

**Environmental Impact Study /
Natural Heritage Assessment
Part of Lot 8 & 9, Concession 3
City of Cornwall**

December 2012

**Prepared for:
KEM Developments Inc.
c/o Mr. John Markell, P.Eng., President, J. F.
Markell Homes Ltd
37 Cumberland St.
Cornwall, Ontario K6J 4G8**

**Prepared by:
GENIVAR Inc.
2611 Queensview Drive
Ottawa, Ontario K2B 8K2**

Project No. 121-17103-00

Project No. 111-17103-00

December 7, 2012

KEM Developments Inc.
c/o Mr. John Markell, President, J.F. Markell Homes Ltd.
37 Cumberland St.
Cornwall, Ont.
K6J 4G8

Dear Mr. Markell:

GENIVAR Inc. is pleased to provide you with this report documenting an Environmental Impact Study.

Thank you for the opportunity to complete this assessment. Please contact the undersigned if you have any questions.

Yours truly,

GENIVAR Inc.

Prepared by:



Kia Marin, B.Sc.H.
Biologist

Reviewed by:



Edward Malindzak, M.Sc.
Biologist

Table of Contents

Transmittal Letter
Table of Contents

1.	INTRODUCTION	1
2.	STUDY APPROACH	1
3.	ENVIRONMENTAL POLICY CONTEXT	1
3.1	Environmental Impact Study	1
3.2	Provincial Policy Statement	2
3.3	<i>Conservation Authorities Act</i>	2
3.4	City of Cornwall Official Plan	3
3.5	Required Setbacks.....	4
4.	SITE DESCRIPTION	4
4.1	Site Visits	4
4.1.1	Fresh – Moist Mixed Thicket (THMM2) & Forb Meadow (MEF)	5
4.1.2	Dry cedar Calcareous Shallow Coniferous Forest (FOCS-1)	5
4.1.3	Dry – Fresh Sugar Maple Deciduous Forest Ecosite (FODM5).....	5
4.1.4	Yellow Birch – Conifer Mineral Mixed Swamp Type (SWMM3-1).....	6
4.1.5	Green Ash Mineral Deciduous Swamp Type (SWDM2-2).....	6
4.1.6	Forb Mineral Meadow Marsh Ecosite (MAMM2).....	6
4.1.7	Dry – Fresh White Ash – Hardwood Deciduous Forest Type (FODM4-2).....	6
4.1.8	Prickly Ash Deciduous Shrub Thicket Type (THDM2-7).....	6
4.1.9	Dry – Fresh Scotch Pine Naturalized Coniferous Plantation Type (FOCM6-3).....	6
4.1.10	Constructed (CV) – Lawn Space.....	6
4.1.11	Goldenrod Forb Meadow Type (MEFM1-1)	7
4.1.12	Constructed (CV) – Disturbed.....	7
4.1.13	Sumac Deciduous Shrub Thicket Type (THDM2-1).....	7
4.1.14	Dry – Fresh Manitoba Maple Deciduous Forest Type (FODM4-5).....	7
5.	NATURAL HERITAGE FEATURES	7
5.1	Biophysical Inventories/Observations	7
5.1.1	Wildlife	7
5.1.2	Bird Populations	7
5.1.3	Mammals.....	9
5.1.4	Herpetofauna.....	9
5.2	Significant Habitat of Endangered or Threatened Species.....	10
5.2.1	Butternut Tree	10
5.3	Significant Wetlands	11
5.4	Significant Woodlands	11
5.5	Significant Valleyland.....	12
5.6	Significant Wildlife Habitat	12
5.6.1	Seasonal Concentration Areas	12
5.6.1.1	Deer Winter Yards/Moose Late Winter Habitat, Feeding Area	12
5.6.1.2	Waterfowl/Shorebird/Colonial Bird Stopover, Staging or Nesting Areas... 13	
5.6.1.3	Raptor Winter Feeding/Roosting Area, Wild Turkey Winter Range Vulture Roosting Area	13
5.6.1.4	Reptile Hibernacula	13
5.6.1.5	Amphibian Concentration Area.....	13
5.6.1.6	Bat Hibernacula	14

5.6.1.7	Rare or Specialized Habitats	14
5.6.2	Migration Corridors.....	15
5.6.3	Habitats/Species of Conservation Concern	15
5.7	Significant Areas of Natural and Scientific Interest.....	15
6.	SUMMARY OF NATURAL FEATURES.....	15
7.	IMPACT AND MITIGATION MEASURES DISCUSSION	16
7.1	Wetlands	16
7.2	Woodlands	16
7.3	Significant Habitat of Endangered or Threatened Species	17
7.4	Breeding Birds	17
7.5	Buffer Distances Summary	18
8.	MONITORING	18
9.	CONCLUSIONS AND RECOMMENDATIONS.....	18
10.	LITERATURE CITED	20

