

33. APPENDICES

33.1. APPENDIX A - BACKGROUND STUDIES

Level One Archaeological Assessment:

All official plan and zoning amendments and subdivision, condominium or consent applications affecting undisturbed lands, which: are within 300 metres of a lake, major watercourse, a wetland, or an ancient water source; are on a site possessing elevated topography, sandy soil in a clay or rocky area or unusual land forms; include historic cultural features; are a known Archaeological site; or are a designated Historical site will require a Level One Archaeological Assessment.

Level Two Archaeological Assessment:

All applications where development is proposed on lands containing a registered Archaeological site or where a Level One Assessment has identified the presence of archaeological resources and Level Two Archaeological Assessment will be required.

Hydro geological Investigation:

All official plan amendments or subdivision applications proposed to be developed based on private wells and septic systems;
Proposals to be connected to an existing municipal water or sewer system where surrounding development is serviced by private or municipal wells;
All applications for Aggregate extraction that will extract below the water table.

Noise Study:

All Official Plan amendments or subdivision applications involving *sensitive land uses* within: 500 metres of: an expressway or main railway; 250 metres of a Major Highway or secondary rail line; 300 metres of a Class 'A' Aggregate Extraction operation; an Airport flight path; a medium or heavy industry; and 100 metres of other rail lines;
All applications to permit a medium or heavy industry within 300 metres of a *sensitive land use*.

Storm Water Management Report:

All Official Plan amendments or subdivision applications which: will result in alterations to lot grading; will create a new surface or sub-surface drain; will require an outfall to any existing surface or sub-surface drain.

The MTO requirement in this regard can be found at following website linkage:
www.mto.gov.on.ca/english/engineering/drainage.

Environmental Impact Study:

All Official Plan amendments or subdivision applications that are located within 120 metres of or on land identified as Environmentally Sensitive.

Flood Plain Study:

All Official Plan amendments, subdivision applications and Aggregate Extraction proposals, where the site is located adjacent to a watercourse which has not been flood mapped and which has been identified as having flood potential;

All applications which propose to locate within an area identified by floodplain mapping as flood fringe.

Agricultural Capability:

All Official Plan amendments or subdivision applications, which are within an area designated as Prime Agricultural, or Rural.

Growth and Settlement:

All residential Official Plan amendments or subdivision applications, except shoreline oriented residential, which are outside of a designated *Settlement Area*.

Servicing Options:

All Official Plan amendments or subdivision applications that are proposed on private wells and or private waste disposal systems.

Traffic Study:

All residential Official Plan amendments or subdivision applications in excess of 50 dwelling units or any new Shopping Centre Commercial development which requires access to a highway, primary arterial, a secondary arterial or an urban arterial road;

any Class A aggregate extraction proposal that would not access a designated haul route.

Vibration Study:

All residential Official Plan amendments or subdivision applications that would abut an active rail line.

Vegetation Analysis and Tree Preservation Plan:

All Official Plan amendments, subdivision applications and Aggregate Extraction proposals, located on sites that are visible from a lake or river.

Market Study:

All Official Plan Amendment applications requesting redesignation to Highway Commercial, Large Format Retail and Shopping Centres for new developments or expansions exceeding 3000 square metres of gross floor area.

Planning Justification Report

All Official Plan amendments, subdivision applications and rezonings will require a planning justification report.

33.2. APPENDIX B - TRAFFIC IMPACT STUDY REQUIREMENTS

Consult with the Public Works Department on the requirements for a traffic impact study.

If the proposed use is a significant traffic generator in close proximity to a provincial highway, MTO shall be consulted to determine whether a traffic impact study/report is required.

33.3. APPENDIX C – CULTURAL HERITAGE STUDY REQUIREMENTS

The requirements of the Ministry of Culture form the basis of Archaeological Studies. Archaeological studies are normally required for official plan and zoning applications and when land is being divided by plan of subdivision or consent when they are:
within 300 metres of a lake, major watercourse, a wetland, or an ancient water source;
on a site possessing elevated topography, sandy soil in a clay or rocky area or unusual land forms;

- include historic cultural features;
- a known Archaeological site; or
- a designated Historical site.

