



## **2.0 PURPOSE:**

The purpose of this report is to recommend receipt of the White Paper on Sustainability, the Environment, and the Burlington Official Plan and to recommend it be made available to the public and technical agencies for review and comment. Planning staff intends to use this white paper as a basis for discussion regarding sustainability as part of the Official Plan review.

## **3.0 BACKGROUND AND RELATIONSHIP TO STRATEGIC PLAN:**

The purpose of the White Paper is to provide points of discussion relating to proposed revisions of environmental policies of the Official Plan.

Future Focus VI identifies four pillars upon which the vision of the community of Burlington is based. The pillars of a vibrant, liveable and prosperous community directly relate to the three components in the model of the sustainability – quality of life, environment and economy. The fourth pillar in Future Focus relates to Burlington’s leadership role among municipalities. The White Paper is intended to provide the basis for maintaining Burlington’s leadership and ongoing commitment to sustainable development through a revision of the Official Plan.

## **4.0 DISCUSSION:**

The White Paper provides the background and focus for proposed directions to the environment and other sections in the Official Plan. Sustainability and improvement of the natural environment are the main themes of the paper and it is based largely on ideas taken from Future Focus VI, the Burlington Sustainable Development Committee’s 2004 State of the Environment Report and environmental planning initiatives elsewhere in Canada.

There are two types of change that have been proposed to the Official Plan’s environment section in 2005; Part 1 concentrates on rebranding and refocusing and Part 2 provides discussion of a number of recommended additional policy areas.

Part 1 proposes a series of generally minor changes to the Environment Section to give a greater focus to sustainability and to help promote accurate interpretation of policy intents. Among the changes proposed is a rebranding of the Section 2 of the Official Plan to “Environment and Sustainability”. Part 1 also recommends changes to the mission statement, principles and objectives to more logically connect to the policies in the document.

Part 2 includes a number of proposed additions to the existing plan. Three individual areas are addressed. First, a natural heritage system is proposed to define and protect a connected and functional network of natural heritage in the City. Second is a discussion of the aggregate industry and proposed aggregate policy directions. Third is discussion of golf courses and proposed directions relating to their development in the city. The additions in Part 2 of the paper are also meant to bring the Official Plan in line with changes to the Planning framework in Ontario and our understanding of the importance of the environment as it relates to the quality of life in the City.

**5.0 FINANCIAL MATTERS:**

None

**6.0 ENVIRONMENTAL MATTERS:**

The white paper suggests that the environment section of the official plan be revised in title and content to include principles and objectives of sustainable development. Other sections in the Official Plan relating to environmental matters are recommended to be moved to this revised section. Additions are also proposed to provide for the definition and protection of a natural heritage system, strengthen watershed planning and address aggregate and golf course developments.

**7.0 COMMUNICATION MATTERS:**

Public consultation is an integral part of the Official Plan review. As with other planning studies, copies of the White Paper on Sustainability, the Environment, and the Burlington Official Plan will be made available to the public. Notice of the availability of the paper will be posted on the City's website and those on the mailing list will be advised.

**8.0 CONCLUSION:**

The White Paper on Sustainability, the Environment, and the Burlington Official Plan provides a basis for discussion relating to environmental matters and the official plan review. It is recommended that it be received by committee and circulated for public comment.

Respectfully submitted,

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**Appendices:**

Appendix 1: White Paper on Sustainability, the Environment, and the Burlington Official Plan
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WHITE PAPER ON SUSTAINABILITY, THE ENVIRONMENT AND THE BURLINGTON OFFICIAL PLAN

MARCH 2005

**FOR DISCUSSION PURPOSES ONLY.**

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## Glossary

**Ecological Footprint** the total ecosystem area that is essential to the maintenance of a given human settlement\*

**Environment** is the complex of, biotic, social and abiotic factors that acts upon an organism and determines its form and survival. It, therefore, includes everything that may directly affect the metabolism or behavior of a living organism or species, including light, air, water, soil, and other living beings.

**Greenbelt** a permanent area of predominantly rural lands surrounding the City that is comprised of the Natural Heritage System, Agricultural Lands and other rural land uses.

**Greenlands** an area defined in the Halton Regional Official Plan that consist of the designations of Escarpment Natural Area, Greenlands A, Greenlands B and Regional Waterfront Parks.

Greenlands A consist of lands that are:

- the Regulatory Flood Plains, as determined by Conservation Halton;
- The Lake Ontario and Burlington Bay shoreline;
- Provincially Significant Wetlands

Greenlands B consist of lands that are:

- Environmentally Sensitive Areas;
- Public Open Space as identified in The Parkway Belt West Plan;
- Regionally Significant Wetlands;
- Provincially and Regionally Significant Areas of Natural and Scientific Interest;
- Carolinian Canada sites;
- Halton Agreement Forests.

**Natural Heritage System** consists of the lands and waters that have the greatest existing or potential value to a biologically diverse network designed to protect and restore natural features and ecological functions across that area's overall landscape. †

**Quality of Life** the product of the interplay of the social, health, economic, and environmental conditions which affect human and social development. ‡

**Sustainability** Meeting the needs of the present generation without compromising the ability of future generations to meet their needs.

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\* International Institute for Sustainable Development 2005 Online Glossary <http://www.iisd.org/didigest/glossary.htm>

† Toronto Region Conservation Authority April 2004. DRAFT Toronto and Region Terrestrial Natural Heritage System

‡ Shookner, Malcom. 1997. The Quality of Life in Ontario.

**Sustainable Development** is development that meets the needs of the present without compromising the needs of future generations to meet their own needs.

