

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JUNE 23, 2015

Item 10, Report No. 26, of the Committee of the Whole, which was adopted, as amended, by the Council of the City of Vaughan on June 23, 2015, as follows:

By taking no action on the report of the Commissioner of Planning, dated June 16, 2015;

By approving the following:

That staff report back in Q4 2015 on their progress on this matter; and

That the follow Communications be received:

- C3. Mr. Jeff Greene, Weston Consulting, Millway Avenue, Vaughan, dated June 15, 2015;**
- C5. Mr. Alan Heisey, Papazian Heisey Myers Barristers & Solicitors, King Street West, Toronto, dated June 16, 2015;**
- C7. Ms. Rosemarie Humphries, Humphries Planning Group Inc., Chrislea Road, Vaughan, dated June 16, 2015;**
- C14. Commissioner of Planning, dated June 18, 2015; and**
- C30. Ms. Amber Stewart, Amber Stewart Law, First Canadian Place, Toronto, dated June 22, 2015.**

Regional Councillor Di Biase declared an interest with respect to this matter insofar as it relates to Block 27, as his children own land in Block 27 given to them by their maternal Grandfather, and did not take part in the discussion or vote on the matter.

Regional Councillor Ferri declared an interest with respect to this matter, as his son is employed by a legal firm that represents landowners within the study area, and did not take part in the discussion or vote on the matter.

Regional Councillor Rosati declared an interest with respect to this matter insofar as it relates to correspondence submitted from Di Poce Management, as he is a named defendant in a lawsuit by Di Poce Management, and did not take part in the discussion or vote on the matter.

**10 NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS,
STUDY COMPLETION AND RECOMMENDATIONS
AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010
FILE #25.5.4
WARDS 1 TO 5**

The Committee of the Whole recommends:

- 1) That consideration of this matter be deferred to the Council meeting of June 23, 2015;**
- 2) That the following deputations and Communications be received:**
 - 1. Ms. Kataryna Sliwa, Davies Howe Partners, Spadina Avenue, Toronto, and Communications C13, dated April 13, 2015, C14, dated June 15, 2015, C15, dated April 13, 2015, and C20 dated June 15, 2015;**
 - 2. Mr. Rom Kaubi, Preserve Thornhill Woods Association, Ner Israel Drive, Thornhill; and**
 - 3. Ms. Gloria Marsh, York Region Environmental Alliance, Dariole Drive, Richmond Hill; and**
- 3) That the following Communications be received:**

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- C2 Ms. Lezlie Phillips, Liberty Development, Steelcase Road, Markham, dated June 11, 2015;**
- C3 Mr. Billy Tung, KLM Planning Partners Inc., Jardin Drive, Concord, dated June 15, 2015;**
- C4 Mr. Mark McConville, Humphries Planning Group Inc., Chrislea Road, Vaughan, dated June 15, 2015;**
- C8 Mr. Don Given, Malone Given Parsons Ltd., Renfrew Drive, Markham, dated June 16, 2015;**
- C9 Mr. Jason Park, Devine Park LLP, Yonge Street, Toronto, dated June 15, 2015;**
- C11 Mr. Jeff Greene, Weston Consulting, Millway Avenue, Vaughan, dated June 15, 2015;**
- C12 Ms. Courtney Heron-Monk, Weston Consulting, Millway Avenue, Vaughan, dated June 15, 2015;**
- C16 Mr. Quinto M. Annibale, Loopstra Nixon LLP, Queens Plate Drive, Toronto, dated June 15, 2015;**
- C17 Mr. Quinto M. Annibale, Loopstra Nixon LLP, Queens Plate Drive, Toronto, dated June 15, 2015;**
- C18 Mr. Cam Milani, Milani Group, dated June 15, 2015;**
- C19 Mr. Tim Jessop, Weston Consulting, Millway Avenue, Vaughan, dated June 15, 2015;**
- C21 Commissioner of Planning, dated June 16, 2015;**
- C22 Ms. Deb Schulte, dated June 16, 2015;**
- C23 Mr. Daniel Belli, M.A.M. Group Inc., Dufferin Street, Vaughan, dated June 16, 2015;**
- C24 Mr. Daniel Belli, M.A.M. Group Inc., Dufferin Street, Vaughan, dated June 16, 2015;**
- C25 Mr. Daniel Belli, M.A.M. Group Inc., Dufferin Street, Vaughan, dated June 16, 2015;**
- C26 Mr. Ryan Mino-Leahan, KLM Planning Partners Inc., Jardin Drive, Concord, dated June 15, 2015; and**
- C27 Commissioner of Planning, dated June 16, 2015.**

Recommendation

The Commissioner of Planning in consultation with the Acting Director of Policy Planning recommends:

1. THAT the report to the Committee of the Whole of April 14, 2015 (Item 1, Report No. 17) forming Attachment 3 to this report BE RECEIVED;
2. THAT the final consultant's report, "Phase 2-4 Natural Heritage Network Study, City of Vaughan", forming Attachment 1 to this report as prepared by North-South Environmental Inc., BE APPROVED, subject to the policy changes set out in Attachment 2 being incorporated into the consultant's report;
3. THAT the recommended amendments to the policies and Schedule 2 "Natural Heritage Network" to the Vaughan Official Plan Volume 1 (VOP 2010), set out in Attachment 2, be endorsed and that the resulting implementing amendment, which reflects the additional period of consultation, be brought forward for adoption by Council, subject to final staff review, for approval by York Region and the Ontario Municipal Board (OMB), as required;
4. THAT staff continue to update the Natural Heritage Network database through the ongoing addition of information to: Characterize habitat type and habitat quality; to inform progress in meeting ecosystem targets; track modifications resulting from the development application review process; and in doing so seek out partnerships in the municipal, agency, non-government and academic sectors to participate in maintaining and enhancing the database;

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5. THAT staff report to Council regarding the development of a management, restoration and land stewardship program to identify potential ecological restoration and stewardship projects, in consultation with appropriate City departments and partner agencies, to identify implementation options and funding strategies on a project by project basis;
6. THAT staff, in consultation with stakeholders, develop a habitat compensation protocol and guidelines based on the habitat compensation principles identified in the report forming Attachment 3 to this report as a supporting tool to implement the previously endorsed policies of the VOP 2010 on habitat compensation regarding the Natural Heritage Network and to identify the main elements of the protocol and guidelines; and that such measures be developed through the Secondary Plan process currently underway for the New Community Areas, and that the resulting draft protocol and guidelines be brought forward for Council consideration as part of or coincident with the Secondary Plan approval processes; and
7. THAT Schedule 13 (Land Use) to VOP 2010 be amended accordingly to revise the Natural Areas designation and be included in the implementing amendment.

Contribution to Sustainability

Two specific action items in Green Directions Vaughan (2009), the City's Community Sustainability and Environmental Master Plan, relate to the need to complete a natural heritage system.

1.3.2. Through the development of the City's new Official Plan, and in partnership with the Toronto and Region Conservation Authority, ensure protection of remaining natural features and explore opportunities for habitat restoration in headwater areas, along riparian corridors, and around wetlands.

2.2.4. Develop a comprehensive Natural Heritage Strategy that examines the City's natural capital and diversity and how best to enhance and connect it. As part of this action:

- *Develop an inventory of Vaughan's natural heritage, and identify opportunities for habitat restoration;*
- *Ensure that policies in the City's new Official Plan protect all ecological features and functions as per current provincial and regional policies, and also include consideration for locally significant natural features and functions;*
- *Develop policies to create opportunities for near urban agriculture within Vaughan's rural areas, through policies described in the City's new Official Plan.*

The refinement of the Natural Heritage Network and development of a stewardship strategy in Phases 2 through 4 of the Natural Heritage Network Study are key elements that support Green Directions Vaughan.

Consistent with Green Directions Vaughan, the Environmental policies in Chapter 3 of VOP 2010 direct that appropriate studies be undertaken to determine the precise limits of "natural heritage features and any additions to the mapped network". VOP 2010 is also consistent with the York Region Official Plan, which directs local municipalities to develop local greenlands systems.

Economic Impact

The budget for undertaking the Natural Heritage Network Study was included in the 2011 Capital Budget (PL-9025-11) on the basis of a two part allocation. Phase 1 was treated as a stand-alone project and was funded in the amount of \$52,400. In the 2012 Capital budget, the funding for

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Phases 2, 3, and 4 was approved at \$199,700. The total budget for the preparation of the Natural Heritage Network Study was \$252,100. A contract Change Order was approved by Council on September 2, 2014 in the amount of \$46,372.36, for the purposes of completing the Natural Heritage Network Study, recognizing the interest from stakeholders for more detailed consultation. This Change Order also addressed the need for additional work taking into account the approval of the City-adopted amendments to the Vaughan Official Plan 2010. The contract change order was funded based on: (i) the balance remaining from the existing Capital Project (PL-9025-11) in the amount of \$28,299.64; and (ii) additional funds in the amount of \$18,072.72, sourced 40% or \$7,229.09 from City-Wide Development Charges (CWDC) – Management Studies and 60% or \$10,843.63 from the 2014 Policy Planning Operating Budget – Professional Fees.

Natural Heritage Network Study- PL-9025-11

Phase 1 Budget (approved in 2011)	52,400
Phase 2, 3, 4 Budget (approved in 2012)	199,700
Change Order (approved in 2014)*	<u>18,073</u>
Total Budget	270,173
Less: Commitments/Expenses to Date	243,877
(includes 1.76% HST)	
3% administration fees	<u>7,316</u>
Remaining Budget	18,980

* Note: 40% funded by City-Wide Development Charges (CWDC)- Management Studies and 60% by Policy Planning 2014 Operating Budget- Professional Fees

Communications Plan

A communications and public consultation plan was implemented as part of the process of conducting Phases 2 to 4 of the Natural Heritage Network Study. A summary of the stakeholder and broader public consultation processes and resulting outcomes was provided in the staff report to the Committee of the Whole (Public Hearing) on June 17, 2014 and in the staff report to the Committee of the Whole on April 14, 2015 (Attachment 3).

Purpose

The purpose of this report is to obtain approval of recommended amendments to select policies of Chapter 3 (Environment) and Schedule 2 of the VOP 2010 and to proceed with the finalization of the implementing official plan amendment for Council's adoption; and in the case of Schedule 2, which is under OMB appeal, to support its timely approval which in turn will result in withdrawal or scoping OMB appeals. The amendment to VOP 2010 is a result of ongoing consultation with stakeholders to resolve policy issues raised through correspondence and through deputations following the staff report and presentation to the April 14, 2015 Committee of the Whole meeting.

Background - Analysis and Options

Executive Summary

The details of the amendment to VOP 2010 set out in Attachment 2 forms the main content of this report. The covering staff report provides the following background information:

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- The background as reflected in the Council action of April 21, 2015;
- A brief outline of the NHN Study milestones and deliverables;
- A summary of further stakeholder consultations following the staff report to the meeting of the Committee of the Whole on April 14, 2015; and
- The City's approach to preparing a habitat compensation protocol for future consideration by Council.

Background

The completion of the NHN Study was the subject of a staff report to the April 14, 2015 meeting of the Committee of the Whole (Item 1, Report No. 17) and included recommended amendments to Schedule 2 and the policies of VOP 2010. (See Attachment 3.) There was discussion at the meeting over concerns raised by stakeholders in respect of a number of issues. The Committee discussed the importance of completing the Study, but also sought additional time to work towards a resolution of concerns raised in the submissions. In consideration of this input and the resulting discussion Committee adopted the following recommendation:

That the report along with all communications, deputations and the related presentation be referred to staff for further review and brought back to a June 2015 meeting of the Committee of the Whole for consideration.

This recommendation was ratified by Council on April 21, 2015. This report provides an update on the status of deliberations with the stakeholders to-date and recommends further action leading to the adoption of the implementing official plan amendment, the approval of the Natural Heritage Network Study and the implementation of measures identified therein.

1. NHN Study Milestones

The Committee of the Whole staff report of April 14, 2015 summarized the findings of the Natural Heritage Network (NHN) Study. This included:

- A description of the public consultation process, including City responses to the submissions received during the public comment period following the staff report and presentation to the June 17, 2014 meeting of the Committee of the Whole (Public Hearing);
- Documentation of specific changes to the mapping information and notations recommended for Schedules 2, 2A, 2B and 2C;
- Amendments to Schedule 2 (Natural Heritage Network) and the environmental policies of VOP 2010, following extensive stakeholder and agency consultation, to improve the implementation of VOP 2010, to guide efficient urban growth and improve the ecological viability of the NHN;
- Identification of key aspects of a long-term management, restoration, land stewardship and compensation programs for the NHN for the purposes of reporting back to Council on the development of implementation measures; and
- A comprehensive GIS database of the NHN and component features that can be used immediately by Development Planning staff in the review of applications, to be shared with other City departments, and as critical base information to implement a long-term management, restoration and land stewardship program.

All four phases of the NHN Study are complete. The remaining revisions to the policies and to Schedule 2, as set out in Attachment 2 to this report, will be incorporated into the final consulting team report.

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2. Further Stakeholder Consultations and Resolution of Issues

In response to Council direction of April 21, 2015, City staff met with stakeholders on the following dates to discuss further revisions to clarify the intent of the amendments:

- May 1, 2015;
- May 15, 2015;
- May 25, 2015; and
- May 26, 2015.

The policy discussions on the above dates were a continuation of consultations that were initiated on April 9, 2015 in advance of the April 14, 2015 meeting of the Committee of the Whole. A stakeholder submission dated April 30, 2015 provided a list of issues, which were used as the basis for further consultations.

Attachment 2 identifies the elements of the amendment and discusses the purpose of each. Of the issues raised in the correspondence, 11 have been resolved. These issues are identified in Attachment 2 as:

- Item 1 by the addition of a notation on Schedules 2A, 2B and 2C;
- Item 5 to clarify the policy equating Core Features to key natural heritage features and key hydrologic features in the Provincial Plan areas;
- Item 7 to clarify the policy permitting infrastructure projects in Core Features;
- Item 10 to clarify a new policy describing Enhancement Areas not depicted on Schedule 2;
- Item 12 to add a policy that the minimum vegetation protection zone that applies within the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas is not required to extend beyond these Provincial Plan boundaries;
- Item 14 to clarify a new policy that introduces the term, headwater drainage features (HDFs);
- Item 15 to clarify the assessment of other wetlands;
- Item 18 by adding standard reporting documents for the evaluation of sensitive surface water features;
- Item 24 by adding a definition of “negative impact”;
- Item 28 to further revise the definition of “waterbody”; and
- Item 29 to further revise the definition of “woodland”.

The following policy areas have been revised by the City based on the consultations with the stakeholders, but do not necessarily reflect a resolution of their issues. The City's responses were informed by consultation with York Region, the Toronto and Region Conservation Authority, and local municipalities. These include:

- A revision to the definition of “valley and stream corridors” in relation to significant valleylands; and
- Revising woodland compensation policies with the objective of achieving net gain in woodland area, rather than a net ecological gain to the Natural Heritage Network.

These issues are discussed below.

a) Valley and Stream Corridors

Concerns were heard regarding the VOP 2010 policies that valley and stream corridors are equivalent to significant valleylands under the Provincial Policy Statement (PPS2014) and in the

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Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas. In response, the City is amending the definition of valley and stream corridor as shown in Item 27 in Attachment 2. The revision continues to equate valley corridors to significant valleylands, and recognizes that stream corridors are evaluated in accordance with the policies of the VOP 2010, which in turn recognizes the jurisdiction of the Toronto and Region Conservation Authority. The City recognizes that this provides more protection to valleylands in the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan areas in two respects:

- In the two Provincial Plans, there may be instances of valley corridors that do not meet the technical criteria for significant valleylands as articulated in the technical papers for these Plans;
- In the case of the Greenbelt Plan, the City requires a minimum 30 metre vegetation protection zone to valleylands whereas the Greenbelt Plan is silent on this matter.

The concerns regarding this approach expressed to the City are summarized below:

- A blanket statement equating valley corridors to significant valleylands is opposed in principle;
- Landowners/developers prefer to defer to the Greenbelt Plan and Oak Ridges Moraine Conservation Plan regarding valley and stream corridors in these Provincial Plan areas;
- There may be more restrictive policies regarding the siting of infrastructure in significant valleylands;
- Small valley corridors, for which a top of bank can be staked, should not be elevated to the status of Provincially significant; and
- Valley corridors as defined by the Toronto and Region Conservation Authority include contiguous natural areas to define the feature extent, which differs from the language in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan.

The City's approach is based on the following principles:

- In an urbanizing municipality such as Vaughan, valley and stream corridors are the critical protected components of the Natural Heritage Network, being the natural heritage system in Vaughan. As noted in the definition for "significant" in the Provincial Policy Statement 2014, it is preferred that valley and stream corridors be valued as "ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or *natural heritage system*".
- Valley and stream corridors are protected according to Ontario Regulation 166/06, which is administered by the TRCA.
- Identifying valley corridors as significant valleylands in the urban area does not create further restrictions for development and policies are in place to allow for modifications to watercourses and to valleylands in specific circumstances.
- It is recognized that the valley and stream corridor policies exceed those in the Provincial Plans, and the Province and Region accept that local municipal official plans may be more restrictive.

b) Woodlands and Woodland Compensation

The City has clarified the approved VOP 2010 policies that allow for woodlands, that meet the definition of a woodland and do not meet tests of a significant woodland in the Region Official Plan, to be modified subject to compensation. Recent revisions to the policies, being policies 3.3.3.3 and 3.3.3.4, are intended to recognize some stakeholder concerns:

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- Text has been added to the definition of a woodland to exclude certain species from the calculation of stem densities. The City recognizes the consequence of such a change will be the reduction in woodland areas that will meet the definition of a woodland. This text is consistent with the definition of a woodland in the York Region Official Plan.
- The reference to woodland compensation has been revised to provide a net gain in woodland area, rather than a net gain to the Natural Heritage Network. This revision does not exclude compensation from being located in the Greenbelt Plan or Oak Ridges Moraine Conservation Plan areas.

Remaining concerns expressed to the City are provided below:

- The threshold size for defining a woodland remains unchanged at 0.2 hectares;
- Identifying woodlands as Core Features implies that they are *de facto* significant;
- Landowners/developers prefer an explicit recognition that woodland compensation can occur in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas; and
- The City does not accept woodland compensation in areas verified as Core Features, including their appropriate vegetation protection zone.

The changes proposed by staff allow for the following issues to be addressed based on the landscape context in which compensation is being calculated:

- The principle of equivalence is particularly important to justify habitat compensation to ensure that the City is replacing “like for like”.
- The intent of the woodlands compensation policy is not to justify woodland removals, but to recognize that some isolated woodlands surrounded by development will experience habitat degradation. In such cases where smaller, isolated woodlands cannot be included in the sustainable urban design of a community, and to avoid City costs to manage such woodlands, the woodland compensation policies allow for the replacement of woodlands, ideally adjacent to confirmed Core Features to improve the ecological viability of the Natural Heritage Network.
- Parameters such as size, habitat condition and landscape context should be used to demonstrate an improvement to the Natural Heritage Network and identify the best ecological options for compensation. This approach does not exclude compensation from being located in the Provincial Plan areas, but places the onus on identifying the best options to improve the Natural Heritage Network.

In summary, the Amendment provides for the following revisions to VOP 2010:

- Adds five new definitions;
- Amends 3 existing definitions;
- Deletes one definition;
- Amends 11 existing policies;
- Adds three new policies; and
- Requires three technical amendments to address changes to policy numbers and definitions.

In general, the revisions reflect refinements that clarify the policy intent and implementation of the VOP 2010.

3. Habitat Compensation

The City proposes to develop a habitat compensation protocol for Council consideration to assist in the interpretation of the select policies that contemplate modification of Core Features subject

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to compensation. The following policies in VOP 2010 address the modification of Core Features subject to compensation:

- Policy 3.2.3.7 regarding specific projects permitted in Core Features, such as for infrastructure;
- Policy 3.3.1.4 regarding public works in valley and stream corridors and policy 3.3.1.5 regarding alterations to watercourses;
- Policy 3.3.2.2 regarding wetland compensation for wetlands that are not Provincially significant or Provincial Plan area wetlands; and
- Policies 3.3.3.3 and 3.3.3.4 regarding woodland compensation for woodlands that do not meet tests of significance set out in the Region Official Plan.

One of the concerns identified by the stakeholders was that the compensation protocol would take place in a context where public participation might be limited. On this basis it was suggested that the implementing amendment should not be adopted. Staff has proposed an alternative which is reflected in Recommendation 6. It is recommended that the development of the implementing compensation protocol and guidelines take place through the Block 27 and Block 41 Secondary Plan process. This would provide a concurrent public process that would inform the development of the implementing protocol and guidelines. This approach allows for the practical testing of the alternatives in the context of these active processes both of which provide different conditions and opportunities. On this basis the amendment can proceed independently, while providing for a rigorous process to develop and test the implementing compensation protocol.

Having addressed compensation for select policies in VOP 2010, it is the City's preference to identify the elements of the compensation protocol through the Secondary Plan process for Blocks 27 and 41. This functions as a public process to evaluate details of a City-wide compensation protocol.

Relationship to Vaughan Vision 2020/Strategic Plan

The Natural Heritage Network Study report is consistent with the Vaughan Vision 2020 Strategic Plan, through the following initiatives, specifically:

Service Excellence:

- Lead & Promote Environmental Sustainability

Management Excellence:

- Manage Growth & Economic Well Being
- Demonstrate Leadership & Promote Effective Governance

This report is consistent with the priorities previously set by Council.

Regional Implications

Policies in the ROP 2010 support the efforts of local municipalities to identify local greenlands systems. York Region staff was consulted during the study process. York Region is the approval authority for amendments to the VOP 2010 that will be adopted as a result of this study.

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Conclusion

The NHN Study has involved policy analysis, field studies and ecological research undertaken from 2011 to 2015; and throughout the process, public and landowner consultation was undertaken. The recommendations herein are directly related to the key Study deliverables and respond to the Council direction of April 21, 2015.

Much progress has been made in responding to the policy concerns identified by the stakeholders. The areas where agreement has been achieved to-date are identified in the report and referenced to the pertinent item in Attachment 2; and commentary has been provided in respect of the areas where full consensus has not been reached. Staff recommend that the City proceed with the approval of the amendment as cited above and that the amendment proceed to adoption. The adoption of the amendment is targeted for the September 2015 Council meeting.

While full consensus has not been reached, staff is of the opinion that it is appropriate to move ahead with the approval of the NHN Study and adoption of the resulting Official Plan Amendment. This will clarify the City's position on a number of matters relating to Chapter 3 – Environment of VOP 2010, which are largely approved and in effect. This will further inform development applications, moving forward and will address issues raised by York Region respecting the need to provide for changes to Schedule 2 of VOP 2010 and the addition of Schedules 2a, 2b and 2c. Also, there are implementation measures arising from the NHN Study that should be pursued such as the stewardship strategy. The development of the compensation protocol and guidelines will benefit from being considered in conjunction with the Blocks 27 and 41 Secondary Plans.

On this basis, the measures set out in the Recommendation Section of this report are recommended for adoption.

Attachments

1. Phase 2-4 Natural Heritage Network Study, City of Vaughan. Prepared by North-South Environmental Inc. March 2015.
2. Details of the Amendment to the VOP 2010.
3. Covering Staff Report to the April 14, 2015 Meeting of the Committee of the Whole (Item 1, Report No. 17, save and except for Attachment 1 thereto – see Attachment 1 to this report).

Report prepared by:

Tony Iacobelli, Senior Environmental Planner, ext. 8630

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

Regional Councillor Ferri declared an interest with respect to the foregoing matter, as his son is employed by a legal firm that represents landowners within the study area, and did not take part in the discussion or vote on the matter.

Regional Councillor Rosati declared an interest with respect to this matter insofar as it relates to correspondence submitted from Di Poce Management, as he is a named defendant in a lawsuit by Di Poce Management, and did not take part in the discussion or vote on the matter.

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Regional Councillor Di Biase declared an interest with respect to this matter insofar as it relates to Block 27, as his children own land in Block 27 given to them by their maternal Grandfather and did not take part in the discussion or vote on the matter.

Councillor lafrate declared an interest with respect to this matter insofar as it relates to Lucia Milani, as she has learned that Lucia Milani has submitted a Compliance Audit request of her Municipal Election Campaign Finances, and did not take part in the discussion or vote on the matter.



**WESTON
CONSULTING**

planning + urban design

Policy Planning Department
City of Vaughan
2141 Major Mackenzie Drive,
Vaughan ON
L6A 1T1

June 15, 2015
File 7232

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Study
11065 Pine Valley Drive
City of Vaughan**

C	<u>3</u>
Item #	<u>10</u>
Report No.	<u>26 (cw)</u>
<u>Council - June 23/15</u>	

Weston Consulting is the planning consultant for the owner of the property municipally known as 11065 Pine Valley in the City of Vaughan, Region of York (herein referred to as the "subject property"). The subject property is 4.14 hectares (10.23 acres) in area and is located on the east side of Pine Valley Drive, north of Teston Road. The location of the subject property is identified on the attached map for your reference (See attached material).

We have had the opportunity to review the June 16, 2015 staff report, entitled "Natural Heritage Network Inventory and Improvements Study Completion and Recommendations Amendment to the Vaughan Official Plan 2010", including related attachments. We understand that the recommended amendments to Chapter 3 and Schedule 2 "Natural Heritage Network" to the Vaughan Official Plan Volume 1 (VOP 2010) are being considered by the Committee of the Whole on June 16, 2015.

In response to this review we would like to offer the following comments. We are unable to confirm the precise delineation of the natural heritage features present on the subject lands and as a result of this we are concerned that the natural heritage features boundaries depicted on the schedules may not reflect actual conditions found on the ground.

We respectfully request on behalf of our clients that Natural Heritage Feature designations are based on detailed scientific analysis and where designations are only based on a desktop review that there be a mechanism for landowners to undertake appropriate environmental analysis to define such features through a planning process. In addition, we request that the City of Vaughan establish a policy mechanism that allows for appropriate changes to the mapping of designations and features based on the above considerations and that there be a process to establish changes to the Schedules based on good planning principles.

We intend to monitor the Natural Heritage Network Inventory and Improvement Study, and we reserve the right to make further submissions.

We kindly request that we be notified of any future reports and/or public meetings regarding the Natural Heritage Network Inventory and Improvements Study and ask that we receive notice of any decision on this matter by the Committee of the Whole and Council.

Please contact Shelby Blundell (ext. 291) or the undersigned if you have any questions.

Yours truly,
Weston Consulting
Per:

A handwritten signature in black ink, appearing to be 'Jeff Greene', written over a large, stylized circular mark.

Jeff Greene, BURPI, MCIP, RPP
Associate

- c. Client
Jeffrey Abrams, City of Vaughan
Mark N. Emery, Weston Consulting



Figure 1: Air Photo of Subject Lands

From: Alan Heisey <heisey@phmlaw.com>
Sent: Tuesday, June 16, 2015 10:31 AM
To: Clerks@vaughan.ca
Cc: Andre Sherman; Ryan Guetter; Peter Li (tiende.ca@gmail.com); Storto, Claudia; Jubb, Dawne
Subject: Committee of the Whole Meeting - Natural Heritage Network Study File 25.5.4 Vaughan OP 2010 - June 16, 2015 - 5859 Rutherford Road

Please be advised we are the solicitor for Tien de Religion the owners of 5859 Rutherford Road
Our client has an outstanding OMB appeal of Vaughan OP 2010 as it applies to their property including the Natural Heritage policies of that Plan and has an interest in the ongoing Natural Heritage Network Study being undertaken.
Please provide the author with notice of any official plan amendment adopted pursuant to this Study and notice of any future meetings in respect of this matter
Kindly acknowledge receipt of this email in writing.

YVT

A. Milliken Heisey Q.C.

Papazian | Heisey | Myers, Barristers & Solicitors

Standard Life Centre, Suite 510, 121 King St. W., P.O. Box 105, Toronto, ON M5H 3T9

Direct: 416 601 2702 | F: 416 601 1818

[Website](#) | [Bio](#)

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Alan Heisey
Papazian Heisey
Partner

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heisey@phmlaw.com

HUMPHRIES PLANNING GROUP INC.

