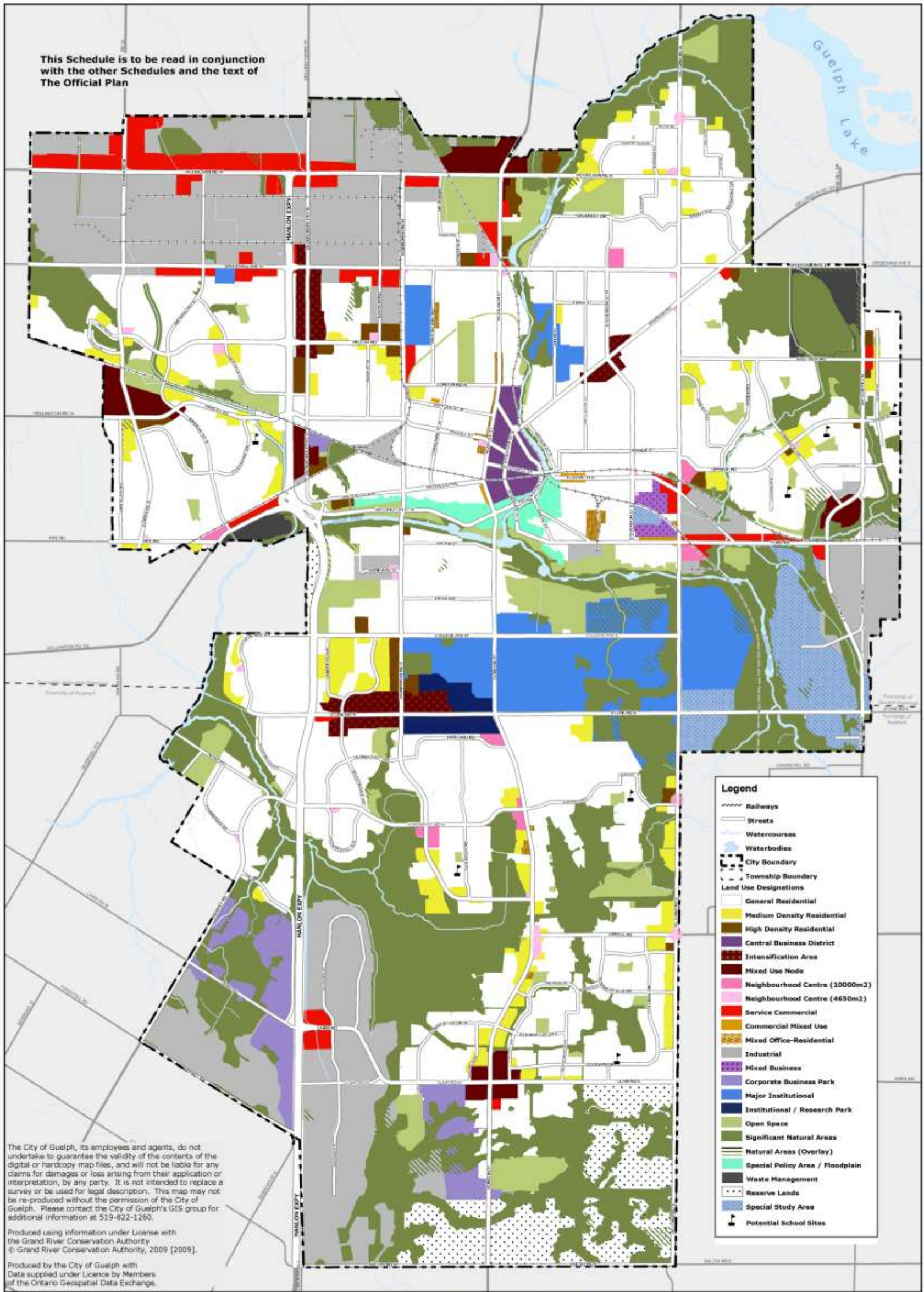
This includes an area of land at least 0.2 ha size with at least:

- i) 1000 trees of any size, per hectare;**
- ii) 750 trees measuring over 5 centimetres diameter at breast height, per hectare;**
- iii) 500 trees measuring over 12 centimetres diameter at breast height, per hectare;**
- iv) 250 trees measuring over 20 centimetres diameter at breast height, per hectare,**

But does not include a cultivated fruit or nut orchard, a plantation established for the purpose of producing Christmas trees or nursery stock. For the purposes of defining woodland, trees areas separated by more than 20 metres will be considered a separate woodland. ~~water retention, and provision of habitat in association with social, economic and aesthetic effects.~~

ITEM 8: The purpose of ITEM (8) is to replace the 'Core Greenlands' and 'Non-Core Greenlands Overlay' designations on Schedule 1 (Land Use Plan) with 'Significant Natural Areas' and 'Natural Areas'.

