

The Corporation of the County of Bruce	
Study Area: Environment	Study Title: Environmental Impact Study Guideline

## 1.0 Authorizing County of Bruce Official Plan Section

The authorization to require the submission of an Environmental Impact Study is found in Section 6.19 'Other Information to be Submitted in Support of a Planning Application' of the County of Bruce Official Plan. Section 6.19 states that:

*.1 As per Subsection 22(5) (Other Information) and/or Subsection 34(10.2) (Other Information) and/or Subsection 51(18) (Other Information) and/or Subsection 53(3) (Other Information) of the Planning Act R.S.O. 1990, c.p.13, as amended to March 30, 2007 a person, public body or applicant shall provide together with an amendment or application, in addition to the information prescribed by the Planning Act, or Regulations thereto, any or all of the following Assessments, Evaluations, Reports, Statements, Studies or Plans as requested by the Province of Ontario, County of Bruce, any lower tier municipality or any agency at the sole discretion of the County of Bruce.*

Note: Other Reports, Assessments, or Studies may be required. Please contact your Area Planner for more information.

## 2.0 Purpose of an Environmental Impact Study (EIS)

The purpose of an Environmental Impact Study (EIS) is to identify natural features and functions and assess the potential positive and negative environmental impacts, opportunities for enhancement and impact avoidance, and mitigation measures for a development proposal.

It is not the intent of the EIS to duplicate similar study requirements i.e., Environmental Assessment, MEA Class EA etc. of other agencies. The EIS requirements and review process should be coordinated with other agencies requirements so that environmental analyses and recommendations can be addressed through one study process.

The EIS will assess impacts that are anticipated from the proposed development application on natural heritage features, functions, and linkages including but not limited to:

- Fish and aquatic habitat
- Wetland
- Woodlands
- Valleylands
- Wildlife habitat
- Environmentally Significant Areas (ESA's)
- Areas of Natural and Scientific Interest (ANSI's)
- Species and Habitats of Endangered and Threatened Species
- Groundwater recharge and discharge areas
- Well Head Protection Areas and Intake Zones
- Karst
- Water quality and quantity
- Flood and erosion hazards of streams and valleylands
- Flood, erosion and dynamic beach hazards associated with the Great Lakes and inland lake shorelines
- Natural Heritage Areas

The proponent of a given development has a financial responsibility to fulfill the requirements established by the Province, the County and the municipality for an Environmental Impact Study. The EIS will contain recommendations that discuss whether or not the impacts of the proposed development are acceptable or not, and measures to maintain, mitigate or enhance the natural heritage features and functions of the site. This includes management and mitigation of impacts that are unavoidable. We expect that the results of the analysis to be based on good science that is technically defensible and that adequately protects the features and functions on the site.

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Through this process it is anticipated that development proposals will be modified to reduce impacts where possible. The EIS will be reviewed for technical accuracy and extent of impacts. **The completion of an EIS does not assure the approval of a development proposal.** An EIS provides the mechanism for assessing impacts. Additional modification of development proposals may result during review, if the development concept is deemed to be acceptable. Accepting, modifying or rejecting development proposals in and adjacent to natural areas will take place after the EIS is completed and submitted. In general, the natural areas of concern to the Province, County, and local municipality are those designated as natural heritage features in the Official Plan. Other natural heritage features not specifically identified may be identified as also requiring an EIS.

### 3.0 When is an Environmental Impact Study Required

Section 4.3.9 of the County of Bruce Official Plan states that:

*In order to achieve County objectives for the protection of the natural environment, development proponents shall be required to prepare an EIS for any proposal that is:*

- a) in, or within 120 metres of, a provincially significant wetland;*
- b) in, or within 60 metres of, a locally significant wetland;*
- c) in, or within 120 metres of, the habitat of threatened or endangered species;*
- d) in, or within 50 metres of, a significant woodland, significant valleyland, significant wildlife habitat, deer wintering areas, Area of Natural and Scientific Interest (ANSI);*
- e) in, or within 30 metres of, fish habitat;*
- f) within a 2 year time of travel (WHPA– B) for Wellhead Protection Areas or within a 2 hour time of travel (IPZ-2) for Intake Protection Zones;*
- g) within areas of karst topography;*  
*regardless if any of the above appear on Schedules to this Plan or are identified by the proponent and/or review agencies.*