**Watershed Planning / Watershed Management** is a process of managing human activities in an area defined by watershed boundaries in order to protect and rehabilitate land and water, and associated aquatic and terrestrial resources, while recognizing the benefits of orderly growth and development. The goal is to contribute to the environmental, social and economic well-being of the area on a sustainable basis.\*

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\* Ministry of Natural Resources. 1997. An Evaluation of Watershed Management in Ontario – Final Report

## Introduction

The current Official Plan for the City of Burlington was adopted in 1994 and later received final approval from the Municipality of Halton in 1997. The 1994 revision of the Official Plan was seen to be quite significant in scope because it included changes associated with the declaration by the City that it had adopted the model of sustainability as well as a thorough modernization of policies dating back as far as the 1960's.

Sustainability is a term that comes from a 1987 United Nations World Commission on Environment and Development report called *Our Common Future*. This report built upon work by other groups such as the Club of Rome and their 1972 document called *The Limits to Growth*. In the commission's report sustainable development was defined as:

*Meeting the needs of the present generation without compromising the ability of future generations to meet their needs*

Today the same definition and the acceptance of the principle of sustainable development has been adopted by many international governments through the 1992 United Nations Conference on Environment and Development Agenda 21 also called the Rio Declaration on Environment and Development. Two years before the Rio Declaration however, the City of Burlington had already adopted the principle of sustainable development and had formed the Burlington Sustainable Development Committee to advise council. Over time, when the Official Plan was reviewed and amended in 1994 Sustainable Development became the mission statement of the entire plan.

Since the last Official Plan revision, the City of Burlington's commitment towards sustainability has continued. Examples are the two State of the Environment Reports and the continued importance of the Sustainable Development Committee as well as the strategic plans Future Focus V and Future Focus VI.

Planning legislation and policy has also changed substantively since 1994. The Planning Act has received substantial revision twice, a Provincial Policy Statement has been issued, the Conservation Authorities Act has been rewritten, the Hamilton Harbour Remedial Action Plan has been updated and the Regional Official Plan has been amended\*.

The social period since 1994 has also seen the further integration of environment and quality of life issues with planning considerations. Sustainability and Sustainable Development is now taught to many elementary and secondary school students. The growing understanding that the health of the environment and nature relates directly to human health and well-being has led to the focus on greenspace preservation and enhancement in the public's eye. Evidence of this are the significant premiums paid for residential properties with direct access to green spaces and parks.

Recent initiatives such as the new Future Focus VI, the Province's greenbelt planning and revised provincial policy statement will drive many of the ideas that will reshape and refocus the environmental sections of the Official Plan in this review. Given the understanding that Burlington will reach the end of its greenfield development area in the urban area within 20 years, it is vital that a self-sustaining natural heritage system be identified, preserved and enhanced in the coming years. Our central focus will be to first maintain the natural environment in the city and second, to provide for enhancement in the long term.

This discussion paper provides the background and focus for proposed amendments to the environment and other sections in the Official Plan. Sustainability and improvement of the natural environment are the main themes in this dialogue. Most of the discussion will not be new to readers; the dialogue has already begun in documents such as Future Focus VI and the Burlington Sustainable Development Committee's 2004 State of the Environment Report.

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\* The entire Regional Official Plan Amendment (#25) has been appealed (by several parties) in 2004. The status of the amendment therefore is adopted by Council but not approved by the Ministry of Municipal Affairs.

There are two types of change that have been proposed to the Official Plan's environment section in 2005; minor revision and addition. Part 1 proposes a series of generally minor changes to the Environment Section to give a greater focus to sustainability and to help promote accurate interpretation of the policy intent. Part 2 includes a number of proposed additions to the existing plan. These additions are meant to bring the Official Plan in line with changes to the Planning framework in Ontario and our understanding of the importance of the environment as it relates to the quality of life in the City.

## **Part 1: Reshaping: Refocusing the Environment Section of the Official Plan**

The following sections provide a discussion of some of the minor changes to the Official Plan to be considered during the second phase of the Official Plan review. Primarily, the issues are centred on concentrating the focus of the environment section on Sustainability and Sustainable Development.

### **Refocusing on Sustainability**

The famous Venn diagram showing the environment, economy and society in balance is the basis for the public's understanding of sustainability. The model is elegantly simple and shows an equal weight for the environment, the economy and people in decision-making. While this idea was somewhat radical at the time it was introduced, scientists, planners, politicians and the public have embraced and accepted it. In fact, sustainability became the cornerstone of

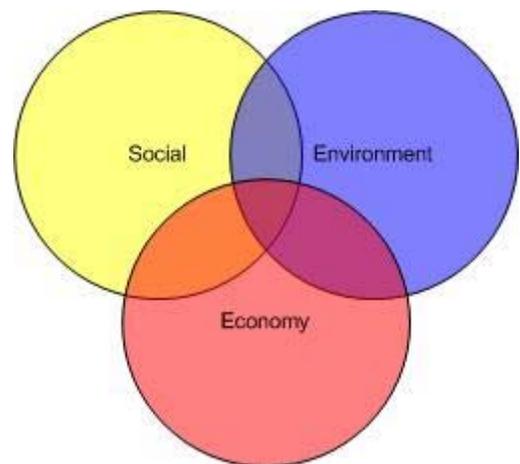


Figure 1 A Model of Sustainability

the late 20<sup>th</sup> century Smart Growth movement in municipal planning. Sustainability is also the basis for private industry initiatives such as the ISO 14000 series and The Natural Step.

The Burlington Official Plan as well as the Strategic Plan (Future Focus VI) have very clearly adopted sustainability as a primary consideration in municipal decision making. Future Focus VI for instance, identifies four pillars upon which the vision of the community of Burlington is based. The pillars of a vibrant, liveable and prosperous community directly relate to the three components in the model of the sustainability – quality of life, environment and economy. The fourth pillar in Future Focus relates to Burlington’s leadership role among municipalities. Burlington has historically taken a leadership role in issues of sustainability.

