

Section 6. THE ENVIRONMENT & ENERGY

This Section of the Official Plan provides policy guidance with respect to the protection of environmental quality within the City's *natural heritage system*, a vital network of diverse features which connects the urban and rural portions of the municipality across air, land and water. The protection of the *natural heritage system* across the *watersheds* is a fundamental requirement of ensuring how this City addresses climate change and still ensures its *sustainability*. This Section of the Plan also deals with principles of energy production and *energy conservation*. These policies are intended to assist the City in evaluating the rapidly evolving technologies for *renewable energy* systems.

6.1 NATURAL HERITAGE SYSTEM

The *natural heritage system* is important for its natural features and their functions which contain animal and plant habitat areas, for the natural resources, such as water, which sustains animal and human health and activity, and for its value as a *recreational* and tourist resource. These inter-related features and functions that support life and environmental health have been evaluated as a system, and consist of core areas linked by landforms and habitats.

Provincial policy states “Natural features and areas shall be protected for the long term” (2.1.1). “The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features and areas, surface water features and groundwater features*” (2.1.2).

A great variety of different ecological areas are included in the *natural heritage system* and, because it is a living system involving plants, animals and humans, and is continuously evolving. The ecological system consists of core areas, linkages, landforms and functions that allow for the movement of wildlife and the maintenance of natural functions across large areas. Most areas can accommodate some human presence and have *recreational* potential, but some are more sensitive, and cannot. Some areas can include non-intrusive built forms of *development* while others cannot, and *environmental impact assessments* are required to make this determination.

Goal:

To manage growth and land use in a manner that maintains, restores and enhances the natural heritage system within Kingston as a healthy ecosystem that will continue to sustain all life forms over the long term. The natural heritage system includes significant landforms, wetlands, woodlands, valleylands, floodplains, areas of natural and scientific interest (ANSIs), significant wildlife habitat, environmentally significant areas, surface water features, and groundwater features.

Policies:

Intent

6.1.1. The City must protect and encourage the stewardship and restoration of the *natural heritage system* identified on Schedules 7 and 8 by directing new *settlement areas* or major *development* away from the *natural heritage system*, and by regulating such land use or *development* as may be permitted on *adjacent lands* to the *natural heritage system* in a manner that protects the ecosystem by ensuring there are no *negative impacts* after careful assessment. The City also supports the efforts of non-profit organizations like the Conservation Authority and land trusts in preserving *natural heritage features and areas*.

Natural Heritage “A” Schedule 7

6.1.2. Areas of greatest significance are categorized as Natural Heritage “A” features. These areas are not intended for *development* or *site alteration* and are designated as Environmental Protection Areas on Land Use Schedule 3 and those Land Use Schedules in Section 10. The *significant* habitat of *endangered and threatened species* is shown schematically with symbols on the Natural Heritage “A” Schedule 7, in order to protect the exact location of such habitat or species. These locations of provincial significance must be determined through consultation with the Natural Heritage Information Centre of the Ministry of Natural Resources, the Cataraqui Region Conservation Authority or other public agency, as appropriate.

Natural Heritage “A” Features and Areas

6.1.3. Areas designated as Environmental Protection Areas on Schedule 3 and on the Land Use Schedules of the secondary plans in Section 10, are identified on Schedule 7 as Natural Heritage “A”, and under the Provincial Policy Statement, as amended from time to time, no *development* or *site alteration* is permitted in these areas. The designation of locally *significant wetlands* as Natural Heritage “A” features and areas does not preclude or hinder the consideration of new aggregate extraction operations, nor will it prohibit access to *mineral aggregate resources*. Natural Heritage “A” features include the following:

- provincially *significant wetlands*;
- locally *significant wetlands*;
- *areas of natural and scientific interest (ANSIs)*;
- *fish habitat* and riparian corridors;
- *significant coastal wetlands*; and,
- *significant* habitat of *endangered and threatened species* – for purposes of illustration Natural Heritage “A” features are shown on Schedule 7 as circles, as described in Section 6.1.2.