*The EIS shall be prepared prior to any development approvals and any site alteration (except as may be necessary for the preparation of pre-development studies or surveys) or development. In considering the loss of functions or features, particularly with regard to wetlands and fish habitat, the proponent is also advised to consult with the First Nations to determine potential impacts on resource utilization and other cultural values.*

An EIS shall be completed by a qualified professional and consist of:

- a) a description of the purpose of the undertaking, the duration of impacts to the site, as well as the possible effects of the proposed undertaking;*
- b) a description and statement of the rationale for:
 
  - i) the undertaking;*
  - ii) the alternative methods of carrying out the undertaking; and,*
  - iii) the alternatives to the undertaking.**
- c) a description of:
 
  - i) the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly;*
  - ii) the effects that will be caused or that might reasonably be expected to be caused to the environment; and*
  - iii) the actions that are necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects or the effects that might reasonably be expected upon the environment by the undertaking.**
- d) an evaluation of the undertaking's advantages and disadvantages.*

The County may allow for the waiving of the requirement for the preparation of an EIS when:

- a) a development is subject to a duplicate or similar environmental assessment process; or*
- b) a development is minor in nature; or*
- c) the site conditions for a development are such that the preparation of an EIS would serve no useful purpose for the protection of the significant environmental features.*

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The County may seek outside independent advice as to whether the proposed development is minor in nature OR advice as to whether an EIS would serve any useful purpose OR advice as to the adequacy of a duplicate environmental assessment process.

Notwithstanding the above, other factors or circumstances may trigger the requirement for an EIS including guidelines of the Natural Heritage Reference Manual and/or Significant Wildlife Habitat Technical Guide.

#### 4.0 Pre-Submission Consultation/Scoping a Environmental Impact Study

Prior to undertaking the EIS it is highly recommended that a Terms of Reference (TOR) be developed, as this will chart the direction the Study should take. The TOR for the Study would determine at a minimum the scope and range of issues that would need to be evaluated to the satisfaction of the County, local municipality, Conservation Authorities and interested agencies. As such, the County would like to be consulted very early in the process.

This consultation would facilitate discussion related to identification of issues that must be considered, potential impacts, level of public participation (if considered necessary), a site visit (if considered necessary) and other regulatory requirements. Further it would allow the proponent to be aware of the expectations of the various agencies as well as conversely providing the County with an opportunity to better understand what is being proposed. Ultimately it would also give the County and its partners a better premise on which to evaluate the Study.

Given the number of data gaps with respect to natural heritage in the County, there is an onus on the EIS to provide a comprehensive assessment and consider the full range of potential natural heritage issues at both the site-specific scale and in the broader landscape context.

In cases where there are data gaps and the proposed development is significant (e.g., not a simple lot severance), the Terms of Reference shall err on the side of caution and require studies to verify for the presence of significant natural heritage features and/or functions both within the subject lands and also in the broader landscape context.

The parties developing the Terms of Reference shall be familiar with the available data and also understand the special timing requirements for certain types of ecological assessments. In addition to consideration for all on-site issues, there should also be consideration for local and larger scale natural heritage linkages in the landscape.

**NOTE:** *While it is preferred that the requirement for an EIS be identified at the time of pre-submission consultation, this does not preclude the potential that the need for an EIS may be identified during the subsequent review of the development application.*

#### 5.0 Peer Review of an Environmental Impact Study /Costs for Peer Review

A Peer Review (an independent scientific review) of the EIS may be required depending upon the scale and nature of the development proposal. Reference should be made to the County of Bruce “Guideline for Peer Review” document.

The proponent should be aware that both the cost of the EIS and a Peer Review is to be borne by the proponent.