June 16, 2015
HPGI File: 09220/11263

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L4A 1T1

Attn: Jeffrey Abrams, City Clerk

Re: Natural Heritage Study - Comments
281187 Ontario Ltd., Anland Developments Inc. and H&L Title Inc./Ledbury
Investments Ltd. - City File - 25.5.4

Humphries Planning Group Inc. are providing you with additional comments relating to the Natural Heritage Network Study (NHN) on behalf of 281187 Ontario Ltd. and Anland Developments Inc. and H&L Title Inc./Ledbury Investments Ltd.

Previous comment letters were submitted by Humphries Planning Group dated June 16, 2014 and January 30, 2015, as well as from Beacon Environmental dated August 1, 2014 on behalf of the landowners. A drainage feature (a headwater tributary of Black Creek) runs in a ditch along the east side of Weston Road, originating just south of Rutherford Road. In Schedule 2 of VOP (2010) this watercourse is shown in its proper location and is identified as a Core Feature. However, on Schedule 2a of the NHN Study (2014) the watercourse is shown on the subject properties as an inverted, upside down 'L', mirroring the proposed realignment of this feature as depicted on the various Schedules of the City adopted Vaughan Mills Secondary Plan (VMSP 2013), which was approved by the Region of York on June 26, 2014 and subject to appeal.

Per the previous comments noted above, we respectfully request that the City reconsider the depiction of this proposed channel realignment (which simply doesn't exist) on the updated Schedule 2 and maintain the location of this drainage feature in its current location. Alternatively, the channel should be depicted in its approved location (as per the previously approved secondary plan exercise and MESP work completed by Urban Ecosystems, find enclosed). We further request that Schedule 2a of the NHN Study be revised accordingly to reflect existing, as opposed to possible future, conditions.

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www.humphriesplanning.com
~ Do Something Good Everyday! ~

C	7
Item #	10
Report No.	26 (cw)
Council -	June 23/15

Should you have any questions, please contact the undersigned at ext. 244.

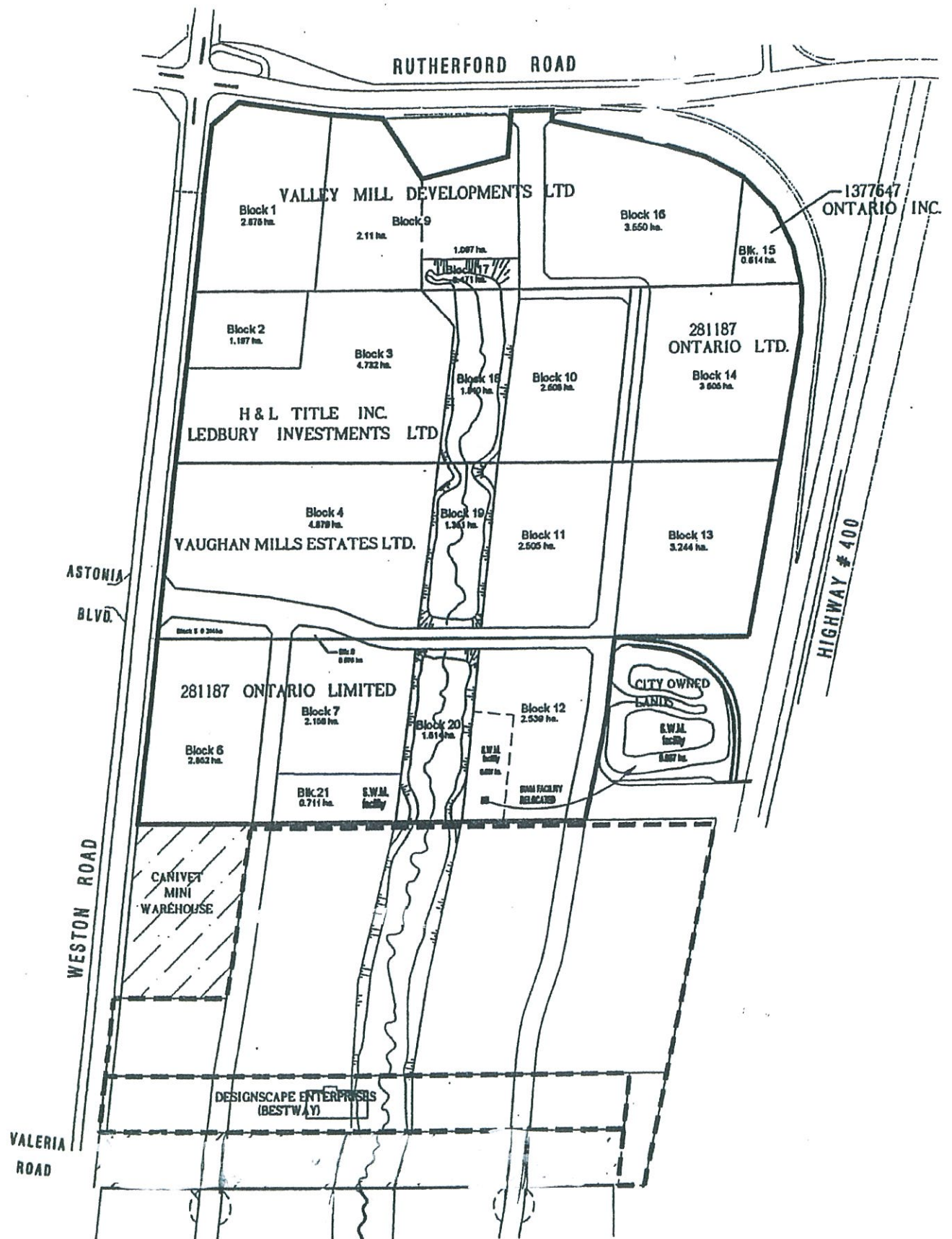
Yours truly,

HUMPHRIES PLANNING GROUP INC.



Rosemarie Humphries, MCIP, RPP, BA
President

cc: Tony Iacobelli, Environmental Planner
John Mackenzie, Commissioner of Planning
281187 Ontario Ltd.
Anland Developments Inc.
H&L Title Inc./Ledbury Investments Ltd.



C	<u>14</u>
Item #	<u>10</u>
Report No.	<u>26 (cw)</u>
Council -	<u>June 23/15</u>

DATE: JUNE 18, 2015
TO: MAYOR AND MEMBERS OF COUNCIL
FROM: JOHN MACKENZIE, COMMISSIONER OF PLANNING
SUBJECT: COMMUNICATION - COUNCIL – JUNE 23, 2015

ITEM #10, REPORT #26 – COMMITTEE OF THE WHOLE – JUNE 16, 2015

**NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS,
STUDY COMPLETION AND RECOMMENDATIONS
AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010
FILE #25.5.4
WARDS 1 TO 5**

Recommendation

The Commissioner of Planning recommends:

1. That Staff be authorized to continue negotiations with the stakeholders over the Summer of 2015 in accordance with the framework identified herein;
2. That Item #10, Report #26, *Natural Heritage Network Inventory and Improvements, Study Completion and Recommendations, Amendment to the Vaughan Official Plan 2010, File #25.5.4, Wards 1 to 5*, be referred to Staff to facilitate further negotiation, for the submission of a further report to Committee of the Whole in September/October 2015 to address the outcome of the negotiations and any resulting recommendations.

Purpose

To provide Council with additional information in respect of the above noted study and an updated Schedule 2 as a result of the input received at the Committee of the Whole meeting of June 16, 2015.

Background – Analysis and Options

Background

At the Committee of the Whole meeting on June 16, 2015 Committee deferred Item 10, (*Natural Heritage Network Inventory and Improvements, Study Completion and Recommendations, Amendment to the Official Plan, File #25.5.4*) to the June 23 Council Meeting to allow for staff to provide additional information about the Region of York's Municipal Comprehensive Review (Official Plan Review) and the timing and nature of the City's follow-up Municipal Comprehensive Review and amendment to VOP 2010. In addition, another purpose was to allow additional information and recommendations to be provided to the Committee in response to the submissions received at the Committee of the Whole meeting.

The York Region Municipal Comprehensive Review

The York Region Official Plan was adopted by Regional Council in December of 2009 and was approved by the Province in September 2010. The Plan was subject to a number of appeals to the Ontario Municipal Board (OMB). The majority of the Plan received OMB approval in mid-2012. Most of the remaining appeals have been resolved and most of the Plan is in full force and effect.

The Planning Act requires that official plans be reviewed at least every five years to ensure conformity with the provincial plans and policies governing land use planning. In 2014, the Region initiated an Official Plan Review, which contained two components, 1) a policy review and 2) Regional Municipal Comprehensive Review (MCR). Of particular importance will be the accommodation of additional population and employment growth to 2041 mandated by Amendment No. 2 to the Provincial Growth Plan.

The Region's MCR Process

The Region's MCR is taking place in three phases. The first phase involved public consultation to define the issues and confirm the matters that will require further consideration through the subsequent phases. It ran from the second quarter of 2014 to the second quarter of 2015 and ended with Regional Council's endorsement of the policy areas and the draft growth scenarios that were recommended for further review and analysis. This took place on April 23, 2015. Phase 2 (May 2015 – Spring 2016) is now underway. It will provide for the analysis of the draft growth scenarios and the policies identified for updating, with the benefit of further public and stakeholder input. Phase 3 (May 2016 – Fall 2016) will involve consultation on the recommended growth scenario and the policy modifications proposed for incorporation into a draft Regional Official Plan Amendment.

The Population and Employment Forecasts and Draft Growth Scenarios

One of the primary purposes of this process is to update the Regional Official Plan to incorporate new population and employment forecasts for the years 2036 and 2041. The new population and employment forecasts are based on Amendment No. 2 to the Growth Plan for the Greater Golden Horseshoe, 2006 (Places to Grow), which came into effect on May 29, 2013. Amendment 2 forecasts that the population of York Region will grow to 1,790,000 by 2041 from the originally forecasted 1,500,000 in 2031 with employment increasing to 900,000 jobs from the originally forecasted 780,000 in 2031. In addition, the Region will be considering a number of policy areas for potential updating. This includes ensuring conformity with the Provincial policies and plans; and a detailed review of specific policy areas including transportation, housing, healthy communities, retail, cemeteries and economic development. Concurrent with the Regional Municipal Comprehensive Review the Region will be updating its Water and Wastewater Master Plan and its Transportation Master Plan.

The Draft Growth Scenarios: Vaughan 2041

The Regional MCR (OP Review) will provide for the allocation of the new population and employment growth projections, resulting from the Growth Plan's Amendment No. 2, to the local municipalities. On April 9, 2015 the York Region Planning and Economic Development Committee considered a staff report entitled "2014 York Region Draft Growth Scenarios and Land Budget". There are three draft scenarios being analyzed and refined; two would require additional land by way of an urban boundary expansion, at 40% and 50% intensification rates. The third requires no additional land with all of the new growth being accommodated through intensification within the existing urban area. The draft projections would see Vaughan's population growing to between 485,000 and 490,000; with employment growing to between 312,000 and 314,000 jobs. During Phase 2, the alternatives will be evaluated in the context of a number of criteria including a locational analysis, which will establish the preferred alternative and the location of any required urban boundary expansions. As a result of the MCR process, the City will need to plan for

an ever more populous and densely inhabited municipality and VOP 2010 will have to be updated accordingly.

Next Steps in the York Region Municipal Comprehensive Review

Attachment 1 to this report “Integrated Land Use, Infrastructure and Financial Planning”, (April 2015) illustrates the steps the Region will be taking in moving to the adoption of an updated Regional Official Plan. The target date for its adoption is the fourth quarter of 2016. This is a key consideration for Vaughan as the City’s Municipal Comprehensive review will pivot around the Region’s adoption of its plan. In order to maintain conformity with the Region’s Official Plan, it will be necessary to begin preparation for the City’s MCR and OP Review in 2016. This will enable the preparation of detailed comments on the draft Regional OP and allow the City to quickly move forward with the MCR on the basis of a full understanding of the Regional Plan.

Planning for the City’s Municipal Comprehensive Review

Growth at the scale proposed, in an increasingly complex environment, has broad organizational impacts that affect virtually all commissions and departments. VOP 2010 was undertaken in the context of the Vaughan Tomorrow program, which provided a comprehensive corporate approach to growth management, under the umbrella of Vaughan Vision 2020, the City’s strategic plan. It included the development of the Green Directions Vaughan Community Sustainability and Environmental Management Plan, the updating of the City’s Services and Infrastructure Master Plans and the preparation of VOP 2010. It is anticipated that the process for the new MCR will not be as onerous as the one undertaken for VOP 2010. However, it will be necessary to assess its impacts on a corporate basis and to coordinate any updates required to optimize the City’s response to the planned growth.

Therefore, internal consultations will need to be undertaken to establish the scope of the review, and the extent to which any of the contributing plans or programs need to be simultaneously updated. It is expected that these discussions will take place during the third quarter of 2015. Staff has targeted the fourth quarter for a report to Council on a plan for proceeding with the MCR in 2016. This would include a draft project charter including the work program, timeline, budget, required staff/consulting resources and timelines. Budget implications will be built into the draft Capital Budget for 2016 – 2019 for review and consideration.

Potential Timeline for the City’s Municipal Comprehensive Review

While a definitive timeline for the adoption of the City’s amendment to VOP 2010 cannot be established, it is possible to do a best circumstances estimate. If the City started its work in 2016 and the Region adopted its Plan in the Fall of 2016 the following timeline may be achievable:

- Mid-2016: City MCR Program begins;
- Q4-2016: Region of York Official Plan is adopted;
- 2017: City of Vaughan plan is developed (Research, Public Consultation Policy Development)
- Q4 2017: Public Hearing on draft amendments to the Plan;
- 2018: Refine amendments based on Public Consultation;
- Q2 2018: Technical Report to Council, finalization of Amended Plan and adoption;
- 2018-2019: Approval process.

This will be further refined as the City moves forward.

Implications for Deferring Matters Currently under VOP 2010 to the Future Municipal Comprehensive Review

There remains a substantial level of uncertainty over the timing of the Municipal Comprehensive Review. Potentially, anything referred to this process, may not see a resolution before 2018 or beyond if Ontario Municipal Board appeals are involved. Therefore, the notion of deferring unresolved matters or policies that help resolve and address concerns identified through the VOP 2010 process should be discouraged.

In the case of issues revolving around the proposed Natural Heritage Network amendments, the policy framework is already well established and is the result of a lengthy approval process in which the City and stakeholders have already invested substantial time and resources. A summary of the process that has been followed to this point is set out in the following table:

Draft Timeline of Key Milestones: VOP 2010 Environmental Policies

VOP 2010 Council Approval	Sep 2010
CW report with Chapter 3 Revisions	Sep 12 2011
Approved by Council	Sep 27 2011
NHN Study initiated - RFP	Jan 2012
Terms of Reference for NHN Study Phases 2-4 (amending NHN Study completion requirements to initiate Secondary Plan for New Community Areas)	Sep 2012
NHN Study Phase 1 Report	Dec 2012
OMB Approval of VOP 2010 Chapter 3 – Sections 3.5 and 3.8	Jul 23 2013
OMB Approval of VOP 2010 Chapter 3 – majority of Chapter	Dec 2 2013
CW (Working Session) – NHN Study Phases 2-4 Update	Dec 2013
CW (Public Hearing) – revised Schedule 2, new Schedules 2A, 2B and 2C, policy scan	Jun 2014
OMB Approval of VOP 2010 Chapter 3 – Select remaining policies	Feb 3 2014
OMB Approval of VOP 2010 Chapter 3 – Remaining policies	Feb 24 2015
CW – Details of the Amendment to VOP 2010	Apr 2015
CW - Details of the Amendment to VOP 2010 (further refinements to policies)	Jun 2015
Implementing Amendment	Sep 2015 or Oct 2015
Develop Compensation Protocol – Based on approved Work Plan, establish Stakeholder Consultation Group, Draft Protocol and Guidelines for Review, Co-ordinate with Blocks 27 and 41 Secondary Plan Processes, New Community Areas Secondary Plan Land Use Concepts (compensation examples included)	Q3/Q4 - 2015
Incorporate Compensation Policies in Secondary Plans as appropriate	Starting Q1 - 2016

The City has been successful in advancing the approval of VOP 2010's environmental policies. Currently, Chapter 3 "Environment" is fully in effect, except for site specific appeals. The amendments to VOP 2010 now under consideration represent the fine tuning of the Plan and the proposed updated land use schedules associated with the Natural Heritage Network Study will inform the processing of development applications and in some cases resolve VOP 2010 appeals. For the most part there is broad consensus of most of these amendments. Based on a review of the majority of submissions only a few issues remain outstanding. For this reason staff does not recommend deferring the resolution of the

remaining matters to a process that may not be completed for four years. It would be preferable to move forward on the basis of this solid foundation of work from September 2010, undertaken under the umbrella of VOP 2010, and complete this process thereunder.

Moving Forward

The deferral of this matter to the Council meeting of June 23, 2015 by Committee of the Whole, has provided an opportunity to outline a process to support further discussion focused on resolving the outstanding issues. Staff recommends that the following process be applied through the forthcoming Summer months.

July 2015

- Continuation of Scoping of Related Issues with Stakeholders;
- Identify the elements of a Work Plan and approval processes that will be associated with the development of a Habitat Compensation Protocol;
- Identifying Follow-Up Meeting Times;
- Circulate Draft OPA for Comment that reflects revised wording which would seek to clarify and resolve some concerns raised in submissions to the June 16, 2015 Committee of the Whole.

August 2015

- Continue to Resolve Outstanding Issues;
- Update OP based on Comments and Outcome of Negotiations;
- Complete the Draft Habitat Compensation Protocol Work Plan.

September 2015

- Report to Back to Council.

Conclusion

Staff is of the opinion that the proposed amendments to VOP 2010 should not be deferred to a future process and should proceed through the on-going finalization of VOP 2010. A number of landowners/stakeholders also share this view. At the June 16, 2015 Committee of the Whole meeting, there was an indication that further discussion may be productive. Furthermore, at the meeting Staff indicated they would look to make revisions in the draft amendment to clarify TRCA's jurisdiction and authority, which would help to address a significant landowner concern. Subsequent to the Committee of the Whole meeting, discussions have occurred with landowner representatives involved in the discussions that occurred in May and June of 2015 and those landowner representatives who submitted correspondence to the Committee of the Whole meeting. These discussions have confirmed the landowner's interest in finding a resolution to these matters without embarking on a process tied to the Region's Municipal Comprehensive Review and future City of Vaughan Official Plan Review.

Staff has laid out a framework to structure further negotiations with the stakeholders over the summer of 2015. The primary objective is to move toward the adoption of an amendment to VOP 2010, based on a consensus, to implement the results of the Natural Heritage Network Study and to advance the development of the potential environmental programs and protocols identified by the study. The remaining issues are well focused and can continue to be discussed and reported on in September – October 2015.

Attachments

1. York Region MCR Timeline: Integrated Land Use, Infrastructure and Financial Planning
2. Updated Schedule 2 of the Natural Heritage Network

Report prepared by:

Tony Iacobelli, Senior Environmental Planner – ext. 8630
Roy McQuillin, Acting Director of Policy Planning – ext. 8211

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'John Mackenzie', with a large, stylized initial 'J' and a horizontal line extending to the right.

JOHN MACKENZIE
Commissioner of Planning

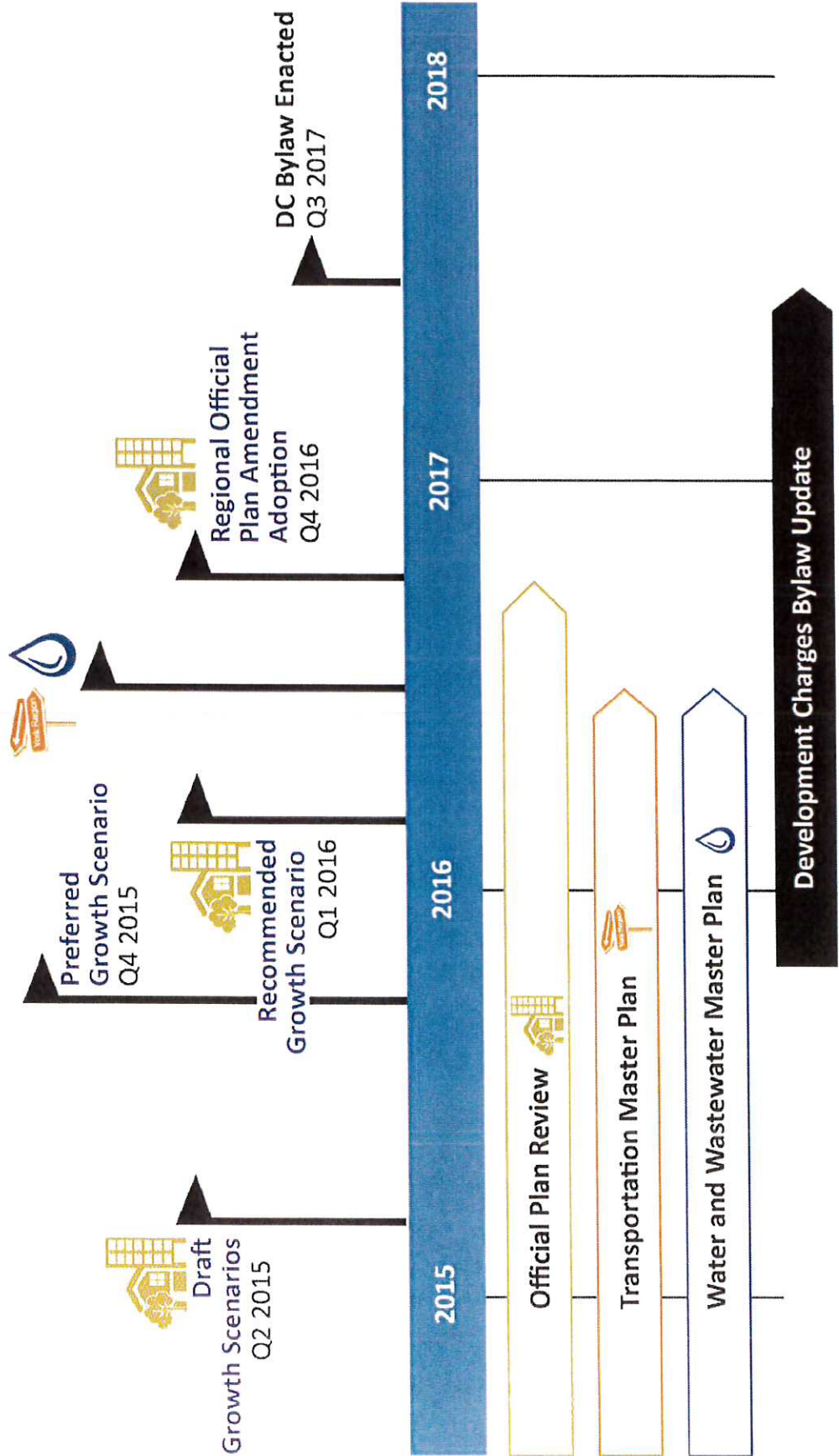
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Copy To: Steve Kanellakos, City Manager
 Jeffrey A. Abrams, City Clerk
 Roy McQuillin, Acting Director of Policy Planning

Integrated Land Use, Infrastructure and Financial Planning

Master Plan Approvals










Mid-2016



SCHEDULE 2

Natural Heritage Network

Legend

-  Core Features
-  Enhancement Areas
-  Built-Up Valley Lands (1)
-  Greenbelt Plan Area Boundary (2)
-  Greenbelt Natural Heritage System
-  Oak Ridges Moraine Conservation Plan Boundary (2)
-  Oak Ridges Moraine Conservation Plan Core and Linkage Areas
-  City of Vaughan Boundary
-  Area subject to ORMCA Minister's Zoning Order

This Schedule is subject to change based on the result of the Natural Heritage Network Study, which will define the Natural Heritage Network by both its natural features and as a natural heritage system in accordance with the Provincial Policy Statement.

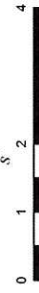
The policy text in Chapter 3 prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network.

For watercourses and waterbodies outside of well-defined valleys, the vegetation protection zone is to be established according to the policies in Chapter 3 and to the satisfaction of the Toronto and Region Conservation Authority.

Enhancement Areas are identified conceptually on Schedule 2 and the text shall be consulted to determine the final location and design.

(1) Data provided by Urban Strategies.

(2) See Schedule 4 for limits and the land use information of the Greenbelt Plan Area and the Oak Ridges Moraine Conservation Plan Area.



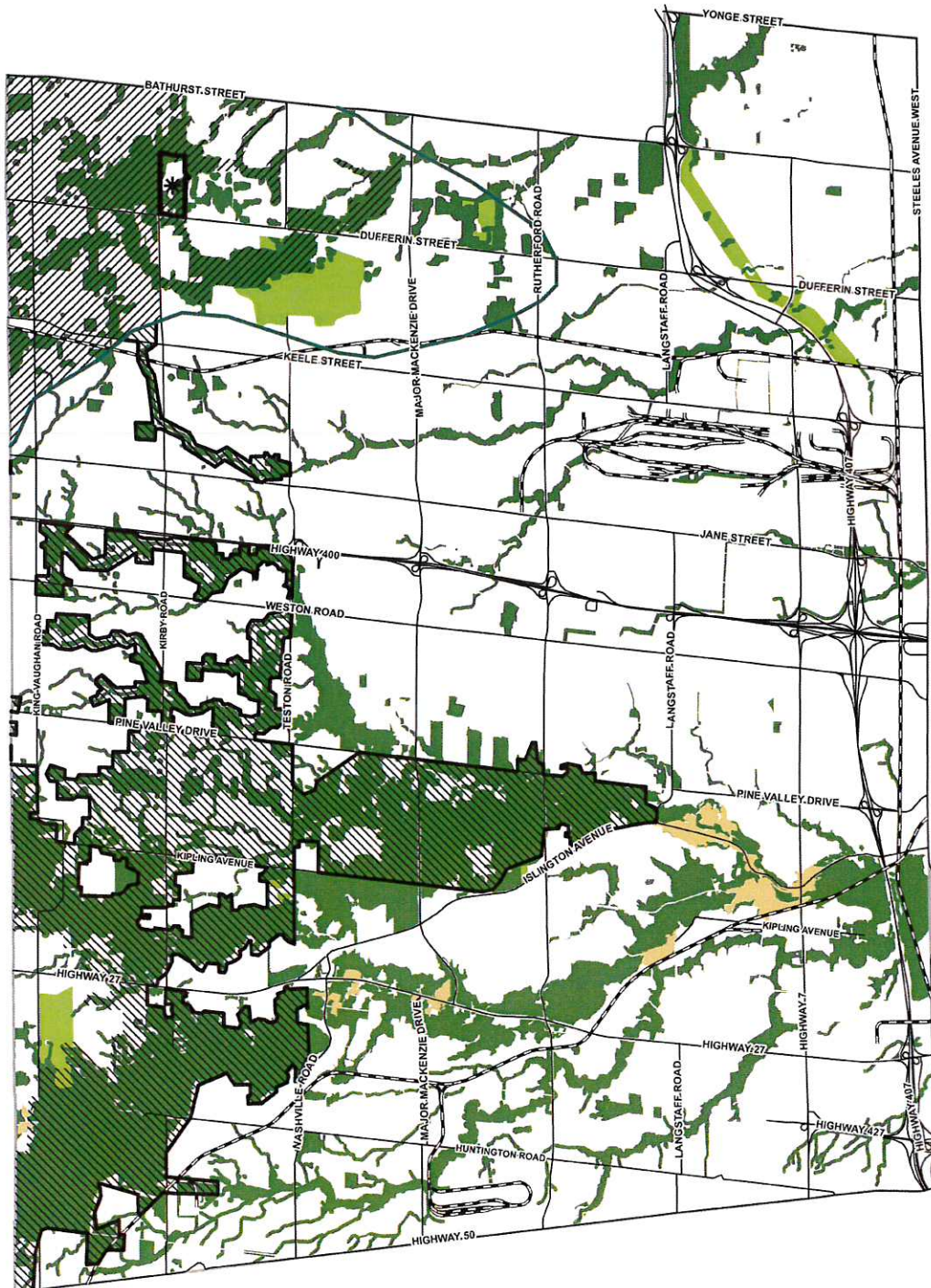
Kilometers

North-South Environmental Inc.