Natural Heritage “B” Features and Areas

6.1.4. Areas identified as Natural Heritage “B” on Schedule 8 will be treated as an overlay to land use designations on Schedule 3 and the land use designations of the secondary plans in Section 10. In these areas, *development* and *site alteration* will not be permitted unless it has been demonstrated that there will be no *negative impacts* on the *natural heritage features or areas* or *ecological functions*. Natural Heritage “B” features include:

- *significant woodlands*;
- *significant valleylands*;
- *significant wildlife habitat*;
- unevaluated *wetlands*;
- environmentally *significant* areas as historically mapped in the former Township of Pittsburgh and not considered *significant* under the current Provincial Policy definition of *natural heritage system*; and,
- linkages and corridors.

Consultation with Authorities

6.1.5. Any decision considered by the City for any *development* application with respect to land within, or immediately adjacent to, the *natural heritage system* will be made in consultation with the appropriate authorities, in accordance with the policies of this Plan, using the best available information at that time.

Boundaries

6.1.6. The boundaries of the *natural heritage system* features are approximate and more specific delineation of the boundaries and the significance of the area must be determined through an *environmental impact assessment*, in consultation with the City, the Cataraqui Region Conservation Authority, or the Ministry of Natural Resources, as appropriate, prior to the consideration of any *development* application. Minor refinements to boundaries in accordance with an approved *environmental impact assessment* will not require an amendment to this Plan.

Private Ownership

6.1.7. Where lands shown as part of the *natural heritage system* on Schedules 7 and 8 are held in private ownership, nothing in this Plan will be construed to imply that such lands are open for the use of the general public or will be acquired by the City or other public agency. Various ways of preserving and managing the ecological resource through stewardship, partnerships, land trusts, environmental easements, acquisition or other means are encouraged.

Land Stewardship

6.1.8. The City encourages a wide variety of land stewardship options, including protecting lands through easements, purchase, tax incentives, and dedication to land trusts to preserve and enhance the *natural heritage system*, and its *adjacent lands*, across the City. The City will encourage efforts with neighbouring municipalities, public agencies and private landowners to manage and improve the ecological *sustainability* of the *natural heritage system* as a whole.

Permitted Uses

6.1.9. Permitted land uses will be limited, and will vary by the sensitivity of the environmental feature. Permitted uses will be set out in the zoning by-law. Generally, active open space uses, structures, and stormwater ponds will be directed to areas outside of the *natural heritage system*, particularly outside of those areas shown as Natural Heritage “A” on Schedule 7.

Scope of Environmental Impact Assessment

6.1.10. The scope and scale of any *environmental impact assessment* required by this Plan must be determined in consultation between the City, the Cataraqui Region Conservation Authority or other appropriate agency or Ministry. For areas having a particular value for their *natural heritage feature* or function, the Conservation Authority may recommend that the distances noted in Section 6.1.12 may be increased in order to ensure that the *environmental impact assessment* adequately evaluates the impacts of a proposed *development* on the *natural heritage system*.

Environmental Impact Assessment (EIA)

6.1.11. The “Guidelines for Environmental Impact Assessment” as amended from time to time by the Conservation Authority are attached to this Plan as Appendix ‘A’, and will guide the preparation of *environmental impact assessments*. In general, an *environmental impact assessment* must:

- a. be undertaken by a *qualified person* with current knowledge in the field of biology, ecology, hydrology or other specialty as required by the specific circumstances;
- b. use appropriately scaled maps to show topography, existing uses and buildings, and all existing *natural heritage features and areas*, whether or not they have been deemed *significant* for the subject site and areas adjacent to it;
- c. use appropriately scaled maps with topographic contours to show proposed uses, proposed *site alteration* and/or *development*;
- d. provide a thorough inventory of flora and fauna and related habitat communities to be completed over a seasonal time span that is appropriate;
- e. provide relevant information on geology (*significant* landforms), hydrology or hydrogeology;
- f. summarize the best information available collected from other agency or scientific sources and discuss the *natural heritage features and areas*, and the associated *ecological functions*;
- g. review the *ecological functions* of the *natural heritage features and areas* identified including habitat needs and the contribution of the site to the *natural heritage system*;
- h. assess the cumulative impacts of the *development* proposal and any other existing or known future proposals in the vicinity; and,
- i. assess the impact of the proposed *development* or *site alteration* on the various attributes of the *natural heritage system* during and after construction; and,
 - recommend measures designed to ensure there is no disturbance of the feature, and that will result in no *negative impact*;
 - review alternative options and identify any monitoring requirements; and,
 - provide a professional conclusion as to whether the proposal is acceptable, considering potential impacts to *natural heritage*

features and areas, related functions, and any proposed measures needed to protect the *natural heritage feature(s) or area(s)* affected, consistent with the Provincial Policy Statement and the policies of this Plan.