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## 6.0 Guideline

If a Site Specific Scoping of a Terms of Reference for the Environmental Impact Study are not developed prior to the undertaking of the study the following minimum information shall be provided:

### PART 1 – General Background

#### 6.1 Approach to an EIS

Under the Provincial Policy Statement (PPS, 2005) and the County of Bruce Official Plan, development or site alteration adjacent to (and in some cases within) natural hazard lands and significant natural heritage areas can only occur if an EIS proves to the satisfaction of the County, local municipality and the reviewing agencies that the proposed development will have no negative impacts on the environmental features and associated functions of the subject lands.

It should be acknowledged that any type of site alteration or development is likely to have some impact on the environmental features and associated functions of the subject lands and potentially on adjacent lands.

The EIS should be evaluating, with the best available information and to the best of the consultant's professional opinion: (a) whether or not these impacts are likely to compromise the short and long-term sustainability of the features and associated functions, and (b) if the site development / alteration provides opportunities for enhancing or improving the natural feature and / or functions.

Prior to an assessment of the anticipated impacts of the proposed development, the EIS shall also analyze the existing natural heritage features and functions of the site. This is done in order to understand what natural heritage features/functions are required in order to maintain the existing ecosystem function given that the development may result in changes to the site. This analysis should include a review of linkages between natural features to ensure that life cycles can continue to be completed and that genetic exchanges can occur throughout the landscape.

The EIS shall provide sufficient information to enable an informed decision/recommendation by the agencies, planners and decision makers on whether the proposal meets the intent and policies of the Official Plan(s) and the PPS.

Notably, an EIS is not normally required where new infrastructure subject to the *Planning Act* is authorized under the environmental assessment process (which has its own impact assessment process).

#### 6.2 How the Process Works

The following outlines the basic Steps in the Process:

Step	Task
A	Pre-Submission Consultation between County, local municipality, agencies, and proponent
B	Development of EIS Terms of Reference by proponent consultant
C	Approval of EIS Terms of Reference by County and/or local municipality and agencies
D	Completion of EIS by proponent consultant
E	Submission of EIS to County
F	Review of EIS by County and/or local municipality and agencies. Independent Peer Review may be required
G	Approval of EIS, Approved with Modifications to EIS, Refusal of EIS
H	Submission of Planning Applications (if required) by proponent

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PART 2 – Environmental Impact Study Requirements

**6.3 Executive Summary**

Include a summary that contains a short description of the proposed development, the anticipated effects on the environment and all recommendations.

**6.4 Description of Undertaking**

The EIS shall clearly state up front: i) what type of site alteration or development is being proposed; ii) the nature of adjacent land uses and their location; and iii) the nature of sub-regional lands uses and their location.

i) Site specific information shall include:

- existing/proposed roads;
- existing/proposed lot lines;
- existing/proposed building envelopes;
- existing/proposed driveways or laneways;
- existing/proposed septic system(s), well(s) or waterline locations;
- existing/proposed land use;
- existing/proposed lot grading, erosion/sediment control and/or stormwater proposals;
- existing/proposed vegetation and enhancement;
- existing/proposed watercourse crossings or alterations;
- proposed timing for construction/development (including phasing, if appropriate).

Reference should also be made to the Submission Requirements on the Development Application for any further site specific information requirements.

ii) Information for adjacent lands (all lands within 120 metres of the development proposal) shall include:

- the existing use or type of development;
- lot lines;
- driveways/laneways;
- roadways;
- watercourses, waterbodies, ditches, swales;
- building envelopes;
- Eco-Site description as per Ecological Land Classification (ELC) for Southern Ontario (Lee et al. 1998) derived from field investigation, background information or air photo interpretation.

iii) Information on the nature of sub-regional lands (all lands within 1 km of the development site) shall include Eco-Site description derived from field investigation, background information or air photo interpretation.

**6.5 Policy, Legal and Administrative Framework**

This section of the EIS shall describe the policy and legal framework within which the development/project may be implemented. Therefore Federal, Provincial, County, Municipal, Conservation Authority etc. requirements relevant to the proposed development must be highlighted. Regulations, standards and guidelines applicable to the development shall also be referred to.