Specialists in Sustainable Landscape Planning



May 29, 2015





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AMBERSTEWARTLAW.COM

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June 22, 2015

Delivered by email to clerks@vaughan.ca

Mr. Jeffrey Abrams
City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

C	<u>30</u>
Item #	<u>10</u>
Report No.	<u>26 (cw)</u>
Council -	<u>June 23/15</u>

Attention: His Worship Mayor Bevilacqua and Members of Council

Dear Mr. Abrams:

**Re: 11211 Weston Road
Vaughan Natural Heritage Network Study**

We are counsel to Ms. Ronni Rosenberg, Ms. Rachelle Taquu, and Ms. Elissa Rosenberg, the owners of the property municipally described as 11211 Weston Road, in the City of Vaughan ("the Subject Property"). We wrote to the City on January 15, 2014, to express our clients' interest in the Natural Heritage Network ("NHN") Study. Our clients' planning consultant, Jane McFarlane, also submitted a letter in June of 2014 and April of 2015.

The purpose of this letter is to express our clients' continued concerns with the NHN Study. We ask Council to defer the implementation of the NHN Study until the next municipal comprehensive review of the City's Official Plan.

We have three primary areas of concern:

1. Both the timing and the process are inappropriate. The City should not adopt substantive amendments to the Vaughan Official Plan 2010 ("the VOP") in the midst of an appeal process that is already well advanced at the Board.
2. If the City implements the NHN Study through an amendment to the VOP, it will be inconsistent with the spirit of the settlement reached with my clients in their appeal.
3. The NHN Study is incomplete. Further work is required before its findings are implemented into the Official Plan.

1) The Timing and the Process

On a preliminary basis, we are concerned that the process taken to date is unclear. If our understanding is correct, staff's recommendation is that Attachment 2 to the Staff Report be implemented into the VOP by way of an official plan amendment ("OPA"). However, we are not clear if the request of Council is to adopt Attachment 2 on June 23, or to submit a draft OPA that is consistent with Attachment 2 at a later date, with or without public notice. In our view, in order to provide fair notice to the public, the actual form of draft OPA should be circulated for public comment and considered at a public meeting.

More importantly, the timing of this proposed amendment is inappropriate. The VOP process is well underway at the Board:

- The VOP was adopted in September of 2010, and appealed to the Board in 2012.
- As of March 2015, 145 appeals had been filed. 32 appeals had been settled or withdrawn, including that of our clients.
- Over the course of almost three years, the Board has held 20 hearing dates, including prehearings, motions and mediation.
- As appeals have been settled or withdrawn, the City has asked the Board to bring into force the parts of the VOP that are no longer in dispute. The Board approved parts of the VOP as recently as September 2014; less than a year ago.

It is inappropriate for the City to introduce substantive amendments to the VOP. Some of these amendments apply to policies and mapping that were recently approved by the Board in settlement of appeals. Instead, we request that the City wait for the VOP 2010 process to be complete, and defer the implementation of the NHN Study until the next municipal comprehensive review.

2) The Amendments are Inconsistent with the Settlement

As it relates to our clients' lands in particular, we believe that the proposed amendments are inconsistent with the Minutes of Settlement executed with the City.

As part of the settlement, the City agreed to amend Schedule 2 (Natural Heritage Network) to remove the "Core Features" designation from the western portion of the Subject Property, which is outside of the Greenbelt. The Board approved these modifications in December of 2013, on the consent of both the City and the TRCA.

While the NHN Study does not propose to revise Schedule 2 on our clients' lands, it does propose to incorporate new Schedules 2A, 2B, and 2C, with the following environmental overlays:

- Schedule 2B identifies the western portion of our clients' lands outside the Greenbelt as a "Woodland", and
- Schedule 2C identifies the western portion of our clients' lands outside the Greenbelt as "SWH Amphibian Breeding Habitat – Woodlands" and "SWH Special Concern Woodland Breeding Birds".

It appears that the new schedules are effectively "sub-schedules" to Schedule 2. The notation on the proposed new schedules provides that the information therein *"depicts the type of natural features that comprise the Core Features of the Natural Heritage Network"*, and *"informs the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform the Natural Heritage Network"*.

In our view, Schedules 2B and 2C as they apply to our clients' lands are inconsistent with the Minutes of Settlement, since they apply environmental overlays on the Subject Property that purport to "inform the definition of Core Features", but the Core Features overlay was intentionally removed from that part of the Subject Property in the settlement.

In addition, it appears that the NHN Study applied these environmental overlays without the benefit of any site inspection or analysis. Figures 3 and 4, which identify the location of field site assessments, indicate that the Subject Property was not assessed. Our clients submitted a report from Dillon Consulting in 2012, which determined that the area outside of the Greenbelt was not a "woodland" as that term is defined in the VOP. However, it appears that this report was not considered in the preparation of Schedules 2B and 2C.

Our clients spent a significant sum of money on lawyers, planners, and environmental consultants to ensure that their rights were protected in the VOP process. If the NHN Study is implemented into an amendment to the VOP, they will have no choice but to file a new appeal.

3) The Adoption of an OPA is Premature

As set out above, we do not believe that the City has circulated the draft OPA that is proposed to implement the NHN Study into the VOP. At the very least, the draft OPA should be submitted for public consultation and consideration at a public meeting before it approved by Council.

Notwithstanding the preparation of the OPA itself, as submitted by other stakeholders, components of the NHN Study need further work before they are

implemented into the VOP. In particular, the Staff Report addresses the matter of “woodland compensation”.

The Staff Report suggests that the new proposed “woodland compensation” policies are meant to refine the VOP. In our view, this is a new concept that deserves more consideration. We note that the word “compensation” is not found anywhere in the VOP. We also believe that woodland compensation should be within the control of the City alone, and not the TRCA. The TRCA does not have jurisdiction over woodlands.

The Staff Report acknowledges that a woodland compensation protocol will be developed to guide the manner in which woodlands that are not “significant” can be removed. This protocol is fundamental to understanding the import of the new policies regarding woodland compensation. The policies should not be approved until the protocol is developed so that stakeholders can understand what “compensation” is required in exchange for the removal of woodlands that are not environmentally significant. Stakeholders cannot determine the appropriateness of the policy without understanding its effect.

Conclusion

There is an important distinction between the completion of a study under an Official Plan and the implementation of that study into Official Plan policy. A study is a guideline, but an OPA has the force of law.

It is not appropriate or desirable to adopt new policies and mapping that constitute substantive amendments to the policies that have been so recently been approved by the Board in an appeal process that is still underway. We urge Council to defer the implementation of the NHN Study into the VOP to the next municipal comprehensive review.

At the very least, we ask that Council defer consideration of this matter to a future meeting, to provide an opportunity for our clients to have discussions with staff about the new overlays that are proposed to be applied to the Subject Property.

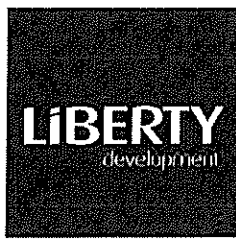
Thank you in advance for your consideration of this matter.

Best regards,



Amber Stewart

c. Ms. Jane McFarlane, MCIP, RPP
Clients



c 2
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

June 11, 2015

Chairman and Members, Committee of the Whole
c/o Clerks Department
City of Vaughan
2141 Major Mackenzie Drive,
Vaughan, ON
L6A 1T1

Dear Chairman and Members:

RE: Item 10, Natural Heritage Network Study, COW June 16, 2015

We are writing on behalf of 1834375 Ontario Inc., the owners of the lands located at 1890 Highway 7 West, in the vicinity of Highway 7 and Keele St. We have reviewed the above noted study and recommendations before the committee today and noted that on Schedule 2B, dated May 29, 2015 shows a small area that is identified as a woodland, located on our lands.

We wish to advise that this area has been designated with an "asterisk" in the recently approved Concord Go Secondary Plan and is subject to policies in the Secondary Plan that require that an evaluation be done to determine the significance of the area or the application of the Ecosystem Services Compensation.

These policies have now been addressed. Vaughan and TCRA Staff together with ourselves have completed the evaluation and it has been determined that there is no natural heritage feature in this area. We are currently negotiating the compensation tree replacement plan with the City.

For the above noted reasons, we would request that the above noted Schedule B be amended such that the small area within our land not be designated as woodland. On this basis, we are not objecting to the recommendations before the Committee today.

Yours truly

Lezlie Phillips

c.c. Mr. T. Iacobelli
Mr. R. McQuillan



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P-1617

June 15, 2015

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Mr. Jeffrey Abrams
City Clerk

Re:

Committee of the Whole Meeting June 16, 2015
Natural Heritage Study: Proposed Amendments to Official Plan
City File – #25.5.4
Block 34 East Landowners Group
Highway 400 North Employment Lands Secondary Plan (OPA No. 637)

Dear Mr. Abrams,

On behalf of our clients, the Block 34 East Landowners Group, we wish to express our continued concerns with respect to the Natural Heritage Network Study and proposed policy and mapping amendments to the City of Vaughan Official Plan.

Further to our submission at the April 14, 2015 Committee of the Whole meeting, we note that the latest staff report and draft Official Plan Amendment still do not reflect our request for clarity that for lands subject to OPA No. 637 (Highway 400 North Employment Lands), the applicable underlying policies for natural heritage are in OPA No. 450, not the new NHN policies.

We also note that the latest Natural Heritage Network Report to the Committee of the Whole does not include a response to our received letter submitted on April 14, 2015.

We continue to request that the proposed OPA and mapping be modified to specifically state that the new NHN policies do not apply to lands subject to OPA No. 637.

Yours truly,
KLM PLANNING PARTNERS INC.

A handwritten signature in black ink, appearing to read 'Billy Tung', is written over a horizontal line.

Billy Tung, BES, MCIP, RPP
ASSOCIATE/SENIOR PLANNER

Cc: Block 34 East Landowners Group
Savanta Consulting

Planning • Design • Development

c <u>3</u>
Communication
cw: <u>June 16/15</u>
Item: <u>10</u>

HUMPHRIES PLANNING GROUP INC.

c <u>4</u>
Communication
cw: <u>June 16/15</u>
Item: <u>10</u>

June 15, 2015
HPGI File: 0449

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L4A 1T1

Attn: Jeffrey Abrams, City Clerk

Re: Comments on Natural Heritage Study - City File - 25.5.4
Committee of the Whole Meeting June 16, 2015
Vaughan 400 North Landowners Group
Blocks 34W and 35

We write on behalf of the Vaughan 400 North Landowners Group (Blocks 34W and 35).

The current approvals for the lands owned by the Group are embodied in OPA 637, the result of an O.M.B. mediated settlement involving the Province, Region, TRCA, City and our clients. OPA 637's underlying policies for natural heritage purposes are in OPA 450. That is the basis upon which the multi-party agreement was struck.

Several meetings have occurred between representatives of the Group, City Staff and the NHN consultant team, the most recent of which was held on October 17, 2014. Subsequently, meeting minutes were prepared by the City which confirm agreement that OPA 637 is based on OPA 450 policies, and that it is these underlying policies which are applicable to Blocks 34W and 35, and that the new NHN policies, if they are ultimately approved, will not. We have requested written acknowledgment to this effect on at least three occasions (as early as January 2015 and most recently in April 2015). Despite repeated attempts to obtain this information, no response has been provided.

A comment letter (enclosed for convenience of reference) and delegation were presented at the April 14, 2015 Committee of the Whole meeting, outlining our client's concerns to Committee and Staff.. Based on our review of the June 16, 2015 Natural Heritage Network Report to the Committee of the Whole, there is still no acknowledgement as requested by us, nor are changes proposed to the Study to address our comments.

HPGI's meeting minutes from our Oct. 17, 2014 meeting with City Staff are clear: OPA 450 and 637 are the applicable policy framework for the Block 34W and 35 block plan process. We now find ourselves in a position where we must request that Council direct staff to provide the written acknowledgement that we have been requesting.

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Alternatively, Council could, as part of its consideration of this Staff report, adopt a resolution that OPA 450 and 637 are the applicable policy framework for the VN400LG's lands, and not the NHN study policies.

Should you have any questions, please contact the undersigned at extension 246.

Yours truly,

HUMPHRIES PLANNING GROUP INC.

A handwritten signature in black ink, appearing to read 'Mark McConville', written in a cursive style.

Mark McConville, MCIP, RPP, MScPI

Senior Planner

cc: Mr. John Mackenzie, Commissioner of Planning
Mr. Tony Iacobelli, Environmental Planner
Clients

June 16, 2015

Chairman and Members, Committee of the Whole

City of Vaughan
2141 Major Mackenzie Drive,
Vaughan ON
L6A 1T1

MGP File: 11-2003

c 8
Communication
CW: June 16/15
Item: 10

Via email rose.magnifico@vaughan.ca

Dear Chairman and Members:

Re: Item 10, Committee of the Whole Meeting, June 16, 2015
Natural Heritage Network Study
Natural Heritage Network Inventory and Improvements, Study Completion and
Recommendations
Amendment to the Vaughan Official Plan 2010
File #25.5.4
Block 41 Landowners Group Inc.

We are the planners and project manager for the Block 41 Landowners Group in the City of Vaughan. We are writing on behalf of the Block 41 Landowners Group who own approximately 232 hectares of land within Block 41. Representatives of the Block 41 lands have been actively involved in the NHN Study since its initiation in 2012 and have made submissions and met with City staff on a number of occasions.

The purpose of this letter is twofold. First, to acknowledge the progress made in refining the policies and maps since the April 14, 2015 Committee of the Whole meeting. Second, to highlight the remaining areas of concern for the Block 41 Landowners Group which we understand staff are proposing to be further studied as input to the Block 41 Secondary Plan and Block Plan.

We appreciate Committee deferring the matter of the NHN Study (Item 1, Report No. 17) at the April 14, 2015 Committee of the Whole meeting and referring the item back to staff. This deferral accorded representatives of the Block 41 Landowners Group an opportunity to work with staff to further refine policies and address outstanding issues and areas of concern. Representatives of the Block 41 Landowners Group met with staff on May 1, 2015 and May 15, 2015, and we are pleased to note that consensus was reached on a number of issues. We note that the amended policies before you today are the result of ongoing consultation and staff's attempt to resolve some of the policy issues raised.

We do however note that some of the areas of concern raised by representatives of the Block 41 Landowners Group continue to remain, namely:

- **Significant Valleylands:** We are concerned that the VOP 2010 policies continue to elevate all valley corridors within the City to the status of significant valleylands without the opportunity for site-specific review and evaluation of significance. We note that the policies of the Greenbelt Plan do not prescribe such a blanket categorization of all valley corridors as significant valleylands, and as such we would ask that the policies of the City's Official Plan allow for the evaluation of potential significance both within and outside of the Provincial Greenbelt Plan area during the development process.
- **Significant Woodlands:** We note that the policies maintain 0.2 hectares as the minimum threshold size for determining woodlands as Core features. This is not consistent with the approach provided in the Regional Official Plan, the intent of the earlier 2010 VOP, or the recommendations of the Phase 2-4 NHN Study (dated May 2014) which recommended that woodlands need to be >0.5 hectares in size in order to achieve Core Feature status. It is our position that woodlots between the size of 0.2 hectares and 0.5 hectares, and their associated 10 metre Vegetation Protection Zone, typically exhibit more limited ecological functions. Protection of such features should be considered in the overall context during the Secondary Plan and Block Plan process where the urban requirements for roads, transit, schools, parks and housing are planned to achieve densities that exceed most existing communities in Vaughan.
- **Compensation Protocols:** We note that Recommendation 6 proposes that habitat compensation protocols and guidelines be developed through the Secondary Plan process currently underway for the two New Community Areas, one of which is Block 41. We require additional time to consider the implications of the compensation principles and can only support these protocols if they allow for refinement and are based on scientific principles and analysis.
- **Mapping Concerns:** We would like to highlight that the information used in Schedules 2, 2A, 2B, and 2C is not up-to-date and that updated information regarding features should be incorporated as part of the development process.

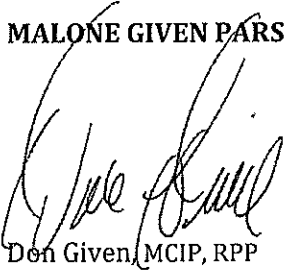
Thank you for the opportunity to comment on the proposed policy revisions.

TO: Chairman and Members, Committee of the Whole
RE: Item 10, Committee of the Whole Meeting, June 16, 2015

June 16, 2015

Yours truly,

MALONE GIVEN PARSONS LTD.

A handwritten signature in black ink, appearing to read 'Don Given', is written over the company name.

Don Given, MCIP, RPP
President

cc John Mackenzie, Commissioner of Planning, City of Vaughan
 Tony Iacobelli, Environmental Planner, City of Vaughan
 Block 41 Landowners Group Inc.
 Mr. R. Hubbard, Savanta Inc.
 Ms. N. Mather, Stonybrook Consulting

DEVINE PARK LLP

PLANNING AND DEVELOPMENT LAWYERS

June 15, 2015

VIA EMAIL clerks@vaughan.ca

Committee of the Whole
City of Vaughan
City Hall
2141 Major Mackenzie Drive, Level 200
Vaughan ON L6A 1T1

Attention: City Clerk's Office

Dear Committee Members:

**RE: Committee of the Whole Meeting scheduled for June 16th, 2015, Agenda Item No. 10
Natural Heritage Network Inventory and Improvements, Study Completion and
Recommendations
Amendment to Vaughan Official Plan 2010
City of Vaughan File No. 25.5.4**

We are the solicitors for Teston Woods Development Corp. with respect to its lands within Block 27 in the City of Vaughan. The subject lands are currently known municipally as 10971 Jane Street.

Our client has been participating with the other landowners within Block 27 (known as the Teston Green Landowners Group) with respect to the above-noted study and the proposed amendments to the Vaughan Official Plan 2010, and provided comments to City staff regarding these matters. Our client's interests are generally aligned with the position being put forward by the other landowners within Block 27. We understand that Davies Howe Partners LLP, who are counsel for the landowners within Block 27, will be outlining the landowner group's position with respect to the proposed amendments.

The purpose of this letter is to outline two further concerns our client has previously raised with City staff. The first issue relates to the Minimum Vegetation Protection Zone that is required for lands protected within Provincial Plan Areas, including lands that are subject to the Greenbelt Plan. In particular, our client wants to ensure that none of the proposed policies, including Policy 3.2.3.4, would require a Minimum Vegetation Protection Zone to be extended beyond the Provincial Plan Areas' boundaries.

From reviewing the latest report, we understand City staff are recommending the following stand-alone policy (3.2.3.21) be included as part of the amendments to the Vaughan Official Plan 2010, to address our client's concerns:

c <u>9</u>
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

Jason Park
jason.park@devinepark.com
D 416.645.4572

Devine Park LLP
250 Yonge St., Suite 2302
P.O. Box. 65
Toronto ON M5B 2L7

T 416.645.4584
F 416.645.4569

Matter No. S860-01

The minimum vegetation protection zone that applies within the Greenbelt Plan or Oak Ridges Moraine Conservation Plan is not required to extend beyond the boundaries set out in the Greenbelt Plan or Oak Ridges Moraine Conservation Plan save and except as follows:


- a. an Environmental Impact Study confirms that a minimum vegetation protection zone within the Provincial Plan Area should be extended beyond the Provincial Plan boundary;
- b. where a *woodland, wetland, or Life Science Area of Natural and Scientific Interest* identified for protection is located both within and outside the boundary of the Oak Ridges Moraine or the Natural Heritage System of the Protected Countryside in the Greenbelt, and more than 50% of the feature is located within that boundary, the vegetation protection zone that is most protective of the feature shall generally apply to the portion outside of the Provincial Plan area unless an Environmental Impact Study demonstrates that a lesser vegetation protection zone is appropriate.

Our client is in the process of reviewing the language of this proposed stand-alone policy with its consultants, to see whether it wholly addresses our client's concern. Our client should be in a position to confirm whether this proposed policy is acceptable prior to the September 2015 Council meeting which is presently targeted for the adoption of these Official Plan Amendments.

Our client's second concern relates to whether or not the new Natural Heritage policies would apply to existing Secondary Plan Areas. From discussions with City staff, it had been confirmed to our client that the new policies would not apply to existing, approved planned areas that are subject to existing Secondary Plans. It was our client's understanding that a stand-alone policy would be provided, to confirm this understanding, save and except for lands that are the subject of a future Secondary Plan amendment that comes into force and effect after the new Natural Heritage policies have come into force and effect; however, in reviewing the above-noted report and the proposed amendments, this concern has not been addressed. It is our client's position that a stand-alone provision to clarify this issue should be included in the final amendments to the Vaughan Official Plan 2010. We respectfully ask that the Committee refer this issue back to City staff for their review and for the inclusion of a further stand-alone policy to address this matter.

If you have any questions regarding the above, please do not hesitate to contact the undersigned at 416.645.4572.

Yours very truly,
Devine Park LLP


Jason Park
JJP/ss

cc: Jeffery Abrams, City Clerks, City of Vaughan (via email)
Tony Iacobelli, Senior Environmental Planner, City of Vaughan (via email)
Katarzyna Sliwa, Davies Howe Partners LLP (via email)
Gerry Lynch, Cole Engineering Group Ltd. (via email)
Teston Woods Development Corp. (via email)



**WESTON
CONSULTING**

planning + urban design

c11
Communication
cw: <u>June 16/15</u>
Item: <u>10</u>

Policy Planning Department
City of Vaughan
2141 Major Mackenzie Drive,
Vaughan ON
L6A 1T1

June 15, 2015

File 7201

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Study
Block 63 Landowners Group
Southwest corner of King-Vaughan Road and Highway 27
City of Vaughan**

Weston Consulting has been retained by the Block 63 Landowners Group with respect to approximately 253 hectares (627 acres) of land holdings in the City of Vaughan located at the south-west corner of King-Vaughan Road and Highway 27 (Block 63) in the City of Vaughan (herein referred to as the subject lands). The location of the above noted properties have been identified on the attached air photo.

We have had the opportunity to review the June 16, 2015 staff report, entitled "Natural Heritage Network Inventory and Improvements Study Completion and Recommendations Amendment to the Vaughan Official Plan 2010", including related attachments. We understand that the recommended amendments to Chapter 3 and Schedule 2 "Natural Heritage Network" to the Vaughan Official Plan Volume 1 (VOP 2010) are being considered by the Committee of the Whole on June 16, 2015.

In response to this review we would like to offer the following comments. We are unable to confirm the precise delineation of the natural heritage features present on the subject lands and as a result of this we are concerned that the natural heritage features boundaries depicted on the schedules may not reflect actual conditions found on the ground. With respect to amendments to Schedule 2, we have not conducted any field studies to confirm the extent of the added Enhancement Areas and the corresponding corridors and/or linkages found on the subject lands and we do not support the proposed depiction in the absence of detailed studies. The features of Schedule 2 have been shown in relation to the subject lands in the attached air photo.

We respectfully request on behalf of our clients that Natural Heritage Feature designations are based on detailed scientific analysis and where designations are only based on a desktop review that there be a mechanism for landowners to undertake appropriate environmental analysis to

define such features through a planning process. In addition, we request that the City of Vaughan establish a policy mechanism that allows for appropriate changes to the mapping of designations and features based on the above considerations and that there be a process to establish changes to the Schedules based on good planning principles.

We intend to monitor the Natural Heritage Network Inventory and Improvement Study, and we reserve the right to make further submissions.

We kindly request that we be notified of any future reports and/or public meetings regarding the Natural Heritage Network Inventory and Improvements Study and ask that we receive notice of any decision on this matter by the Committee of the Whole and Council.

Please contact Shelby Blundell (ext. 291) or the undersigned if you have any questions.

Yours truly,
Weston Consulting
Per:



Jeff Greene, B.U.R.P.I., MCIP, RPP
Associate

- c. Client
Jeffrey Abrams, City of Vaughan
Mark N. Emery, Weston Consulting



Figure 1: Air Photo of Subject Lands




**WESTON
CONSULTING**
planning + urban design


File Number: 7201
Date Drawn: 15 JUN 2015
Drawn By: SB
Planner: ME
Scale: see scale bar
CAD: 7201/air photo/air photo.dgn



LEGEND

 **SUBJECT LANDS**

100 0 100 400m
SCALE



Source:
Natural Heritage Network, Schedule 2, dated May 29, 2015.
Air Photograph from First Base Solutions Inc., 2014 image.

**AIR PHOTOGRAPH with
OVERLAY OF NATURAL
HERITAGE NETWORK**

HIGHWAY 27 AND KIRBY ROAD
CITY OF VAUGHAN
REGIONAL MUNICIPALITY OF YORK



**WESTON
CONSULTING**

planning + urban design

c12
Communication
cw: June 16/15
Item: 10

Transmittal

To:	Tony Iacobelli, Senior Environmental Planner	From:	Courtney Heron-Monk
Company:	City of Vaughan Policy Planning Dept.	Phone:	905-738-8080 ext. 401
Address:	2141 Major Mackenzie Drive Vaughan, ON L6A 1T1	Fax:	905-738-6637
Phone:	905-832-2281	No. of Items:	2
Fax:	n/a	File:	6715
Date:	June 15, 2015	Cc:	Raymond Nicolini, 7553 Islington Holding Inc.
Re:	7553 Islington Avenue & 150 Bruce Street		

☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

Mr. Iacobelli,

Weston Consulting is the planning consultant for 7553 Islington Holding Inc., the registered owner of the properties municipally known as 7553 Islington Avenue and 150 Bruce Street in the City of Vaughan (herein described as the 'subject properties'). The subject properties are located on the east side of Islington Avenue, south of Highway 7. The subject properties have a combined area of approximately 4.39 acres and currently contain two single-family dwellings.

Further to our comments dated June 17, 2014 and April 14, 2015, please find the enclosed correspondence prepared by WSP on behalf of the owner.

We request to be notified of any upcoming public meetings and of the decision on this matter by the Committee of the Whole and Council.

Kind regards,
Courtney Heron-Monk



June 12, 2015

Tony Iacobelli
Senior Environmental Planner
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

**Subject: Natural Heritage Network Study (NHNS)
Amendments to the Vaughan Official Plan 2010 ("VOP 2010")
7553 Islington Avenue and 150 Bruce Street, City of Vaughan
Project No. 121-24682-00**

Dear Mr. Iacobelli,

WSP Canada Inc. (WSP) has been retained by 7553 Islington Holding Inc. to review the April 14, 2015 and June 16, 2015 Staff Reports, entitled "Natural Heritage Network Inventory and Improvements Study Completion and Recommendations Amendment to the Vaughan Official Plan 2010", and related attachments, as they pertain to the properties known as 7553 Islington Avenue and 150 Bruce Street in the City of Vaughan.

Proposed impacts to the setbacks pertinent to the delineation of the long term stable top of slope (LTSTOS), long term stable 'hard bank', and stable toe of slope as determined through geotechnical study (WSP; February, 2015), and confirmed through staking by the TRCA on January 29, 2015 are discussed below with regard to the Staff Report.

Section 7.3 of these Staff Reports indicates that:

"All areas within the crest of slope are included within the NHN. Within the Greenbelt NHS and Oak Ridges Moraine Natural Core, Natural Linkage and Countryside designations, a 30 metre vegetation protection zone is added. In all other areas, a 10 metre vegetation protection zone is added."

As such, a vegetation protection zone of 10 metres from the slope crest is appropriate for this Site.

Schedule 2A of the same Staff Reports indicates a delineated Crest of Slope Screening Layer for Valleylands which is to be confirmed on a site specific basis. It is uncertain where the delineation crosses the site in this document due to the defined resolutions of those defined features, however, WSP has visited the subject sites on many occasions, including collaborative site meetings with the TRCA, to responsibly

WSP Canada Inc.
126 Don Hillock Drive, Unit 2
Aurora, Ontario
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www.wsppgroup.com

Tony Iacobelli
City of Vaughan



delineate the design setbacks for the Site. As such, we recommend that the present ambiguous delineations be clarified, revised, or removed, so as not to preclude the results established in the WSP geotechnical study with the collaborative support of the TRCA (February, 2015) as being definitive and determinative to the development constraints to the property.

Please contact the undersigned with any questions.

Yours truly,
WSP Canada Inc.