Development agreements will contain a requirement, that if during construction any archaeological or cultural heritage resources (including human remains) are found, that all work shall cease and the Ministry of Culture be notified and only commenced with the Ministry's concurrence.

33.4. APPENDIX D - HYDRO GEOLOGICAL STUDY REQUIREMENTS

If a development proposal consisting of the equivalent of five or more residential units is proposed, a hydro geological study to support the development must be prepared by the proponent. The City will have a peer review of the report to ensure that the recommendations are acceptable to the City while ensuring that there is sufficient potable water for the development. The area of DP8 is exempted from the study requirements as long as development does not form a *cluster* of five or more units within 100 metres of each other.

The Study must include:

- the testing of at least one well on the property and must consider all wells within 300 metres of the property;
- the potential for cross contamination of existing and proposed subsurface sewage disposal systems;
- that an adequate and safe supply of potable water, relative to the Ontario Drinking Water objectives, is available for the proposed development;
- that on site sewage disposal or water supply will not prevent or impede the use of the ground water resource on site or in adjacent areas;
- the appropriate lot size or site alterations required to meet MOE Technical Guidelines;
- compliance of the study with all pertinent Provincial policies, guidelines and legislation;
- identify additional investigations if there is insufficient information to make a definitive determination relative to items (a) to (f) above; and
- the report should take into consideration that the systems will be designed and built to meet the requirements of the Building Code.

All reports shall be based on the MOE's Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Assessment and MOE's Technical Guideline for Private Wells: Water Supply Assessment and the MOE's Reasonable Use Policy.

For a residential unit, the report with respect to water should be based on a water flow of 450 litres per person per day. The water should meet MOE drinking water standards or have a recommended treatment to achieve this.

The use of surface water for a potable water system is not acceptable unless the system will be a communal system to be assumed by the City.

33.5. APPENDIX E - DEVELOPMENT APPLICATIONS

Applications requiring an approval pursuant to the Planning Act shall be accompanied by sufficient information to permit a proper evaluation of the proposal in consideration of the policies of this Plan and applicable Provincial Policies. Without limiting the applicability of any specific requirements set out by any other policy of this plan or for a specific land use designation policy 13.1 sets out the types of background studies that may be required for specific types of applications. Notwithstanding the list, set out below the City may require additional studies as a condition of granting an approval.

All studies and reports submitted in support of an application may be submitted to a peer review in accordance with applicable City policy.

Development proponents are expected to meet with the City Development Services Department – Planning Division prior to making an application in order to determine which studies and reports must accompany their specific application.

Background studies or reports will not normally be required for minor variance applications or severances. Where a severance application is not the first application for a particular parcel there may be a requirement for a hydro geological investigation.

33.6 APPENDIX F - WASTE DISPOSAL SITES

A Waste Disposal facility shall consist of any sanitary landfill site, sewage treatment facility, waste transfer station, or waste recycling facility and shall comply with the requirements of the *Environmental Assessment Act* and the *Environmental Protection Act*.

A Waste Disposal Facility may be permitted in the Agricultural and Rural Designations subject to:

compliance with the provisions of the *Environmental Protection and Environmental Assessment Acts*;

studies having been carried out to the satisfaction of the City that show that development is compatible with surrounding uses and can safely take place;

the City requiring the construction and phasing of all development to coincide with the control of any problems identified by the Engineering Studies; and

the City being satisfied with the studies with respect to any matter regarding structural stability, safety and integrity of all structures.

Waste disposal sites shall be zoned in an appropriate zoning category.

Zoning By-laws shall incorporate appropriate setbacks for new development from Waste Disposal Sites that are consistent with provincial regulations and guidelines as administered by the Ministry of the *Environment*.

"Waste Disposal Assessment Areas" are shown on Schedule 'D' and include sanitary landfill sites or sewage treatment facilities that are in operation or have been closed.

