



infrastructure

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8. Infrastructure

8.A Objectives for Infrastructure

- Objective 8.A.1** To provide a framework and policy linkages for the coordination of *infrastructure* planning, land use planning, and *infrastructure* investment to implement this Plan.
- Objective 8.A.2** To optimize the use of existing *infrastructure*.
- Objective 8.A.3** To provide a framework where urban *development* occurs only in areas with full municipal services and where public/private *utility infrastructure* has or will be established to serve the anticipated growth and *development*.
- Objective 8.A.4** To provide necessary public utilities in accordance with the servicing needs of existing and future *development* conforming to stated priorities and with economic, safety and environmental considerations.
- Objective 8.A.5** To establish priorities for the staging of works, particularly with regard to water supply and sewage disposal systems, necessary for the current and future servicing requirements of the Region. The following priorities shall be applicable, but are not intended to be absolute due to other objectives and servicing needs.
- a) To meet minimum water quality objectives and minimum pollution abatement objectives, as established by the Region in consultation with appropriate Provincial and Federal Ministries, for the provision of services to existing municipal *development* having deficiencies in their existing municipal systems.
 - b) To meet the needs of existing *development* in terms of capacity for both water supply and sewage disposal.
 - c) To meet the needs for new *development* in an orderly and efficient manner. Industrial *development* which creates employment opportunities shall be assigned a higher priority than residential *development*. Priority for new *development* must also be co-ordinated with the availability of all other major services.
 - d) To recognize other objectives and policies of this Plan.
 - e) To recognize financial considerations.
- Objective 8.A.6** To provide for the disposal and treatment of solid wastes in a manner which is economically, ecologically, and aesthetically acceptable.

8.B Water and Wastewater Systems

- Policy 8.B.1** The Region will provide, insofar as possible, adequate water supply, sewage collection and disposal and, in co-operation with the local municipalities, will provide storm drainage facilities to meet the existing and future *development* needs within the approved *urban areas* of the Region.
- Policy 8.B.2** The Region, in consultation with local municipalities, will prepare design criteria for water and sewer works to be used in the design and approval of such facilities.
- Policy 8.B.3** The Region will prepare by-laws to regulate the use of its water supply and sewage treatment facilities.
- Policy 8.B.4** The Region will undertake jointly with local municipalities, the determination of *development* densities (through zoning by-laws or other means) in accordance with present and proposed water and sewer works capacities. This will ensure that servicing is co-ordinated with local zoning by-laws and staging of *development*.
- Policy 8.B.5** The Region will review its servicing policies from time to time in the light of both changing conditions of supply and demand for services and significant changes in economics and technology.
- Policy 8.B.6** The Region may introduce levies and shall establish rates for Regional water and sewage capital and operating costs to permit orderly expansion of such facilities.
- Policy 8.B.7** Lands abutting existing and proposed sewage treatment facilities shall be zoned to permit only such compatible land uses as industrial or open space. Where such zoning cannot be developed, then suitable separation areas must be incorporated between the treatment facilities and the proposed *development* to minimize the impact of odour problems that may be generated at such facilities. The separation distance will be dependent on the nature of the *development*, the treatment facility and other physically-related factors.
- Policy 8.B.8** All new *development* which is proposed to be connected to existing *combined sewer* facilities shall be served with separated systems within the property limits of the *development*. The continued separation of storm and sanitary flows beyond the boundaries of the *development* will be dependent upon the available capacity within the existing sewer system, the treatment plant and the proximity of suitable storm outlets to the *development*.
- Policy 8.B.9** Municipal sewage services and water services are the required form of servicing for *development* in *Urban Areas*.
- Policy 8.B.10** The Region and the local municipalities should generate sufficient revenues to recover the *full cost* of providing *municipal water and wastewater systems*.
- Policy 8.B.11** The Region will continue to plan and design *municipal water and wastewater systems* that return water to the Great Lakes *watershed* from which the withdrawal originates.