Unfortunately, the Official Plan was written in the mid 90’s when the terms “Environment” and “Sustainability” were often used interchangeably. Today we have a greater understanding of theories of the Environment, Sustainability and Sustainable Development. Now it is understood that the environment is the major component of sustainability but social and economic factors have a very important role to play. It is desirable then to refine the wording in the functional policies section of the Official Plan to replace the word “Environment” with the term “Environment and Sustainability” where appropriate.

Rebranding the environment section into the Sustainability and Environment section is perhaps a minor change but one that begins the refocusing and revitalization process and continues the cities commitment to leadership on sustainability. Changing the term to be more accurate of the city’s intent also provides greater clarity in its reading and interpretation while maintaining the important environmental policies that already exist in the plan.

### **The Basis for Sustainable Development**

In November 1994 Council adopted a set of principles and objectives of sustainable development for use by the Sustainable Development Committee as

well as city staff.\* These principles and objectives have been broadly utilized and have contributed greatly to the city achieving many of its environmental goals. In particular, they have been used with great effectiveness by the Planning and Development subcommittee of the Sustainable Development committee in completing their functions of advising council on plan review matters. The principles and objectives have not however been integrated into the official plan. It is recommended therefore that the adopted principles and objectives be the basis for revisions to Section 2 of the official plan. This will strengthen the city's commitment to sustainable development further and aid the committee and staff in advising or providing recommendations to council.

### **Connecting Sustainability Principles and Objectives with Individual Policies**

Also, although policies of the plan can be read individually, it is necessary that they be reviewed along with the mission statement, principles and objectives in order to understand the overall intent of the Official Plan. The ideal design of the Plan is a linear sequence of statements beginning with the mission statement and moving downward to the guiding principles and the action statements in the objectives and policies. Currently, the environment section of the Official Plan does not adhere to a flow of statements between the mission statement, the principles and the objectives. The coloured lines in Figure 2 illustrate this.

In Figure 2, the three tiers of statements in the Official Plan are presented and their connections interpreted. Briefly stated, the figure shows that many of the statements do not flow down from those above them. Some of the statements do not appear to connect with the tiers above. The problem of disconnected principles and objectives leaves the policies apart from the intent of the plan.

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\* council adopted principles and objectives of sustainable development have been reproduced in Appendix III