Land uses that are proposed on or adjacent to a Waste Disposal Assessment Area shall be compatible with the potential impact of the Waste Disposal Assessment Area and be designated or engineered to ensure health and safety.

A new use shall not be established within 500 metres of a Waste Disposal Assessment Area unless the appropriate studies are completed to determine if any *adverse effects* or risks to health and safety from the waste disposal site are present and the necessary remedial measures are taken.

If City identifies a potential conflict or negative impact for a new use proposed in proximity to a Waste Disposal Assessment Area, then a study shall be completed which determines, to the satisfaction of the City that the new use can be safely established without risk of *negative impacts*.

33.7 APPENDIX G - FLOOD ELEVATIONS AND MAXIMUM LAKE LEVELS

	TSW Maximum Elevation (1978 GSC Datum)	CA or MNR 100 Year Flood Elevation or Regional Flood (Timmins Storm) Elevation
Balsam Lake	256.47	256.5
Cameron Lake	255.82	255.7
Canal Lake	241.75	242.75
Chemong Lake	246.82	246.9

Mitchell Lake	256.47	256.5
Pigeon Lake	246.82	246.9
Scugog Lake	251.05	250.9
Sturgeon Lake	248.29	248.4
Head Lake		270.5
Lake Dalrymple		229.4
Young Lake		228.0

33.8 APPENDIX H - ACRONYMS AND ABBREVIATIONS

ANSIs	Area of Natural and Scientific Interests
C of A	Committee of Adjustment
CA	Conservation Authority
CKL	City of Kawartha Lakes
CKLEAC	City of Kawartha Lakes <i>Environmental</i> Advisory Committee
DFO	Department of Fisheries and Oceans (Federal)
DHU	District Health Unit (Haliburton, Kawartha, Pine Ridge District Health Unit)
EIS	<i>Environmental</i> Impact Study or <i>Environmental</i> Evaluation
ELC	Ecological Land Classification
GRCA	Ganaraska Region Conservation Authority
Growth Plan	Growth Plan for the Greater Golden Horseshoe
HADD	Harmful Alteration, Disruption or Destruction (deals with fisheries habitat)
KC	Kawartha Conservation or KRCA (Kawartha Region Conservation Authority)
LACAC	Local Architectural Conservation Advisory Committee
LSRCA	Lake Simcoe Region Conservation Authority
LSW	Locally Significant Wetland
MDS	<i>Minimum Distance Separation Formulae</i> (see definitions)
MMAH	Ministry of Municipal Affairs & Housing
MNDM	Ministry of Northern Development & Mines
MNR	Ministry of Natural Resources
NHS	Natural Heritage System
MOE	Ministry of <i>Environment</i>
MTO	Ministry of Transportation of Ontario
NHIC	Natural Heritage Information Centre
NRVIS	Natural Resources and Values Information System
ORM	Oak Ridges Moraine
ORMCP	Oak Ridges Moraine Conservation Plan
OC	Otonabee Conservation or ORCA (Otonabee Region Conservation Authority)
PSW	Provincially Significant Wetland
PTTW	Permit to Take Water
RSC	Record of Site Condition
TSW	Trent-Severn Waterway, Park Canada
TES	Threatened and <i>Endangered Species</i>
Sq.m.	square metres
m3 or cu.m.	Cubic metres
l	litre
ha	hectare
m	metre

33.9 APPENDIX I - METRIC EQUIVALENTS (APPROXIMATE)

Area		Length	
4000 sq.m	1 acr e	15 m	50 feet
1 ha	2.5 acr es	30 m	100 feet
2 ha	5 acr es	50 m	165 feet
25 ha	62 acr es	100 m	328 feet
38 ha	94 acr es	120 m	400 feet
40 ha	100 acr es	300 m	985 feet

33.10 APPENDIX – J – ENVIRONMENTAL IMPACT STUDY.

Terms of Reference: Environmental Impact Study

The following are the general Terms of Reference for an Environmental Impact Study (EIS) to determine the potential impacts on the Natural Heritage System (NHS) from development and site alteration proposals. The actual Terms of Reference for any particular application will be determined by the CKL in conjunction with the *Conservation Authority*.