A handwritten signature in black ink, appearing to read "Zen Keizars", written over a horizontal line.

Zen Keizars, M.Sc., P.Geo.
Project Geoscientist



May 29, 2015

Tony Iacobelli
Senior Environmental Planner
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

**Subject: Natural Heritage Network Study (NHNS)
Amendments to the Vaughan Official Plan 2010 ("VOP 2010")
7553 Islington Avenue and 150 Bruce Street, City of Vaughan
Project No. 121-24682-00**

Dear Mr. Iacobelli,

WSP Canada Inc. (WSP) has been retained by 7553 Islington Holding Inc. to review the April 14, 2015 staff report, entitled "Natural Heritage Network Inventory and Improvements Study Completion and Recommendations Amendment to the Vaughan Official Plan 2010", and related attachments, as they pertain to the properties known as 7553 Islington Avenue and 150 Bruce Street in the City of Vaughan.

Proposed changes to Schedule 2 "Natural Heritage Network" of the Vaughan Official Plan Volume 1 (VOP 2010) include the designation of the subject properties as "Significant Wildlife Habitat (SWH) Special Concern Woodland Breeding Birds" on the proposed Schedule 2c. The Schedule 2c SWH overlay was developed using Toronto Region Conservation Authority and North-South Environmental (NSE) 2013 data. Mapping presented on Figure 4 of "Phase 2-4 of the Vaughan NHNS" (NSE, 2015) indicates that the subject sites were not surveyed as part of the breeding bird surveys conducted by NSE.

WSP has visited the subject sites on ten occasions between October 2012 and February 2015 as part of our work program for an Environmental Impact Study. These visits included three breeding bird surveys, which were completed during June and July of 2013. Our observations from these surveys indicated that the Special Concern Woodland Breeding Birds (Eastern Wood-pewee and Wood Thrush) were not present on or adjacent to the subject properties. It is our opinion that the proposed "SWH Special Concern Woodland Breeding Birds" overlay should not include the subject sites as the designation is not supported by field observations.

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Tony Iacobelli
City of Vaughan



Therefore we request that the designation on Schedule 2c, as presently proposed, be revised to remove the "Significant Wildlife Habitat Special Concern Woodland Breeding Birds" overlay from the subject property. We further request that any background mapping in the NHS reports be revised in accordance with the above request.

Please contact the undersigned with any questions.

Yours truly,
WSP Canada Inc.

A handwritten signature in black ink, appearing to read "Erin Fitzpatrick".

Erin Fitzpatrick, M.Sc.
Biologist

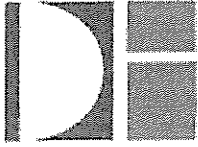
Reviewed by:

A handwritten signature in black ink, appearing to read "Michael Varty".

Michael Varty, P.Eng.
Director, GTA Environment

EAF:nah

c. Patrick Harrington, Aird & Berlis LLP
Ryan Guetter, Weston Consulting



Davies
Howe
Partners
LLP

Lawyers

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davieshowe.com

c13
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

Please refer to: **Katarzyna Sliwa**
e-mail: katarzynas@davieshowe.com
direct line: 416.263.4511
File No. 702921

April 13, 2015

By E-Mail Only to jeffrey.abrams@vaughan.ca

Mr. Jeffrey Abrams
City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Mayor Bevilacqua and Council Members

Your Worship and Members of Council:

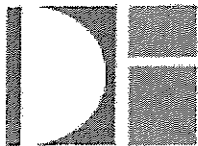
**Re: Item 1, Committee of the Whole Meeting, April 14, 2015
Natural Heritage Network Study ("NHN Study")
Natural Heritage Network Inventory and Improvements
Study Completion and Recommended Amendment to
Vaughan Official Plan 2010 (the "Proposed Amendments")
Block 42 Landowners Group Inc. ("Block 42")**

We write on behalf of Block 42. The purpose of this letter is to respectfully request that this matter be deferred to allow for discussions with our clients to continue.

There remain significant problems with the NHN Study and the Proposed Amendments. They are detailed in the attached letter dated January 30, 2015 from Beacon Environmental.

Leaving aside the substantive issues, we are very concerned about the speed with which the City is now proceeding. The NHN Study Staff Report was only made available late last week. This does not allow our clients a fair and practical opportunity for review, never mind a dialogue with you or your Staff.

We acknowledge that Don Fraser, our clients' consultant, has met with Staff and that there has been some progress, but the bottom line is not nearly enough. Many of the serious questions repeatedly raised by Mr. Fraser continue to go unaddressed.



Davies
Howe
Partners
LLP

Page 2

Also significant is the proposal to defer a decision on the NHN habitat compensation protocol (the "Protocol"), treat it separately and shield it from the scrutiny of the *Planning Act* public consultation process. The Protocol, Proposed Amendments and NHN mapping must be adopted at the same time, and must be part of a comprehensive and complete Official Plan Amendment.

We request that I be added to the list of delegates for the Committee of the Whole meeting.

Thank you for the opportunity to provide you with these comments.

Yours sincerely,

DAVIES HOWE PARTNERS LLP

Katarzyna Sliwa

encl. As above

copy: Ms. Dawne Jubb, Solicitor, City of Vaughan
Mr. John Mackenzie, Commissioner of Planning, City of Vaughan
Mr. Tony Iacobelli, Environmental Planner, City of Vaughan
Mr. Jim Kennedy, KLM Planning
Mr. Don Fraser, Beacon Environmental
Clients

January 30, 2015

BEL 214094

Mr. Tony Iacobelli, MSc, MCIP, RPP
Senior Environmental Planner
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Re: Recommended Policy Amendments to Chapter 3 of VOP 2010, January 2015

Dear Mr. Iacobelli:

Beacon Environmental is pleased to provide the following comments on behalf of the Block 42 Landowners Group following detailed review of the City's "Proposed Policy Revisions" to the text of the Vaughan Official Plan 2010, arising from the Natural Heritage Network (NHN) Study.

Further to past comment on the Vaughan NHN Study, there remains significant concern with proposed revisions to the policies as presently proposed, which are detailed below.

1. Policy 3.3.2.2 - Non-evaluated/Other Wetlands

From review of the provided text, it is our understanding that the intent of the proposed policy revisions is to provide a clear differentiation between: i) wetlands evaluated as provincially significant and those subject to the Oak Ridges Moraine Conservation Plan and Greenbelt Plan; and ii) all "other" wetlands (previously referred to as "non-evaluated" wetlands).

The existing policy text in the VOP 2010 states that "non-evaluated wetlands...shall be assessed for their significance, in accordance with criteria provided by the Province..." This implies that, prior to any development or site alteration, a wetland would have to be evaluated in accordance with the Ontario Wetland Evaluation System (OWES), which is the provincial standard.

Placing the onus on an individual landowner to evaluate a wetland under OWES is inappropriate, for the following reasons:

- the determination of a wetland's significance has always been and should remain the responsibility of the Province through the Ministry of Natural Resources and Forestry (MNRF);
- OWES is not the method by which wetlands are assessed for function through the development process; this is done through an Environmental Impact Study (EIS);
- In almost all cases an OWES wetland evaluation involves examining additional private properties for which access is not available. It is inappropriate to require a "wetland

complexing” exercise that could encompass many discrete wetland units extending across many square kilometres (under OWES the evaluator cannot simply confine an evaluation to a given parcel of land with imposed boundaries); and

- **Not only are evaluations under OWES very expensive and time consuming, but the additional delays (and associated costs) incurred while waiting for the evaluation to be reviewed and accepted by the MNRF will add considerable time to an already lengthy and onerous process.**

The “Discussion” notes related to this policy indicate that the proposed revisions/additions to the policy text are “in conformity with ROP 2010 policy 2.2.39” and “consistent with ROP 2010 policy 2.2.42”. However, the proposed revision to VOP 2010 policy 3.3.2.2 still states that “other wetlands shall be assessed for their significance [emphasis added], in accordance with criteria provided by the Province...” This language goes beyond the ROP 2010 policies.

ROP 2010 policy 2.2.39 does not include the word “significance”, and makes no reference to the application of provincial assessment criteria [i.e., OWES]. Rather, 2.2.39 requires “an environmental impact study that determines their importance [emphasis added], functions and means of protection and/or maintenance of function, as appropriate, to the satisfaction of the approval authority”.

The phrase “shall be assessed for their significance” was removed from a previous version of ROP 2010 policy 2.2.39 in recognition that it was the specific intent of the Regional Municipality of York to not require a formal wetland evaluation using OWES. However, the revised VOP 2010 policy 3.3.2.2 continues to adopt this (now superseded) language. Furthermore, the new subparagraph (c) refers to “other” wetlands “evaluated in accordance with the Region Official Plan”, which is misleading since the Region does not require an “evaluation” *per se*. Therefore, the revised VOP 2010 policy 3.3.2.2 is not “in conformity with ROP 2010 policy 2.2.39”.

New subparagraph (c) also recommends that in cases where an “other” wetland is determined to be appropriate for protection, it “shall have a vegetation protection zone generally no less than 15 metres”. This part of the policy also differs from that of the Region, which does not stipulate the width of a buffer for any “non-evaluated” or “other” wetlands. Rather, an EIS should determine if a wetland warrants protection and if so, why and by what means. This may include the provision of a vegetation protection zone; however, its width should be dictated by site-specific conditions, not prescribed.

It is Beacon’s recommendation that VOP 2010 needs to reflect ROP 2010 policies 2.2.39 through 2.2.42.

2. Policies 3.3.3.3 and 3.3.3.4 - Woodlands

Based on Beacon’s review of VOP 2010 policy 3.2.3.4 (Core Features), the results of the NHN Study, and through many previous discussions with City staff and their NHN consultant (North-South Environmental), it had consistently been our understanding that Core Feature woodlands were defined as woodlands greater than 0.5 ha. This understanding was confirmed by the following statement on p. 29 of the Phase 2-4 NHN Study report (North-South Environmental, May 2014): “All

woodland patches greater than 0.5 ha in size are included in the NHN" and by Schedule 2b (Natural Heritage Network - Woodlands), whereby all woodlands >0.5 ha are mapped.

However, in reviewing the proposed text revisions to VOP 2010 3.3.3, it is now apparent that the City intends to include all woodlands >0.2 ha as Core Features, not simply those that are >0.5 ha. These 0.2 to 0.5 ha woodlands are not shown on Schedule 2b, nor do any woodlands falling into this size range appear as Core Features on Schedule 2 – Natural Heritage Network (either in the current VOP 2010 or as proposed in the North-South report).

Furthermore, additional study by a landowner is now required to assess whether these smaller woodlands "meet tests of significance as set out in the ROP 2010". If these woodlands do not meet these "tests" they "can be modified subject to habitat compensation". The proposed VOP 2010 policy 3.3.3.3 does not, however, provide any explanation of what is meant by "compensation", other than to make reference to providing "a net ecological gain". It is assumed that the City's definition of "compensation" means, at a minimum, the 1:1 replacement of a woodland feature in terms of area, plus some unspecified additional area to achieve a "net gain".

In our view, the inclusion of these smaller woodlands constitutes a major change from the original VOP 2010, specifically policy 3.3.3. It not only broadens the definition of a Core Feature woodland, but places considerable onus on a landowner to: 1) undertake further assessments; 2) await the City and TRCA's decision; and 3) even if successful in "meeting the test", to provide (likely very costly) compensation in the form of an equivalent amount of land plus some additional area.

One of the City's stated objectives in revising policy 3.3.3.3 of VOP 2010 was to reflect the woodland policies in ROP 2010. However, the proposed new language does not achieve this, and even further **confuses the issue**. The "tests" described in the proposed policy do not reflect ROP 2010, policies 2.2.48 and 2.2.49. The fundamental difference is that these ROP 2010 policies speak to the "tests" under which development or site alteration could occur within a "significant woodland" (i.e., a woodland >0.5 ha) situated within an Urban Area. The proposed policy language in 3.3.3.3 and 3.3.3.4 only applies to non-significant (i.e., 0.2 to 0.5 ha) woodlands and does not permit development or site alteration in any woodland deemed "significant" under the Region's definition (i.e., >0.5 ha).

Finally, it does not appear that there are any circumstances under which development or site alteration could occur within all or a portion of a woodland >0.5 ha (notwithstanding the few exceptions listed under proposed VOP 2010 policy 3.2.3.7), even though ROP 2010 policy 2.2.49 does permit this under certain circumstances. ROP policy 2.2.49 requires the preparation of a **woodland compensation plan for the removal of a woodland >0.5 ha that is not deemed "significant"** following further study, but does not require compensation for any woodland <0.5 ha.

In cases where compensation for significant woodland removal is permitted under VOP 2010, such compensation (i.e., replacement) should be encouraged to occur in lands already designated as Open Space (e.g., within valleylands, floodplains and the non-forested portions of the Greenbelt Plan). This direction should be included in VOP policies 3.3.3.3 and 3.3.3.4.

It is Beacon's recommendation that any consideration of woodlands 0.2 to 0.5 ha as Core Features must be excluded since it was clearly not the intent of either VOP 2010 or the conclusions of the NHN

study to include them. Furthermore, the VOP 2010 language should adopt the wording of ROP policies 2.2.48 and 2.2.49 to achieve greater clarity and consistency.

3. Policy 3.2.3.4 – Valley and Stream Corridors

It is unclear how the Minimum Vegetation Protection Zones (MVPZs) associated with “valley and stream corridors” relate to MVPZs applied to other aquatic features addressed in VOP 2010 (e.g., “sensitive surface water features”, valleylands, “headwater drainage features”, “waterbodies”, watercourses, intermittent and permanent stream, seepage areas and springs, etc.). In general, there are far too many terms used to describe water-related features, *many* of which are not defined in VOP 2010. The addition of even more terms exacerbates what is already a confusing situation and appears to result in considerable overlap among definitions.

4. Policy 3.2.3.11 – Boundary Modifications

Clarification is required as to what the City means by “modifications” to Core Feature boundaries and under what circumstances this could occur. The suggested policy revision indicates that the City will give consideration to feature boundary modifications through “environmental studies” submitted as part of the development process”. Furthermore, if the extent of a feature is incorrectly mapped on Schedule 2, or is mapped but does not meet any of the criteria to be considered a Core Feature as confirmed by further study, corrections should be made to Schedule 2. Such revisions should be permitted outside of the development process.

5. Policies 3.2.3.13 to 3.2.3.15 – Enhancement Areas

Beacon agrees with the City’s proposed policy revision to 3.2.3.14 whereby “Enhancement Areas shown on Schedule 2 are conceptual in terms of context and location” and that the final locations and boundaries of Enhancement Areas will be determined through further environmental studies.

There is concern with the proposed new policy 3.2.3.15. Clarification is required as to what is meant by “critical function zone [CFZ] of wetlands” and “woodland enhancements to improve forest connectivity and interior woodland habitat” (neither of which are defined terms) as types of Enhancement Areas that are not depicted on Schedule 2. The NHN Study report (North-South May 2014) states that CFZs surrounding a wetland “are generally in the order of 100 m or more”. To achieve and maintain a minimum width along a linkage corridor, North-South recommends that “Linkage Enhancement Areas” should be in the order of 50 to 200 m-wide for “local” corridors and a minimum of 300 to 400 m-wide for “regional” corridors. Neither “local” nor “regional” corridors are defined in the North-South report. Finally, the North-South study indicates that “Interior Habitat Enhancement Areas” result in a minimum forest patch size of 10 to 25 ha for areas sensitive woodland species and a minimum patch size of 20 to 40 ha for area sensitive open country species.

There is also no explanation given as to: 1) when in the planning process these additional areas will be “evaluated”/defined, 2) how these are to be defined (i.e., based on what criteria), and 3) by whom they will be “evaluated”/defined (presumably this will be the responsibility of the City, although this is

not explicitly stated). At this point there is no indication whatsoever as to which wetlands will have a **"critical function zone" applied to it, or which woodlands will be subject to "enhancements to improve forest connectivity and interior woodland habitat"**. Regardless, it is expected that the extent of Enhancement Areas will ultimately be much greater than is presently depicted on Schedule 2.

Proposed policy 3.2.3.15 indicates that these areas are not depicted on Schedule 2 (presumably because they have yet to be identified) and that under a new policy 3.2.3.16 these areas, once identified, **"will be incorporated into the [NHN] as Core Features" without requiring an amendment to the Plan.**

It appears, therefore, that the inclusion of Enhancement Areas based on new terms (i.e., **"critical function zone of wetlands" and "woodland enhancements to improve forest connectivity and interior woodland habitat"**) will result in a redefinition of the NHN based on criteria that are not described in policy 3.2.3.13 of VOP 2010.

Given the discussion in section 7.01 of the NHN Study report (North-South May 2014), these **"future"** (but as yet unidentified) Enhancement Areas are expected to be very large and will therefore result in a significant expansion of the NHN. This is a very significant concern, as it not only adds to and redefines the constituent components of the NHN but raises considerable uncertainty as to the full extent of the lands that will ultimately appear as Core Features on Schedule 2. In our view Schedule 2 should be as definitive as possible, and not subject to substantive changes based on unknown future evaluations.

6. Policies 3.2.3.7, 3.2.3.11, 3.3.2.3, 3.3.3.3 and 3.3.3.4

In all of the above listed policies the wording has been changed from **"to the satisfaction of the City and in consultation with [emphasis added] the Toronto and Region and Conservation Authority"** to now read: **"to the satisfaction of the City and the Toronto and Region Conservation Authority"**. This goes beyond the corresponding ROP policies, which all use the words: **"in consultation with"**. The Region's language accurately reflects the TRCA's advisory role with respect to the interpretation and application of ROP policy and should be similarly applied to the VOP.

7. Policy 3.3.5.1 – Aquatic Biodiversity

Although the City is not intending to modify subparagraph b), we recommend that the current wording: **"...ensuring any permitted development maintains pre-development water balance..."** be followed by **"through the implementation best management practices to the satisfaction of the City in consultation with the TRCA."** If **"best management practices"** is not already a defined term in VOP 2010 it should be made one.

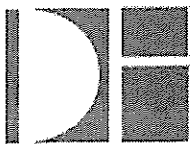
We trust that the City will give these comments due consideration when revising the above policies and finalizing VOP Schedules 2, 2a, 2b, and 2c. As always, we are available to meet with City staff to further discuss these matters, with the objective of achieving policy language that is clear and fair. Thank you for the opportunity to provide you with our comments.

Yours truly,
Beacon Environmental



Donald M. Fraser, M.Sc.
Principal

cc. John MacKenzie, City of Vaughan
Roy McQuillan, City of Vaughan
Block 42 Landowners Group



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c 14
Communication
CW: June 16/15
Item: 10

Please refer to: **Katarzyna Sliwa**
e-mail: katarzynas@davieshowe.com
direct line: 416.263.4511
File No. 702275

June 15, 2015

By E-Mail Only to jeffrey.abrams@vaughan.ca

Mr. Jeffrey Abrams
City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Mayor Bevilacqua and Council Members

Your Worship and Members of Council:

**Re: Committee of the Whole ("Committee") Meeting, June 16, 2015
Natural Heritage Network Study ("NHN Study")
Natural Heritage Network Inventory and Improvements
Study Completion and Recommended Amendment to the
Vaughan Official Plan 2010 (the "Proposed Amendments")
Teston Green Landowners Group ("Block 27")**

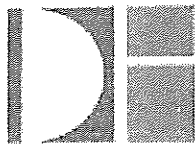
We write on behalf of Block 27 and its constituent landowner group members as listed in Schedule "A" to this letter.

Since the Committee's meeting on April 14, 2015 our clients and their consultants have had several meetings with City Staff. Progress was made with respect to eight matters – some minor text and definition revisions, and others more significant.

There remain four significant areas of disagreement. We respectfully ask that Staff be directed to continue to meet with our clients and our clients' consultants. We also ask that the Proposed Amendments, Compensation Protocol and NHN mapping be considered at the same time as part of a comprehensive Official Plan Amendment ("OPA").

Our clients' concerns are as follow:

- 1. Definition of Significant Valleylands and Corridors, 3.2.3.4:** Staff have treated all valleylands as "significant" without justification. In addition, valley "corridor" has been defined in a way that may result in extending it well beyond the physical limits of the valley.



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The only reference to significant valleylands in the Vaughan Official Plan 2010 is in the definition of "Valley and Stream Corridor" which indicates that further clarification will be provided through the NHN Study and future development applications. The NHN Study does not provide clarity or an explanation, technical or otherwise, for declaring all valleylands significant.

The City is required to provide this clarification by the *Provincial Policy Statement, 2014* ("PPS"). It differentiates between "valleylands" and "significant valleylands" (i.e., the latter exhibiting important physical/hydrological/ecological attributes and functions and representing the best examples in a given geographic area).

The *Natural Heritage Reference Manual* clearly states that "the identification and evaluation of significant valleylands based on the recommended criteria from the Ministry of Natural Resources is the responsibility of planning authorities". Staff are - without explanation or justification - treating all valleylands as significant in the context of the PPS, the *Oak Ridges Moraine Conservation Plan* ("ORMCP") and the *Greenbelt Plan*. This is a clear example of the NHN Study stepping outside of the terms of reference.

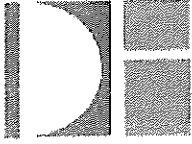
Therefore, inclusion of the following additional text at the end of policy 3.2.3.4 is unjustified and without demonstrated merit - that "All valley corridors in Vaughan are significant valleylands".

Furthermore, the TRCA's definition of "stream corridors" has been used by Staff; however, this is not the same as "permanent and intermittent streams" as defined by the Province. Stream corridors include "depressional features ... whether or not they contain a watercourse". Therefore a "stream corridor" goes well beyond the definition of a "permanent and intermittent stream" because it includes ephemeral drainage features, dry swales and agricultural rills.

The policy should mirror the corresponding *Greenbelt Plan* provision, if not word for word, then at least in intent. Our clients' consultants have recommended that policy 3.2.3.4. a) ii) be revised as follows to provide clarity:

- ii. a minimum 30 metre vegetation protection zone from the feature limit significant valleylands [assuming that these are differentiated from valleylands] and permanent and intermittent streams within the Oak Ridges Moraine and Greenbelt Plan Areas.

2. Compensation for Non-Significant Woodlands: Staff's recommendation requires compensation for non-significant woodlands (i.e. between 0.2 and 0.5 hectares in size) and indicates that there must be a "net gain" in woodland area. This is not consistent with the policies in the Region's Official Plan.



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With respect to policy 3.3.3.4, a definition of what would qualify as a net gain has been requested by our clients' consultants, as well as clarification regarding the meaning and intent of "Woodland compensation...vegetation protection zones." If the intent is that compensation will not be accepted within Provincial Plan areas, our clients strongly objects to this approach.

3. Language in the Proposed Amendments that Elevates an Advisory Agency, such as the TRCA, to a Quasi-Approval-Authority: This is apparent in the language in items 7, 16 and 17 of the Proposed Amendments.

For example, Item 7 requires that compensation be to the satisfaction of TRCA for alteration of several core features (e.g., woodlands) that are not within TRCA's legislated jurisdiction, which only relates to wetlands, watercourses and valleys. In addition, with the inclusion of references to publications such as the TRCA's *Living City Policies*, the City's environmental policies can be amended or added to as these documents change from time to time, without the benefit of public consultation or the appeal rights available under the *Planning Act*. The Official Plan is intended to be a clear statement of applicable policies and all relevant matters should be included in it.

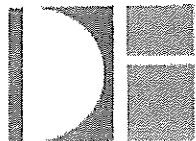
4. Compensation Protocol: Staff have indicated that additional studies are required to determine the Compensation Protocol, and have proposed to defer the question to the Secondary Plan process. We have not been provided with any explanation as to how this would occur. Our clients' position is that the Compensation Protocol, Proposed Amendments and NHN mapping must be considered and decided at the same time, and must be part of a comprehensive OPA.

At the April 14, 2015 Committee meeting we heard from Planning Commissioner Mackenzie that the Compensation Protocol could be ready for late fall or early winter. With the Proposed Amendments and OPA arising from the NHN Study scheduled to come back to Council in September for approval, we urge the Committee that the Compensation Protocol be dealt with at the same time. If required, the entire matter should briefly be deferred to ensure that the Compensation Protocol is included in and consistent with the OPA.

Our previous submissions to the Committee are attached for greater detail and convenience of reference.

We request that I be added to the list of delegates for the Committee of the Whole meeting.

Thank you for the continued opportunity to provide you with comments.



Davies
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Yours sincerely,
DAVIES HOWE PARTNERS LLP

Katarzyna Sliwa

encl. As above

copy: Ms. Dawne Jubb, Solicitor, City of Vaughan
Mr. John Mackenzie, Commissioner of Planning, City of Vaughan
Mr. Tony Iacobelli, Environmental Planner, City of Vaughan
Mr. Gerry Lynch, Cole Engineering Group Ltd.
Mr. Don Fraser, Beacon Environmental
Mr. John Bousfield, Bousfields Inc.
Clients

SCHEDULE "A"

BLOCK 27 LANDOWNER GROUP MEMBERS

Lormel Developments Ltd.

Di Poce Consulting Inc.

Keltree Developments Inc.

West Jane Developments Inc.

Gusgo Holdings Ltd.

Rosehollow Estates Inc.

Erica La Posta, Peter La Posta, Stephen Di Biase,
Adrian Di Biase, Eliana Di Biase

Vincenza Petricca

Heathfield Construction Ltd.

Keele Street Properties Limited

Giuseppe Battistella, Palmira Battistella

Ferrara Glade Investments Inc.

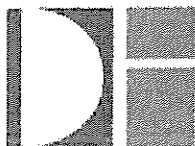
Bayview-Wellington Properties Inc.

Gold Park (Maple) Inc.

Teston Woods Development Corporation

Alderlane Estates Inc.

June 15, 2015



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c 15
Communication
cw: June 16/15
Item: 10

Please refer to: **Katarzyna Sliwa**
e-mail: katarzynas@davieshowe.com
direct line: 416.263.4511
File No. 702275

April 13, 2015

By E-Mail Only to jeffrey.abrams@vaughan.ca

Mr. Jeffrey Abrams
City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Mayor Bevilacqua and Council Members

Your Worship and Members of Council:

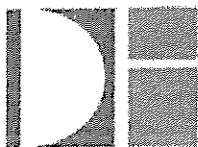
**Re: Item 1, Committee of the Whole Meeting, April 14, 2015
Natural Heritage Network Study ("NHN Study")
Natural Heritage Network Inventory and Improvements
Study Completion and Recommended Amendment to
Vaughan Official Plan 2010 (the "Proposed Amendments")
Teston Green Landowners Group ("Block 27")**

We write on behalf of Block 27. The purpose of this letter is to respectfully request that this matter be deferred to allow for discussions with our clients to continue.

There remain significant problems with the NHN Study and Proposed Amendments. They are detailed in the attached letter dated January 30, 2015.

Leaving aside substantive issues, we are very concerned about the speed with which the City is now proceeding. The NHN Study Staff Report and Proposed Amendments were only made available last week. This does not allow our clients or their consultants a fair and practical opportunity for review, never mind a dialogue with you or your Staff.

We acknowledge that our clients and their consultants have met with Staff and that there has been some progress, but the bottom line is not nearly enough. Many of the serious questions repeatedly raised by our clients' consultants continue to go unaddressed in the NHN Study as presently written. These concerns include a prohibitive impact of the viability of the proposed GO Station.



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Page 2

Also significant is the proposal to defer a decision on the NHN habitat compensation protocol (the "Protocol"), treat it separately and shield it from the scrutiny of the *Planning Act* public consultation process. The Protocol, Proposed Amendments and NHN mapping must be adopted at the same time, and must be part of a comprehensive and complete Official Plan Amendment.

We request that I be added to the list of delegates for the Committee of the Whole meeting.

Thank you for the opportunity to provide you with these comments.