**6.6 Inventory of Existing Conditions (Biophysical Inventory)**

This section shall include all the information obtained from various background and secondary sources as well as assessments from remote sensing (i.e., ortho-rectified air photo interpretation) and site-specific field studies. The EIS shall explain and justify the level of investigation undertaken, and also ensure required field studies are undertaken within the appropriate timing windows and that the specific conditions (i.e., dates, methods) for field studies are documented in the EIS.

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Background data sources may include:

- current ortho-rectified air photos;
- existing mapping from the conservation authority and/or Ontario Ministry of Natural Resources (OMNR);
- the Ontario Breeding Bird Atlas (OBBA), Ontario Herpetofaunal Atlas, the Ontario Mammal Atlas;
- information obtained from previous studies such as life science inventories, natural areas inventories, local watershed plans, etc.;
- relevant reports prepared for/by other agencies ;
- local naturalists.

Unless specified during the EIS Terms of Reference consultation, the biophysical inventory shall identify, in text and mapping, the following:

- known natural heritage designations within and beyond the site (e.g. Areas of Natural & Scientific Interest (ANSI's), Provincially Significant Wetlands (PSWs), Locally Significant Wetlands (LSWs), Environmentally Sensitive Areas (ESAs), habitats of endangered and threatened species, habitats of significant wildlife, fish habitat);
- natural heritage features i.e., significant woodlands and functions present on the site and within the landscape;
- specific location of boundaries or edges of identified features or functions;
- existing interconnections or corridors with adjacent natural features;
- identification of hazard lands.

For each type of field assessment undertaken the Study shall include:

- (1) number, date, time, and weather conditions during surveys;
- (2) names of surveyors and qualifications;
- (3) a full list species present and estimates of on-site abundance;
- (4) the global, national, provincial, regional, and local priority ranks for each species (as appropriate); and
- (5) the location of each significant species associated with the appropriate vegetation community (or stream segment), and for Species at Risk (SAR) the location specified in Universal Transverse Mercator (UTM) coordinates.

It is critical that field studies, particularly for breeding birds and breeding amphibians, as well as fish surveys, be undertaken within the appropriate timing window, as specified below.

**GEOLOGY & SOILS:** A description of the soils, landforms and surficial geology based on a review of available mapping and literature. Topographical information should be provided on constraints mapping. Any feature staking that has been done to date (e.g. staking the top and/or toe of the valley slope) should also be indicated as well as the calculated hazard land limits (e.g. floodplain analysis, geotechnical review of slope stability and watercourse erosion, meander belt width analysis, etc.).

**HYDROLOGY/HYDROGEOLOGY:** Identify any hydrological or hydrogeological resources and issues, including surface water features, recharge/discharge zones, groundwater quality and quantity, groundwater elevations and flow directions, connections between groundwater and surface water features. More in-depth information (i.e., boreholes, surface flow measurements) may be required, depending on the scope, scale and issues identified for the proposal.

A pre-development water balance shall be completed for the site in order to assess the quantity and quality of existing water budget components on the site. If there are existing natural heritage features on the subject property, including wetlands, woodlands, and watercourses, then a more detailed feature-based water balance shall be conducted to determine existing flow paths and contributions to these features.

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**TERRESTRIAL & AQUATIC RESOURCES:** A biophysical inventory and analysis of both terrestrial and aquatic communities, physical functions and processes that occur on and beyond the site that will be affected, or that might reasonably be expected to be affected, either directly or indirectly.

Vegetation Communities Survey & Reporting: A survey of vegetation community types shall be undertaken during the main growing season and over three seasons (spring, summer and fall). Community description outlines may be qualitative, but should follow the Ecological Land Classification for Southern Ontario (Lee et al. 1998) to Vegetation Community Type, or contain an equivalent or greater level of structural and floristic detail. The report shall present both a description of the communities and vegetation maps superimposed preferably on an air photo or a base map of scale no greater than 1:5,000 that shows contours and watercourses and the location of natural heritage features.

Any known historical or current management activities (e.g., selective harvesting within a woodlot for firewood) within the natural areas on site shall also be described.