- Policy 8.B.12** Construction of new, or expansion of existing, *municipal water and wastewater systems* should only be considered where the following conditions are met:
- a) Strategies for water conservation and other water demand management initiatives are being implemented in the existing service area;
 - b) Plans for expansion or for new services are to serve growth in a manner that supports achievement of the *intensification target* and density target in this Plan; and
 - c) Plans have been considered in the context of applicable inter-provincial, national, bi-national, or state-provincial Great Lakes Basin agreements and are in compliance with the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement.
- Policy 8.B.13** Local municipalities are encouraged to implement and support innovative stormwater management plans and strategies as part of *redevelopment* and intensification.
- Policy 8.B.14** The Region requires that each municipality include in its official plan priority and staging policies for both water supply and sewage disposal systems which recognizes the locations and amounts of land needed for future urban *development* and which is co-ordinated with Regional priorities and requirements.
- Policy 8.B.15** The Region requires that each *local municipality's* staging policies conform with the approved urban *development* areas as designated in this Plan.
- Variations with respect to priority and staging policies will only be permitted where:
- a) full support and documentation for the variation is provided with a proposed local official plan amendment prepared by the area municipality;
 - b) the proposed *development* can be provided with water and sewer services in accordance with the Region's priorities and at reasonable cost;
 - c) the *development* is necessary and desirable in the municipality;
 - d) the proposal complies with all the other objectives and policies of this Plan; and
 - e) the proposed *development* is adequately served or can be adequately served by other facilities such as roads.
- Policy 8.B.16** The boundaries of urban service areas, sewer areas, water areas (if any) or any other special areas which involve a tax charge on residents within that area and are intended to cover the cost of existing or proposed sewer or water works must comply with current Regional and local Plans.

- Policy 8.B.17** On the basis of current technology in both water and sewage facilities, specific benefits accrue, from a capital cost and operating cost point of view, in the reduction in the number of plants that must be built or maintained. The Region will, therefore, continue its program to limit the number of such installations, consistent with the quality of services already provided, and this shall not be deemed to be in conflict with policy statements which recognize the continuation of separated urban centres.
- Policy 8.B.18** Any extensions of the existing water supply or sewage disposal systems of the local municipalities must have the prior approval of the Region, and within the area of the Niagara Escarpment Plan, must conform with the Niagara Escarpment Plan Policies.
- Policy 8.B.19** The Region will consult and co-operate with other authorities having jurisdiction for the issuance of permits for private water supply and sewage disposal systems to ensure a common objective. The following guidelines are proposed:
- a) Existing soils and drainage facilities should be compatible to permit such private Installations.
 - b) Proper consideration shall be given to abutting existing *development* to ensure that problems will not be created for the existing or proposed *development*.
 - c) The operation of septic tank installations must not result in the pollution of watercourses.
 - d) Within the Niagara Escarpment Plan area, private water supply and sewage disposal systems are subject to the requirements of the Niagara Escarpment Plan policies.
- Policy 8.B.20** The Region requires that each application by a *local municipality* for a municipal water main extension or extensions or for municipal connections to existing Regional water mains outside the *urban areas* boundaries shall be supported by detailed information illustrating its compliance with the following criteria:
- a) It has the support of the local Council.
 - b) It is for legally existing or proposed *agricultural* and *agriculturally related uses* or for other legal permitted uses.
 - c) It will not jeopardize the ability of the Region to provide adequate water supply for existing urban *development*, for potential urban *development* within the *urban areas* boundaries, and for the *development* served by this or previous extensions outside the *urban areas* boundaries. The determination of the compliance with this criterion can only occur after due consideration of the size of the permanent connections to be made thereto.
 - d) It will not jeopardize the ability of the *local municipality* to provide an adequate water distribution system for existing urban *development*, for potential urban *development* within the *urban areas* boundaries, and for the *development* served by this and previous extensions outside the *urban areas* boundaries.
 - e) It will not contribute to or stimulate non-agricultural *development* other than in approved hamlets. Extensions to hamlets will be considered only if it can be adequately demonstrated that the cumulative effect of the extension to existing *development* and to any future *development* within the hamlet poses no potential health problems and that the other criteria set out in this policy including, in particular, the long term operation of existing private sewage systems and adequate lot sizes, can be met.