Official Plan Schedule 1, entitled 'Land Use Plan' is hereby amended in accordance with the following mapping:



Official Plan Amendment 42
**CITY OF GUELPH
 OFFICIAL PLAN
 SCHEDULE 1:
 LAND USE PLAN**

Guelph
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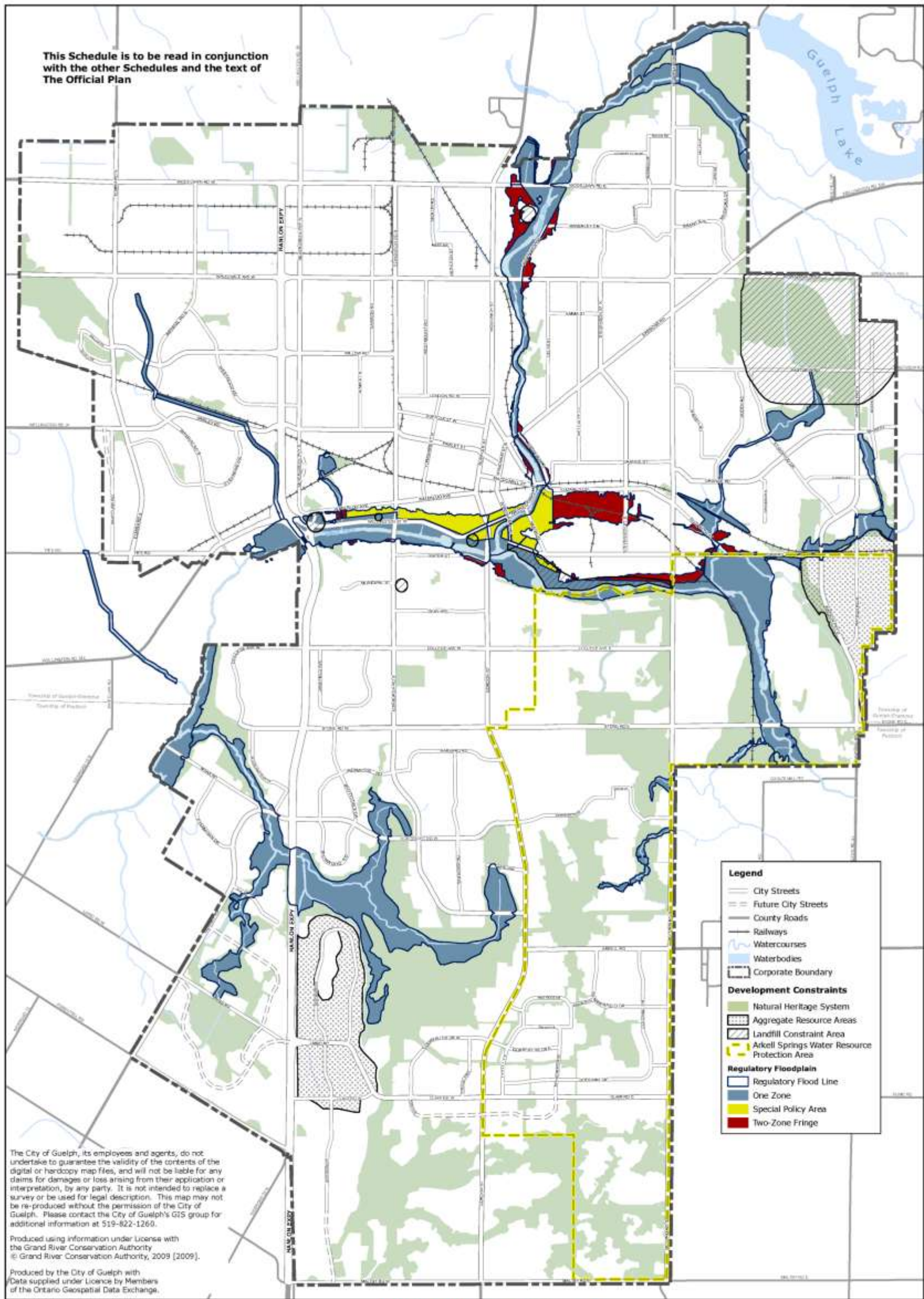
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Projection: NAD83 UTM Zone 17
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 July 14, 2010

ITEM 9: The purpose of ITEM (9) is to remove the *Natural Heritage Features*, including Provincially Significant Wetlands, Areas of Natural and Significant Interest (ANSI), and Other *Natural Heritage Features* designation from Schedule 2 (*Natural Heritage Features* and *Development Constraints*). Schedule 2 is renamed, '*Development Constraints*'.

Official Plan Schedule 2, entitled '*Natural Heritage Features and Development Constraints*' is hereby renamed, '*Development Constraints*' and amended in accordance with the following mapping:

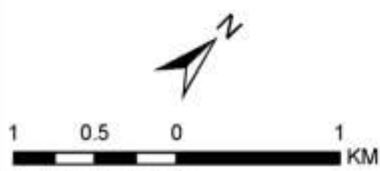
This Schedule is to be read in conjunction with the other Schedules and the text of The Official Plan