Vascular Plants Survey & Reporting: A complete list of all vascular plants observed on the site shall be assembled. Status of globally, nationally, provincially, regionally and locally rare vascular plant species (using the most current status lists) should be noted and associated with specific ELC communities. The extent of habitat for each species of conservation concern shall be outlined and survey dates should be indicated. Local status lists should include Johnson (1990) and the publication 'Rare and Endangered Species of Grey and Bruce Counties' (2001).

Wildlife Surveys & Reporting: Habitat, den sites, nesting, breeding, migratory stopover, nursery, overwintering areas and other locations shall be identified. Other wildlife functions shall be identified and assessed, and, where appropriate, mapped. Wildlife functions include, but are not limited to, waterfowl staging areas, fish spawning or nursery habitat, herpetofaunal breeding or hibernacula areas, wintering grounds, areas that provide temporary shelter or feeding areas for migratory wildlife, areas that provide critical life cycle habitat, and wildlife corridors.

Breeding bird surveys shall be carried out between May and July following the Ontario Breeding Bird Atlas Protocol (OBBA, 2001). A minimum of 2 visits to the site is recommended at least 15 days apart during the breeding season. All initial visits are to be completed by the end of the third week of June. In addition to the general requirements for reporting laid out above, reports with breeding bird surveys should include a full list of bird species present and on-site abundance and an annotated assessment of confirmed, probable or possible breeding birds (based on breeding codes) and the number of territories.

Herpetofaunal Surveys: Salamander surveys may require agency approval. A frog and toad survey shall be carried out according to either the Marsh Monitoring Protocol or the North American Amphibian Protocol. Surveys for snakes and turtles may be incidental to other surveys (i.e., searches under debris and searches of basking sites early in the season). At three surveys shall be conducted in spring at least 15 days apart in order to capture the full range of possible amphibians using the site. The first survey should generally occur between April 15 and April 30, the second between May 15 and May 30 and the third survey should occur between June 15 and June 30. In addition to the general requirements for reporting laid out above, reports with herpetofaunal surveys should include specific notes on the weather encountered during surveys.

Aquatic Communities & Habitats Survey & Reporting: Ideally assessments should be conducted at a time when water is present and when fish may be using these streams for spawning purposes. Aquatic surveys should follow the Ontario Stream Assessment Protocol (OSAP). A scientific collector's permit must be obtained from OMNR for most surveys.

The technical information may include: fisheries and/or watershed management plan objectives; fisheries habitat inventory, fish habitat assessment and stream analysis, fish community and habitat assessment requirements for ephemeral streams. Ideally, assessments should be conducted in May or early June to document if water is present at a time when fish may be using these streams for spawning purposes.

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Fish must be identified to species level. Where pike/muskellunge may use a stream, assessments may also be required as soon as ice is out (usually early April). Assessments may also be undertaken at other times of the year as project limitations dictate but ideally are coupled with additional observations in other seasons.

Assessments should identify current functions of the channel as fish habitat and make a determination of the potential for harmful alteration, disruption or destruction (HADD) (as per Section 35(1) of the *Fisheries Act*) for the works under consideration.

In addition to the general requirements for reporting laid out above, reports with aquatic surveys should include the locations and abundance of any observed spawning redds and relevant species, the length of surveyed site and an indication of the catch per unit effort; and a description and analysis of the existing habitat and any restoration or enhancement opportunities.

Benthic Surveys shall follow a defined quantitative protocol as outlined in OSAP, the Ontario Benthic Biomonitoring Network (OBBN) and/or Biomap (Biological Monitoring and Assessment Program). Regardless of the protocol, organisms must be identified to the lowest practical taxonomic level.

### **6.7 Assessment of Existing Conditions**

This section shall include an analysis of the inter-relationship, sensitivity and significance of the biophysical information collected as per Section 10.0 'Inventory of Existing Conditions'. The Assessment shall provide an overview of the existing ecosystem both within the subject site and as it relates to the larger local and regional ecosystem. For example, the linkages/inter-dependencies between features, such as between the groundwater and vegetation communities or the groundwater and surface water relationships shall be described. The investigation of the existing features shall extend beyond the subject site and include adjacent areas.

NOTE: In cases where permission from adjacent landowners for access to lands is refused, the EIS shall document the method by which data was collected without entry onto a property (e.g. orthophotos, previous studies etc.).