Figure 2 Structure of the Existing Section 2

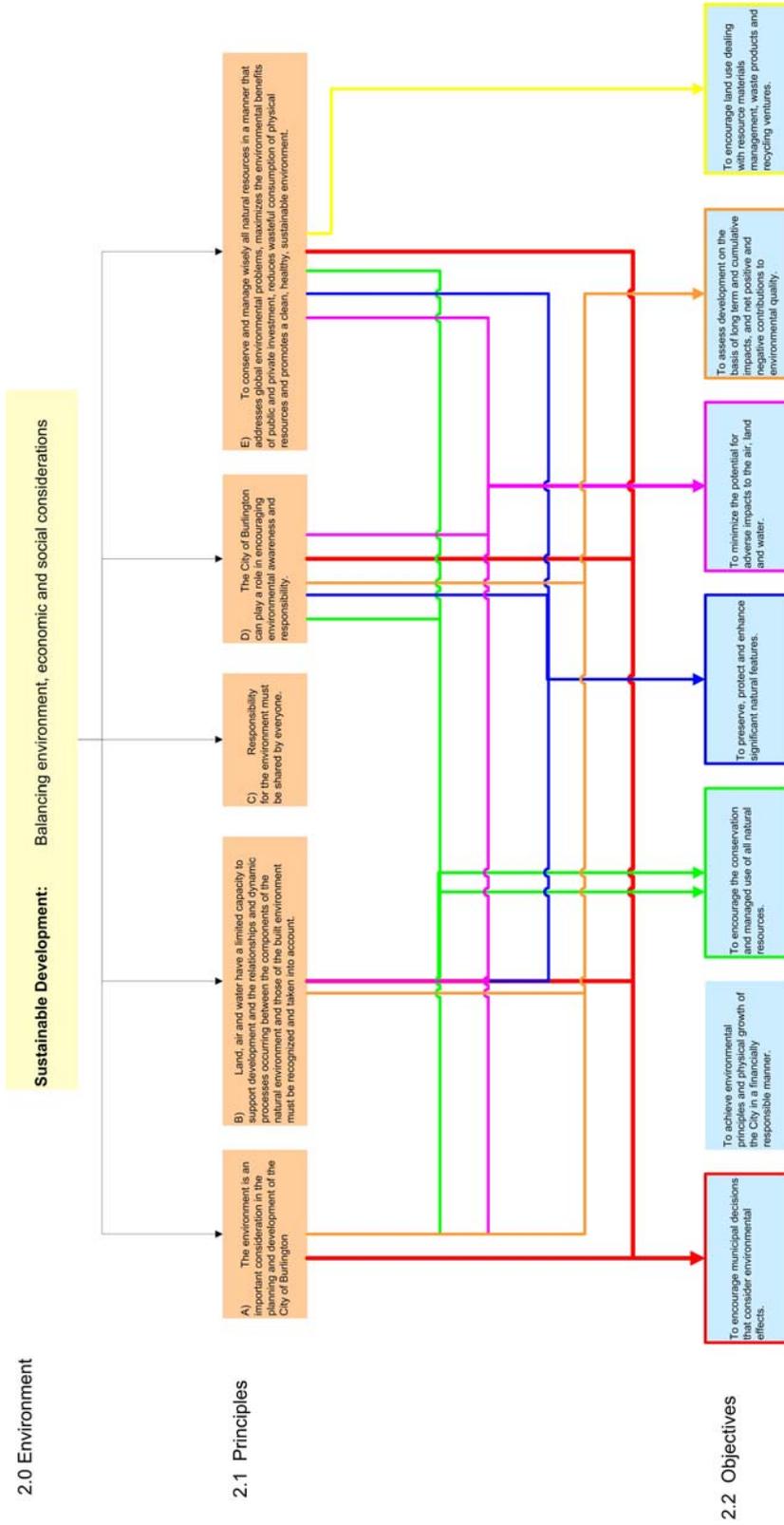


Figure 3 Proposed Principles and Objectives of Section 2 of the Official Plan

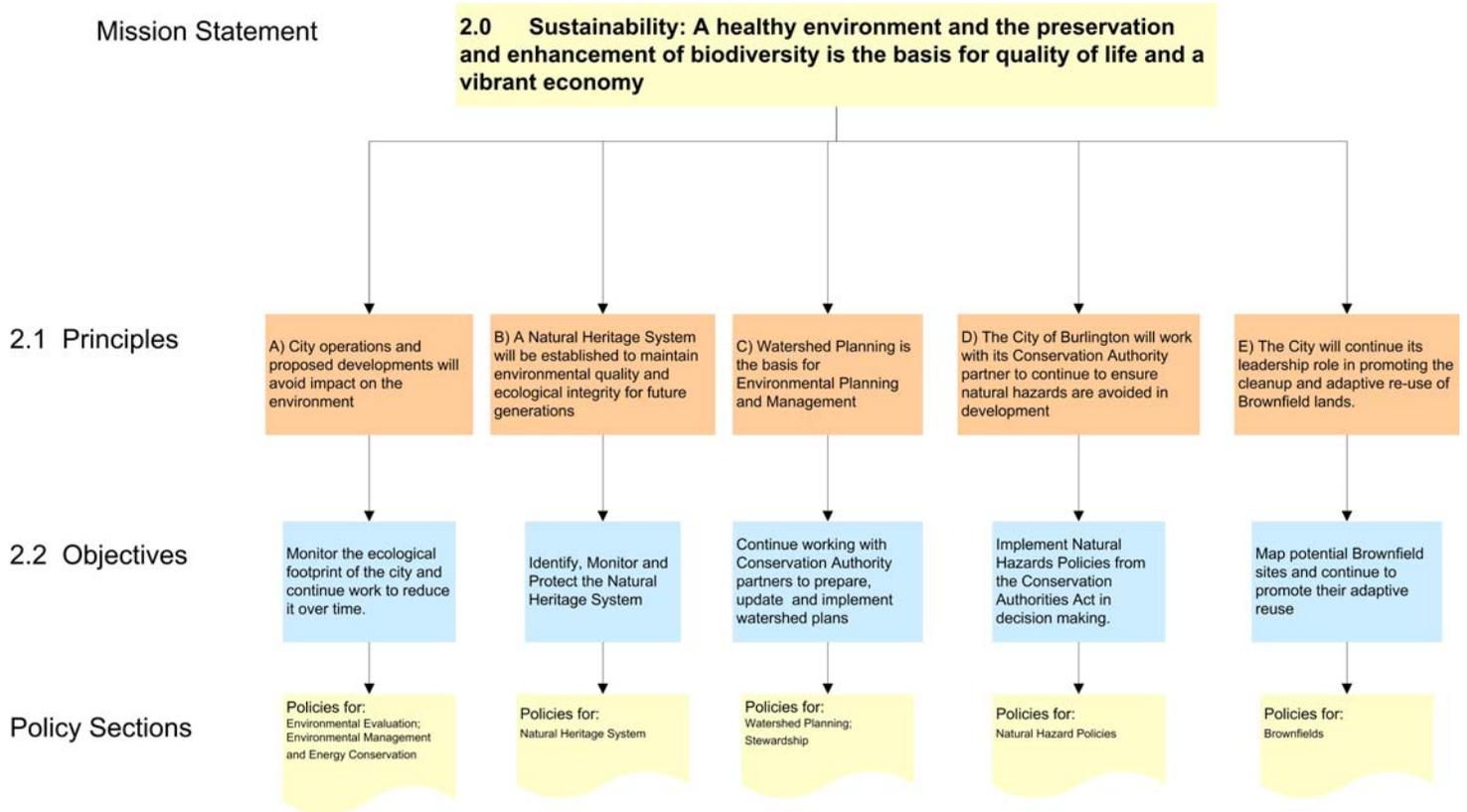


Figure 3 presents a draft modification of the broader statements in the Environment Section. To begin, the mission statement and title have been revised towards the concept of sustainability, quality of life and environmental protection. Flowing from the revised mission statement are a reduced number of principles than the existing plan. These principles conform to the existing plan policies and revised mission statement. The objectives of the plan have been modified to be simpler, tied to the principles, measurable and action oriented. By revising the objectives towards more action it is then possible to introduce monitoring through the identification of various indicators and outcomes. This is a more strategic approach than the existing plan and one that provides for the ability to monitor changes, prepare updates and report back to council and the public.

## **Changing the Structure of the Environmental Section**

Providing a clear logical set of statements is vital but it is also important to ensure that subsequent policies on various topics are provided in a straightforward manner. One of the difficulties with the existing Official Plan is that it is structured in such a way that policies related to ecological preservation are intermixed with those addressing other issues such as design, water management, and waste diversion. It is recommended then that the existing individual policies be revised in their order and subheading. It is also recommended that the Stormwater management, and Natural Environment Design sections of the Official Plan (Section 9.0 and 6.3 respectively) be moved into Section 2 where they can be put into the context of other Environmental Policies. Finally, it should be noted that, with the many additions necessary under the Greenbelt Act and the changes to the Regional Official Plan (re: Greenlands), not revising the placement of certain policies is likely to lead to further confusion.