List of Tables

Table 1:	Bird Species at Risk (Bird Studies Canada et al. 2006)	8
Table 2:	Herpetofauna potential in the study area (Ontario Nature. 2011).....	10
Table 3:	Habitats of Rare Vegetation Communities.....	14
Table 4:	Specialized Wildlife Habitats.....	14
Table 5:	Summary of Natural Features.....	15
Table 6:	Buffer Distances Summary	18

List of Figures

- Figure 1: Key Plan
- Figure 2: Site Plan
- Figure 3: Existing Vegetation
- Figure 4: Constraints to Development

Appendices

- Appendix A Correspondence
- Appendix B Flora Species List
- Appendix C Photographic Record
- Appendix D Ontario Breeding Bird Atlas Search Summary
- Appendix E Fauna Occurrence Species List
- Appendix F At-Risk and Ranking Definitions
- Appendix G Bowfin Environmental Consulting Butternut Health Assessment

observed) will be put in place during construction. These surveys must be repeated once every 3 days until the end of the breeding bird season (August 1st of any given year) or until construction is complete, whichever occurs first.

7.5 Buffer Distances Summary

Buffer areas protect identified features from the impacts of construction and vary by feature (Figure 4).

Table 6: Buffer Distances Summary

Feature	Proposed Buffer	Comments
Retainable Butternut Trees	25 m	Minimum setback from each retainable Butternut tree identified on the proposed development site.

8. Monitoring

In order to minimize potential impacts during construction, the following monitoring initiatives should be conducted during construction:

- Periodic inspection of the protective fencing (i.e., snow fencing, sediment and erosion control measures) used to separate vegetation that is to be retained from the construction area. If the fencing is damaged or ineffective, it shall be replaced immediately;
- Periodic inspection of all equipment used for construction, including industrial equipment, work vehicles and sub-contractors equipment. Fluid leaks should be repaired promptly. A spill kit may be required depending on the extent and proximity of work to water. If it is required, it shall be inspected daily to ensure it is not moved or damaged.

To minimize post-construction impacts, the following monitoring initiatives be implemented following construction:

- Vegetation planted to stabilize soil shall be examined one year after planting to ensure successful establishment; and
- Replanting of any vegetation that was not established shall occur within one year.

The monitoring should be conducted by the contractor who is constructing the proposed development. It is recommended that a log be established to ensure that the monitoring be conducted periodically and can be reviewed at any time. Any deficiencies that are noted during monitoring activities should be corrected through consultation with the appropriate authorities (e.g., MNR, RRCA).

9. Conclusions and Recommendations

The following general conclusions and recommendations are provided based on the study findings presented in this report:

- Vegetation clearing or any construction activities that may harm migratory birds or their nests should not take place in migratory bird habitat during the core breeding season, from May 1st to July 31st.
- Construction may only take place during the breeding bird season if, prior to construction activities commencing, a qualified biologist conducts a breeding bird survey within the construction site.
- Temporary siltation fencing should be employed at the construction site boundary. Its location and installation should be completed before any work on the site begins, and removed after the threat of siltation effects have ceased. The siltation fence should reduce or eliminate the transport of sediments, nutrients, contaminants, and increased turbidity to the hydrological features.

- Tree protection fencing should be employed between areas of proposed development and the adjacent woodland features to be preserved to reduce any damage to the trees. Tree protection fencing should be installed before any work on the site begins, and removed after the threat tree and root damage effects have ceased.
- Consideration should be given to designing and developing wetland features around the proposed stormwater management pond.
- Consider employing seedbank salvage techniques and wetland plantings to minimize overall impacts to surrounding natural areas.
- Consideration should be given to developing and integrating an urban forest into the proposed public park associated with the development.
- Opportunities for the retention of the mature Maple trees in the northeast section of the property should be explored during future development phases.
- Retainable Butternut trees cannot be harmed or destroyed without a permit from the OMNR. No site alteration or development may occur within a 25 m radius of each retainable tree without a permit.
- Non-retainable Butternut trees may be removed at will.

This report has been prepared by GENIVAR Inc. The assessment represents the conditions at the proposed development site at the time of the assessment, and is based on the information referenced and contained in the report. GENIVAR Inc. attests that to the best of our knowledge, the information presented in this report is accurate. Based on the findings of this Environmental Impact Study report and mitigation measures recommended, we anticipate that development on the proposed development is feasible, providing the setbacks and mitigation measures outlined within this report are followed. Additional specific mitigative measures may be necessary based on specific development outlines and recommendations from the regulating agencies. This report must be reviewed and approved by the relevant regulating agencies prior to being relied upon for planning and construction purposes.

We trust that this evaluation is satisfactory for your current needs. Please contact us if you have any questions.

Yours truly,
GENIVAR Inc.

Prepared by:



Kia Marin, B.Sc.H.
 Biologist

Reviewed by:



Edward Malindzak, M.Sc.
 Biologist