- f) There are adequate local controls to regulate the use of water for irrigation or other uses which could place unreasonable demands on the water supply system.
- g) There is confirmation from Regional Health Services that the existing waste disposal systems are satisfactory or will be upgraded to accommodate the increased loads which may result from a municipal water supply extension beyond the urban boundary and will not adversely affect any adjoining *agricultural uses* and all sewage disposal systems are in compliance with the requirements of Ontario Regulations 374/81 under **The Environmental Protection Act** or subsequent amendments thereto.
- h) The financing system is satisfactory to the *local municipality*, is entirely locally or self-financed, is not based on expectations of additional *development*, and does not place an undue cost on properties with large frontages.
- i) An inventory of existing vacant lots of record that may become serviced by the proposed extension is shown.
- j) That any municipal connection outside the *urban areas* boundaries to an existing Regional water main which is a local service connection from the Regional water main to the abutting lands of the consumer must be:
 - (i) to a maximum of 2 centimetres (3/4 inch) in diameter,
 - (ii) only for the benefit of a use immediately abutting the Regional water main, and
 - (iii) the only municipal local service connection servicing the lands in question.
- k) That any municipal connection to the existing Fourth Avenue Regional water main outside the *urban areas* boundaries which is a municipal water main extension or extensions shall be constructed in a closed loop.

Policy 8.B.21 All new urban *development* areas must be provided with separate storm drainage systems. All new private *development* must also be provided with separate storm drainage connections. Where feasible and economical, existing municipal combined sewage and storm drainage systems shall be separated.

Policy 8.B.22 Master Servicing Plans

Policy 8.B.22.1 Master planning for transportation, water and wastewater shall be undertaken and updated by the Region to serve *development* for a 20 year or greater period;

Policy 8.B.22.2 Master plans shall be coordinated with phasing of growth

Policy 8.B.22.3 Prior to approval of *development* (i.e. plans of subdivision, site plan, etc.) local municipalities shall ensure that required water and wastewater *infrastructure* and servicing capacity is available to support that *development*.

8.C Solid Waste Disposal

Policy 8.C.1 The Region will assist the local municipalities in providing for the disposal and treatment of solid wastes.

Policy 8.C.2 The selection of all solid *waste disposal sites* will involve consideration of:

- a) the compatibility of the methods of operation with adjacent land uses,
- b) the nature of bedrock and soil conditions in order to reduce the likelihood of groundwater contamination, and
- c) operational economics - transportation costs, maintenance, land prices, opportunity for future expansion, etc.
- d) within the Niagara Escarpment Plan area, solid *waste disposal sites* are subject to the requirements of the Niagara Escarpment Plan Policies.

Policy 8.C.3 Site and rehabilitation plans will be developed prior to the use of a particular site for solid waste disposal. These plans should make provision for:

- a) the control of odour, vermin and other nuisances,
- b) the phasing of the site expansion,
- c) the ultimate use of the site,
- d) landscaping and berms,
- e) access, and
- f) a uniformly high standard of operation.

The Region, in consultation with local municipalities, will investigate the application of new salvage and disposal techniques.

8.D Utilities

Policy 8.D.1

The Region will co-ordinate its plans with those of the Federal and Provincial Governments and their agencies in the provision of servicing systems, pollution control systems, waste disposal systems, power supply systems and communications systems. In so doing, the Region will have regard to the policies of the Regional Plan and the local official plans. The Region will encourage the joint use of rights-of-way and corridors wherever feasible for various facilities in order:

- a) to lessen the impact on the environment of uncoordinated alignments of various single purpose authorities, and
- b) to avoid land use and *development* problems associated with such rights-of-way and alignments.