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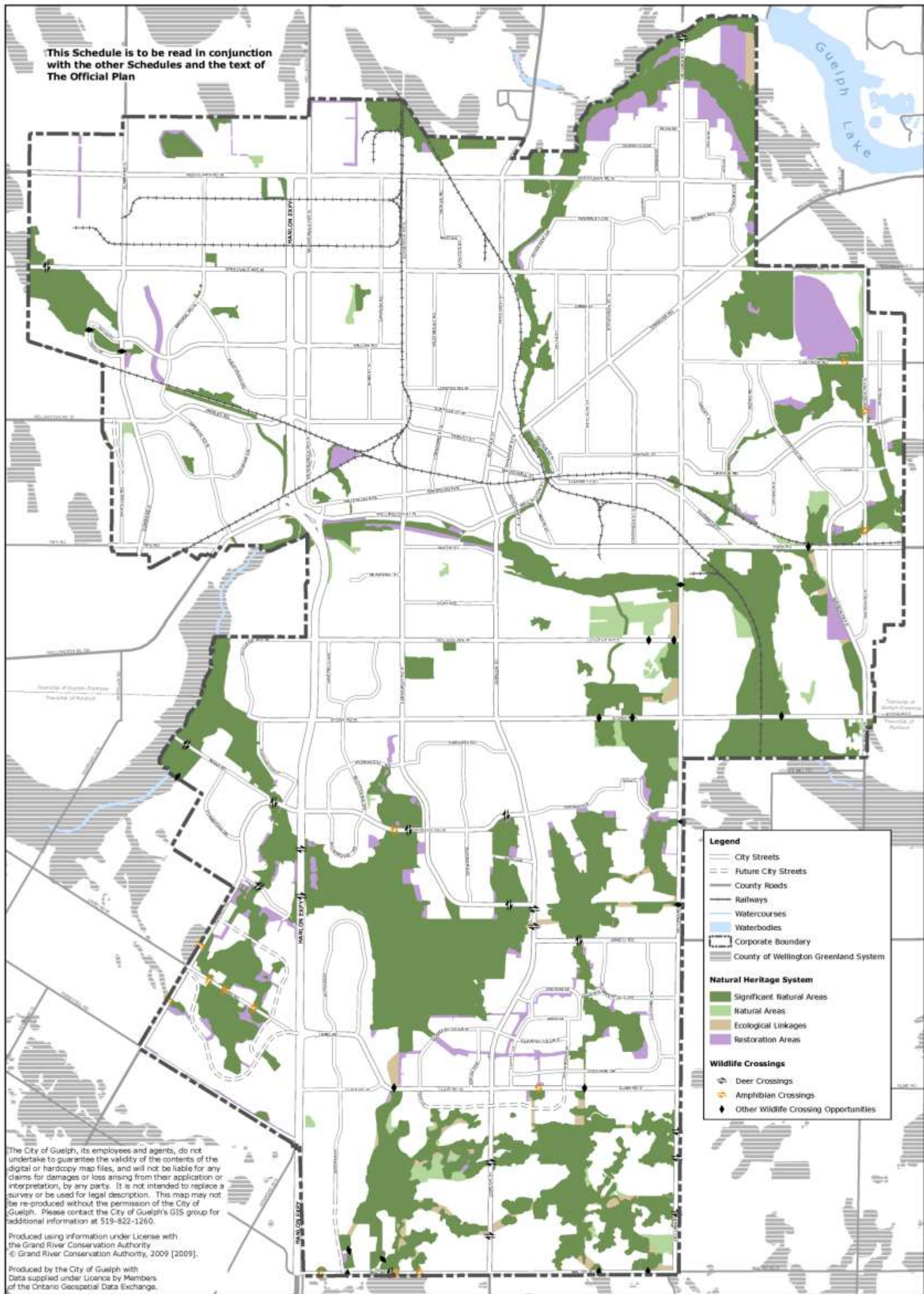
**SCHEDULE 2:
DEVELOPMENT CONSTRAINTS**



ITEM 10: The purpose of ITEM (10) is to adopt a series of Official Plan Schedules that comprise the Natural Heritage System.

The following new Official Plan Schedules are hereby adopted:

- Schedule 10: Natural Heritage System
- Schedule 10A: Natural Heritage Strategy (ANSIs, Habitat for Provincially Threatened and Endangered Species, and Wetlands)
- Schedule 10B: Natural Heritage Strategy (Surface Water and Fish Habitat)
- Schedule 10C: Natural Heritage Strategy (Significant Woodlands)
- Schedule 10D: Natural Heritage Strategy (Significant Valleylands & Significant Landform)
- Schedule 10E: Natural Heritage Strategy (Significant Wildlife Habitat)



Official Plan Amendment 42

CITY OF GUELPH

OFFICIAL PLAN

SCHEDULE 10:

NATURAL HERITAGE STRATEGY

Natural Heritage System

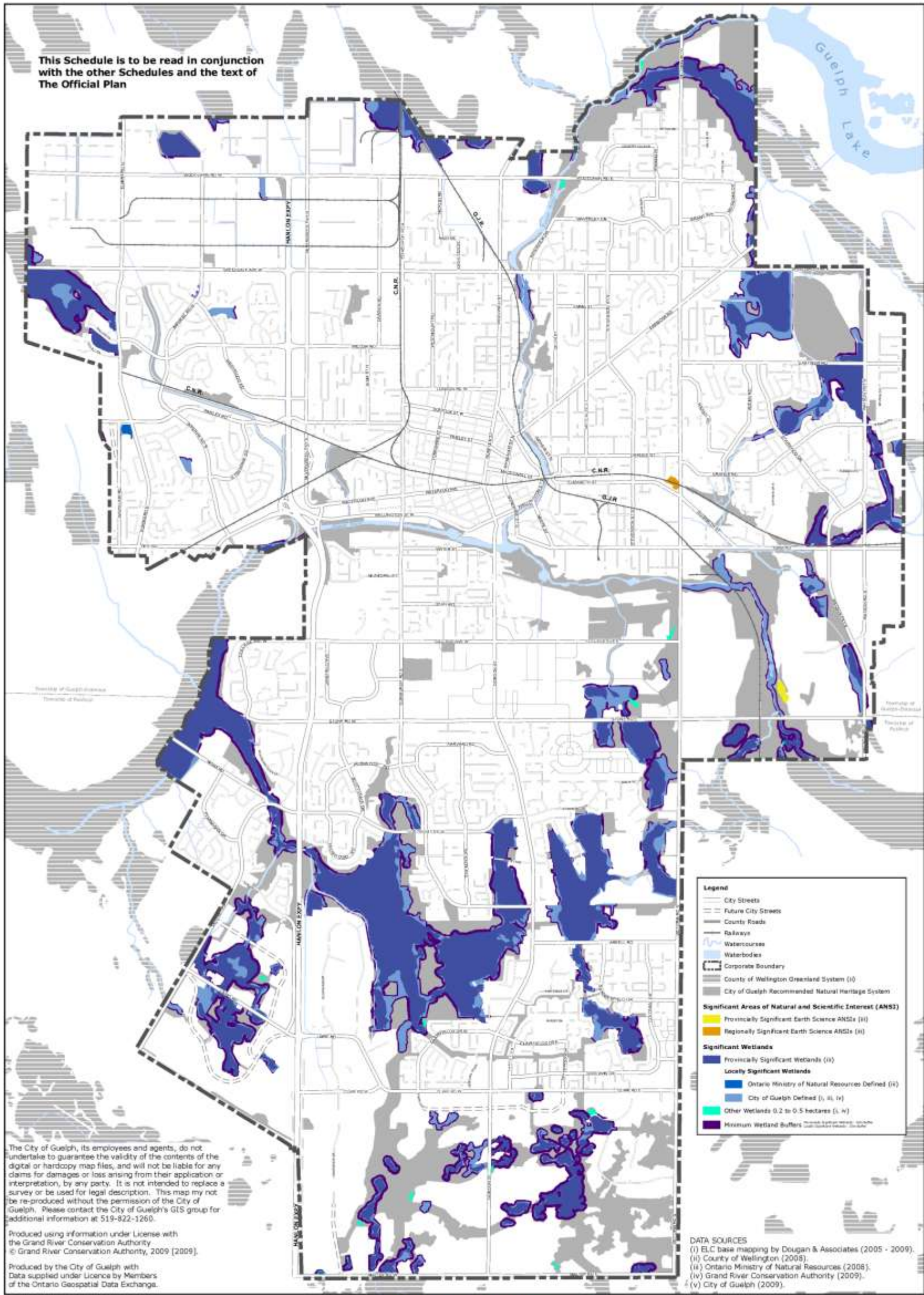
CITY OF Guelph

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Legend

- City Streets
- Future City Streets
- County Roads
- Railways
- Watercourses
- Waterbodies
- Corporate Boundary
- County of Wellington Greenland System (i)
- City of Guelph Recommended Natural Heritage System

Significant Areas of Natural and Scientific Interest (ANSI)

- Provincially Significant Earth Science ANSIs (ii)
- Regionally Significant Earth Science ANSIs (iii)

Significant Wetlands

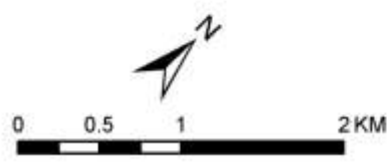
- Provincially Significant Wetlands (iv)

Locally Significant Wetlands

- Ontario Ministry of Natural Resources Defined (i)
- City of Guelph Defined (i, ii, iv)
- Other Wetlands 0.2 to 0.5 hectares (i, iv)
- Minimum Wetland Buffers (v)