Appendix 1 presents a proposed before and after series of subheading changes to the Environment Section of the Official Plan. The table also includes changes proposed in Part 2 of this document.

## **Part 2: Revitalizing: Additions to the Official Plan**

### **A Connected Natural Heritage System**

The current Official Plan relies on the Regional Official Plan for direction related to the protection of natural heritage features such as significant wetlands, Environmentally Sensitive Areas, Areas of Natural and Scientific Interest and significant woodlands. Collectively these features have been called the Greenlands system. Unfortunately Greenlands features are not connected or identified as an integrated and functioning system. In fact, many of the most important features lack interconnections between their individual components as well as connections to other natural areas on the landscape. An example are the incomplete connections between the Niagara escarpment and Bronte Creek Valley as well as the lack of connections between Burlington Bay/Hamilton Harbour and the escarpment.

Interconnecting ecological features is essential in order to maintain wildlife populations, biodiversity and existing ecological functions. To this end, the province of Ontario undertook the Greenbelt Planning initiative in 2004-05. One of the objectives of the greenbelt was to provide for the protection of a general interconnected [network] of natural areas across the GTA. This network is composed of functional ecological units that are collectively of provincial importance. Guidance in defining the components of a natural heritage system has come from the Canada Wildlife Service in their 2004 How Much Habitat is Enough guidelines\*. These guidelines, provide a scientifically based set of minimum criteria to maintain or enhance ecological health.

In Burlington, the Greenbelt, the Niagara Escarpment Plan natural area and the Regional Greenlands system are intended to form the minimum basis of a natural heritage system. It is understood then that further study is necessary to define the

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\* How Much Habitat is Enough? Second Edition. 2004. Environment Canada - Canada Wildlife Service. [www.on.ec.gc.ca/wildlife/factsheets/fs\\_habitat-e.html](http://www.on.ec.gc.ca/wildlife/factsheets/fs_habitat-e.html)

sensitivity and significance of all natural heritage features in the City and their relation to the collective health of the ecosystem. This study was begun in 2003 when the City of Burlington participated in the Halton area planning partnership known as the Halton Natural Areas Inventory (NAI). The NAI, which is being completed by the Hamilton Naturalist Club, will be completed in early 2005. This study, combined with the Greenbelt and Regional Greenspace system can function as the beginning point for a general natural heritage system as envisioned in Future Focus VI.

Also, concurrent with Future Focus VI, it is proposed that the Official Plan establish the definition for a connected natural heritage system and introduce policies to protect its various components. Because this system is largely based on the NAI it is thought that a detailed schedule of a natural heritage system can be in place by 2006. Appendix II provides a Summary of the proposed Natural Heritage System and some notes on recommended policies for the system.

### **Aggregates and the Challenge of Planning Across Decades**

Aggregate is a vital component of all infrastructure and buildings in the City. Without sources of aggregate the costs of development could rise and, potentially, the affordability of homes and costs of building and maintaining roads could be affected.

Aggregate extraction however, is not a benign rural activity. Gravel, sand and shale are all bulky commodities that require very large equipment to mine and many large trucks to transport within the City. In addition, blasting is required for bedrock mining of the gravel resources found in Burlington. This blasting presents episodically high levels of noise and vibration. Ministry of Environment guidelines limit the sound levels and vibration level so that peoples hearing is not damaged nor do houses and other structures get damaged when a blast occurs. Ministry limits however do not reflect quality of life issues relating to the loud blasting. Mining in quarries must be done in the dry while the aggregate is generally below

the water table. For this reason large scale pumping of the groundwater is necessary for every quarry. This risks interference with rural wells, creeks and wetlands and is a source of potential contamination to watercourses. Dust is also a constant concern of residents adjacent to aggregate operations. Mining of aggregate therefore has the potential to significantly disrupt the rural countryside and greenspace system and thus the lives of rural and village residents.

Currently it is the practice in Ontario to rehabilitate most old quarries and gravel pits to natural areas. Some of these areas, after many years of extensive rehabilitation, have become recognized as important ecological areas. An example is the Kerncliff Park on Kerns Road in Burlington. Kerncliff is a provincially designated Area of Natural and Scientific Interest and is an important part of the City's parks system. However, it took many years for Kerncliff to rehabilitate to the ecological system that it is today and many tens of thousands of dollars to establish it as a city park. It should be noted that, although Kerncliff is considered fully rehabilitated, the quarry face and quarry floor still show ample evidence of mining and these areas are considered the least ecologically important areas of the park.

Aggregate mining is often referred to in literature as an interim or temporary land use. While this is true in the sense that mining will eventually cease when the resource is exhausted, mining normally persists on a site for 25 to 50 years. Put in perspective, 25 years is a greater length of time than the average family occupies a property before moving. It also exceeds the time horizon of Official Plans, strategic plans and regional population projections. In addition, while the operation may cease, the landscape (and thus the ecology of an area used for extraction) is forever changed. Aggregate extraction may be more accurately reflected in planning, ecological and social terms as a permanent land use. It is proposed then to treat aggregate extraction as a permanent development type in the planning context.

When viewed as a permanent land use the trading off of negative impacts of mining on a community or natural heritage system for a net long-term

enhancement is not considered. In essence, the pit or quarry will be a land use that exists for a generation or more. Put in this light, it is recommended that all future aggregate applications ensure that the impacts of vibration, dust and noise can be fully buffered and/or mitigated from the community and the sensitive natural heritage system. It is also recommended that aggregate development avoid all components of the natural heritage system as well as all wetlands greater than 0.5 hectares, all woodlands greater than 1 hectare, all significant valley lands, all watercourses and all escarpment natural areas. Further, it is suggested that all pits and quarries, when rehabilitation to an agricultural land use is not possible, should be given over to the city or conservation authority as a park dedication following extraction.