EIA Requirements for Adjacent Lands

6.1.12. The Province of Ontario’s “Natural Heritage Reference Manual” specifies the *adjacent lands* for each category of *natural heritage features and areas*, and these buffer areas are intended to protect specific features and functions as mapped.

Development and site alteration are not permitted on *adjacent lands* to Natural Heritage “A” or “B” features shown on Schedules 7 and 8 respectively, unless it has been demonstrated that there will be no *negative impacts* on the *natural features and areas* or on their *ecological functions*. In the review of any *development or site alteration*, an *environmental impact assessment* will be required as follows, unless otherwise directed by the Cataraqui Region Conservation Authority:

- a. within 120 metres of a provincially *significant wetland*;
- b. within 30 metres of a locally *significant wetland*;
- c. within 30 metres of *fish habitat*, which for the purposes of this Plan are shown as Environmental Protection Areas on Schedule 3;
- d. within 50 metres of an *area of natural and scientific interest (ANSI)*;
- e. within 50 metres of *significant habitat of endangered and threatened species*; and,
- f. within 50 metres for *significant woodlands, valleylands and significant wildlife habitat*.

Agricultural Uses May Continue

6.1.13. Nothing in this Section is intended to limit the ability of existing *agricultural uses* to continue. Existing *agricultural uses* and *normal farm practices* occurring on *adjacent lands* to the *natural heritage features and areas* are not subject to the requirement for an *environmental impact assessment*.

Endangered and Threatened Species Information

6.1.14. *Development and site alteration* will not be permitted on *significant habitat of endangered and threatened species*. Land shown as Natural Heritage “A” on Schedule 7, as well as *significant habitat of endangered or threatened species* shown only on Ministry of Natural Resources maps, but not on Official Plan Schedules, are generally required to be retained in a natural state. The Ministry of Natural Resources will be consulted as a primary source for species at risk and *wildlife habitat* information.

No Negative Impact

6.1.15. Any *development or site alteration* seeking approval on *adjacent lands* to a Natural Heritage “A” area should demonstrate through the *environmental impact assessment* to the satisfaction of the City and appropriate authorities, that there are no *negative impacts* on the *natural heritage features and areas* or *ecological functions* of the *natural heritage system*.

- Re-designation of Natural Heritage “A”** **6.1.16.** It is the policy of the City to re-designate any Natural Heritage “A” feature or function area only when approved by the Cataraqui Region Conservation Authority or the Ministry of Natural Resources.
- Lots of Record** **6.1.17.** *Development* on lots of record within Natural Heritage “A” areas may be permitted, but must be considered in accordance with the policies of this Plan, the provisions of the implementing zoning by-law, and the comments of the appropriate approval authorities.
- Natural Heritage “B”** **6.1.18.** Features and functions shown as Natural Heritage “B” on Schedule 8 are categorized differently under the Provincial Policy Statement than those shown as Natural Heritage “A” areas. More detailed investigation may support amendment to a boundary, or possibly deletion of an area from Schedule 8 without amendment to this Plan, after consultation with and approval by the Cataraqui Region Conservation Authority, the Ministry of Natural Resources and the City, as well as Parks Canada for locations along the Rideau Canal and in the vicinity of the fortifications in Kingston.
- 6.1.19.** Natural Heritage “B” features that are deemed of interest to the Ministry of Natural Resources will only be redesignated to another land use when approval is given by the Ministry.
- No Negative Impacts** **6.1.20.** Generally, *development* and *site alteration* will not be permitted in areas identified as Natural Heritage “B”. Any proposed *development* and *site alteration* will not be permitted unless it has been demonstrated that there will be no *negative impacts* on the *natural heritage features and areas*, or their *ecological functions*. In considering any *development* within the Natural Heritage “B” area, an approved *environmental impact assessment* and an amendment to the zoning by-law will be required to establish appropriate setbacks or other conditions.
- Contributory Woodlands** **6.1.21.** The City encourages the preservation of both *significant* and *contributory woodlands* as shown on Schedule 8 of this Plan, and the consideration of all *woodlands* in the preparation of an *environmental impact assessment*.
- Linkages and Corridors** **6.1.22.** Areas of contiguous *woodlands*, *wetlands* or other *natural heritage features and areas* represent important areas of *wildlife habitat* that are critical to the movement of wildlife. These linkages and corridors, as shown on Schedule 8, must be protected, enhanced and restored in the long term. The introduction of *recreational* trails or other uses that could harm these areas is discouraged unless it can be demonstrated that the proposed use will not harm the natural *wildlife habitat*. Through an *environmental impact assessment*, it may be determined that previously unmapped *significant wildlife habitat* is recognized, and warrants protection.