Objectives

The objectives of the Terms of Reference are as follows:

- To provide an outline to applicants and their consultants of the expectations of the CKL for an EIS, subject to a Terms of Reference meeting with the Authority.
- To ensure that the required work and/or studies are known and agreed to prior to the commencement of work, to facilitate a cost-effective, streamlined and timely review process.

General Policies

It is mandatory that the applicant and/or their consultant meet with the Authority to determine and agree upon the Terms of Reference of the EIS prior to the commencement of any work. Failure to hold this meeting and/or to reach agreement on the scope of the study prior to commencement of the EIS may result in refusal on the part of the Authority to review or approve the EIS.

The EIS must be undertaken by a qualified professional in environmental or related sciences to the satisfaction of the Authority.

A visit to the site may be required by the Authority prior to, during, or upon receipt of the EIS.

The staking of regulated areas (i.e., wetlands, top of bank, etc.) and NHS features (i.e., woodlands, etc.) by the Authority may be required. Staking will generally occur between the end of May and the end of October. Any staking that occurs outside of this time may require a confirmatory visit between May and October.

Existing Conditions

The existing conditions of the subject property must be clearly described and clearly mapped on aerial photographs.

The description must include the zoning and all designations of all Official Plans on and adjacent to the subject property. This includes any land use designations from other municipal planning documents, such as Secondary Plans.

Land use designations from any other applicable planning documents (i.e., Oak Ridges Moraine Conservation Plan, Greenbelt Plan) must be clearly described and the limits identified in the mapping.

The EIS shall identify the components of the Natural Heritage System and their respective Levels. The boundaries of the NHS may be required to be staked in the

field by the proponent and approved by the Authority. The staked and surveyed boundaries shall be provided on a figure in the report.

All designated environmental features (i.e., the NHS or natural features identified in the O.P.) must be identified in the mapping and described in the report. These features include provincial or regional *Areas of Natural and Scientific Interest* (ANSIs), Provincially Significant Wetlands (PSWs), etc.

The vegetation communities must be identified using the Ecological Land Classification (ELC) system to vegetation type. The communities must be identified in the mapping, using the appropriate ELC codes, as well as described in the text. A three-season survey may be required.

As a component of the ELC, a plant list must be included as an appendix. The list must include an analysis for the presence of federal, provincial, regional and/or watershed rare, threatened or *endangered species*. This should include information from the MNR district office and NHIC.

The EIS may require a breeding bird survey. The need for such a survey will be determined as part of the initial Terms of Reference/scoping meeting. The survey must be conducted during the breeding bird season at an appropriate time of day in appropriate weather conditions and by a qualified professional. A minimum of two surveys are required and they must follow generally accepted scientific protocols, not necessarily atlasing methods.

A list of the breeding birds is required as an appendix. The list must include an analysis for the presence of federal or provincial rare, threatened or *endangered species*.

Watershed rarity status shall be determined in conjunction with the *Conservation Authority*.

The EIS may require a breeding amphibian/reptile survey. The survey must be conducted during the breeding amphibian season and by a qualified professional. For calling amphibians a minimum of three surveys are required. These surveys must span the full amphibian breeding season to ensure that the peak periods of activity for early and late breeding species are accounted for. For non-calling amphibians, appropriate methodology must be used.

A list of the breeding amphibians is required as an appendix. The list must include an analysis for the presence of federal, provincial, threatened or *endangered species*.

Watershed rarity status shall be determined in conjunction with the *Conservation Authority*.

If any watercourses or waterbodies identified in the NHS as habitat for fish are present, a fisheries assessment shall be provided. Existing data regarding fish species shall be obtained from the *conservation authority* and/or the MNR. Where necessary, fish will be sampled through electro fishing and/or netting during the appropriate season, under a collection permit issued by the Ministry of Natural Resources. The assessment shall include a description of watercourses or other fish habitat on and/or adjacent to the property.