The transportation of aggregate is a significant consideration and haul routes must be limited to specific roads and to specific times of day. A recurring issue is large trucks using rural roads at the same time as rural residents, cyclists (evenings and weekends). Weekends and evening periods should see truck use curtailed. Transportation by methods other than truck is to be encouraged. To this end, rail travel and bulk travel by Great Lake freighter is potentially advantageous.

At the current time, the Region of Halton has access to adequate aggregate resources to meet its needs. Additionally, nearby communities such as Puslinch Township in Wellington County and North Dumfries Township in Waterloo Region are within the Greater Golden Horseshoe area and have capacity to service the local marketplace for some time into the future. New aggregate applications in the City should therefore provide investigations beyond the Regional level for market conditions, existing supplies and the affect of rising aggregate costs to affordability of housing. What is also needed is a Provincial investigation of aggregate resources. At issue are the volumes of supply available to the Burlington marketplace as well as the potential impacts of greater transportation costs on the cost of building. It is recommended then that the City request provincial study of aggregate supply and distribution, cost and environmental impact.

Anecdotal evidence suggests that aggregates products such as concrete are among the least recycled of all building materials. One of the reasons for this is that gravel and sand are available at a low price and at high volume in the marketplace. This means that there is little or no incentive to recycle used aggregate materials, especially concrete and gravel\*. The result is that the material is most often dumped as fill or landfill rather than reused in buildings or in other infrastructure. The Official Plan should encourage reuse of aggregate.

### **Rural Recreation – Golf Course Policies**

The City of Burlington contains eight golf courses that combine to provide over 175 different holes of play. This large number of holes is a function of Burlington resident's affinity for the game of golf as well as the great diversity in terrain that is found in the City. In effect, golf is very much an important part of the rural countryside and therefore the rural economy. Unfortunately the diversity of terrain that makes the City attractive for golf course development is also largely composed of sensitive natural lands and fragile aquifers. It is imperative therefore to ensure that any future golf courses or golf course expansions do not disrupt the natural heritage system.

In order to establish a golf course in Burlington it is necessary to amend the Official Plan. This planning process provides for extensive public and technical consultation prior to decision-making. It is not recommended therefore that a change be made to the Official Plan to revise the need for an OPA.

As our understanding of the planning and engineering aspects of golf courses has grown in recent years, it has become clear that they are not environmentally, socially or ecologically benign. In many respects, golf courses represent an intensive and consumptive land use and one with many potential conflicts. In order to address some of the potential impacts of golf courses it is recommended

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\* It should be noted that, in contrast to concrete and gravel, asphalt recycling is quite common in the City.

that the City partner with the Region and other area municipalities to prepare specific guidelines for golf course developments and expansions. In addition it is recommended that the Official Plan address the development/expansion of golf courses directly with prescribed criteria such as:

- All golf course developments/expansions will require a water conservation plan as part of the application. The definition of a golf course expansion would include additional banquet capacity and any additional water taking for irrigation or potable use. The intent of this is to ensure that water balance is a primary consideration of the golf course development and operation.
- All golf course development will be buffered from Greenland Reserve (ESA's, ANSI's, Provincially Significant wetlands) and all watercourses.
- New golf courses must provide for at least 30% natural area on property in blocks greater than 1 hectare in size (Rough is not considered to be natural area). Therefore only about 70% of land is playable). The intent is to provide for connectivity across the site for wildlife.
- Golf courses should provide dedications for stewardship purposes and to allow public access and to the countryside and natural areas (such as Grey Silo Golf Course in RIM Park Waterloo)

### **Part 3 : Conclusions - Implementing Changes**

The Environment Section of the Official Plan has fallen behind in many of the changes to provincially and regional policy as well as current science. It is necessary then to make changes to the section in order to be consistent with the Province and the Region of Halton. As a sustainable community it is also important that the Environment section of the official plan reflect the uniquely Burlington direction of Sustainability. Refocusing the environmental section towards a simpler set of sustainable principles and objectives will accomplish this goal. Strengthening the intent of the plan by revising the policy structure will certainly also mean that it is more clearly understood.

In future years it will be necessary to increase our knowledge of the environment of Burlington. Through a Natural Heritage Study as well as other possible projects such as an inventory of species and habitats in the City we can gain the necessary baseline information to guide future development opportunities and constraints. The information will also be useful to identify areas to target for enhancement to bolster the entire natural system. Partnerships are possible to help accomplish these projects and by 2008 much of the ecology should be mapped, studied and understood.

Finally, it is necessary to introduce policies to address the possible large scale environmental and social impacts of developments such as golf courses and aggregate mining during their Official Plan Amendment processes. Understanding the impacts of these land uses and ensuring their development is consistent with the intent of the Official plan will help to ensure that the environment is not compromised and that quality of life is maintained in the City.

## Appendix I: Recommended Changes to the Environment Section

Recommended Changes to Headings and Policy Arrangement (additions in italics)	
Current Official Plan	Recommended Changes
2.0 Environment	2.0 <i>Sustainability and the Environment</i>
2.1 Principles	2.1 Principles
2.2 Objectives	2.2 Objectives
2.3 Resource Management Policies	<i>Environmental Management and Energy Conservation Policies</i>
<ul style="list-style-type: none"> <li>▪ Sustainability</li> <li>▪ City operations</li> <li>▪ Energy conservation</li> <li>▪ Promote 3 R's</li> <li>▪ Site Design</li> <li>▪ Waste Diversion</li> <li>▪ Alternatives to the Car</li> <li>▪ Water conservation</li> <li>▪ Stewardship</li> <li>▪ Tree preservation</li> </ul>	<ul style="list-style-type: none"> <li>▪ City operations</li> <li>▪ Energy conservation</li> <li>▪ Promote 3 R's</li> <li>▪ Site Design</li> <li>▪ Waste Diversion</li> <li>▪ Alternatives to the Car</li> <li>▪ Water conservation</li> <li>▪ <i>Alternative Energy</i></li> <li>▪ Pollution Reduction</li> <li>▪ <i>Migrating contaminants</i></li> <li>▪ Sensitive Land Uses</li> <li>▪ Noise Abatement</li> <li>▪ Allotment Gardens</li> </ul>