Setbacks for Development

6.1.23. Setbacks from all *wetlands*, rivers and lake areas are established based on *floodplain*, *wave uprush* or *fish habitat* protection zones in consultation with the Ministry of Natural Resources, the Cataraqui Region Conservation Authority, as well as with Parks Canada for locations along the Rideau Canal. Generally a setback of 30 metres from the high water mark will be required, unless a greater setback has been established based on specific hazard or *environmental impact assessment* findings. On lots of record where the lot depth is insufficient to provide the 30 metre setback from the high water mark, the setback may be reduced upon approval by the Cataraqui Region Conservation Authority, Parks Canada, or other agency having jurisdiction.

Land Division

6.1.24. Land division through severance or plan of subdivision (or condominium) that has the effect of fragmenting lands within the *natural heritage system* is discouraged. The policies of Section 9.6 of this Plan must also be addressed.

Land Division in Natural Heritage A

6.1.25. Where a site is within a Natural Heritage “A” feature, no new land division that results in the creation of a new lot will be granted except for lands that are to be held by land trusts, public agencies, or for conservation purposes.

Land Division in Natural Heritage B

6.1.26. Where a site is within a Natural Heritage “B” feature, no land division that results in the creation of a new lot will be granted if it results in *negative impacts* on the feature or function, except for lands that are to be held by land trusts, public agencies, or for conservation purposes.

Land Division Adjacent to Natural Heritage A and B

6.1.27. Where a site is on *adjacent lands* to either a Natural Heritage “A” feature or a Natural Heritage “B” feature, no land division that results in the creation of a new lot will be approved unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on the *natural heritage features and areas*, or on their *ecological functions*.

Setbacks from Waterbodies

6.1.28. Any proposed *development* adjacent to a river or lake is required to provide for adequate water setbacks.

6.2 ENERGY CONSERVATION AND PRODUCTION

Scientists agree that the changing trends in weather, commonly referred to as climate change, are having severe *negative impacts* on the world. Energy consumption continues to increase while traditional energy supplies are becoming increasingly constrained. The need has never been greater to conserve energy and use it wisely and efficiently, and to find more sustainable means of producing energy.

As a result of technological advances and energy deregulation, various forms of *renewable energy* are now able to provide thermal and electrical power on a site-specific basis, district basis, or as part of a more expansive utility grid system. The social, economic and environmental benefits of using *renewable energy* technologies in *developments* are well-documented. Still, these merits must be balanced with assuring the functionality of the technology, and its compatibility with the natural environment and adjacent land uses.

Goal:

To be a leader in energy conservation, energy efficiency, and sustainable energy production, with a strong focus on the development of renewable energy systems that are appropriate in type and scale, and that minimize impacts on the natural environment and adjacent land uses.