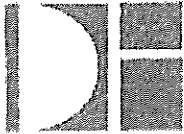
Yours sincerely,

DAVIES HOWE PARTNERS LLP

Katarzyna Sliwa

encl. As above

copy: Ms. Dawne Jubb, Solicitor, City of Vaughan
Mr. John Mackenzie, Commissioner of Planning, City of Vaughan
Mr. Tony Iacobelli, Environmental Planner, City of Vaughan
Mr. Gerry Lynch, Cole Engineering Group Ltd.
Mr. Don Fraser, Beacon Environmental
Mr. John Bousfield, Bousfields Inc.
Clients



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Please refer to: **Michael Melling**
e-mail: michaelm@davieshowe.com
direct line: 416.263.4515
File No. 702275

January 30, 2015

By E-Mail Only to *Dawne.Jubb@vaughan.ca*

Ms. Dawne Jubb
Solicitor
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Dear Ms. Jubb:

**Re: Teston Green (Block 27) Landowners Group ("Block 27")
Natural Heritage Network Study ("NHN Study")
Proposed Policy Amendments
Chapter 3, Figures 2A, 2B and 2C (the "Proposed Amendments")
Natural Heritage Network Schedule
Vaughan Official Plan 2010 ("VOP 2010")**

We write on behalf of Block 27.

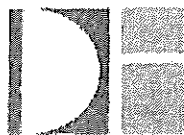
Our clients did not appeal the VOP 2010 despite significant concerns with Schedule 2 and some of the environmental policies in Chapter 3. Rather, they have been working co-operatively with City staff, by way of information exchange and meetings, since the VOP 2010 was adopted and the NHN Study was initiated.

On January 9, 2015 the City produced the Proposed Amendments. Our clients have very significant concerns with them.

These concerns, informed by our client's environmental consultant, Don Fraser of Beacon Environmental, and land use planner, John Bousfield of Bousfields Inc., are outlined in detail below.

Policy 3.3.2.2 Non-Evaluated/Other Wetlands

It is our understanding that the Proposed Amendments are intended to provide a clear distinction between:



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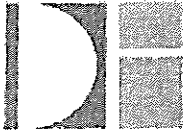
- (a) wetlands evaluated as Provincially Significant and those subject to the *Greenbelt Plan* and *Oak Ridges Moraine Conservation Plan* ("ORMCP"), on the one hand; and
- (b) all "other" wetlands (previously referred to as "non-evaluated" wetlands), on the other hand.

Policy 3.3.2.2 of the VOP 2010 says that "non-evaluated wetlands...shall be assessed for their significance, in accordance with criteria provided by the Province...". This appears to intend that, prior to any development or site alteration, a wetland be evaluated in accordance with the Ontario Wetland Evaluation System ("OWES").

Placing the onus on an individual landowner to evaluate a wetland under OWES is inappropriate, for the following reasons:

- the determination of a wetland's significance has historically been and should remain the responsibility of the Province, through the Ministry of Natural Resources and Forestry ("MNRF");
- OWES is not the method by which wetlands are assessed for function through the development process; rather, this is done through an Environmental Impact Study ("EIS");
- In almost all cases an OWES wetland evaluation involves examining other private properties to which access is not available; a single landowner cannot do a "wetland complexing" exercise that could encompass many discrete wetland units extending across numerous square kilometres (note: under OWES the evaluator cannot confine an evaluation to a given parcel of land with pre-imposed boundaries); and
- Evaluations under OWES are expensive and time consuming; in addition, the additional delays (and associated costs) incurred while waiting for an evaluation to be reviewed and accepted by the MNRF will add considerable time to an already lengthy and onerous process.

There is also a significant discrepancy with respect to evaluation standards. The "Discussion Notes" related to this policy say that the Proposed Amendments to the policy text are "in conformity with the Regional Municipality of York ["Region"] Official Plan 2010 ["ROP"] policy 2.2.39" and "consistent with ROP policy 2.2.42". However, the Proposed Amendments to policy 3.3.2.2 state that "other wetlands shall be assessed for their significance, in accordance with criteria provided by the Province..." [emphasis added]. This language goes well beyond that of the ROP policies.



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ROP policy 2.2.39 does not include the word "significance", and makes no reference to the application of provincial assessment criteria, or specifically OWES. Rather, it requires "an environmental impact study that determines their importance, functions and means of protection and/or maintenance of function, as appropriate, to the satisfaction of the approval authority"[emphasis added].

Our client's consultant team was involved with the ROP policy amendments and has confirmed that the phrase "shall be assessed for their significance" was removed from a previous version of ROP policy 2.2.39, in recognition that it was the specific intent of the Region to not require a formal wetland evaluation using OWES. The revised VOP 2010 policy 3.3.2.2 continues to include this requirement.

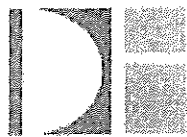
Furthermore, the new subparagraph (c) refers to "other" wetlands "evaluated in accordance with the Region Official Plan", which is misleading, since the Region does not require an "evaluation" *per se*. New subparagraph (c) also says that in cases where an "other" wetland is determined to be appropriate for protection, it "shall have a vegetation protection zone generally no less than 15 metres". This is different from the ROP requirement, which does not stipulate the width of a buffer for any "non-evaluated" or "other" wetlands. Rather, an EIS should determine if a wetland warrants protection and, if so, why and by what means. This may include provision of a vegetation protection zone; however, its width should not be prescribed, but rather dictated by site-specific conditions.

The revised VOP 2010 policy 3.3.2.2 is not in conformity with ROP policy 2.2.39. We request that the VOP 2010 reflect ROP policies 2.2.39 through 2.2.42.

Policies 3.3.3.3 and 3.3.3.4 Woodlands

Based on Beacon's review of the VOP 2010 policy 3.2.3.4 ("Core Features"), the results of the NHN Study, and many past discussions with City staff and North-South Environmental (the City's NHN Study consultant), it had consistently been understood that Core Feature woodlands were defined as those greater than 0.5 ha. This understanding was confirmed by the statement that "All woodland patches greater than 0.5 ha in size are included in the NHN"; found on page 29 of the Phase 2 – 4 *NHN Study Report* (prepared by North-South Environmental, May 2014). It is also confirmed by Schedule 2B (Natural Heritage Network – Woodlands), which maps all woodlands greater than 0.5 ha.

The Proposed Amendments to the VOP 2010 policy 3.3.3 appear to include all woodlands greater than 0.2 ha, as Core Features, rather than those that are greater than 0.5 ha. These 0.2 to 0.5 ha woodlands are not shown on Schedule 2b, nor do any woodlands falling into this size range appear as Core Features on Schedule



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2 – Natural Heritage Network (either in the current VOP 2010 or as proposed in the North-South Report).

Furthermore, the Proposed Amendments require additional study by a landowner to assess whether these smaller woodlands “meet tests of significance as set out in the ROP”. If these woodlands do not meet these tests they “can be modified subject to habitat compensation”. The proposed VOP 2010 policy 3.3.3.3 does not, however, provide any explanation or definition of “compensation”, other than to make reference to providing “a net ecological gain”. A clear indication of the compensation parameters is needed to provide certainty and clarity.

The inclusion of these smaller woodlands constitutes a major change from the original VOP 2010, specifically to policy 3.3.3. It not only broadens the definition of a Core Feature woodland, but places an unacceptable onus on a landowner.

One of the objectives identified by the City in revising policy 3.3.3.3 was to reflect the woodland policies in the ROP. However, the Proposed Amendments do not achieve this goal, but rather result in additional confusion.

Specifically, the “tests” described in the Proposed Amendments do not reflect ROP policies 2.2.48 and 2.2.49. The fundamental difference is that these ROP policies speak to the “tests” under which development or site alteration could occur within a “significant woodland” (i.e., a woodland greater than 0.5 ha.) situated within an Urban Area. The proposed policy language in 3.3.3.3 and 3.3.3.4 applies to non-significant (i.e., 0.2 to 0.5 ha.) woodlands and does not permit development or site alteration in any woodland deemed “significant” under the Region’s definition (i.e., greater than 0.5 ha.).

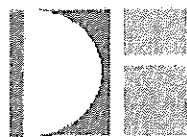
Finally, it does not appear that there are any circumstances under which development or site alteration could occur within all or a portion of a woodland greater than 0.5 ha. (notwithstanding the few exceptions listed under proposed VOP 2010 policy 3.2.3.7), even though ROP policy 2.2.49 does permit this in certain circumstances.

For the above reasons any consideration of woodlands 0.2 to 0.5 ha. in size as Core Features must be excluded. It was clearly not the intent of the ROP, the VOP 2010 or the conclusions of the NHN Study to include them.

Other Proposed Policy Revisions

Our clients also have concerns with a number of the other policies listed in the City’s Table. These include, but are not limited to the following:

- i) **Policy 3.2.3.4 and Definitions:** It is unclear how the Minimum Vegetation Protection Zones (“MVPZs”) associated with “valley and stream corridors”



Davies
Howe
Partners
LLP

relate to MVPZs applied to other aquatic features addressed in the VOP 2010 (e.g., "sensitive surface water features", valleylands, "headwater drainage features", "waterbodies", watercourses, intermittent and permanent stream, seepage areas and springs, etc.). In general, there are far too many terms used to describe water-related features, many of which are not defined in the VOP 2010. This creates overlap and confusion.

Additionally, clarification is needed as it relates to the MVPZ within and outside the *Greenbelt Plan* and *ORMCP* areas. As the policy reads it can be interpreted that the MVPZ from a feature within either the *Greenbelt Plan* or *ORMCP* areas could extend beyond the *Greenbelt Plan* or *ORMCP* boundary, thus creating an additional buffer beyond the *Greenbelt Plan* or *ORMCP*. The boundaries of the *Greenbelt Plan* and *ORMCP* have been fixed for a significant time with the express intention of protecting certain natural features. If there is a feature within the boundary, as set by the Province, then the *Greenbelt Plan* or *ORMCP* boundary should be the buffer limit. The language contained in the policy must provide clarity on this from the outset.

- ii) **Policy 3.2.3.11:** Clarification is required as to the meaning of "modifications" to Core Feature boundaries and under what circumstances modifications can occur.
- iii) **Policies 3.2.3.13 to 3.2.3.15:** Clarification is also required as to the meaning of "critical function zone of wetlands" and "woodland enhancement" (neither of which are defined terms) in the context of "Enhancement Areas". There is no explanation given as to how these are to be defined and to which wetlands/woodlands they will apply. Proposed policy 3.2.3.15 indicates that these areas are not depicted on Schedule 2 (presumably because they have yet to be identified) and that under a new policy 3.2.3.16 these areas, once identified, "will be incorporated into the [NHN] as Core Features" without requiring an amendment to the Plan. This is a significant concern as it raises undesirable uncertainty as to the full extent of the lands that will ultimately appear as Core Features on Schedule 2.
- iv) **Policies 3.2.3.7, 3.2.3.11, 3.3.2.3, 3.3.3.3 and 3.3.3.4:** In all of these policies the wording has been changed to require "the satisfaction of the City and the Toronto and Region Conservation Authority" rather than "the satisfaction of the City in consultation with [emphasis added] the Toronto and Region and Conservation Authority". This goes beyond the corresponding ROP policies, which all use the words "in consultation with". The Region's language accurately reflects the TRCA's advisory role with respect to the interpretation and application of ROP policy and should be similarly utilized in the VOP 2010.



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LLP

v) **Proposed Supplemental Graphics to Figure 2, Natural Heritage System:** A detailed examination of the collective impacts of proposed Figures 2A, 2B and 2C has revealed unacceptable consequences for the realization of:

- a cohesive, intensified Mobility Hub surrounding a new Go Transit Station in the northeast;
- a compact, walkable neighbourhood in the southeast;
- east/west connectivity in the centre; and
- the wise use of a limited supply of buildable and serviceable tablelands.

As stated above, our clients had agreed not to appeal the VOP 2010 but rather to continue to work with City staff to address their concerns. They are frustrated that the serious issues repeatedly raised by their consultant team continue to go unaddressed.

We therefore request a meeting with City staff to further discuss these concerns, with the objective of achieving policy language that is clear and fair.

Thank you for the ongoing opportunity to provide you with our comments.

Yours sincerely,
DAVIESHOWEPARTNERSLLP

Michael Melling
MWM:KS

copy: Client
Mr. Don Fraser, Beacon Environmental
Mr. John Bousfield, Bousfields Inc.
Mr. Gerry Lynch, Cole Engineering Group Ltd.



LOOPSTRA NIXON LLP
BARRISTERS AND SOLICITORS

c 16
Communication
CW: <u>June 15/16</u>
Item: <u>10</u>

Quinto M. Annibale*
***Quinto Annibale Professional Corporation**
Direct Line: 416-748-4757
E-mail: qannibale@loonix.com

June 15, 2015

By E-Mail Only to jefferey.abrams@vaughan.ca

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Your Worship Maurizio Bevilacqua and Members of Council

Dear Your Worship and Members of Council:

Re: Item 10: Committee of the Whole Meeting, June 16, 2015
Natural Heritage Network Inventory and Improvements Study Completion and Recommendations
Amendment to the Vaughan Official Plan, 2010
Lormel Developments Ltd.
Part of Lots 28 & 29, Concession 4, Parts 1, 2, & 3 on plan 65R32753, City of Vaughan
11273 Jane Street, City of Vaughan

I am the solicitor for Lormel Developments Ltd. ("Lormel"). Lormel is the owner of approximately 52.6 hectares of land located in Block 27 of the City of Vaughan (the "City"), legally described as Part of Lots 28 & 29, Concession 4, Parts 1, 2, & 3 on plan 65R32753, City of Vaughan and municipally known as 11273 Jane Street, City of Vaughan.

Lormel has been actively involved in the natural heritage network study process ("NHN Study"), working with City staff and attending at Council meetings and public meetings both as a member of the Block 27 – Teston Green Landowners Group and as an individual property owner.

Lormel has had an opportunity to review the submissions of the Block 27 Landowners Group and the Block 41 Landowners Group Inc. Lormel has similar concerns to those raised in said submissions and supports the recommendations therein. Lormel will continue to monitor progress made and will provide submissions and recommendations as necessary.

My client remains hopeful that its concerns can be resolved and looks forward to continuing to work with the City respecting this matter.

Should you have any questions with respect to the foregoing, please do not hesitate to contact the undersigned.



Yours truly,

LOOPSTRA NIXON LLP

Per: 

Quinto M. Annibale

cc John MacKenzie, Commissioner of Planning
cc Client



LOOPSTRA NIXON LLP

BARRISTERS AND SOLICITORS

c 17
Communication
CW: <u>June 15/16</u>
Item: <u>10</u>

Quinto M. Annibale*
*Quinto Annibale Professional Corporation
Direct Line: 416-748-4757
E-mail: qannibale@loonix.com

June 15, 2015

By E-Mail Only to jefferey.abrams@vaughan.ca

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Your Worship Maurizio Bevilacqua and Members of Council

Dear Your Worship and Members of Council:

**Re: Item 10: Committee of the Whole Meeting, June 16, 2015
Natural Heritage Network Inventory and Improvements Study Completion and
Recommendations
Amendment to the Vaughan Official Plan, 2010
Kirbywest Ltd.
Part of the East Half of Lot 30, Concession 6, City of Vaughan
3893 Kirby Road, City of Vaughan**

I am the solicitor for Kirbywest Ltd. ("Kirbywest"). Kirbywest is the owner of approximately 42 hectares of land located in Block 41 of the City of Vaughan (the "City"), legally described as Part of the East Half of Lot 30, Concession 6, City of Vaughan and municipally known as 3893 Kirby Road, City of Vaughan.

Kirbywest has been actively involved in the natural heritage network study process ("NHN Study"), making written submissions, working with City staff, and attending at Council meetings and public meetings both as a member of the Block 41 Landowners Group Inc. and as an individual property owner.

Kirbywest has had an opportunity to review the submissions of the Block 41 Landowners Group Inc. as well as the Block 27 – Teston Green Landowners Group and Kirbywest has similar concerns to those raised in said submissions and supports the recommendations therein. Kirbywest will continue to monitor progress made and will provide submissions and recommendations as necessary.

My client remains hopeful that its concerns can be resolved and looks forward to continuing to work with the City respecting this matter.

Should you have any questions with respect to the foregoing, please do not hesitate to contact the undersigned.



Yours truly,

LOOPSTEIN & NIXON LLP

Per: 

Quinto M. Annibale

cc John MacKenzie, Commissioner of Planning
cc Client

Magnifico, Rose

c 18
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

From: Cam <cam.milani@milanigroup.ca>
Sent: Monday, June 15, 2015 3:28 PM
To: Clerks@vaughan.ca
Cc: Bevilacqua, Maurizio; Di Biase, Michael; Rosati, Gino; Ferri, Mario; Shefman, Alan; Racco, Sandra; DeFrancesca, Rosanna; Carella, Tony; Iafrate, Marilyn
Subject: Natural Heritage Network Item CW June 16th
Attachments: Schedule 2.pdf; aerial map copyb.pdf; Map showing Natural Linkage Area.pdf; img-615150601-0001.pdf; img-615150610-0001.pdf; img-615151357-0001.pdf; img-615151833-0001.pdf

Dear Members of Committee and Council,

With respect to the above noted item, we still continue to have concerns as outlined in previous correspondences. All of our concerns continue to be unanswered and unaddressed. Staff has not even bothered to meet with us or even have a discussion over the phone despite our expressed concerns and Council direction to address concerns raised in the communications received.

We do not agree with the proposed mapping or wording on a citywide basis. They do not respect the currently approved positions of Vaughan Council, the OMB or the Minister of Municipal Affairs or good environmental management practices or what is reflective on the ground.

Our objections are not limited to the following examples, but they are illustrative of specific concerns.

1. The 250 Acres known as the Rizmi Lands as outlined in the attached mapping, which are the subject of an appeal currently before the OMB and stayed by the Minister of Municipal Affairs, enjoys the benefit of a Site Specific policy in the current VOP 2010 approved by Vaughan Council. Such site specific policy is not reflected in the NHN mapping as proposed. Our own environmental studies more accurately reflect the boundaries of any features that may apply to these lands pursuant to those appeals.
2. Adjacent lands to the Rizmi lands are also not reflective of our own environmental studies that indicate different appropriate mapping. See attached 40 Acre parcel.
3. The Minister of Municipal Affairs issued an Order for designation and zoning as attached. Such Order is also not reflected in the mapping or text. Our own environmental studies of those lands also reflects a different feature boundary.
4. Vaughan Council recently took a position with respect to the lands known as the 240 Grand Trunk avenue, such positions are also not reflected in the mapping. See attached mapping for parcel identification and reference.
5. The current VOP 2010 designates lands on part lot 9 concession 9 as Employment in the attached mapping and we object to any mapping that contradicts those designations.
6. The NE corner of Dufferin and Teston Rd as outlined in the attached mapping are inappropriately identified as having features in need of protection, which we disagree with. All lands in the countryside area of the attached map are devoid of any feature whatsoever.
7. All lands owned by the TRCA should be included in the mapping as appropriate candidates for the Natural Heritage Network.

Yours Truly,
Cam Milani
Milani Group

SCHEDULE E

THIS SCHEDULE HAS NOT BEEN APPROVED



SCHEDULE 2 Natural Heritage Network

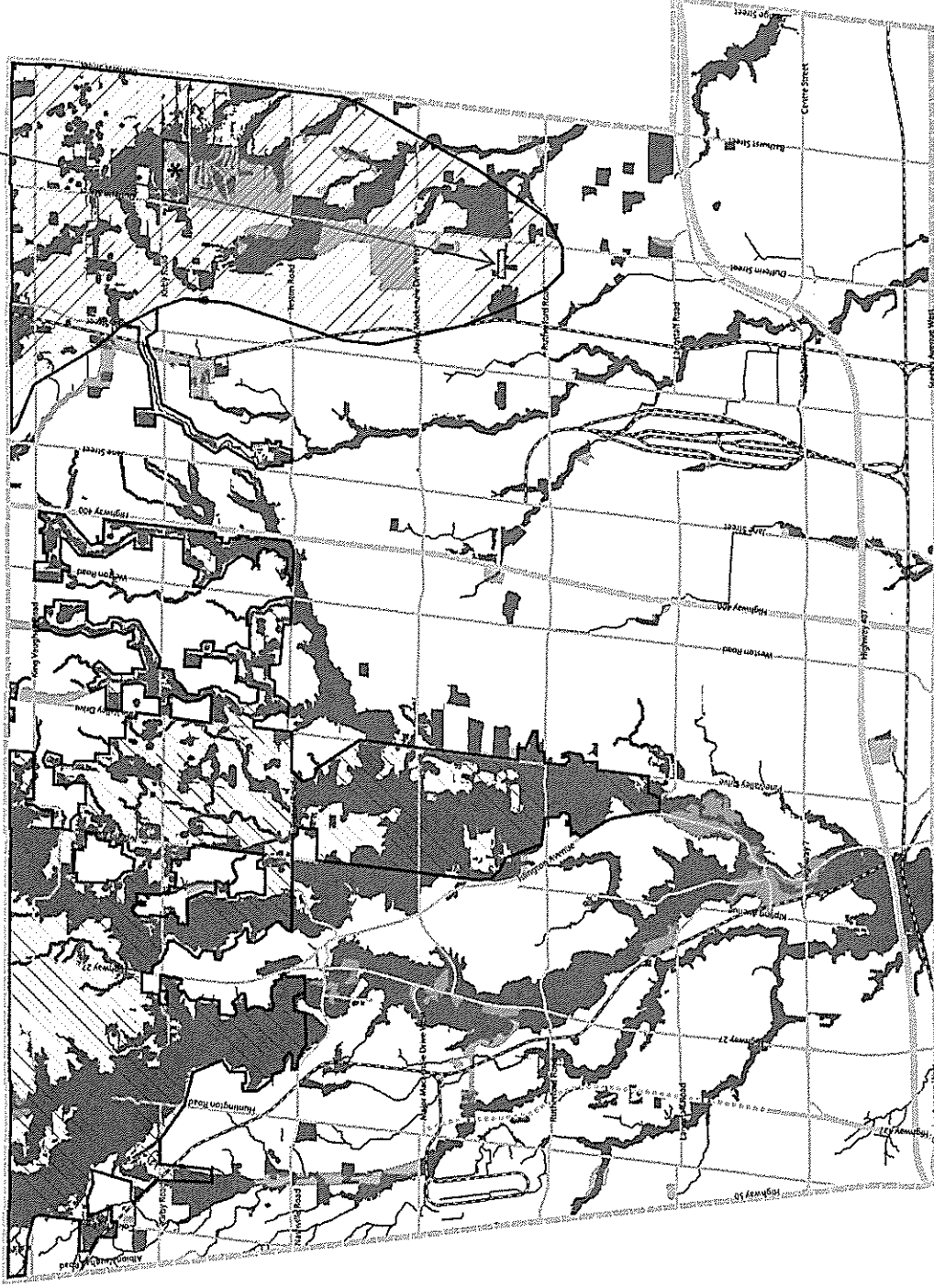
- Core Features
- Enhancement Areas
- Built-Up Valley Lands
- Greenbelt Plan Area¹
- Oak Ridges Moraine Conservation Plan Area¹
- Minister's Decision on ORMCP Designation Deferred
- Municipal Boundary

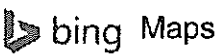
This Schedule is subject to change based on the results of the Natural Heritage Network Study, which will define the Natural Heritage Network by both its natural features and as a natural heritage system in accordance with the Provincial Policy Statement.

The policy text in Chapter 3 prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network.

¹ See Schedule 4 for limits and land use information of the Greenbelt Plan Area and Oak Ridges Moraine Conservation Plan Area

Remove Core Features and
Enhancement Areas





Approximately 40 Acres



SCHEDULE A

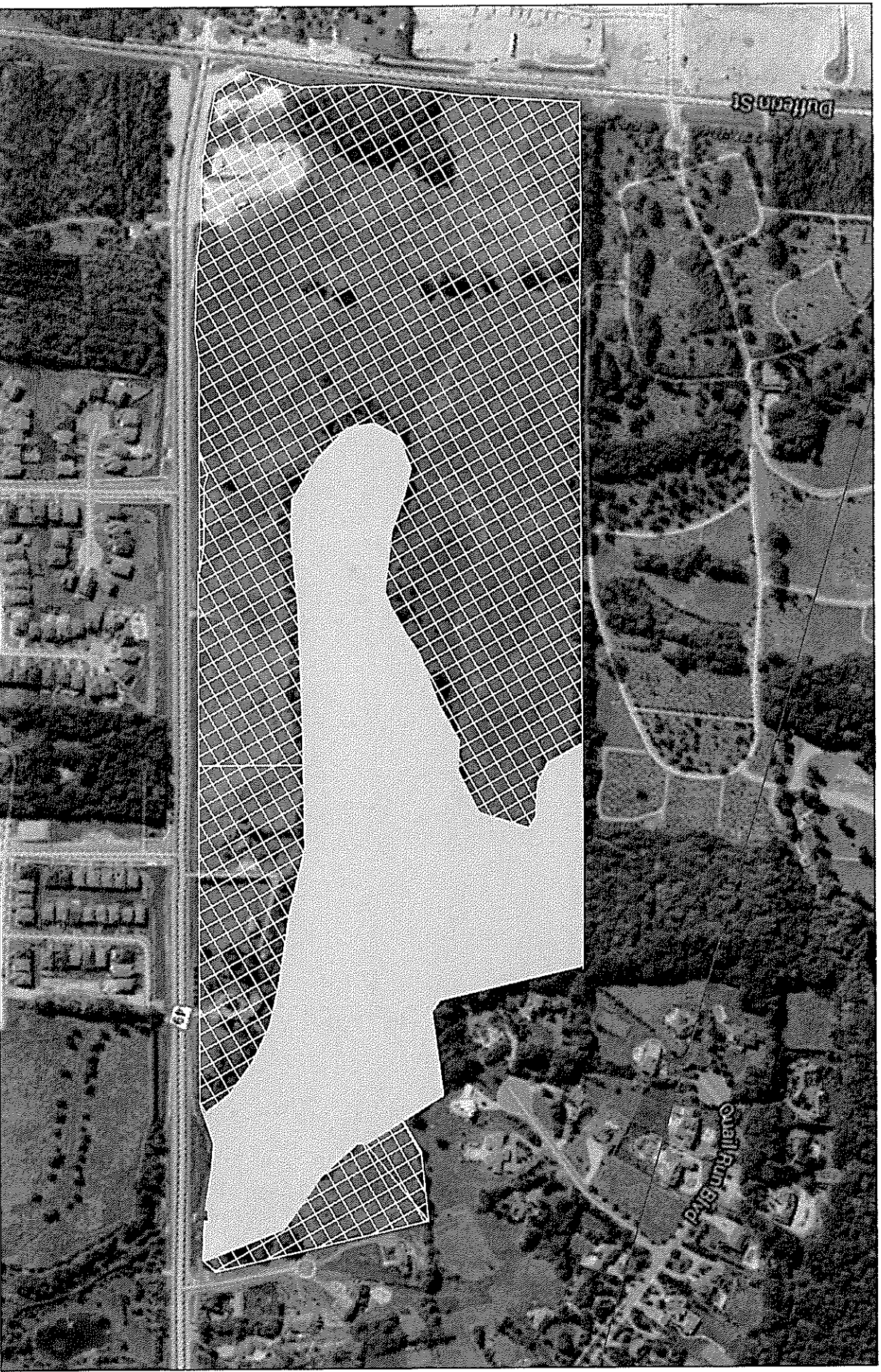


— Lot Boundary (Approximate)