When analyzing the features and their inter-relationships, reference shall be made to the PPS when determining 'significance'. In addition, the analysis shall include all natural heritage features identified through any local municipal Natural Heritage System (NHS) Study and/or County NHS (either mapping or through policy and related criteria and/or guidelines). The Natural Heritage Reference Manual and Significant Wildlife Technical Guide or their successors should also be consulted when analyzing natural heritage features and functions.

The Assessment should also refer to the most current lists from: Species at Risk in Ontario (SARO), the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Natural Heritage Information Centre (NHIC) records, species of conservation concern lists, and any local / regional lists such as Johnson (1990), Oldham (1993) and 'Rare and Endangered Species of Grey and Bruce Counties' (2001).

### **6.8 Impact Assessment**

The impact assessment shall identify specifically, in writing and with maps as appropriate:

- the extent of the proposed vegetation removal, and the size and types of vegetation communities being removed (i.e., direct impacts);
- activities associated with the proposal that are expected to have environmental impacts (e.g., work on stream banks, tree-cutting, earth-moving, excavation and post-construction activities);
- surrounding natural heritage features or areas, and potential impacts to those;
- other features as requested through the EIS pre-submission consultation;
- a site plan (if appropriate) showing:
  - the proposed building envelope(s);
  - septic areas and/or proposed stormwater management (if required);

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- proposed infrastructure such as driveways, roads or parking lots.

While the mapping and main discussion shall focus on the recommended or preferred plan, the EIS shall also include discussion of alternative forms that the development might take.

The impact assessment shall describe the significance of any negative or positive effects, both short and long-term, as well as on-site and off-site. The assessment should discuss:

- direct on-site effects (*i.e.*, direct loss of feature or habitat);
- description of the nature, extent and duration of potential impacts to the site, adjacent lands and potential cumulative effects;
- impacts on areas identified as part of a local Natural Heritage System, including ecological linkages and corridors;
- effects on surface drainage systems (such as ponding, erosion, changes in volume of surface runoff, changes in water quality, timing and intensity of surface flow, associated impacts to natural features and functions, pre- to post-development water balance changes);
- effects on groundwater (such as reduced surface water recharge to groundwater, changes in groundwater contribution to natural features, impedance of groundwater movement, impacts to groundwater discharge areas, construction-related impacts to aquifer integrity, groundwater contamination, and redirection of groundwater flow);
- effects on the aquatic and fish habitats;
- effects on adjacent areas, including transported effects such as sedimentation;
- effects on the key characteristics of the natural area including loss of habitat, change in habitat, edge effects and impacts to sensitive species or communities;
- effects on local connectivity, and fragmentation and isolation of habitat;
- effects of occupancy (*i.e.*, increased disturbance and indirect impact from increased access, pets, lighting, noise, encroachment, etc.);
- effects on the use of the natural heritage feature, function, or area by people (e.g., recreational or educational uses).

Furthermore, a post-development feature-based water balance shall be required for woodlots, wetlands and watercourses. The post-development scenario shall be compared to the existing condition and mitigation measures will be required in order to maintain existing flow regimes on a monthly basis for both groundwater and surface water.

An explanation of the methods used to determine the effects on the environment must be included.

### **6.9 Impact Avoidance, Impact Mitigation, Proposed Enhancement of Existing Feature**

The avoidance of negative impacts on natural heritage should always be selected over an enhancement or mitigation measure where possible. Measures to enhance the natural heritage feature or function should also be explored. Ways of avoiding negative impacts for both the proposed development, and the identified alternatives to the proposal, must be listed and evaluated. Where negative impacts are unavoidable, a range of mitigating measures to reduce or minimize impacts shall be evaluated. In some cases, opportunities for enhancement can be identified even in the absence of related impacts.

The Study shall include, but is not limited to:

- a description of the municipal requirements, standards, such as setbacks that will effect the development proposal and could impact the ability to maintain appropriate buffers, etc.;
- a preliminary grading plan indicating both existing and proposed grades for services and building envelopes that demonstrates grading can be accommodated without impacts to natural features;
- an evaluation of as many feasible mitigating measures as possible;
- a detailed description of the proposed mitigating measures, and their anticipated benefit;
- the extent of any remaining impacts discussed;
- Identification of opportunities for the enhancement of the natural heritage feature, function, or area resulting from positive effects.