Policies:

General

- 6.2.1.** The City promotes the design and orientation of *development* that:
 - a.** maximizes passive *solar energy* gain and minimizes energy loss from prevailing winds; and,
 - b.** explores opportunities for *renewable energy infrastructure* on a site-specific or district-wide basis.
- 6.2.2.** The City promotes landscaping and tree planting programs that help to moderate summer and winter micro-climatic conditions.
- 6.2.3.** The City strongly promotes construction techniques that allow *development* to accommodate more affordable *renewable energy* technologies in the future.
- 6.2.4.** The City supports public education, pilot projects and demonstration programs that explore ways to use *renewable energy infrastructure* for *development*.
- 6.2.5.** The City supports and will promote the use of energy audits to evaluate the energy efficiency of buildings.
- 6.2.6.** The City may give priority to *development* applications that incorporate *renewable energy infrastructure*.
- 6.2.7.** The City encourages the installation and operation of energy generation systems to be designed and constructed to minimize impacts on *prime agricultural land*, on existing *agricultural uses* or *agriculture-related uses*, or on *mineral or aggregate resources* on a property.
- 6.2.8.** When the City has approval authority for a project, the proponent must demonstrate to the satisfaction of the City that:

Functionality and Compatibility	<ul style="list-style-type: none"> a. the proposed energy generation system is functional and <i>compatible</i> in accordance with Section 2.7 of this Plan; b. if proposed on lands designated on Schedule 3 as Prime Agricultural Area or <i>Mineral</i> Resource Area, that there are no suitable alternate locations on poorer soils on the property to accommodate the proposed energy generation system;
Support Studies	<ul style="list-style-type: none"> c. systems may be required to demonstrate, through appropriate supporting studies, that emissions from dust, noise, contaminants, odour, water, wastewater, stormwater drainage, or solid waste disposal will not have any <i>adverse effects</i> on <i>sensitive uses</i>. Where applicable, a completed Certificate of Approval for emissions will be required prior to the municipality's consideration of the implementing zoning by-law;
Siting and Buffering	<ul style="list-style-type: none"> d. systems must be sited in a manner that minimizes visual impacts and are <i>compatible</i> to other uses that may already be established on the site, in addition to the surrounding neighbourhood/landscape character. This will be achieved through siting, architectural design, and landscape/buffer treatments;
Required Information & Studies	<ul style="list-style-type: none"> e. proponents of an energy generation system must submit all required information and studies, in accordance with Section 9.12 of this Plan. The number and scope of the studies and assessments required is to be appropriate and in keeping with the type, scale and complexity of the energy generation system being proposed.
Peer Review	6.2.9. In situations when the City has approval powers the City may require a peer review of information or studies submitted in support of the proposed <i>development</i> , to be prepared at the expense of the proponent, and to the satisfaction of the City.
Zoning By-law	6.2.10. In situations when the City has approval powers, the implementing zoning by-law will regulate energy generation systems regarding such matters as site area, massing, scale, site coverage, building or structural height, setbacks, mutual separation, parking and buffering provisions. Site plan review may also be required.
District Energy	6.2.11. The City supports and encourages the use of district energy systems.
	6.2.A Solar Energy
Solar Energy	6.2.A.1. Where <i>solar energy</i> systems are used for the production of thermal energy (heat), these systems may be treated separately through the policies of this Plan and the implementing zoning by-law.
Passive Solar	6.2.A.2. The City requires the design and orientation of new buildings and subdivisions in a way that maximizes passive <i>solar energy</i> gain and day-lighting.

**Solar-ready
Infrastructure**

6.2.A.3. The City promotes the inclusion of solar-ready infrastructure in the construction of new homes and other buildings.

**Roof-mounted
Solar Panels**

6.2.A.4. Nothing in this Plan is intended to restrict the installation, operation or maintenance of a thermal *solar energy* system that is:

- a.** an *accessory use* to a permitted use or building; and,
- b.** mounted directly on the roof of:
 - a principal building; or,
 - each main building in a multiple building project that is on a single landholding.

6.2.B Wind Energy

**Wind Energy
Systems**

6.2.B.1. *Wind energy* systems may be used for the production of electricity, will be regulated in accordance with provincial and federal regulations.

6.2.C Biomass Energy

**Biomass Energy
Systems**

6.2.C.1. *Biomass energy* systems may be used for the production of electricity, thermal energy (heat), or fuel, and any such systems intended for heat production may be treated separately through the policies of this Plan and the implementing zoning by-law. The following policies apply to systems which are intended for heat generation.