DATA SOURCES

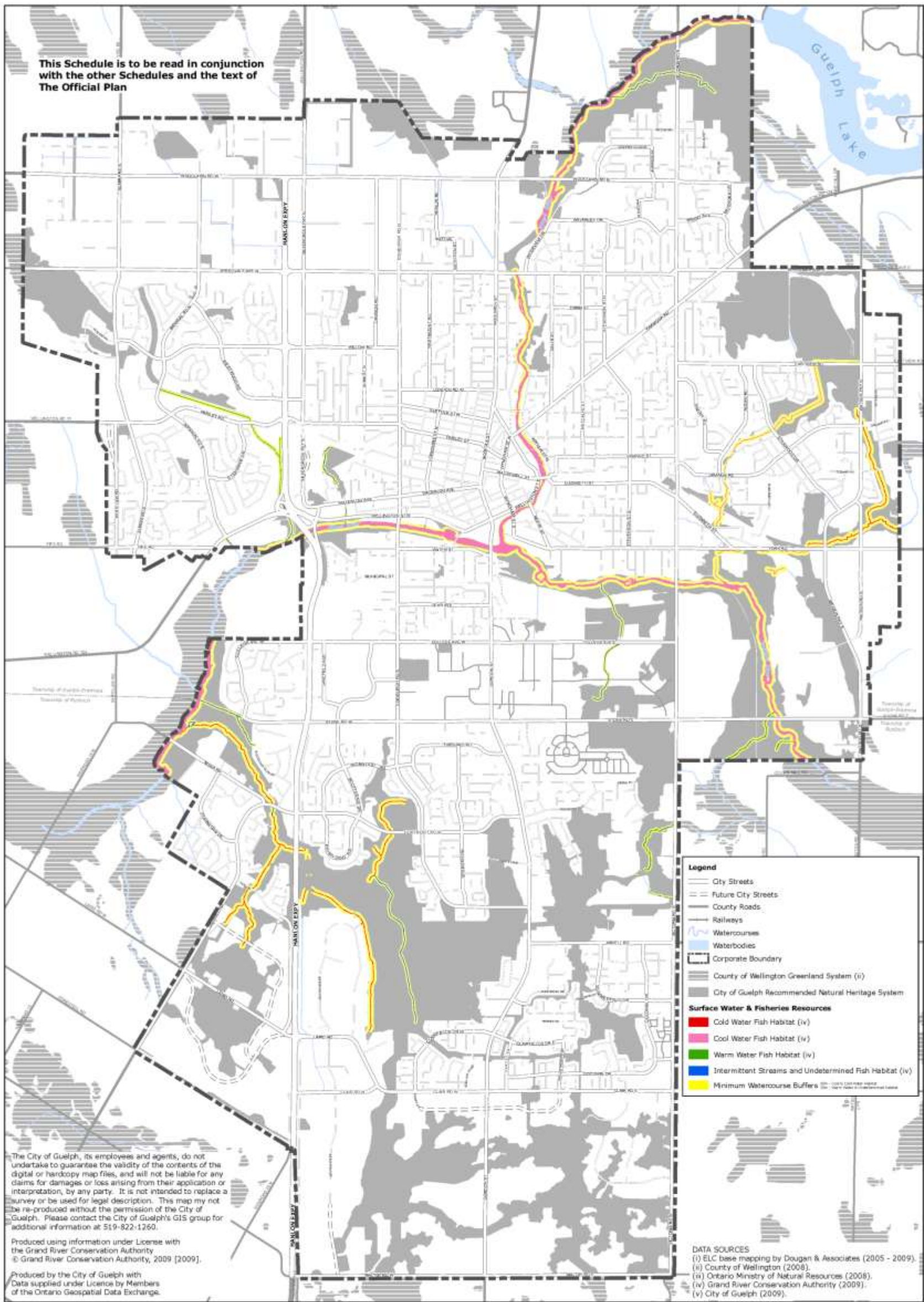
- (i) ELC base mapping by Dougan & Associates (2005 - 2009).
- (ii) County of Wellington (2008).
- (iii) Ontario Ministry of Natural Resources (2008).
- (iv) Grand River Conservation Authority (2009).
- (v) City of Guelph (2009).



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SCHEDULE 10A:
NATURAL HERITAGE STRATEGY
ANSIs and Wetlands





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CITY OF GUELPH

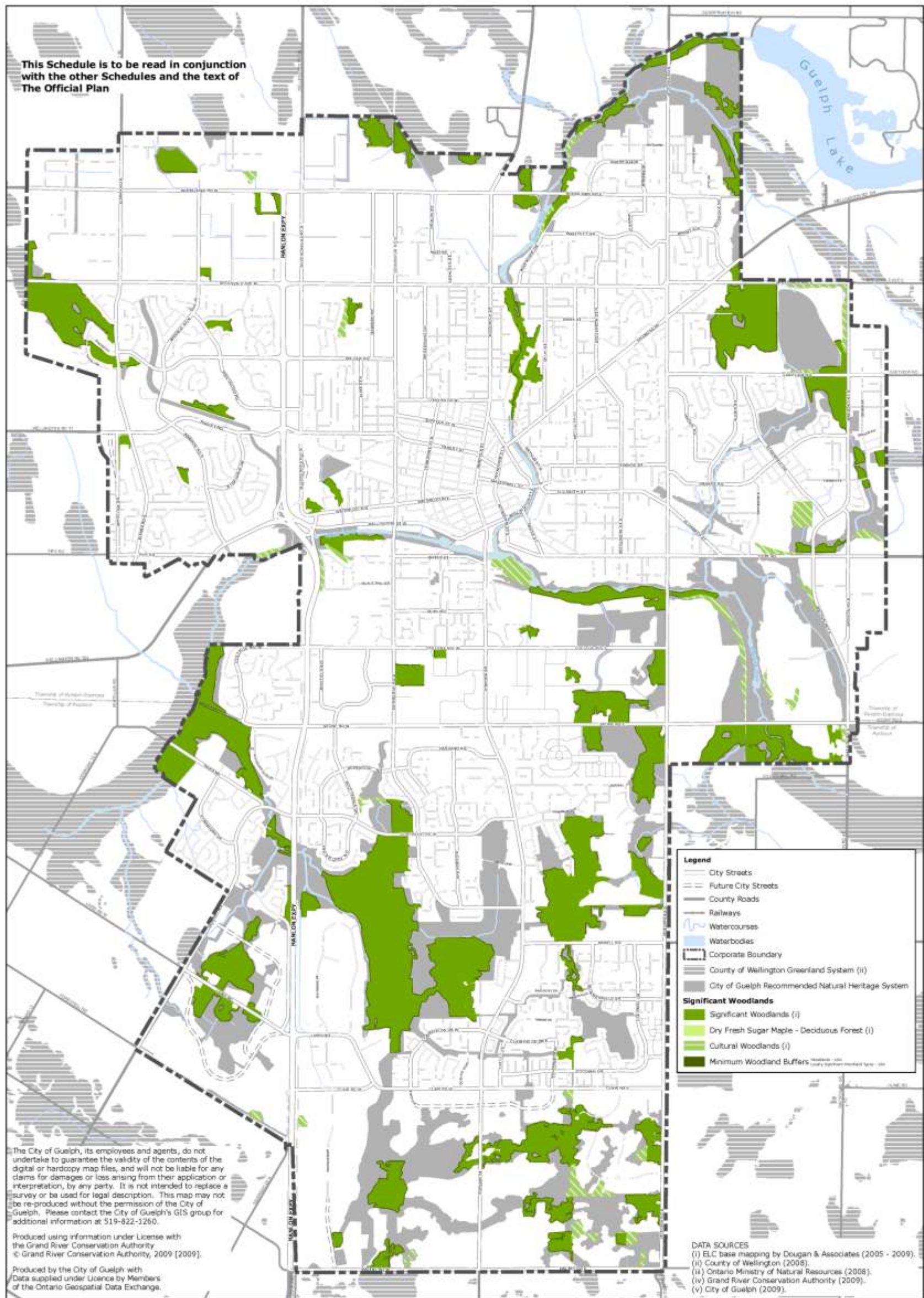
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SCHEDULE 10B:

NATURAL HERITAGE STRATEGY

Surface Water and Fish Habitat

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July 14, 2010

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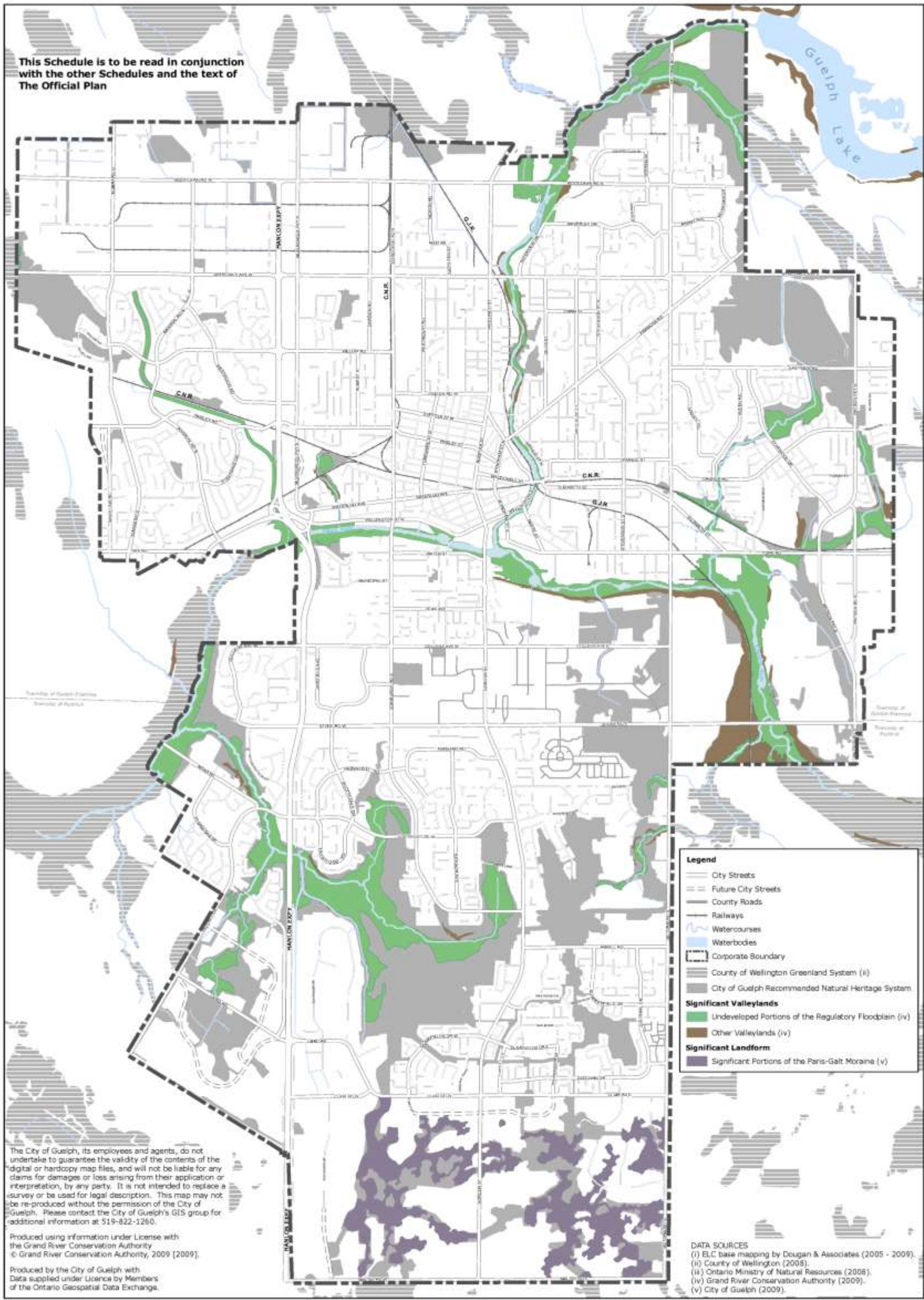
OFFICIAL PLAN

DRAFT SCHEDULE 10C:

NATURAL HERITAGE STRATEGY

Significant Woodlands

This Schedule is to be read in conjunction with the other Schedules and the text of The Official Plan

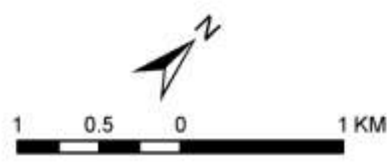


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DATA SOURCES
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 (iv) Grand River Conservation Authority (2009).
 (v) City of Guelph (2009).