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If the impacts cannot be mitigated, then the form of development that is proposed may need to be revised in order to make the desired use more compatible. It is possible however, that the area may be so ecologically sensitive that no form of development is compatible.

### **6.10 Monitoring Requirements**

Monitoring enables planning agencies, through development agreements, to require subsequent changes to site conditions if the environmental effects are found to exceed predicted effects or targets, or if there are identifiable negative effects that were not anticipated or mitigated for.

Where mitigation is achieved through avoidance of negative impacts, a simplified monitoring plan to ascertain the success of the project is all that may be required. In these situations, the predicted net effects after mitigation may be negligible, and only the assumptions need to be tested. However, where mitigation is achieved by methods or measures to minimize but not to eliminate environmental effects, the predicted net effects after mitigation will be described and a monitoring plan designed to measure those effects may be required.

The Natural Heritage Reference Manual produced by the Ministry of Natural Resources (OMNR 1999) states that monitoring may be required where: (1) the large scale of a development or the sensitivity of the key functions are such that effects may be difficult to predict and/or are relatively untested or unproven in the field; (2) the mitigation technology proposed is not proven in Ontario; or (3) there are some long-term operations associated with a development that could facilitate some future or ongoing refinement to the mitigation strategy.

Depending on specific circumstances, monitoring may be required in pre-construction, construction /operation and post construction periods. Details of the monitoring program will be specific to the development proposal and will be determined through review of the development application and the EIS.

It may be determined at the EIS pre-submission consultation that a monitoring plan may be needed to measure the proponent's compliance to implement mitigating measures, and the adequacy of the mitigation measures. If a monitoring plan is requested, the proponent must include an outline of how the mitigating measure will be monitored.

### **6.11 Recommendations**

The EIS shall describe preferred methods or measures to avoid or mitigate any negative impacts, and suggest positive changes and enhancements to the natural heritage of both the site itself and the general area. The recommendations must also state the preferred alternative proposal and discuss why it is the best alternative. The onus shall be on the proponent to demonstrate how over the long term any mitigative measures proposed are to be implemented. Modifications to the original proposal to achieve the preferred mitigating measures and enhancement should be outlined. Such modifications include:

- modification to the concept plan or site plan
- construction requirement or constraint
- an integral component of detailed designs or site plans, such as surface water/stormwater management plan, erosion control plan, tree protection plan, rehabilitation/landscape management plan, or wildlife management plan
- appropriate buffers/setbacks
- other environmental protection measures.

The EIS will reach a conclusion on the significance of impacts of the proposal, and the alternative proposal, with and without the implementation of the proposed mitigation measures.

### **6.12 References**

The Study shall include a section on all Literature Cited.

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### **6.13 Appendices**

Appendices attached to the back of the Study shall include:

- People contacted during the Study, or referenced in the Study;
- Qualifications of Study team members;
- All background data collected including filed collection records, flora and fauna species lists by area and by date of inventory, borehole/water level reading data, flow measurements, water quality data sheets, calculations etc.;
- A copy of the study Terms of Reference or letter to the proponent from the Conservation Authority or County planner that summarizes the scope of the EIS.

### **7.0 References**

Bruce-Grey Plant Committee (Owen Sound Field Naturalists). 2001. Rare and Endangered Species of Grey & Bruce Counties. Owen Sound: Stan Brown Printers Limited. ISBN 0-9680279-4-6

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Lee, H., W.D. Bakowsky, J.L. Riley, J. Bowles, M. Puddister, P. Ulrig and S. McMurray. 1998. Ecological Land Classification for southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

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OMNR, June 1999. Natural Heritage Reference Manual, For Policy 2.3 of the Provincial Policy Statement. Ontario Ministry of Natural Resources.

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Province of Ontario. 2005. Provincial Policy Statement. Ministry of Municipal Affairs and Housing. Toronto.