## 2.4 Protection / Enhancement Policies

- Suitable for Proposed Use
- Environmental Evaluations
- Development Standards
- Preserve Creek Mouths and Valleys
- Access to Public Land
- Landscaping
- Sensitive Land Uses
- Pollution Reduction
- Contaminated Sites
- Noise Abatement
- Allotment Gardens

## *Natural Heritage System Policies*

- *Definition of a Natural Heritage System*
- *The Natural Heritage System Plan*
- *Woodlands*
- *Wetlands*
- *Creeks, Creek Valleys and Ponds*
- *Grasslands*
- *Escarpment Natural Area*
- *ESA's*
- *ANSI's*
- *Groundwater Protection*
- *Karst Topography*
- *Habitat for Species at Risk*
- *The Provincial Greenbelt*
- *Respect for Private Land Ownership*
- *Need for Environmental Evaluations*
- *Access to Public Land*
- *Tree preservation*
- *Landscaping*

## 2.5 Environmental Evaluation

- Report Required
- Other Lands
- Regional Environmental Impact Assessment
- Submission of Report
- Scope of Report

## *Environmental Evaluation Policies*

- *Watershed Planning*
- *Suitable for Proposed Use*
- *Report Required*
- *Other Lands*
- *Regional Environmental Impact Assessment*
- *Submission of Report*
- *Scope of Report*

## 2.6 Waste Disposal Sites

- Development on and Near Former Disposal Sites
- Orchard Community

### *Brownfield Policies*

- Contaminated Sites
- Development on and Near Former Disposal Sites
- Orchard Community at Dundas (former waste site)

### *Golf Course Policies*

### *Aggregate Policies*

### *Stewardship*

- *Land Trusts*
- *The Bruce Trail*
- *Conservation Halton*

### *Natural Hazard Policies*

- *Watershed Plans*
- *Flood, fill and alteration to waterways regulation*
- *Wetlands*
- *Hazard lands*

### *Monitoring*

- *Indicator development*
- *State of the Environment Reporting*
- *Partnerships*
- *Hamilton RAP*

## Appendix II: The Natural Heritage System and Policy Directions

THE NATURAL HERITAGE SYSTEM		
Features	Types of Features	Suggested Policy Directions (adapted from <i>How Much Habitat Is Enough?</i> Edition 2 – Environment Canada 2004)
Ecological Communities	Woodlands	<ul style="list-style-type: none"> <li>No development or site alteration in any woodland &gt; 1 hectare in size</li> </ul>
	Wetlands	<ul style="list-style-type: none"> <li>No development or site alteration in Swamps, Bogs, Fens, or Vernal Pools of any size.</li> <li>No development or site alteration in marsh wetlands greater than .5 hectares in size</li> <li>No development or site alteration in regionally or provincially significant wetlands or wetland complexes                             <ul style="list-style-type: none"> <li>Wetlands are defined as lands with hydric soils or lands dominated by wetland vegetation cover (or lack of dryland cover) or periodically or seasonally high water levels</li> </ul> </li> <li>No development or site alteration in any wetland along the coast of Burlington Bay or Lake Ontario</li> </ul>
	Hedgerows	<ul style="list-style-type: none"> <li>Hedgerows should be integrated into the open space and parks planning for development. Larger hedgerows can function as viable wildlife corridors and should be identified through the EIS process.</li> </ul>
	Grasslands (Meadows / Old Field / Prairie / Savanna)	<ul style="list-style-type: none"> <li>Development or site alteration of Grasslands greater than 1 ha in size only where an EIS has been completed to the satisfaction of the City.</li> </ul>
	Cliff and Talus Communities	<ul style="list-style-type: none"> <li>No development or site alteration within 100 metres of the escarpment brow or the base of the escarpment.</li> <li>Subject to the completion of a satisfactory EIS expansion of existing uses are permitted in this zone subject to applicable Halton Conservation Natural Heritage Policies</li> <li>Notwithstanding the above the Bruce Trail footpath is a permitted use.</li> <li>Naturalization of the setback area is encouraged.</li> </ul>
Aquatic Features	Creeks	<ul style="list-style-type: none"> <li>No development or site alteration of the natural channel of a flowing watercourse is permitted.</li> <li>Ephemeral or Intermittent watercourses may be diverted based on submission of a satisfactory EIS and the attaining of a permit from Conservation Halton</li> <li>The <i>minimum</i> setback from development to a cold water stream is 120 metres, for a warm water stream 30 metres and 15 metres for an intermittent or vernal stream.</li> <li>Enhancement of the setback area is necessary in order to substantiate use of a minimum setback.</li> </ul>
	Fish Habitat	<ul style="list-style-type: none"> <li>No development or site alteration of fish habitat is permitted consistent with the application of the Fisheries Act.</li> </ul>