Policy 8.D.2

The Region, in planning and staging of growth and *development*, will encourage coordination with both private and public *utility* providers responsible for the regulation, transmission and delivery of *utility* services within Niagara Region. This will ensure that adequate provisioning is or will be in place to serve both existing and future needs of communities within Niagara Region.

8.E Energy

Policy 8.E.1 The Region will closely monitor the Province’s **Green Energy Act** and devise appropriate policies to support the *development* of green energy *infrastructure* in Niagara.

Policy 8.E.2 Applications for wind energy facilities shall be considered within the context of all the policies in this Plan.

Policy 8.E.3 The *development* of new or expanded wind energy systems is subject to the permit requirements of the Ontario Ministry of Transportation (MTO).

Policy 8.E.4 Electricity from wind energy projects are subject to Ontario Regulation 116/01. Also, wherever possible, the Region and *local municipality* will coordinate any statutory meetings required under the **Planning Act** in parallel with the environmental approval process for electricity projects in **Ontario’s Environmental Assessment Act**.

Policy 8.E.5 Wind energy systems shall conform to the provisions of the Environmental policies in this Plan.

Policy 8.E.6 Wind energy systems and associated distribution infrastructure shall be located, designed and constructed to eliminate or minimize adverse impacts on agricultural operations, lands and activities; significant natural heritage features; existing *mineral aggregate operations*; and cultural and built heritage resources.

Policy 8.E.7 Wind energy systems shall be designed and constructed to be appropriately buffered and/or separated from sensitive land uses as defined in the Provincial Policy Statement, 2005 to prevent adverse effects and to minimize the risk to public health and safety.

Policy 8.E.8 Sites proposed for new or expanded wind energy systems on lands regulated by the Niagara Peninsula Conservation Authority pursuant to Ontario Regulation 155/06, as amended, will be subject to the provisions, policies and regulations. .

Policy 8.E.9 The *development* of new or expanded wind energy systems within an area regulated under the **Niagara Escarpment Planning and Development Act** will be subject to the provisions of the Niagara Escarpment Plan. The policies of this Plan and policies in local Official Plans will be the basis for providing Regional and local municipal comments to the Niagara Escarpment Commission during the review of wind energy system applications.

Policy 8.E.10 Applications to construct more than one wind energy system per property shall be considered with regard to any cumulative impacts (both constructed and proposed) that may result to the adjacent landowners, the general area, the municipality, or the Region, as a result of multiple installations.

Policy 8.E.11 The *development* of new wind energy systems in areas adjacent to or on known deposits of aggregate, mineral or petroleum resources shall be permitted where it has been demonstrated that the energy system serves a greater long-term public interest during the lifetime of the wind energy system than the resources noted above and does not compromise the future extraction of the aggregate, mineral or petroleum resource.