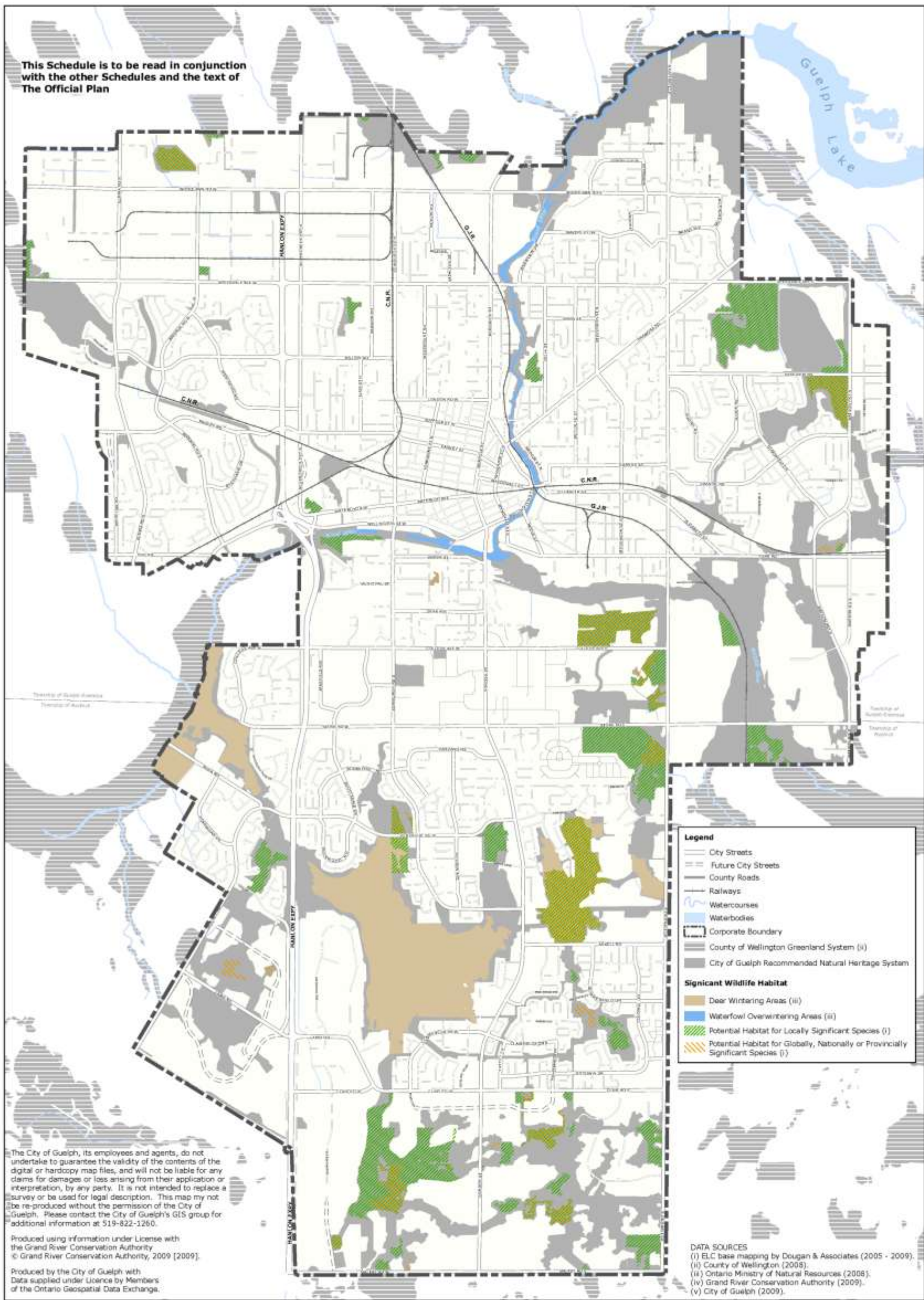


Official Plan Amendment 42
CITY OF GUELPH
OFFICIAL PLAN
SCHEDULE 10D:
NATURAL HERITAGE STRATEGY
Significant Valleys & Significant Landform



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 July 14, 2010

This Schedule is to be read in conjunction with the other Schedules and the text of The Official Plan



Legend

- City Streets
- Future City Streets
- County Roads
- Railways
- Watercourses
- Waterbodies
- Corporate Boundary
- County of Wellington Greenland System (ii)
- City of Guelph Recommended Natural Heritage System

Significant Wildlife Habitat

- Deer Wintering Areas (iii)
- Waterfowl Overwintering Areas (ii)
- Potential Habitat for Locally Significant Species (i)
- Potential Habitat for Globally, Nationally or Provincially Significant Species (i)

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DATA SOURCES
 (i) ELC base mapping by Dougan & Associates (2005 - 2009).
 (ii) County of Wellington (2008).
 (iii) Ontario Ministry of Natural Resources (2008).
 (iv) Grand River Conservation Authority (2009).
 (v) City of Guelph (2009).