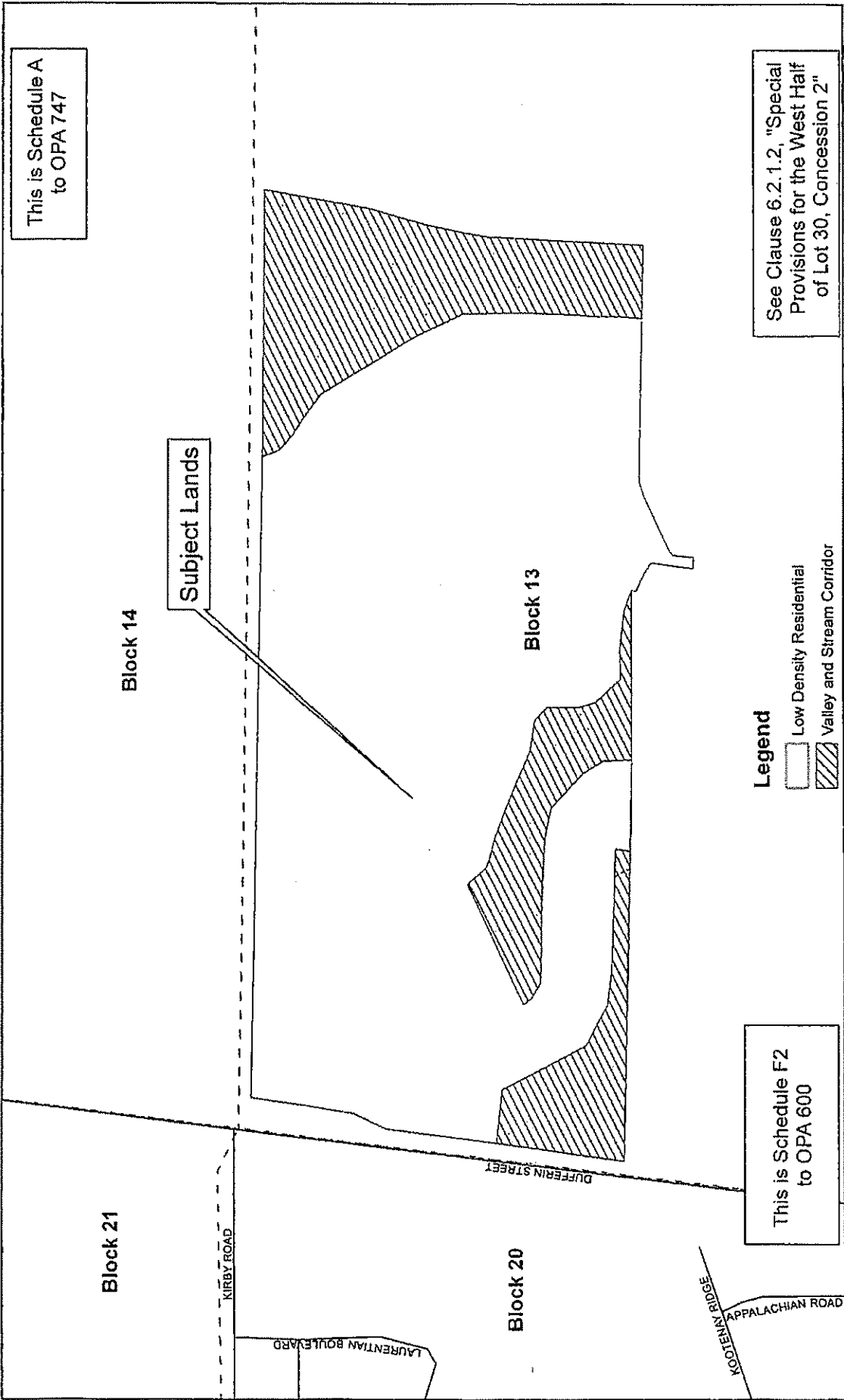
Pst Lot 9 Concession 9

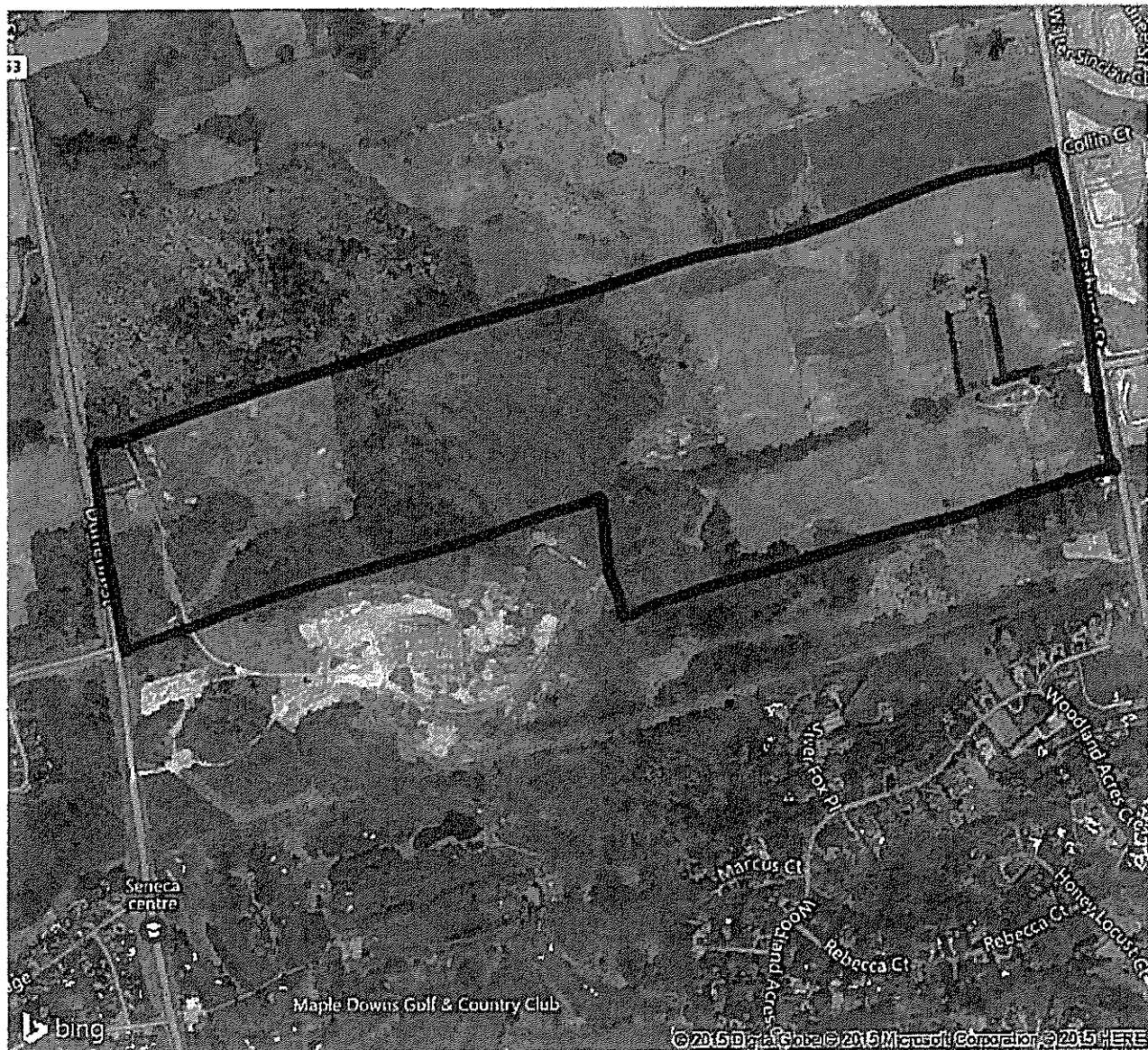
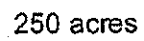




Final confirmation of NHS boundaries will be required to determine final developable area

■ Natural Linkage Area (approx. 15 ha.)
■ Countryside Area (approx. 29 ha.)







**WESTON
CONSULTING**

planning + urban design

c 19
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

Mayor and Members of Council

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario L6A 1T1

June 15, 2015

File 5303-2

Dear Mayor and Members of Council,

RE: Committee of the Whole Report No 26, June 16, 2015 – Item 10 – NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS, STUDY COMPLETION AND RECOMMENDATIONS AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010 FILE #25.5.4 WARDS 1 TO 5

We have reviewed the above referenced staff report and attachments on behalf of our client, Woodbridge Park Ltd. with respect to their land holdings near Steeles Avenue West and Kipling Avenue of approximately 5.99 hectares (14.8 acres) in area.

Weston previously provided input through a letter dated June 12, 2014 (attached) requesting the subject lands be removed from the Natural Heritage Network based on an Environmental Impact Study prepared by Beacon Environmental. When this matter was previously brought to the Committee on April 14, 2015, the 'Natural Heritage Network Inventory and Improvements' report recommended the following with respect to our comments:

- *"The drainage feature at the north end of the parcel and south of the railway is removed from the Core Features. TRCA has evaluated the drainage feature and agreed to remove it from the regulation area.*
- *"The parcel is removed from the significant wildlife habitat (SWH) mapping and from the Core Features. Lands to the north of the railway remain as SWH and Core Features."*
- *"As noted in the scoped EIS provided in the submission, the lands do not qualify as SWH for Shrub/Early Successional Breeding Bird habitat."*

Despite the recommendation prepared for Committee of the Whole, Schedule 2C of the Phase 2-4 Natural Heritage Network Study City of Vaughan dated March 2015 continued to designate the subject lands as 'SWH Shrub/Early Successional Breeding Birds.'

Weston then submitted another letter on April 14, 2015, noting that Schedule '2C' still designates the subject property 'SWH Shrub Successional Breeding Birds' and requested that the schedule be updated to remove this designation.

In the latest staff report, attachment 2 summarizes proposed changes to the March 30, 2015 report including a revised Schedule '2C'. The proposed new schedule continues to designate the subject lands as 'SWH Shrub/Early Successional Breeding Birds.'

We note that applications have been submitted and are being processed to amend the Official Plan and Zoning By-law to permit a mixed use development on the subject lands (OP.14.003 & Z.14.024). Through the process of reviewing our development applications, the TRCA, City of Vaughan and Region of York have all provide comments and none have raised any issues regarding the site being significant wildlife habitat for Shrub Successional Breeding Birds.

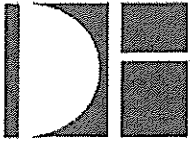
We request that any future amendment to the Official Plan ensure that the subject property is not designated as part of the Natural Heritage System.

Yours truly,
Weston Consulting
Per:



Tim Jessop, MES, MCIP, RPP
Associate

- c. P. Smith, Woodbridge Park Ltd. (via email only)
- T. Iacobelli, City of Vaughan (via email only)
- M. Caputo, City of Vaughan (via email only)
- K. Ursic, Beacon Environmental (via email only)



Davies
Howe
Partners
LLP

Lawyers

The Fifth Floor
99 Spadina Ave
Toronto, Ontario
M5V 3P8

T 416.977.7088
F 416.977.8931
davieshowe.com

June 15, 2015

By E-Mail Only to *jeffrey.abrams@vaughan.ca*

Mr. Jeffrey Abrams
City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Mayor Bevilacqua and Council Members

Your Worship and Members of Council:

**Re: Committee of the Whole ("Committee") Meeting, June 16, 2015
Natural Heritage Network Study ("NHN Study")
Natural Heritage Network Inventory and Improvements
Study Completion and Recommended Amendment to the
Vaughan Official Plan 2010 (the "Proposed Amendments")
Block 42 Landowners Group Inc. ("Block 42")**

We write on behalf of Block 42.

Since the Committee's meeting on April 14, 2015 our client's consultant has had several meetings with City Staff. Progress was made with respect to eight matters – some minor text and definition revisions, while others more significant.

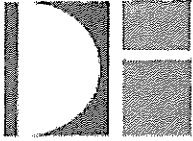
There remain four significant areas of disagreement. We respectfully ask that Staff be directed to continue to meet with our client's consultant. We also ask that the Proposed Amendments, Compensation Protocol and NHN mapping be considered at the same time as part of a comprehensive Official Plan Amendment ("OPA").

Our client's concerns are as follow:

- 1. Definition of Significant Valleylands and Corridors, 3.2.3.4:** Staff have treated all valleylands as "significant" without justification. In addition, valley "corridor" has been defined in a way that may result in extending it well beyond the physical limits of the valley.

c_20
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

Please refer to: **Katarzyna Sliwa**
e-mail: *katarzynas@davieshowe.com*
direct line: 416.263.4511
File No. 702921



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The only reference to significant valleylands in the Vaughan Official Plan 2010 is in the definition of "Valley and Stream Corridor" which indicates that further clarification will be provided through the NHN Study and future development applications. The NHN Study does not provide clarity or an explanation, technical or otherwise, for declaring all valleylands significant.

The City is required to provide this clarification by the *Provincial Policy Statement, 2014* ("PPS"). It differentiates between "valleylands" and "significant valleylands" (i.e., the latter exhibiting important physical/hydrological/ecological attributes and functions and representing the best examples in a given geographic area).

The *Natural Heritage Reference Manual* clearly states that "the identification and evaluation of significant valleylands based on the recommended criteria from the Ministry of Natural Resources is the responsibility of planning authorities". Staff are - without explanation or justification - treating all valleylands as significant in the context of the PPS, the *Oak Ridges Moraine Conservation Plan* ("ORMCP") and the *Greenbelt Plan*. This is a clear example of the NHN Study stepping outside of the terms of reference.

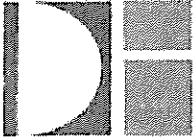
Therefore, inclusion of the following additional text at the end of policy 3.2.3.4 is unjustified and without demonstrated merit - that "All valley corridors in Vaughan are significant valleylands".

Furthermore, the TRCA's definition of "stream corridors" has been used by Staff; however, this is not the same as "permanent and intermittent streams" as defined by the Province. Stream corridors include "depressional features ... whether or not they contain a watercourse". Therefore a "stream corridor" goes well beyond the definition of a "permanent and intermittent stream" because it includes ephemeral drainage features, dry swales and agricultural rills.

The policy should mirror the corresponding *Greenbelt Plan* provision, if not word for word, then at least in intent. Our clients' consultants have recommended that policy 3.2.3.4. a) ii) be revised as follows to provide clarity:

- ii. a minimum 30 metre vegetation protection zone from the feature limit significant valleylands [assuming that these are differentiated from valleylands] and permanent and intermittent streams within the Oak Ridges Moraine and Greenbelt Plan Areas.

2. Compensation for Non-Significant Woodlands: Staff's recommendation requires compensation for non-significant woodlands (i.e. between 0.2 and 0.5 hectares in size) and indicates that there must be a "net gain" in woodland area. This is not consistent with the policies in the Region's Official Plan.



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With respect to policy 3.3.3.4, a definition of what would qualify as a net gain has been requested by our clients' consultants, as well as clarification regarding the meaning and intent of "Woodland compensation...vegetation protection zones." If the intent is that compensation will not be accepted within Provincial Plan areas, our client strongly objects to this approach.

3. Language in the Proposed Amendments that Elevates an Advisory Agency, such as the TRCA, to a Quasi-Approval-Authority: This is apparent in the language in items 7, 16 and 17 of the Proposed Amendments.

For example, Item 7 requires that compensation be to the satisfaction of TRCA for alteration of several core features (e.g., woodlands) that are not within TRCA's legislated jurisdiction, which only relates to wetlands, watercourses and valleys. In addition, with the inclusion of references to publications such as the TRCA's *Living City Policies*, the City's environmental policies can be amended or added to as these documents change from time to time, without the benefit of public consultation or the appeal rights available under the *Planning Act*. The Official Plan is intended to be a clear statement of applicable policies and all relevant matters should be included in it.

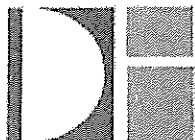
4. Compensation Protocol: Staff have indicated that additional studies are required to determine the Compensation Protocol, and have proposed to defer the question to the Secondary Plan process. We have not been provided with any explanation as to how this would occur. Our client's position is that the Compensation Protocol, Proposed Amendments and NHN mapping must be considered and decided at the same time, and must be part of a comprehensive OPA.

At the April 14, 2015 Committee meeting we heard from Planning Commissioner Mackenzie that the Compensation Protocol could be ready for late fall or early winter. With the Proposed Amendments and OPA arising from the NHN Study scheduled to come back to Council in September for approval, we urge the Committee that the Compensation Protocol be dealt with at the same time. If required, the entire matter should briefly be deferred to ensure that the Compensation Protocol is included in and consistent with the OPA.

Our previous submission to the Committee are attached for greater detail and convenience of reference.

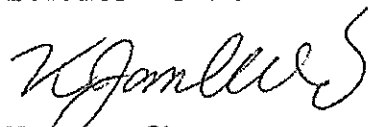
We request that I be added to the list of delegates for the Committee of the Whole meeting.

Thank you for the continued opportunity to provide you with comments.



Davies
Howe
Partners
LLP

Yours sincerely,
DAVIES HOWE PARTNERS LLP


per: Katarzyna Sliwa

encl. As above

copy: Ms. Dawne Jubb, Solicitor, City of Vaughan
Mr. John Mackenzie, Commissioner of Planning, City of Vaughan
Mr. Tony Iacobelli, Environmental Planner, City of Vaughan
Mr. Jim Kennedy, KLM Planning
Mr. Don Fraser, Beacon Environmental
Clients

C <u>21</u>
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

DATE: JUNE 16, 2015

TO: MAYOR AND MEMBERS OF COUNCIL

FROM: JOHN MACKENZIE, COMMISSIONER OF PLANNING

SUBJECT: COMMUNICATION

ITEM #10 – COMMITTEE OF THE WHOLE – JUNE 16, 2015

**NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS,
STUDY COMPLETION AND RECOMMENDATIONS
AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010
FILE #25.5.4
WARDS 1 TO 5**

**RESPONSE TO COMMUNICATION C4 – DATED: JUNE 15, 2015
VAUGHAN 400 NORTH LANDOWNERS GROUP
BLOCKS 34W AND 35**

In response to the above noted correspondence, staff can advise Council as follows:

VOP 2010 provides that the policies of a Secondary Plan in Volume 2 prevail over the policies of Volume 1 where the Volume 1 policies conflict. This is on the basis of Policy 10.2.1.8, which states:

Lands subject to policies found in Volume 2 of VOP 2010, (like the Vaughan 400 West Employment Area Lands – OPA 637)) are identified on Schedule 14. For the purposes of this Plan, references to Schedule 14 include Schedules 14-A through 14-C inclusive. Volume 2 policies are derived from area-specific land-use planning studies or from the processing of specific development applications and, as such, provide more specific direction than found in Volume 1 policies. Where the policies of Volume 1 of this Plan conflict with policies in Volume 2 of this Plan, the Volume 2 policies shall prevail.

Based on this provision the OPA 637 area remains subject to OPA 450 for the Employment Areas and OPA 600 for the Residential Areas, except as may be provided in OPA 637. OPA 637 was approved by the Ontario Municipal Board in 2011 and was incorporated into Volume 2 of VOP 2010 by the OMB as part of the VOP 2010 approval process. This includes the pre-existing policies remaining in place, including the Block Plan approval processes, the required Master Environmental/Servicing Plans and underlying Environmental Policies. As such, all implementing development applications in this area would be processed under OPAs 450 and 600 as amended by OPA 637.

In regard to the Natural Heritage Network Study, some environmental features are shown on the new Schedules outside the Greenbelt Plan in the OPA 637 area. They are shown on the new Schedules 2A, 2B and 2C, in the subject staff report. A note included on these schedules provides that:

Information shown on Schedules 2A, 2B and 2C depict the type of natural features that comprise the Core Features of the Natural Heritage Network. Not all natural features depicted on Schedules 2A, 2B and 2C are included as Core Features. Schedules 2A, 2B and 2C inform the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform

the Natural Heritage Network, which will be finalized based on more detailed studies, such as through the development application process or a municipal comprehensive review.

Therefore, the existence of these resources is identified and the degree to which any are preserved, required to be determined through an analysis undertaken in accordance with OPA 637 and the policies of either OPA 450 or OPA 600, depending on the location.

Respectfully submitted,



JOHN MACKENZIE
Commissioner of Planning

/lm

Copy To: Steve Kanellakos, City Manager
Jeffrey A. Abrams, City Clerk
Roy McQuillin, Acting Director of Policy Planning

Subject:

FW: Committee of the Whole - Natural Heritage Network Study

c <u>22</u>
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

-----Original Message-----

From: Deb Schulte [mailto:deborahschulte@rogers.com]

Sent: Tuesday, June 16, 2015 8:47 AM

To: Bevilacqua, Maurizio; Di Biase, Michael; Ferri, Mario; Rosati, Gino; Iafrate, Marilyn; Carella, Tony; Racco, Sandra; Shefman, Alan; DeFrancesca, Rosanna; Abrams, Jeffrey

Cc: MacKenzie, John

Subject: Committee of the Whole - Natural Heritage Network Study

Mr. Abrams,

Could you please add this to Communications for the Item on the Natural Heritage Network Study for today's meeting, as I am unable to attend?

Thanks You.

Deb

To: Mayor and Members of Council

I want to thank you for ensuring this important item gets adopted before the summer break. I am away in Ottawa for Candidate M.P. training or I would be at Committee to address this very important issue. As you know there have been many engaged residents on this issue who have attended multiple sessions over the past three years. I am hoping that several can address you today, however I know many are working and will be unable to attend again. Please review their comments from the past Committee sessions on this item.

It has been a long process with much fact finding and adjustment of lines, as staff has tried to achieve accuracy and balance the many interests on the last remaining green lands in Vaughan. Achieving the important balance will ensure a healthy, sustainable future for Vaughan and keep it as one of the most attractive places to live in the GTA. I am hopeful you will adopt the recommendations of staff as they have worked very hard to achieve that balance, despite the heavy lobbying from many in the development industry.

As we intensify and Vaughan looks more like what is arising at Bathurst and Centre (the Region has mandated we develop our new community areas at 70 people and jobs per hectare), we will depend even more heavily on the remaining green lands to absorb and manage the storm water, filter our air, provide a shrinking habitat for wildlife and provide the much needed passive recreation space for our ever growing population. Please recognize how much our residents care about our green lands and support the staff recommendation.

Best Regards!

Deb Schulte



June 16, 2015

Mr. Jeffrey Abrams, City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L4A 1T1

C	<u>23</u>
Communication	
CW:	<u>June 16/15</u>
Item:	<u>10</u>

Attention: Mayor Bevilacqua and Members of Council

Your worship and Members of Council:

**Re: Natural Heritage Study
Amendments to the Vaughan Official Plan 2010
June 16, 2015 Committee of the Whole**

We are landowners in Block 42 and object to the adoption of certain policies as currently recommended in the Natural Heritage Study.

There are several issues that remain unresolved, but we particularly object to the depiction of Woodlands that fall below the regional criteria of 0.5 ha in area and the notion compensation is required, even if the Woodlands are deemed non-significant. The original drafts of the NHN study recommended the 0.5 ha criteria, but somewhere in the process it was reduced to 0.2 ha. The compensation policies have not been addressed in the NHN and therefore we ask that Council adopt compensation principles at the same time the OPA is approved.

In addition, the NHN study does not distinguish a hierarchy of valleylands and asserts all valleylands are "significant" regardless of features or function which has a significant implication for future buffer requirements.

The Official Plan Amendment dealing with the Natural Heritage System will be heard by Council in September. We urge Council to direct staff to develop all the necessary policies including compensation protocols and have everything heard at once in a more comprehensive fashion.

Yours truly,

Azure Woods Home Corp.
Lazio Farms Holdings Inc.

Daniel Belli,
Vice President, Real Estate



Tel: 416.736.8854
Fax: 905.660.7650

*



Tel: 416.798.1127
Fax: 416.798.2159

*



Tel: 416.798.2420
Fax: 905.653.4074



June 16, 2015

Mr. Jeffrey Abrams, City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L4A 1T1

c <u>24</u>
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

Attention: Mayor Bevilacqua and Members of Council

Your worship and Members of Council:

**Re: Natural Heritage Study
Amendments to the Vaughan Official Plan 2010
June 16, 2015 Committee of the Whole**

We are landowners in Block 27 and object to the adoption of certain policies as currently recommended in the Natural Heritage Study.

The Official Plan Amendment dealing with the Natural Heritage System will be heard by Council in September. We urge Council to direct staff to develop all the necessary policies including compensation protocols and have everything heard at once in a more comprehensive fashion.

Yours truly,

Ferrara Glade Investments Inc.
Heathfield Construction Ltd.

Daniel Belli,
Vice President, Real Estate



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*



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*



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June 16, 2015

Mr. Jeffrey Abrams, City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L4A 1T1

c <u>25</u>
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

Attention: Mayor Bevilacqua and Members of Council

Your worship and Members of Council:

**Re: Natural Heritage Study
Amendments to the Vaughan Official Plan 2010
June 16, 2015 Committee of the Whole**

We are landowners in Block 34 West and Block 35 East, located in the Employment area / OPA 637 Secondary Plan area of Vaughan, and we write to remind staff and Council that this secondary plan area is governed by OPA 450 policies, not the proposed NHN policies.

We therefore ask for Council's consideration to direct staff to apply OPA 450 Environmental policies as we approach terms of reference for our future MESP.

Yours truly,

**Olana Estates Inc.
Natanya Hills Builders Corp.
Goldenrod Investments Inc.
Western Point Builders Corp.**

Daniel Belli,
Vice President, Real Estate

Starlane
HOME CORPORATION

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TRINISON
MANAGEMENT CORP.

Tel: 416.798.1127
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TRINistar
CORPORATION

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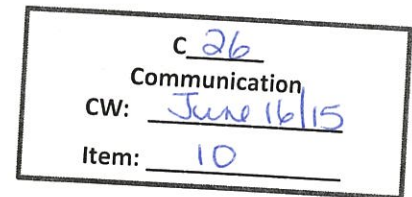
64 Jardin Drive, Unit 1B
Concord, Ontario
L4K 3P3
T. 905.669.4055
F. 905.669.0097
klmplanning.com

SI-232

June 15, 2015

(By E-mail)

City of Vaughan
c/o Jeffrey A. Abrams, City Clerk
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1



Attention: Mayor and Members of Council

**Re: Committee of the Whole – June 16, 2015 – Item 10
Natural Heritage Network Inventory and Improvements
Study Completion and Recommendations
Amendment to the Vaughan Official Plan 2010
City File #25.5.4
City of Vaughan**

Dear Mayor and Members of Council:

KLM Planning Partners Inc. is the land use planning consultant for Madison Homes ("Client") who has an interest in the lands located at the southwest corner of Lebovic Campus Drive and Ilan Ramon Boulevard ("Subject Lands") in the City of Vaughan.

We have had an opportunity to review the planning staff report being considered by the Committee of the Whole at its meeting on June 16, 2015. In reviewing the updated land use schedules included in the report, specifically Schedule 2 (Natural Heritage Network – see attached) and Schedule 2B (Natural Heritage Network – Woodlands), we wish to express a concern with the updated Schedules as currently proposed to be approved. The updated mapping incorrectly shows a woodland on the western portion of the subject lands.

From information we were able to obtain, the limits of development were staked with the staff from the City of Vaughan and the Toronto and Region Conservation Authority ("TRCA") in 2001 and 2002, which facilitated the submission of a number of development applications on the subject lands.

Development applications were submitted and approved in 2004 (UJA Master Plan), again in 2008 (DA.07.018) and as recently as 2014 (DA.14.038). The wooded area which is now being shown on the updated Schedules 2 and 2B being considered by the Committee of the Whole were included within the limits of development as established through the review of these past development applications. The wooded areas in question appear to have been subsequently removed in accordance with the site design approved by Vaughan Council. Schedule 2 as adopted by Vaughan Council on September 7, 2010 is generally reflective of the approved alignment of the adjacent valley feature and does not include a woodlot that no longer exists due to past development approvals.

We request the mapping be updated to reflect the previously approved development applications, or alternatively the City confirm in writing that the future development of these lands will not be impacted by this incorrect mapping as proposed to be approved.

We intend to continue to monitor the Natural Heritage Network process and reserve the right to make further submissions if required.

We kindly request that we be notified of any future reports and/or public meetings and open houses regarding this Study and ask that we receive any notice of the Committee of the Whole or Council in this matter.

Thank you for the opportunity to comment. If you have any questions, please contact the undersigned.