Policy 8.E.12	The development of wind energy systems shall be prohibited where they may cause a potential aviation safety hazard as determined by Transport Canada or the appropriate agency.
Policy 8.E.13	All new or expanded wind energy systems may be subject to site plan control approval by the <i>local municipality</i> .
Policy 8.E.14	In recognition that technological advancements and innovations are rapid in the energy-related field, the Region in collaboration with the local municipalities will, as appropriate, review the effectiveness of these Wind Energy Systems policies.
Policy 8.E.15	All required reports and studies are to be prepared and signed by qualified individuals
Policy 8.E.16	Micro, small and medium scale wind energy system policies
Policy 8.E.16.1	Micro, small and medium scale wind energy systems are generally permitted throughout the Region subject to local municipal criteria and policies set out in this Plan.
Policy 8.E.16.2	Medium scale wind energy systems shall require a minimum setback of 1.25 times the height of the wind energy system from all Regional road allowances. Setbacks from local road allowances should be 1.25 times the height of the wind energy system although applications for reduced setbacks from less travelled local roads and unopened road allowances can be determined on a site-by-site basis by the <i>local municipality</i> .
Policy 8.E.16.3	Medium scale wind energy systems shall be set back from major <i>utility</i> corridors as required by the <i>utility</i> .
Policy 8.E.16.4	Except for medium scale wind energy systems being subject to 8.E.16.2 and 8.E.16.3, the determination of the appropriate land use provisions for micro, small and medium scale wind energy systems is the responsibility of the <i>local municipality</i> .
Policy 8.E.17	Large Scale (individual or multiple) wind energy system policies
Policy 8.E.17.1	A large scale wind energy system (either individual or multiple) may be considered in <i>Urban Areas</i> subject to local municipal criteria and applicable policies set out in this Plan.
Policy 8.E.17.2	A large scale (individual) wind energy system is permitted in a Rural, Good General Agricultural or Unique Agricultural Area/Protected Countryside (as delineated in the Greenbelt Plan) notwithstanding the Agricultural and Rural policies in this Plan but subject to other applicable policies set out in this Plan.
Policy 8.E.17.3	A large scale (multiple) wind energy system is permitted in a Good General Agricultural or <i>Rural Area</i> , notwithstanding the Rural and Agriculture policies in this Plan but subject to other applicable policies in this Plan and subject to a local official plan amendment.
Policy 8.E.17.4	A large scale (multiple) wind energy system is not permitted in a Unique Agricultural Area/Protected Countryside (as delineated in the Greenbelt Plan).

Policy 8.E.17.5

The installation of a large scale (individual) wind energy system within a Good General, Unique Agricultural Area/Protected Countryside (as delineated in the Greenbelt Plan) or *Rural Area* and the installation of a large scale (multiple) wind energy system within a Good General Agricultural or *Rural Area* requires a justification/impact statement that demonstrates:

- a) the need for, and public benefit of, locating the proposed generating capacity in these areas,
- b) an assessment of impacts on agricultural operations, lands and activities, natural heritage features, nearby residences and other sensitive land uses in the area, and
- c) the means of minimizing any adverse effects.

Policy 8.E.17.6

A visual impact assessment shall be conducted for all large scale wind energy systems (individual and multiple) and include, but not be limited to, consideration of the following items:

- a) Landscape assessment of the potentially affected area, including the neighbouring property or properties
- b) Effects of night lighting on ground level land uses,
- c) Effects of the proposal on key viewpoints or tourist routes within the affected area, including day and night visibility, and
- d) Guidelines and designs for site plan review to assess and mitigate identified impacts.

Possible means of reducing visual impacts include:

- i. Requiring all turbines to be of a monopole or similar appearance (i.e. skinned lattice tower) and finished in an appropriate matte finish;
- ii. Prohibiting artificial lighting except for minimum aircraft safety requirements;
- iii. Prohibiting any form of signage or commercial identification on the turbines;
- iv. Locating outdoor storage areas in one location co-located with the primary maintenance building and appropriately screened by landscaping to the satisfaction of the *local municipality*; and
- v. Requiring all buildings and structures associated with the wind energy facility to be consistent with the predominant character of buildings in the area.
- vi. Where new opportunities for reducing visual impacts occur through technological advancements, these should be considered as additional means of reducing visual impacts.

Policy 8.E.17.7

All large scale wind energy systems (individual and multiple) require the preparation of a noise report demonstrating compliance with Provincial requirements.

Policy 8.E.17.8

All large scale wind energy system proposals (individual and multiple) must be supported by a report demonstrating that shadow flicker experienced at any Point of Reception shall be minimized and not be permitted to exceed 30 hours per year and 30 minutes per day (based on worst case conditions) as a result of the operation of the wind turbine. This policy shall be reviewed upon publication of Provincial shadow flicker guidelines.