Hydrologic Features	<b>Ground water discharge and recharge areas</b>	<ul style="list-style-type: none"> <li>No development or site alteration is permitted in areas of known importance for groundwater recharge subject to the completion of a satisfactory EIS.</li> <li>No development or site alteration is permitted in areas of known importance for groundwater recharge</li> </ul>
	<b>Karst Topography</b>	<ul style="list-style-type: none"> <li>No development or site alteration is permitted in areas of known importance for groundwater recharge subject to the completion of a satisfactory geotechnical and hydro geological studies</li> </ul>
	<b>Headwaters</b>	<ul style="list-style-type: none"> <li>Impermeable cover in headwaters areas of a creek (as defined by Conservation Halton) is not to exceed 15%</li> </ul>
Other Features	<b>Significant Valley Lands</b>	<ul style="list-style-type: none"> <li>No development or site alteration is permitted within the valley land area of Bronte Creek or Grindstone Creek.</li> </ul>
	<b>Adjacent Lands</b>	<ul style="list-style-type: none"> <li>Development or site alteration is possible in lands adjacent to features in the natural heritage system only where an EIS has been completed to the satisfaction of the City showing that ecological function and, levels of function will not be impaired or can be fully mitigated. (see notes regarding scoping and structure of EISs)</li> <li>Critical Function Zones of wildlife habitat surrounding natural heritage features are to be protected from incompatible development. The definition of a critical function is to be determined in an EIS.</li> <li>The adjacent lands of a wetland are defined as the entire catchment of an individual wetland up to 200 metres</li> <li>The adjacent land of woodland components of the natural heritage system is 100 metres.</li> </ul>
	<b>Earth Science ANSI</b>	<ul style="list-style-type: none"> <li>Development or site alteration is possible in Earth Science ANSI's only where a study demonstrates to the satisfaction of the City and MNR that the geophysical features and views have been designated will not be lost.</li> </ul>
	<b>Wildlife Corridors</b>	<ul style="list-style-type: none"> <li>Functional connections between natural heritage features should be maintained.</li> <li>Key wildlife corridors will be identified through watershed and subwatershed plans and through the definition and mapping of the natural heritage system.</li> </ul>
	<b>Habitat of Significant Wildlife</b>	<ul style="list-style-type: none"> <li>Development or site alteration in the habitat of Vulnerable Threatened or Endangered Species or Species of Concern as Identified by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or by the Committee of the Status of Species at Risk in Ontario (COSSARO) will not be permitted.</li> <li>This includes all lands critical to the lifecycle of the these organisms such as migratory stop overs, foraging and feeding habitat and reproductive habitat.</li> </ul>
	<b>The Bruce Trail</b>	<ul style="list-style-type: none"> <li>Lot creation and severances are permitted in the rural area to secure the Bruce Trail or other public recreational corridor. However, lot severing is not permitted to subdivide a parcel so as to create a new lot.</li> </ul>

## Appendix III Principles and Objectives of Sustainable Development

The revised Principles and Objectives of Sustainable Development were adopted by Burlington City Council in November 1994 to promote and implement Sustainable Development in the City of Burlington. They are:

### Principles of Sustainable Development

- Support responsible development that promotes efficiency and enhances the quality of life.
- Protect the environment in both a proactive and remedial manner, with emphasis on anticipation and prevention.
- Make Decisions that recognize the interdependence of humans and nature in a common ecosystem.
- Promote responsible resource use and conservation practices.
- Have regard for environmental, economic and social costs and benefits in the development and use of resources, products and services.
- Promote responsible stewardship to ensure equitable use of natural and environmental resources in order to meet essential needs of both present and future generations.

### Objectives of Sustainable Development

- **Protection of Natural Resources:** Preserve and extend accessible green spaces, shorelines, natural water courses and the Niagara Escarpment for future generations.
- **Reforestation of the City:** Promote the replanting and management of vegetation on private and public property within the City.
- **Full Public Participation in Development Decisions:** Allow the public to be part of all planning decisions. Economic, environmental and social impacts of proposed developments should be considered.
- **Actively Promote Sustainable Development:** Advocate changes at the senior levels of government, as well as in the City, in order to evolve towards sustainability.
- **Make the Best Use of Land:** Land-use decisions based upon an ecosystem approach to ensure environmental integrity and diversity. To include, but not be limited, to promoting environmentally sensitive lands and using fertile soil for agriculture throughout the municipality.
- **Protection and Enhancement of Natural Features:** Protect and enhance Burlington's natural features by ensuring that the physical features of shorelines, agriculture lands, flood plains, forestry tracts and notable landmarks such as the Niagara Escarpment are preserved for future generations.

- **Natural Storm Water Management:** Protect water courses in their natural state and for those water courses that have been significantly altered, restoration to a more natural state will be encouraged as opportunities arise.
- **Balanced Development:** Provide a community plan and an economic strategy aimed at creating sustainable and appropriate forms of development that reflect human scale and a sense of community as well as representing a balance between urban development and natural surroundings.
- **Efficient Urban Design:** Increase the efficiency of land use in the urban community in terms of energy and time, promote intensification and diversification policies rather than policies that generate urban sprawl.
- **Minimal Discharge of Toxic Pesticides and Other Toxic Chemicals:** Promote the elimination of private and public use of toxic pesticides and other chemicals that have negative effects on the environment, particularly those known to be persistent.
- **Accessible Community Development:** Form a new type of community development which includes readily available local community components such as commerce, shopping, employment, education and recreation within walking distance of all residences.
- **Responsible Use of Natural Resources:** Encourage conservation of natural resources, the City should work towards ensuring that users are charged for the full local costs of their individual use of water, electricity and sanitary sewers. There should also be educational programs to encourage conservation of natural resources.
- **Integration of Natural Features and Green Space:** Integrate natural features and green space in all new developments and intensification projects.
- **Energy Conservation:** Promote energy conservation through efficient land use planning and building design.
- **Ecosystem Auditing:** City of Burlington should prepare an objective ecosystem audit of the entire municipality at regular intervals.
- **Balanced Transportation System:** Develop a balanced transportation system including transit, pedestrian, and cycling amenities and best use of the road system for movement of goods and people, with the existing facilities used to their fullest capacity.
- **Evaluation of Development:** Continuous monitoring and evaluation of development should take place to ensure that it does not have adverse impacts on the City's finances and the environment.