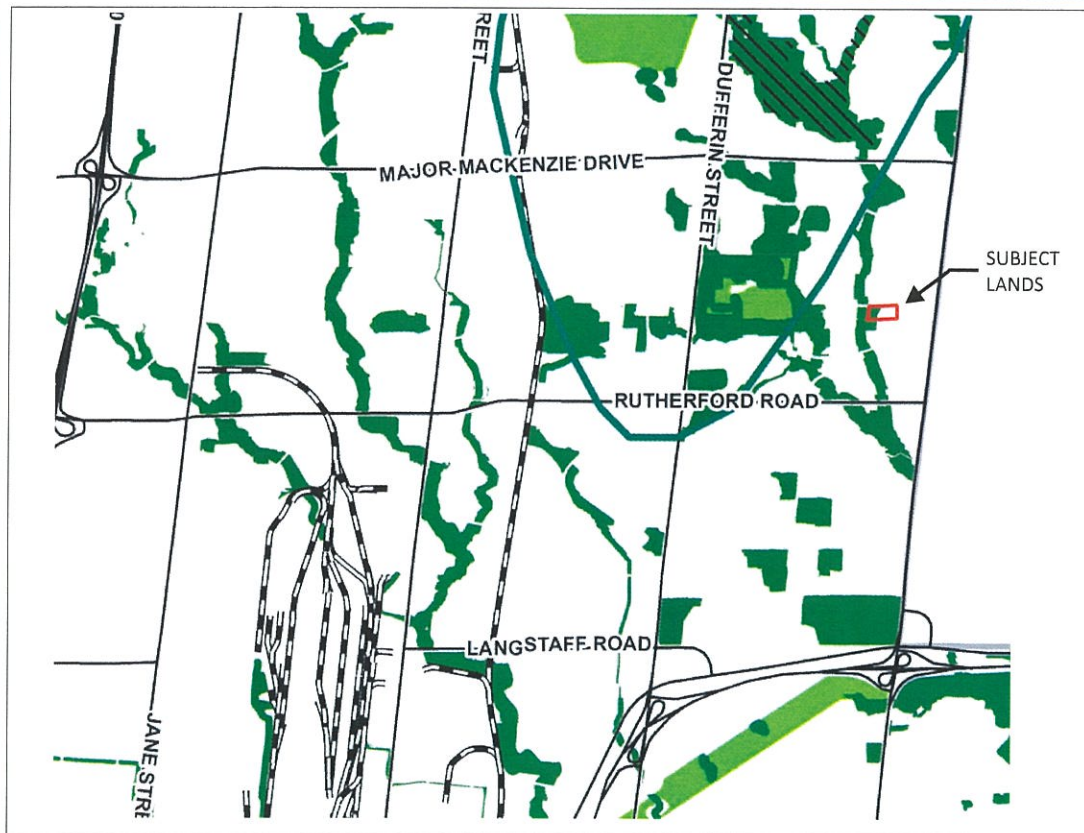
Yours very truly,

KLM PLANNING PARTNERS INC.

A handwritten signature in blue ink, appearing to read 'Ryan Mino-Leahan', is written over a light blue circular stamp.

Ryan Mino-Leahan, MCIP, RPP
Associate/Senior Planner

Copy: John Mackenzie, Commissioner of Planning (By E-mail)
Roy McQuillin, Manager of Policy Planning (By E-mail)
Tony Iacobelli, Senior Environmental Planner (By E-mail)
Client



SCHEDULE 2

Natural Heritage Network

Legend

- Core Features
- Enhancement Areas
- Built-Up Valley Lands (1)
- Greenbelt Plan Area Boundary (2)
- Greenbelt Natural Heritage System
- Oak Ridges Moraine Conservation Plan Boundary (2)
- Oak Ridges Moraine Conservation Plan Core and Linkage Areas
- City of Vaughan Boundary
- Minister's Decision on ORMCP Designation Deferred

This Schedule is subject to change based on the result of the Natural Heritage Network Study, which will define the Natural Heritage Network by both its natural features and as a natural heritage system in accordance with the Provincial Policy Statement.

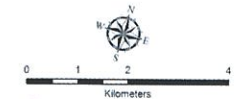
The policy text in Chapter 3 prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network.

For watercourses and waterbodies outside of well-defined valleys, the vegetation protection zone is to be established according to the policies in Chapter 3 and to the satisfaction of the Toronto and Region Conservation Authority.

Enhancement Areas are identified conceptually on Schedule 2 and the text shall be consulted to determine the final location and design.

(1) Data provided by Urban Strategies.

(2) See Schedule 4 for limits and the land use information of the Greenbelt Plan Area and the Oak Ridges Moraine Conservation Plan Area.



North-South Environmental Inc.
Specialists in Environmental Cartography Planning



May 29, 2015



memorandum

DATE: JUNE 16, 2015
TO: MAYOR AND MEMBERS OF COUNCIL
FROM: JOHN MACKENZIE, COMMISSIONER OF PLANNING
SUBJECT: COMMUNICATION

c <u>27</u>
Communication
CW: <u>June 16/15</u>
Item: <u>10</u>

ITEM #10 – COMMITTEE OF THE WHOLE – JUNE 16, 2015

**NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS,
STUDY COMPLETION AND RECOMMENDATIONS
AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010
FILE #25.5.4
WARDS 1 TO 5**

**RESPONSE TO COMMUNICATION C2 – DATED: JUNE 11, 2015
1834375 ONTARIO INC., 1890 HIGHWAY 7 WEST (LIBERTY DEVELOPMENTS)
CONCORD GO CENTRE SECONDARY PLAN AREA**

The correspondence raises the concern that a small area of woodland is shown located within the owner's land on the new Schedule 2B, which is proposed for adoption. It is being requested that this area be deleted from Schedule 2B. Staff can advise Council that this is not necessary as the policies of VOP 2010 as amended by the approved Concord GO Centre Secondary Plan accommodate this situation. Schedule 2B contains a note in the legend that provides as follows:

Information shown on Schedules 2A, 2B and 2C depict the type of natural features that comprise the Core Features of the Natural Heritage Network. Not all natural features depicted on Schedules 2A, 2B and 2C are included as Core Features. Schedules 2A, 2B and 2C inform the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform the Natural Heritage Network, which will be finalized based on more detailed studies, such as through the development application process or a municipal comprehensive review.

For implementation purposes Schedule 14 of the VOP 2010 identifies this area as a Required Secondary Plan Area. It was subject to the Concord GO Centre Secondary Plan process and the Secondary Plan deals specifically with this feature.

Schedule F of the Concord GO Secondary Plan identifies the woodland using a symbol with the notation, "Area Subject to Further Assessment/Policy 5.6 and Policy 5.1.2". Policy 5.6 sets out a habitat compensation approach while policy 5.1.2 is specific to the woodland feature. Since policy 5.1.2 and Schedule 'F' of the Concord GO Centre Secondary Plan identify the woodland feature as an area for evaluation the woodland feature was removed from the Core Features mapping on Schedule 2, but was retained as woodland in Schedule 2B, consistent with the approach in the Secondary Plan." The Concord GO Centre Secondary Plan is now in effect and will form part of Volume 2 VOP 2010.

Work is now underway on an implementing habitat compensation agreement for the Concord GO Centre Secondary Plan. A specific policy was established as part of the Concord GO Centre Secondary Plan process to allow it to proceed at this time. Regarding the broader issue of compensation, this will be addressed through consultation with agencies and stakeholders through the New Community Areas Secondary Plan processes. VOP 2010 confirms this approach by stating that the policies of a Secondary Plan in Volume 2 override those policies in Volume 1 in Policy 10.2.1.8, as follows:

Lands subject to policies found in Volume 2 of this Plan (like the Concord GO Centre Secondary Plan) are identified on Schedule 14. For the purposes of this Plan, references to Schedule 14 include Schedules 14-A through 14-C inclusive. Volume 2 policies are derived from area-specific land-use planning studies or from the processing of specific development applications and, as such, provide more specific direction than found in Volume 1 policies. Where the policies of Volume 1 of this Plan conflict with policies in Volume 2 of this Plan, the Volume 2 policies shall prevail.

As such, Schedule 2B only identifies that the feature is there but the disposition of the feature is subject to the policies of the Concord GO Centre Secondary Plan, in accordance with VOP 2010.

Respectfully submitted,



JOHN MACKENZIE
Commissioner of Planning

/lm

Copy To: Steve Kanellakos, City Manager
 Jeffrey A. Abrams, City Clerk
 Roy McQuillin, Acting Director of Policy Planning

COMMITTEE OF THE WHOLE JUNE 16, 2015

NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS, STUDY COMPLETION AND RECOMMENDATIONS AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010 FILE #25.5.4 WARDS 1 TO 5

Recommendation

The Commissioner of Planning in consultation with the Acting Director of Policy Planning recommends:

1. THAT the report to the Committee of the Whole of April 14, 2015 (Item 1, Report No. 17) forming Attachment 3 to this report BE RECEIVED;
2. THAT the final consultant's report, "Phase 2-4 Natural Heritage Network Study, City of Vaughan", forming Attachment 1 to this report as prepared by North-South Environmental Inc., BE APPROVED, subject to the policy changes set out in Attachment 2 being incorporated into the consultant's report;
3. THAT the recommended amendments to the policies and Schedule 2 "Natural Heritage Network" to the Vaughan Official Plan Volume 1 (VOP 2010), set out in Attachment 2, be endorsed and that the resulting implementing amendment, which reflects the additional period of consultation, be brought forward for adoption by Council, subject to final staff review, for approval by York Region and the Ontario Municipal Board (OMB), as required;
4. THAT staff continue to update the Natural Heritage Network database through the ongoing addition of information to: Characterize habitat type and habitat quality; to inform progress in meeting ecosystem targets; track modifications resulting from the development application review process; and in doing so seek out partnerships in the municipal, agency, non-government and academic sectors to participate in maintaining and enhancing the database;
5. THAT staff report to Council regarding the development of a management, restoration and land stewardship program to identify potential ecological restoration and stewardship projects, in consultation with appropriate City departments and partner agencies, to identify implementation options and funding strategies on a project by project basis;
6. THAT staff, in consultation with stakeholders, develop a habitat compensation protocol and guidelines based on the habitat compensation principles identified in the report forming Attachment 3 to this report as a supporting tool to implement the previously endorsed policies of the VOP 2010 on habitat compensation regarding the Natural Heritage Network and to identify the main elements of the protocol and guidelines; and that such measures be developed through the Secondary Plan process currently underway for the New Community Areas, and that the resulting draft protocol and guidelines be brought forward for Council consideration as part of or coincident with the Secondary Plan approval processes; and
7. THAT Schedule 13 (Land Use) to VOP 2010 be amended accordingly to revise the Natural Areas designation and be included in the implementing amendment.

Contribution to Sustainability

Two specific action items in Green Directions Vaughan (2009), the City's Community Sustainability and Environmental Master Plan, relate to the need to complete a natural heritage system.

1.3.2. Through the development of the City's new Official Plan, and in partnership with the Toronto and Region Conservation Authority, ensure protection of remaining natural features and explore opportunities for habitat restoration in headwater areas, along riparian corridors, and around wetlands.

2.2.4. Develop a comprehensive Natural Heritage Strategy that examines the City's natural capital and diversity and how best to enhance and connect it. As part of this action:

- Develop an inventory of Vaughan's natural heritage, and identify opportunities for habitat restoration;*
- Ensure that policies in the City's new Official Plan protect all ecological features and functions as per current provincial and regional policies, and also include consideration for locally significant natural features and functions;*
- Develop policies to create opportunities for near urban agriculture within Vaughan's rural areas, through policies described in the City's new Official Plan.*

The refinement of the Natural Heritage Network and development of a stewardship strategy in Phases 2 through 4 of the Natural Heritage Network Study are key elements that support Green Directions Vaughan.

Consistent with Green Directions Vaughan, the Environmental policies in Chapter 3 of VOP 2010 direct that appropriate studies be undertaken to determine the precise limits of "natural heritage features and any additions to the mapped network". VOP 2010 is also consistent with the York Region Official Plan, which directs local municipalities to develop local greenlands systems.

Economic Impact

The budget for undertaking the Natural Heritage Network Study was included in the 2011 Capital Budget (PL-9025-11) on the basis of a two part allocation. Phase 1 was treated as a stand-alone project and was funded in the amount of \$52,400. In the 2012 Capital budget, the funding for Phases 2, 3, and 4 was approved at \$199,700. The total budget for the preparation of the Natural Heritage Network Study was \$252,100. A contract Change Order was approved by Council on September 2, 2014 in the amount of \$46,372.36, for the purposes of completing the Natural Heritage Network Study, recognizing the interest from stakeholders for more detailed consultation. This Change Order also addressed the need for additional work taking into account the approval of the City-adopted amendments to the Vaughan Official Plan 2010. The contract change order was funded based on: (i) the balance remaining from the existing Capital Project (PL-9025-11) in the amount of \$28,299.64; and (ii) additional funds in the amount of \$18,072.72, sourced 40% or \$7,229.09 from City-Wide Development Charges (CWDC) – Management Studies and 60% or \$10,843.63 from the 2014 Policy Planning Operating Budget – Professional Fees.

Natural Heritage Network Study- PL-9025-11

Phase 1 Budget (approved in 2011)	52,400
Phase 2, 3, 4 Budget (approved in 2012)	199,700
Change Order (approved in 2014)*	18,073
Total Budget	270,173
Less: Commitments/Expenses to Date	243,877
(includes 1.76% HST)	
3% administration fees	7,316
Remaining Budget	18,980

* Note: 40% funded by City-Wide Development Charges (CWDC)- Management Studies and 60% by Policy Planning 2014 Operating Budget- Professional Fees

Communications Plan

A communications and public consultation plan was implemented as part of the process of conducting Phases 2 to 4 of the Natural Heritage Network Study. A summary of the stakeholder and broader public consultation processes and resulting outcomes was provided in the staff report to the Committee of the Whole (Public Hearing) on June 17, 2014 and in the staff report to the Committee of the Whole on April 14, 2015 (Attachment 3).

Purpose

The purpose of this report is to obtain approval of recommended amendments to select policies of Chapter 3 (Environment) and Schedule 2 of the VOP 2010 and to proceed with the finalization of the implementing official plan amendment for Council's adoption; and in the case of Schedule 2, which is under OMB appeal, to support its timely approval which in turn will result in withdrawal or scoping OMB appeals. The amendment to VOP 2010 is a result of ongoing consultation with stakeholders to resolve policy issues raised through correspondence and through deputations following the staff report and presentation to the April 14, 2015 Committee of the Whole meeting.

Background - Analysis and Options

Executive Summary

The details of the amendment to VOP 2010 set out in Attachment 2 forms the main content of this report. The covering staff report provides the following background information:

- The background as reflected in the Council action of April 21, 2015;
- A brief outline of the NHN Study milestones and deliverables;
- A summary of further stakeholder consultations following the staff report to the meeting of the Committee of the Whole on April 14, 2015; and
- The City's approach to preparing a habitat compensation protocol for future consideration by Council.

Background

The completion of the NHN Study was the subject of a staff report to the April 14, 2015 meeting of the Committee of the Whole (Item 1, Report No. 17) and included recommended amendments to Schedule 2 and the policies of VOP 2010. (See Attachment 3.) There was discussion at the meeting over concerns raised by stakeholders in respect of a number of issues. The Committee discussed the importance of completing the Study, but also sought additional time to work towards a resolution of concerns raised in the submissions. In consideration of this input and the resulting discussion Committee adopted the following recommendation:

That the report along with all communications, deputations and the related presentation be referred to staff for further review and brought back to a June 2015 meeting of the Committee of the Whole for consideration.

This recommendation was ratified by Council on April 21, 2015. This report provides an update on the status of deliberations with the stakeholders to-date and recommends further action leading to the adoption of the implementing official plan amendment, the approval of the Natural Heritage Network Study and the implementation of measures identified therein.

1. NHN Study Milestones

The Committee of the Whole staff report of April 14, 2015 summarized the findings of the Natural Heritage Network (NHN) Study. This included:

- A description of the public consultation process, including City responses to the submissions received during the public comment period following the staff report and presentation to the June 17, 2014 meeting of the Committee of the Whole (Public Hearing);
- Documentation of specific changes to the mapping information and notations recommended for Schedules 2, 2A, 2B and 2C;
- Amendments to Schedule 2 (Natural Heritage Network) and the environmental policies of VOP 2010, following extensive stakeholder and agency consultation, to improve the implementation of VOP 2010, to guide efficient urban growth and improve the ecological viability of the NHN;
- Identification of key aspects of a long-term management, restoration, land stewardship and compensation programs for the NHN for the purposes of reporting back to Council on the development of implementation measures; and
- A comprehensive GIS database of the NHN and component features that can be used immediately by Development Planning staff in the review of applications, to be shared with other City departments, and as critical base information to implement a long-term management, restoration and land stewardship program.

All four phases of the NHN Study are complete. The remaining revisions to the policies and to Schedule 2, as set out in Attachment 2 to this report, will be incorporated into the final consulting team report.

2. Further Stakeholder Consultations and Resolution of Issues

In response to Council direction of April 21, 2015, City staff met with stakeholders on the following dates to discuss further revisions to clarify the intent of the amendments:

- May 1, 2015;
- May 15, 2015;
- May 25, 2015; and
- May 26, 2015.

The policy discussions on the above dates were a continuation of consultations that were initiated on April 9, 2015 in advance of the April 14, 2015 meeting of the Committee of the Whole. A stakeholder submission dated April 30, 2015 provided a list of issues, which were used as the basis for further consultations.

Attachment 2 identifies the elements of the amendment and discusses the purpose of each. Of the issues raised in the correspondence, 11 have been resolved. These issues are identified in Attachment 2 as:

- Item 1 by the addition of a notation on Schedules 2A, 2B and 2C;
- Item 5 to clarify the policy equating Core Features to key natural heritage features and key hydrologic features in the Provincial Plan areas;
- Item 7 to clarify the policy permitting infrastructure projects in Core Features;
- Item 10 to clarify a new policy describing Enhancement Areas not depicted on Schedule 2;
- Item 12 to add a policy that the minimum vegetation protection zone that applies within the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas is not required to extend beyond these Provincial Plan boundaries;
- Item 14 to clarify a new policy that introduces the term, headwater drainage features (HDFs);
- Item 15 to clarify the assessment of other wetlands;
- Item 18 by adding standard reporting documents for the evaluation of sensitive surface water features;
- Item 24 by adding a definition of “negative impact”;
- Item 28 to further revise the definition of “waterbody”; and

- Item 29 to further revise the definition of “woodland”.

The following policy areas have been revised by the City based on the consultations with the stakeholders, but do not necessarily reflect a resolution of their issues. The City’s responses were informed by consultation with York Region, the Toronto and Region Conservation Authority, and local municipalities. These include:

- A revision to the definition of “valley and stream corridors” in relation to significant valleylands; and
- Revising woodland compensation policies with the objective of achieving net gain in woodland area, rather than a net ecological gain to the Natural Heritage Network.

These issues are discussed below.

a) Valley and Stream Corridors

Concerns were heard regarding the VOP 2010 policies that valley and stream corridors are equivalent to significant valleylands under the Provincial Policy Statement (PPS2014) and in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas. In response, the City is amending the definition of valley and stream corridor as shown in Item 27 in Attachment 2. The revision continues to equate valley corridors to significant valleylands, and recognizes that stream corridors are evaluated in accordance with the policies of the VOP 2010, which in turn recognizes the jurisdiction of the Toronto and Region Conservation Authority. The City recognizes that this provides more protection to valleylands in the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan areas in two respects:

- In the two Provincial Plans, there may be instances of valley corridors that do not meet the technical criteria for significant valleylands as articulated in the technical papers for these Plans;
- In the case of the Greenbelt Plan, the City requires a minimum 30 metre vegetation protection zone to valleylands whereas the Greenbelt Plan is silent on this matter.

The concerns regarding this approach expressed to the City are summarized below:

- A blanket statement equating valley corridors to significant valleylands is opposed in principle;
- Landowners/developers prefer to defer to the Greenbelt Plan and Oak Ridges Moraine Conservation Plan regarding valley and stream corridors in these Provincial Plan areas;
- There may be more restrictive policies regarding the siting of infrastructure in significant valleylands;
- Small valley corridors, for which a top of bank can be staked, should not be elevated to the status of Provincially significant; and
- Valley corridors as defined by the Toronto and Region Conservation Authority include contiguous natural areas to define the feature extent, which differs from the language in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan.

The City’s approach is based on the following principles:

- In an urbanizing municipality such as Vaughan, valley and stream corridors are the critical protected components of the Natural Heritage Network, being the natural heritage system in Vaughan. As noted in the definition for “significant” in the Provincial Policy Statement 2014, it is preferred that valley and stream corridors be valued as “ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or *natural heritage system*”.
- Valley and stream corridors are protected according to Ontario Regulation 166/06, which is administered by the TRCA.

- Identifying valley corridors as significant valleylands in the urban area does not create further restrictions for development and policies are in place to allow for modifications to watercourses and to valleylands in specific circumstances.
- It is recognized that the valley and stream corridor policies exceed those in the Provincial Plans, and the Province and Region accept that local municipal official plans may be more restrictive.

b) Woodlands and Woodland Compensation

The City has clarified the approved VOP 2010 policies that allow for woodlands, that meet the definition of a woodland and do not meet tests of a significant woodland in the Region Official Plan, to be modified subject to compensation. Recent revisions to the policies, being policies 3.3.3.3 and 3.3.3.4, are intended to recognize some stakeholder concerns:

- Text has been added to the definition of a woodland to exclude certain species from the calculation of stem densities. The City recognizes the consequence of such a change will be the reduction in woodland areas that will meet the definition of a woodland. This text is consistent with the definition of a woodland in the York Region Official Plan.
- The reference to woodland compensation has been revised to provide a net gain in woodland area, rather than a net gain to the Natural Heritage Network. This revision does not exclude compensation from being located in the Greenbelt Plan or Oak Ridges Moraine Conservation Plan areas.

Remaining concerns expressed to the City are provided below:

- The threshold size for defining a woodland remains unchanged at 0.2 hectares;
- Identifying woodlands as Core Features implies that they are *de facto* significant;
- Landowners/developers prefer an explicit recognition that woodland compensation can occur in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas; and
- The City does not accept woodland compensation in areas verified as Core Features, including their appropriate vegetation protection zone.

The changes proposed by staff allow for the following issues to be addressed based on the landscape context in which compensation is being calculated:

- The principle of equivalence is particularly important to justify habitat compensation to ensure that the City is replacing “like for like”.
- The intent of the woodlands compensation policy is not to justify woodland removals, but to recognize that some isolated woodlands surrounded by development will experience habitat degradation. In such cases where smaller, isolated woodlands cannot be included in the sustainable urban design of a community, and to avoid City costs to manage such woodlands, the woodland compensation policies allow for the replacement of woodlands, ideally adjacent to confirmed Core Features to improve the ecological viability of the Natural Heritage Network.
- Parameters such as size, habitat condition and landscape context should be used to demonstrate an improvement to the Natural Heritage Network and identify the best ecological options for compensation. This approach does not exclude compensation from being located in the Provincial Plan areas, but places the onus on identifying the best options to improve the Natural Heritage Network.

In summary, the Amendment provides for the following revisions to VOP 2010:

- Adds five new definitions;
- Amends 3 existing definitions;
- Deletes one definition;
- Amends 11 existing policies;
- Adds three new policies; and

- Requires three technical amendments to address changes to policy numbers and definitions.

In general, the revisions reflect refinements that clarify the policy intent and implementation of the VOP 2010.

3. Habitat Compensation

The City proposes to develop a habitat compensation protocol for Council consideration to assist in the interpretation of the select policies that contemplate modification of Core Features subject to compensation. The following policies in VOP 2010 address the modification of Core Features subject to compensation:

- Policy 3.2.3.7 regarding specific projects permitted in Core Features, such as for infrastructure;
- Policy 3.3.1.4 regarding public works in valley and stream corridors and policy 3.3.1.5 regarding alterations to watercourses;
- Policy 3.3.2.2 regarding wetland compensation for wetlands that are not Provincially significant or Provincial Plan area wetlands; and
- Policies 3.3.3.3 and 3.3.3.4 regarding woodland compensation for woodlands that do not meet tests of significance set out in the Region Official Plan.

One of the concerns identified by the stakeholders was that the compensation protocol would take place in a context where public participation might be limited. On this basis it was suggested that the implementing amendment should not be adopted. Staff has proposed an alternative which is reflected in Recommendation 6. It is recommended that the development of the implementing compensation protocol and guidelines take place through the Block 27 and Block 41 Secondary Plan process. This would provide a concurrent public process that would inform the development of the implementing protocol and guidelines. This approach allows for the practical testing of the alternatives in the context of these active processes both of which provide different conditions and opportunities. On this basis the amendment can proceed independently, while providing for a rigorous process to develop and test the implementing compensation protocol.

Having addressed compensation for select policies in VOP 2010, it is the City's preference to identify the elements of the compensation protocol through the Secondary Plan process for Blocks 27 and 41. This functions as a public process to evaluate details of a City-wide compensation protocol.

Relationship to Vaughan Vision 2020/Strategic Plan

The Natural Heritage Network Study report is consistent with the Vaughan Vision 2020 Strategic Plan, through the following initiatives, specifically:

Service Excellence:

- Lead & Promote Environmental Sustainability

Management Excellence:

- Manage Growth & Economic Well Being
- Demonstrate Leadership & Promote Effective Governance

This report is consistent with the priorities previously set by Council.

Regional Implications

Policies in the ROP 2010 support the efforts of local municipalities to identify local greenlands systems. York Region staff was consulted during the study process. York Region is the approval authority for amendments to the VOP 2010 that will be adopted as a result of this study.

Conclusion

The NHN Study has involved policy analysis, field studies and ecological research undertaken from 2011 to 2015; and throughout the process, public and landowner consultation was undertaken. The recommendations herein are directly related to the key Study deliverables and respond to the Council direction of April 21, 2015.

Much progress has been made in responding to the policy concerns identified by the stakeholders. The areas where agreement has been achieved to-date are identified in the report and referenced to the pertinent item in Attachment 2; and commentary has been provided in respect of the areas where full consensus has not been reached. Staff recommend that the City proceed with the approval of the amendment as cited above and that the amendment proceed to adoption. The adoption of the amendment is targeted for the September 2015 Council meeting.

While full consensus has not been reached, staff is of the opinion that it is appropriate to move ahead with the approval of the NHN Study and adoption of the resulting Official Plan Amendment. This will clarify the City's position on a number of matters relating to Chapter 3 – Environment of VOP 2010, which are largely approved and in effect. This will further inform development applications, moving forward and will address issues raised by York Region respecting the need to provide for changes to Schedule 2 of VOP 2010 and the addition of Schedules 2a, 2b and 2c. Also, there are implementation measures arising from the NHN Study that should be pursued such as the stewardship strategy. The development of the compensation protocol and guidelines will benefit from being considered in conjunction with the Blocks 27 and 41 Secondary Plans.

On this basis, the measures set out in the Recommendation Section of this report are recommended for adoption.

Attachments

1. Phase 2-4 Natural Heritage Network Study, City of Vaughan. Prepared by North-South Environmental Inc. March 2015.
2. Details of the Amendment to the VOP 2010.
3. Covering Staff Report to the April 14, 2015 Meeting of the Committee of the Whole (Item 1, Report No. 17, save and except for Attachment 1 thereto – see Attachment 1 to this report).

Report prepared by:

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Acting Director of Policy Planning

/LM



Phase 2-4 Natural Heritage Network Study City of Vaughan

Prepared for City of Vaughan
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March 2015

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City of Vaughan NHN Phase 2-4 Study Report

1.0 INTRODUCTION

Vaughan Vision 2020, the City of Vaughan's Strategic Plan, begins by acknowledging the rapid pace of change in the City.

Vaughan is one of Canada's fastest growing cities, with a population of over 250,000. It is projected that the number of residents will increase to 430,000 by 2031.

The next 25 years will see Vaughan beginning the transition from a growing suburban municipality to a fully urban space. This type of transition will require long-term thinking about how best to accommodate and make the most of new opportunities.

Vision 2020 includes a vision and strategic goal that acknowledges the need to value and manage the natural environment.

Vision: A city of choice that promotes diversity, innovation and opportunity for all citizens, fostering a vibrant community life that is inclusive, progressive, environmentally responsible and sustainable



STRATEGIC THEME: *Lead and Promote Environmental Sustainability*

Recognizing the pace of growth in urban areas, the Province of Ontario passed the Places to Grow Act (2005) and prepared the Growth Plan for the Greater Golden Horseshoe to provide direction and tools for municipalities to manage growth to optimize benefits and to minimize negative impacts. This includes planning for social, economic and environmental needs. The revised Provincial Policy Statement (PPS 2014) now includes a policy directing municipalities in southern Ontario to identify natural heritage systems “recognizing that *natural heritage systems* will vary in size and form in *settlement areas, rural areas, and prime agricultural areas*”.