- Policy 8.E.17.9** Where a report or reports have been required for a wind energy project by the Ministry of the Environment, relevant sections of such reports may be used to fulfill certain requirements of the policies in this Plan.
- Policy 8.E.17.10** All large scale wind energy systems shall require a minimum setback of 1.25 times the height of the wind energy system from all Regional road allowances. Setbacks from local road allowances should be 1.25 times the height of the wind energy system although applications for reduced setbacks from less traveled local roads and unopened road allowances can be determined on a site-by-site basis by the *local municipality*.
- Policy 8.E.17.11** All large scale wind energy systems shall be set back from major *utility* corridors as required by the *utility*.
- Policy 8.E.17.12** Large scale wind energy systems (either individual or multiple) shall not be permitted within 400 metres of the Niagara Parkway.
- Policy 8.E.17.13** The purpose of this policy provision is to maximize the availability of land for its intended (agricultural) use and, secondarily, to minimize the visibility of new transmission and distribution lines where practicable.
- That subject to environmental or site conditions (which includes the presence of transmission/distribution lines or other *utility* corridors), new private transmission and distribution lines shall be located below ground within the collective boundary encompassing the property on which each wind energy system is located and any adjacent properties the transmission/ distribution lines must traverse until reaching a *utility* corridor. For clarity, the “collective boundary” refers to the perimeter encompassing all properties on which connected wind energy systems are located as well as properties that the transmission line must traverse to reach a *utility* corridor. Beyond this collective boundary, new private transmission and distribution lines should be co-located with a *utility* corridor, preferably below grade, but that determination shall be made by the Federal, Provincial or municipal public authority that has jurisdiction over the *utility* corridor.
- Policy 8.E.17.14** All large scale wind energy systems are subject to consideration by the *local municipality* in addition to any Regional approvals required by these policies. Local approval may require a local official plan amendment, zoning by-law amendment and/or site plan control.
- Policy 8.E.17.15** If a large scale (multiple) wind energy system is proposed on more than one property the application shall be submitted and considered as a single application rather than as individual applications for each property.

Policy 8.E.18

Local Official Plan and Zoning By-law Provisions

Policy 8.E.18.1

When developing wind energy system policies for local official plans the following issues need to be considered and/or addressed:

- a) Policies to ensure that the following health, safety, nuisance and technical impacts are appropriately addressed or mitigated:
 - i. Noise/vibration;
 - ii. Shadow flicker;
 - iii. Blade glint;
 - iv. Electromagnetic interference;
 - v. Ice throw;
 - vi. Construction/operational management;
 - vii. Decommissioning; and
 - viii. Visual impact;

- b) Terms of Reference for any studies undertaken to address the public health, safety and technical considerations listed above;
 - i. The criteria needed to assess wind energy system applications in relation to natural heritage features, cultural heritage landscapes and built heritage resources;
 - ii. Approval of a temporary use by-law prior to the installation of a wind testing/meteorological tower if deemed necessary;
 - iii. Requirement for preliminary consultation between the applicant and municipal staff regarding new or expanded wind energy systems prior to the submission of any application and the commencement of any Environmental Assessment Processes;
 - iv. The use of conditional zoning in accordance with the **Planning Act** and implementing regulations; and
 - v. The requirement to prepare a site plan by a qualified professional illustrating the location of the proposed turbines (including make, model and power output), the location of all buildings, structures, works, access roads, supporting *infrastructure*, and property lines, as well as municipal roads, trails, vegetation, elevations, adjacent buildings and structures to a distance of 100 metres for every 10 metres of turbine height from the property proposed for the wind energy system. The level of detail may be simplified as determined through a pre-consultation meeting with the municipality depending upon the nature and scale of the proposal.

Policy 8.E.18.2 When developing zoning by-laws to implement wind energy system policies the appropriate issues need to be addressed including but not limited to the following:

- i. The installation of more than one wind energy system per property may be permitted subject to the approval of either a zoning by-law amendment or a minor variance depending upon the nature and scale of the proposal;
- ii. Limitations on maximum height, nameplate generation capacity, location, and blade diameter;
- iii. Appropriate setbacks from identified natural heritage features, cultural heritage landscapes, built heritage resources and buildings; and
- iv. Provisions for both building-mounted and freestanding wind energy systems.