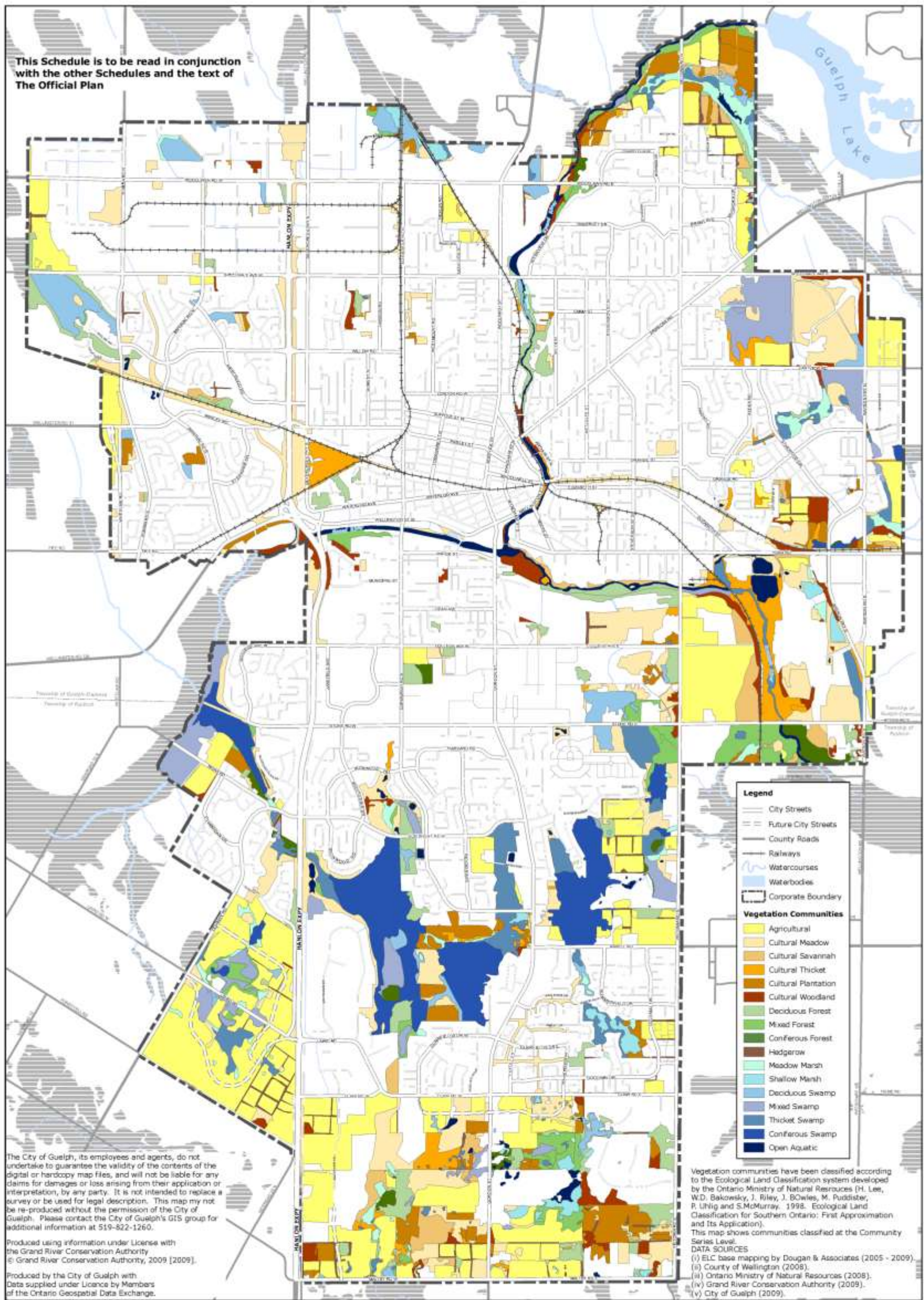
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CITY OF GUELPH
OFFICIAL PLAN
SCHEDULE 10E:
NATURAL HERITAGE STRATEGY
Significant Wildlife Habitat



ITEM 11: The purpose of ITEM (11) is to adopt an Appendix to the Official Plan that illustrates vegetation communities within the City.

The following new Appendix 1, entitled 'Ecological Land Classification' is hereby adopted:



Official Plan Amendment 42
CITY OF GUELPH
OFFICIAL PLAN
APPENDIX 1:
NATURAL HERITAGE STRATEGY
Ecological Land Classifications

CITY OF Guelph
 Making a Difference

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PART C - THE APPENDIX

The Appendix is contained under a separate cover. The Appendix does not form part of this amendment, but contains background information relevant to the amendment.

APPENDIX A: City of Guelph Natural Heritage Strategy – Phase II Report (2009)

[This report is available on the City’s website at **guelph.ca** or at the City’s Planning and Building Services Division at 1 Carden Street, 3rd Floor]