All incidental wildlife observed shall be reported on and listed in an appendix. The list must include an analysis for the presence of federal or provincial rare, threatened or *endangered species*. Watershed rarity status shall be determined in conjunction with the *conservation authority*.

A functional assessment of the subject property describing the ecology of the natural heritage features and functions should be provided. This shall include a consideration of the hydrological requirements of natural heritage features, particularly wetlands.

Where the NHS has identified a stream linkage or potential proximity linkage on or adjacent to the property, the EIS must identify the location, width and proposed vegetation composition of the linkage. Once the limits of the linkage have been determined to the satisfaction of the CKL and the *Conservation Authority*, these shall be staked in the field and subsequently surveyed.

Mapping (at a minimum) shall consist of the following:

- All mapping must have a title, figure number, north arrow, legend and scale or scale bar.
- A site location map that provides the regional or watershed context of the subject property.
- The extent of the Natural Heritage System and its components must be clearly demarcated on an orthophoto base.
- The locations of all watercourses and waterbodies and an indication of their flow and thermal regimes.
- Vegetation communities must be delineated and identified using ELC.
- The location of any rare, threatened or *endangered species* and/or populations shall be identified.
- The location of any important wildlife features (i.e., hibernacula, den, stick nest, etc.) shall be identified.

Assessment of Impacts

The potential impacts to the features and functions of the Natural Heritage System shall be identified and discussed with possible mitigation measures through the following:

- evaluation of the possible extent or area of the natural feature(s) that the development will affect, directly or indirectly
- evaluation of the possible future and cumulative impacts of development that may occur as a result of demand created by the present development (i.e., whether the proposal will lead to multiple or successive development or site alteration activities)
- recommendation of actions that may be necessary to prevent, mitigate or remedy the effects of the development, as well as alternative methods to carry out the development and alternatives to the form of the proposed development

A number of factors should be considered in assessing potential impacts, including:

- the spatial extent, magnitude, frequency and duration of the impacts;
- the extent and degree to which adjacent lands will be affected;
- potential impacts on specific features and functions; and
- whether the impacts are likely to result in cumulative impacts (for information on the assessment of cumulative impacts

A description of the natural features proposed for removal shall be provided. The quantity of removal shall also be included.

An assessment of the potential impact on the Natural Heritage System, including any Linkages areas that have been identified.

Recommendations and Mitigation Measures

Avoidance of any NHS feature, regardless of its assigned Level, is the preferred approach to mitigation.

Determine adequate buffers through the identification of the critical function and protection zones of the NHS.

Where avoidance of a feature is not feasible or possible, mitigation approaches/techniques must be provided. These may include edge management plans, buffer plantings, fencing, etc.

In cases where a Linkage area has been identified on a property, the EIS must demonstrate how it will be integrated into the proposed development plan.

Recommendations for Best Management Practices during construction should be provided. This may include silt fencing, tree protection, fencing, identification of timing or seasonal constraints to construction or restoration, etc.

Mitigation for negative impacts on the natural features or their ecological functions (or to achieve no net negative impact) may include, at the discretion of the planning authority in conjunction with the Authority, approaches to replace lost areas or functions.

If acceptable, replacement shall, to the extent possible, occur within the same sub watershed as the proposed development or site alteration.

The appropriate amount of replacement will be determined through discussions with the Authority and the planning authority and will be agreed to by all parties in writing.

If monitoring is required, the details of a monitoring program must be agreed to in writing by the Authority, the CKL and other parties.

Conclusions

The EIS must demonstrate the following:

- Identify residual impacts and include discussion of their significance, severity and longevity.
- Conformity with the policies and requirements of the Official Plan(s).

- Conformity with the policies and requirements of other applicable planning documents (i.e., ORMCP, Greenbelt Plan, etc).
- Conformity with the requirements of the conservation authority's Watershed Development Policies.
- whether the proposed development will have any negative impacts on the natural heritage features or on the ecological functions for which an area is identified, thus enabling the City to weigh the positive and negative aspects of a proposal and make an informed planning decision.