**Fireplaces and
Wood Stoves**

6.2.C.2. This Plan is not intended to restrict the installation, operation or maintenance of domestic outdoor wood-burning furnaces, or indoor wood-burning fireplaces, wood stoves, or pellet stoves, provided they comply with the Building Code.

Industrial Use

6.2.C.3. The commercial installation or operation of a *biomass energy* system for heat production is permitted in General Industrial, Waste Management Industrial, and Rural Industrial designations, as shown on Schedule 3 of this Plan.

Accessory Use

6.2.C.4. The installation or operation of a *biomass energy* system is permitted as an *accessory use* to an industrial business or an active farm, provided the lands are designated as General Industrial, Waste Management Industrial, Rural Industrial, Prime Agricultural Area, or Rural.

On-site Consumption

6.2.C.5. Except for the Industrial designations referred to in Section 6.2.C.3, the energy produced by a *biomass energy* system is primarily for domestic, on-site consumption.

Source of Material

6.2.C.6. Except for the Industrial designations referred to in Section 6.2.C.3, a substantial amount of the biological material used in a *biomass*

energy system should come from the farm on which the generating system is located.

Adjacent to Natural Heritage Features

6.2.C.7. *Biomass energy* systems are not permitted on *adjacent lands* next to the *natural heritage system* identified on Schedules 7 and 8 of this Plan, unless a satisfactory *environmental impact assessment* has been prepared that demonstrates that there will be no *negative impacts* on the *natural heritage features and areas* or on their *ecological functions*.

Planning Requirements

6.2.C.8. All *biomass energy* systems are subject to:

- a. a zoning by-law amendment that recognizes the site-specific *development*; and,
- b. site plan control review.

6.2.D Geothermal Energy

Geothermal Energy Systems

6.2.D.1. *Geothermal energy* systems may be used for the production of thermal energy (heat) or electricity, and where such systems are intended to produce heat exclusively, these systems may be treated separately through the policies of this Plan as follows, and the implementing zoning by-law.

6.2.D.2. The installation or operation of a *geothermal energy* system is permitted in Institutional, Regional Commercial, Arterial Commercial, District Commercial, Business Park Industrial, General Industrial, Waste Management Industrial, Rural Commercial, Rural Industrial, Rural and Prime Agricultural Area, as shown on Schedule 3 of this Plan.

Adjacent to Natural Heritage Features

6.2.D.3. *Geothermal energy* systems are not permitted on lands designated as Environmental Protection Area on Schedule 3 of this Plan, or on *adjacent lands* to the *natural heritage system* as identified on Schedules 7 and 8 of this Plan, unless a satisfactory *environmental impact assessment* has been prepared that demonstrates that there will be no *negative impacts* on the *natural heritage features and areas* or on their *ecological functions*.

6.2.E Hydroelectric Energy

Hydroelectric Energy Systems

6.2.E.1. *Hydroelectric energy* systems may be used for the production of electricity, and as such, will be subject to federal and provincial regulations.

Kingston Mills

6.2.E.2. Nothing in this Section of the Plan restricts the operation or maintenance of the *hydroelectric energy* system at Kingston Mills, as existing on the effective date of this Plan.

6.2.F Cogeneration Energy

Cogeneration Systems

6.2.F.1. *Cogeneration energy* systems are used for the production of both electricity and thermal energy (heat), however any systems used exclusively for heat production may be regulated through the policies of this Plan and the implementing zoning by-law.

6.2.F.2. *Cogeneration energy* systems intended for heat production are allowed in all land use designations, subject to the proponent proving to the City's satisfaction that the cogeneration system will not have an *adverse effect* on neighbouring properties.

Adjacent to Natural Heritage Features

6.2.F.3. *Cogeneration energy* systems are not permitted on lands adjacent to the *natural heritage system* identified on Schedules 7 and 8 of this Plan, unless a satisfactory *environmental impact assessment* has been prepared that demonstrates that there will be no *negative impacts* on the *natural heritage features and areas* or on their *ecological functions*.

6.2.F.4. All *cogeneration energy* systems are subject to site plan control review.

Queen's University

6.2.F.5. Nothing in this Plan restricts the operation or maintenance of the *cogeneration energy* system based at Queen's University, as existing on the effective date of this Plan.