Vaughan Tomorrow is the City's growth management program and comprises: Vaughan Vision 2020; Green Directions Vaughan, the City's first Community Sustainability and Environmental Master Plan; and the new Vaughan Official Plan 2010 (VOP 2010), adopted by Council on September 7, 2010 and subject to further modifications on September 27, 2011, March 20, 2012 and April 17, 2012, and approved with modifications by York Region council on June 28, 2012.



The VOP 2010 includes a Council adopted Natural Heritage Network (NHN) that represents an interconnected system of core natural features, enhancement areas and built-up valley lands to protect natural heritage features and ecological functions in a healthy and resilient system ensuring long term protection and management of Vaughan's native biodiversity. The Natural Heritage Network as currently defined in the VOP 2010 is shown in Figure 1.

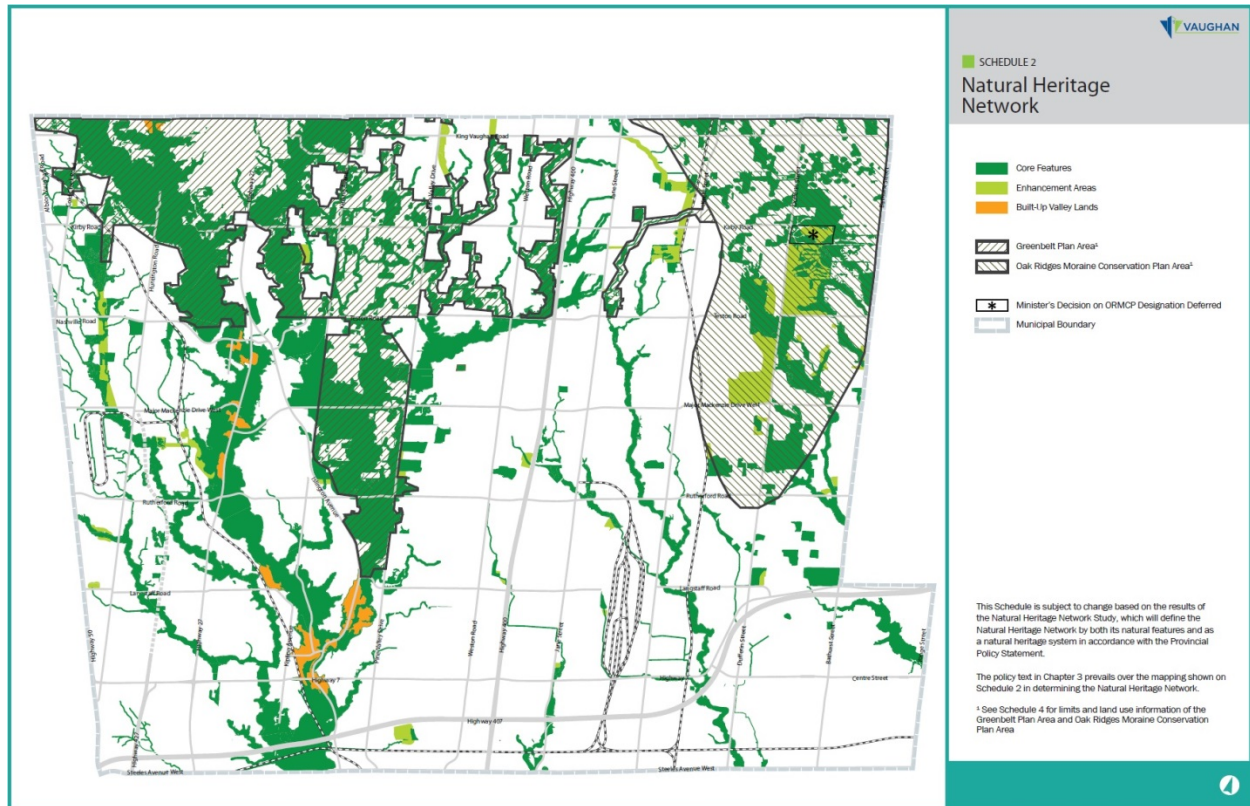


Figure 1. City of Vaughan Natural Heritage Network (VOP 2010)

The NHN performs the unique function of providing natural areas able to meet the habitat needs of native plant and animals that require high quality habitat for their long term survival. Many species (for example, Spring Peepers, Wood Thrush and Rose Twisted-stalk) cannot be found where there are high noise levels, vehicle exhaust, continuous light at night, poor water quality, barriers to movement, etc. that characterize more built-up urban areas.

The development of a NHN is therefore a long range environmental planning effort intended to protect the habitat necessary to sustain native plants and animals over the long term. The NHN is of particular importance in the context of ongoing urban development in Vaughan, particularly within new community areas.

The NHN is based on the Commitment to Environmental Stewardship as expressed in the VOP (2010):



The natural environment is among Vaughan's most important and cherished assets. The Humber and western Don Valley systems are prominent on the City's landscape and the overall health of those systems is reliant on the stewardship provided by Vaughan. The watercourses, woodlands, wetlands and related open spaces and agricultural lands each have an important function in maintaining ecological vitality and diversity in the City. Protecting flood prone areas from inappropriate development is critical to ensuring public safety. Ensuring the quality of our air, water and soil is fundamental to maintaining overall environmental health. We must also recognize the impacts of climate change on our environment and plan for both mitigation and adaptation.

The NHN provides for the long-term health of Vaughan's natural environment for the benefit of present and future generations (VOP 2010). Achieving protection requires a "systems approach" that considers the importance of maintaining and protecting:

- **ecological features** in the environment such as woodlands, wetlands and watercourses, etc.;
- **ecological functions** of the environment such as water storage and water quality enhancement by wetlands, winter deer yards provided by dense cedar woodlands, amphibian breeding habitat in ephemeral forest ponds, open country or grassland habitat for birds provided by meadowlands, etc.; and
- **ecological interactions** that occur over varying scales of time and space such as animal predation and herbivory, the daily, seasonal and long term movement patterns of plants and animals, and the ecological role of natural disturbance mechanisms such as fire, wind, water, and disease, etc.

1.1 Outline of the Natural Heritage Network Study

The Natural Heritage Network Study is being undertaken to provide high quality mapping of ecological features in the City of Vaughan and to establish and apply a clear set of ecological criteria that define Vaughan's NHN. High quality mapping and clearly defined criteria will assist in achieving a consistent and transparent approach to land use planning that meets Vaughan's vision, goals and commitments to environmental sustainability.

Overall there are three main study objectives:

- Assess the biodiversity contribution and ecological functions of the existing NHN;
- Develop a GIS database of the NHN, its constituent parts, and relevant attribute information to provide a clear and transparent rationale for the NHN, which can be used in the development application process; and
- Prepare a strategy to enhance the NHN to meet select ecosystem targets.



NHN Phase 1 Study

The phase 1 study completed in December 2012 assembled the available natural heritage information into a digital geographic database and established a set of criteria to define the NHN based on provincial and municipal policies and guidelines (North-South 2012).

NHN Phase 2-4 Study

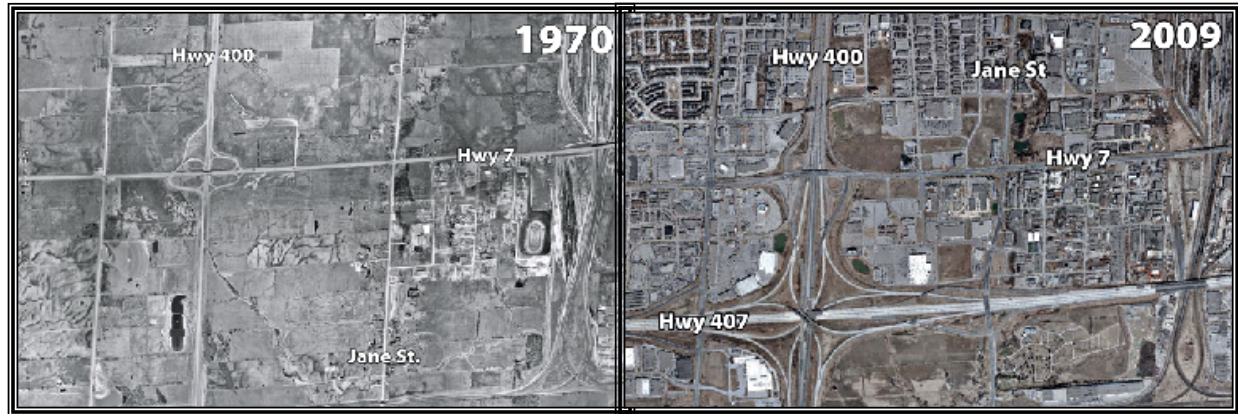
To meet these objectives there were four main study components in the phase 2-4 study:

- Field investigations that focus on Headwater Drainage Features (HDF) and Significant Wildlife Habitat (SWH);
- Develop a recommended approach to identify and map a Natural Heritage Network (NHN) for Vaughan;
- Prepare a Land Securement Strategy; and
- Develop and implement a Community Engagement Plan.

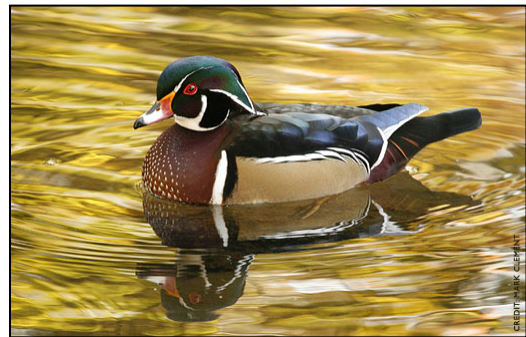


2.0 THE CHANGING ENVIRONMENT OF SOUTHERN ONTARIO

Over the past fifty years the extent and intensity of urban development has fundamentally changed the character of southern Ontario within an area extending from Oshawa to Hamilton and northward from Toronto to Newmarket. The change has occurred in large measure as urban development expanded into agricultural lands, which previously separated smaller towns and larger cities.



Over this same time period the approach to protecting natural areas within new areas of urban development has changed substantially. In the 1950's the approach was to maximize the area available for urban development by removing woodlands and wetlands and where possible putting watercourses in concrete channels that in some cases were buried. Through the 1960's and 70's greater effort was made to protect the most significant natural areas through Environmentally Significant/Sensitive Area programs, an approach described as protecting "islands of green". In the 1980's protecting natural areas began to take a "systems approach", considering the need for the protection of larger core protected areas and ecological corridors linking isolated natural areas; an approach requiring the protection of open fields and agricultural lands as "enhancement areas".



2.1 A "Systems Approach" to Natural Heritage Network Planning

The protection of large, diverse, well connected habitat patches capable of sustaining populations of native plants and animals and facilitating natural movement patterns is the essence of a NHN. A fundamental tenet of biodiversity conservation is that a natural heritage system should be capable of protecting a full range of native plant and animal species and communities indigenous to an area, as well as the biological conditions that support them (Ontario's Biodiversity Conservation Strategy 2011). Increasingly NHN's are also being recognized for the many "ecosystem services" they



provide, such as tree canopies that provide shade and mitigate the heat generated by urban landscapes, groundwater infiltration, habitat for pollinators essential for agriculture, carbon storage to mitigate climate change, filtration of pollutants from air and water, water storage to mitigate flooding, and mental and physical human health benefits.

The identification of a NHN in areas undergoing land use change from rural to urban land uses is extremely important owing to the many substantial environmental impacts inherent in urban environments. In southern Ontario's rural landscapes the plants and animals present are relatively stable, occupying and moving among the available habitat patches in the relatively "soft" agricultural landscape. When urbanization occurs, the agricultural landscape is dramatically transformed to homes, roads, commercial development, places of work, parking areas, etc. This creates a "hard" urban landscape with a variety of negative impacts which can lead to a decline in habitat quality and a reduction in plant and animal diversity. The Toronto Region Conservation Authority (TRCA) has recorded 418 native flora and fauna species in urban areas of their jurisdiction and 1111 native flora and fauna species across the entire TRCA jurisdiction (Figure 2).

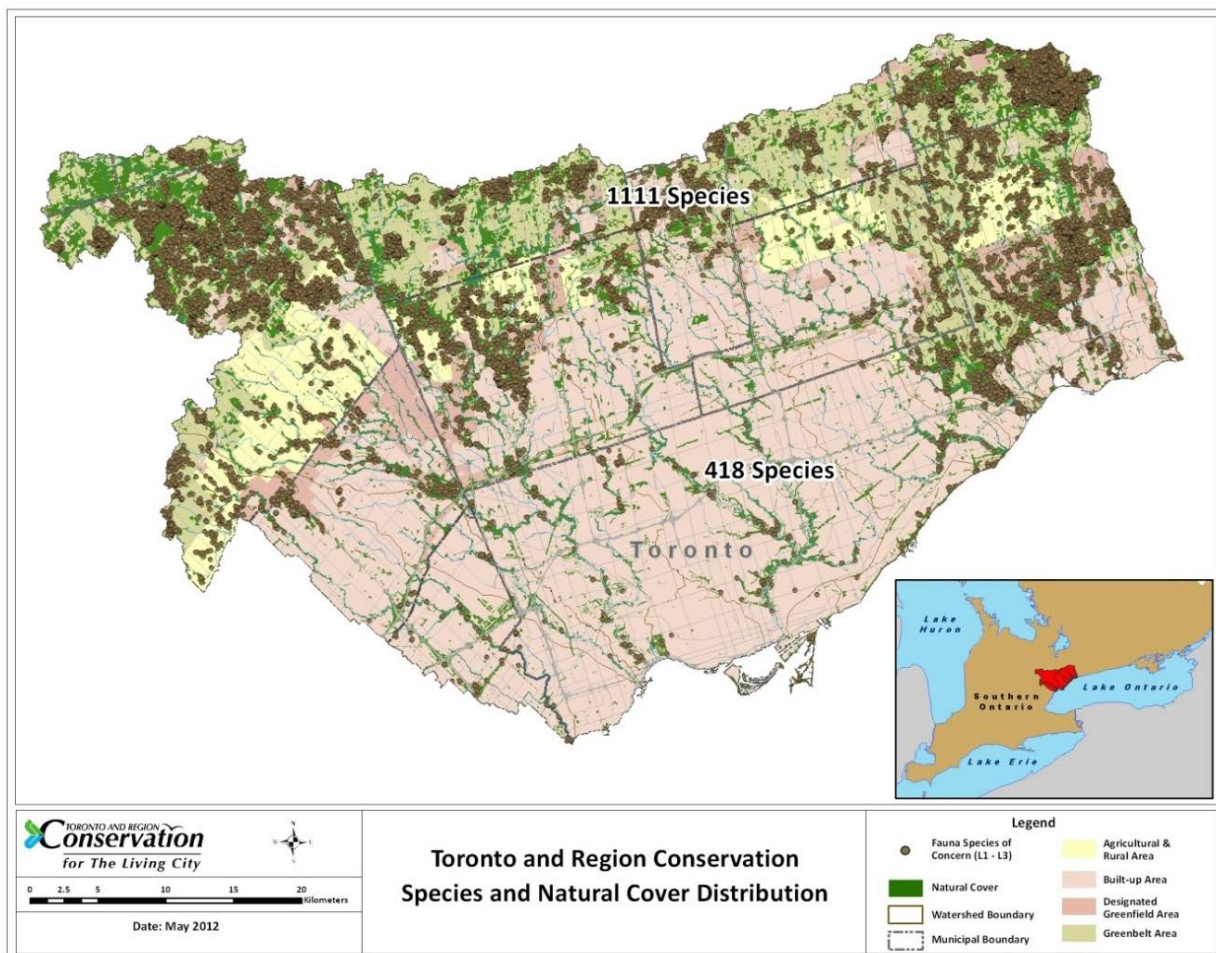


Figure 2: TRCA records of species diversity in the Greater Toronto Area



2.2 The Components of a Natural Heritage Network

The components of a NHN include **core areas**, **linkages** and **enhancements** identified at a variety of geographic scales including local scales (e.g. small habitat patches and local linkages between woodlands and wetlands) and regional scales (e.g. large habitat patches forming centres for biodiversity and regional scale linkages connecting to the Greenbelt and Oak Ridges Moraine). Recent studies (Chapa-Vargas and Robinson 2013, Cottam *et al.* 2009, Fabian Y. *et al.* 2013, Ritchie *et al.* 2009) show that landscapes with larger amounts of natural cover (*i.e.* the total amount of woodland, wetland, and open habitat) support higher biodiversity, suggesting a NHN should identify components (cores areas, linkages and enhancement areas) that achieve targets intended to protect a high percentage of natural cover within the landscape.

Core Areas

Core areas are remnant natural features such as woodlands and wetlands. They typically occur as “patches” on the landscape and may be very large (100 - 200 ha or more), or relatively small (1-2 ha). The significance or importance of a core area will depend primarily on its size, condition, extent of natural cover in the planning area (in landscapes of low natural cover, lacking large natural features, all core areas of any size may be important enough to include in a NHN), configuration (high interior-to-edge ratio are preferred over those with linear or convoluted shapes), diversity of communities, presence of Species At Risk or Conservation Concern, and areas providing habitat for species with very specific or demanding habitat requirements (e.g., colonial nesting birds or species requiring large areas of habitat). Core Areas often contain important hydrological areas such as headwaters, recharge areas, wetlands and discharge areas.

To ensure the long term protection of biodiversity it is important to identify very large Core Areas (50 to 200 ha) that are capable of sustaining viable populations of area-sensitive species. These large Core Areas have been referred to as “Centres for Biodiversity”. Environment Canada (2013) has provided guidance for the size of Core Areas needed to support a high diversity of native species. These large Core Areas act as “reservoirs” that facilitate re-colonization of smaller, marginal Core Areas in the NHN, where populations may be locally extirpated. In some landscapes, such large natural features may be lacking, and they may need to be created through identifying “Enhancement Areas” (see below).

Linkages

A distinguishing characteristic of a NHN is that linkage areas among Core Areas are identified to ensure remnant habitat patches are functionally connected to mitigate the impacts resulting from fragmentation and the barriers to movement that are an inherent part of urbanization. It is helpful to recognize that many species adapted to rural landscapes can migrate and disperse across agricultural fields, even though they may not appear as natural linear linkages. The identification of linkage functions is required to maintain, and where possible enhance, this connectivity. Preferably, linkages will be



identified along existing natural features (e.g., valleylands). However, in some cases, linkage functionality is achieved through the identification of “Enhancement Areas” (see below) that are restored to create suitable habitat.

Linkages may be of varying widths depending on their function. Major linkages that serve to connect features at a Regional or Provincial scale should be wide enough to incorporate habitat that allows the full life cycle for plant and animal species with poor dispersal capability (e.g., non-flying insects, many species of plants, small mammals, etc.) and for habitat-specific species (e.g. area-sensitive woodland species). Such linkages may be 300-600m or more wide. At a local scale, the primary function of linkages may be to allow wildlife to complete important life cycle requirements (e.g., facilitate amphibian movement from ponds to woodlands), and may be narrower (less than 100m).

Enhancement Areas

Enhancement Areas are areas without obvious environmental features, such as old fields, pasture lands, and active agricultural lands, that are included in a NHN to achieve objectives related to Core Area or Linkage habitat enhancement. For example, individual Core Areas may be *enhanced* by including areas that reduce the amount of edge and increase the size of a core to include interior habitat; multiple Core Areas located in close proximity may be enhanced by identifying an enhancement area between the individual cores to form a cluster of features that create a single large Core Area. In many cases, Core Areas comprised of watercourses and valleylands will benefit from the identification of enhancement areas along the watercourse or valleyland to improve ecological functions such temperature regulation, addition of food sources, filtering of surface run-off, etc. as well as the linkage function often associated with these areas. Local and regional scale Linkage Areas in a NHN will include Enhancement Areas necessary to maintain the width and natural habitat required to provide continuous, functional ecological connections.



3.0 COMMUNITY ENGAGEMENT

Community engagement was undertaken with a wide range of stakeholders in a variety of forums to share information about the approach to refine and enhance the NHN and to seek support of and input to the NHN. Below is a brief description of the key community engagement initiatives that have been undertaken, while a complete description including key discussion points is available in Appendix 1.

3.1 Community Stakeholder Workshops

Four stakeholder sessions were held between October 2013 and March 2014 to discuss Vaughan's Natural Heritage Network Study. These sessions were advertised to a wide range of external stakeholders representing: government and agencies (including adjacent municipalities and local conservation authorities), educational institutions, environmental groups, community groups and residents associations, recreational facilities, business and development organizations, local utilities and transit, and arboriculture firms. Workshop sessions included welcoming remarks from Tony Iacobelli (Project Manager, City of Vaughan) and a presentation on the project given by Brent Tegler (North-South Environmental, Project Lead for the consulting team). Susan Hall from Lura Consulting facilitated the community discussions and solicited input from participants. The purpose of the workshops was to obtain input from stakeholders including: (1) existing or potential future initiatives that may contribute to the NHN; (2) opportunities and constraints that influence the NHN; (3) suggestions for evaluating criteria to establish the NHN scenarios.

3.2 City of Vaughan Staff Sessions

A session with City of Vaughan staff was held on October 29th, 2013 to provide an update on Vaughan's NHN Study and to discuss the relationship of the NHN to other studies and projects underway or planned for the City. Seventeen staff members participated from a wide range of departments including Development Planning, Parks Development, Building Standards, Policy Planning, Parks and Forestry, Environmental Sustainability, Transportation Engineering, Asset Management, ITM, Innovation/Continuous Improvement and Engineering Services. The session included welcoming remarks from Tony Iacobelli (Project Manager, City of Vaughan) and a presentation by Brent Tegler (North-South Environmental, Project Lead for the consulting team). Susan Hall from Lura Consulting facilitated the discussions and solicited input from participants. The purpose of the workshops was to obtain input including: (1) existing or potential future initiatives that may contribute to the NHN, such as ongoing or future Master Plan studies; (2) opportunities and constraints; and (3) decision-making criteria to inform the assessment of the NHN against ecosystem targets.



3.3 Community Forum

The City of Vaughan hosted a Community Forum on November 13th, 2013 to seek community input for both the Natural Heritage Network Study (Phase 2-4) and the Climate Action Plan as both projects fall under the *Green Directions Vaughan*, the City's Community Sustainability and Environmental Master Plan. In total there were 57 participants. The forum was advertised in the local paper, on the City website, distributed to all stakeholders who had participated in earlier sessions, posted on the City's social media feeds and invitations were issued to an extensive list of residents through the Planning Department. The community forum featured an open house from 6:30 – 7:00 p.m. and marketplace where participants could find out about other programs and projects by the conservation authority, Enbridge, Powerstream, Earth Hour and others. The forum began with welcoming remarks from John MacKenzie (Commissioner of Planning, City of Vaughan), followed by an overview presentation about the two projects given by Susan Hall from Lura Consulting. The remainder of the evening was dedicated to a "world café" format which included the following three stations:

- Climate Action Plan station where there was a brief overview presentation provided by Chris Wolnik and Jeff Garkowski (City of Vaughan and Lura Consulting) about the CAP and participants were encouraged to provide their input to the CAP vision, goals and key actions.
- Land Securement Strategy station, where Kate Potter (Orland Conservation) provided participants with an educational presentation on the variety of options that exist for land securement beyond land purchase. Kate reviewed land securement tools such as land donation, split receipt, conservation severance, bequest, conservation easement agreement and life interest agreement.
- NHN station which included a brief overview presentation by Brent Tegler (North-South Environmental consultant lead for the NHN study) followed by a facilitated discussion.

3.4 Online Public Questionnaire

The online survey was designed to provide participants with an opportunity for input and suggestions on the proposed vision for the NHN, on what might be considered Vaughan's most significant natural heritage assets and what might be the major issues facing the protection, management and enhancement of these assets. The survey also included questions in regard to the proposed approach to developing the NHN and the criteria proposed to evaluate NHN scenarios.

3.5 Landowner Meetings

A series of meetings were held with individual landowners in two rounds, (November/December 2013 and January/February 2014) to provide an opportunity for landowners to discuss in detail work being undertaken in the Phase 2-4 study relevant to their properties. The first session was held to review the objectives of the study, to share data obtained during the 2013 field season and to review natural heritage



information that might be available for specific landowner areas. The second round of meetings was held to review and seek input on the draft results of applying criteria to develop the NHN and the approach proposed for NHN scenario testing. Tony Iacobelli (Project Manager, City of Vaughan) and Brent Tegler (North-South Environmental, Project Lead for the consulting team) conducted the meetings.

3.6 York Region Advisory Liaison Group

On May 5th, 2014 City of Vaughan staff presented the findings to date of the Natural Heritage Network Study, including refined mapping details and results of the assessment of significant wildlife habitat to a meeting with the York Region Advisory Liaison Group (YRALG).

The particular discussion topics addressed with the audience representing farmers and owners of agricultural lands included the following:

- The YRALG noted that the Provincial Policy Statement (2014) notes the importance of agriculture in relation to natural heritage. The City responded that either the staff report or consulting team report can indicate that PPS policy 2.1.9 states that “Nothing in policy 2.1 [regarding natural heritage protection] is intended to limit the ability of *agricultural uses* to continue”. This is an important consideration for stewardship approaches to improve vegetation protection zones, for example, associated with identified features (such as wetlands, woodlands, and watercourses). Restoration of VPZs could constitute a significant loss of productive land.
- There was a discussion of headwater drainage features, intermittent and/or ephemeral streams and that inclusion of these features in the NHN could be perceived as an additional cost to doing business, such as to erect a building for uses ancillary to agricultural uses. In such a case, permitting for the building may require an Environmental Impact Study.
- The YRALG advised not to identify Enhancement Areas in the Greenbelt Plan and ORMCP areas, but to recognize that the Provincial Plan areas address continued agricultural uses.
- It was noted while there is good uptake of the Environmental Farm Plan program in Ontario (70-80% uptake), it is not known which lands have Environmental Farm Plans in place as the information is not public. It was suggested that this information would need to be gathered through landowner contact as part of a stewardship/securement approach by the City.
- It was noted that setbacks along rural roads provide for vegetation restoration that can be beneficial for linkages and connectivity for wildlife movement.
- Management approaches to maintain significant wildlife habitat for open country species was discussed. Several parts of the City may need to be identified so that one or two areas are maintained in suitable vegetation cover in any given year. Hay, for example, is often grown for several years as the species used for hay (grasses such as Timothy or legumes such as alfalfa) are perennials. Switching the crop to corn, for example, is not suitable for open country species. Yet, identifying several



areas of the City for suitable vegetation cover, and generally maintaining agricultural production in the Greenbelt Plan and ORMCP areas of Vaughan, could be a strategy to maintain open country species.



4.0 FIELD STUDIES CONDUCTED IN SUPPORT OF THE NHN

4.1 Frog Call Surveys

4.1.1 Selection of Amphibian Survey Sites

Surveys to inventory calling frogs were conducted at select locations throughout the City of Vaughan. Selecting locations for point count surveys was in part based on reviewing locations previously surveyed by the TRCA. Those locations surveyed pre-2008 by the TRCA were selected to update this older data and determine if land use changes have resulted in a change in frog presence and abundance.

Additional sites were selected for surveying based on TRCA mapping. Wetlands less than two hectares in size within 100 m of a woodland were identified through GIS as priority sites for amphibian surveys. Additional amphibian breeding sites that had not been previously surveyed by the TRCA were also identified through field reconnaissance. Surveys were also completed on block plan areas where permission was granted and information was provided by the landowners' ecological consultant regarding amphibian habitat.

4.1.2 Amphibian Survey Methods

Three rounds of surveys were completed according to the Marsh Monitoring Program Participant's Handbook for Surveying Amphibians (Bird Studies Canada, 2008). A total of 68 points were surveyed with the number of visits in part dependent on landowner permission. Each visit was conducted in mild temperatures (above 5°C for the first survey, above 10°C for the second survey and above 17°C for the third survey, with little or no precipitation, between sunset and approximately one hour after midnight (surveys were only conducted after midnight as long as temperatures remained warm). Frog abundance was assessed using accepted guidelines as follows:

Code 1: Individuals can be counted; calls not simultaneous

Code 2: Calls distinguishable; some simultaneous calling

Code 3: Full chorus; calls continuous and overlapping

4.2 Headwater Drainage Feature Surveys

Headwater drainage features (HDFs) were surveyed throughout the City of Vaughan on private and public lands. Headwater draining features are defined as "non-permanently flowing draining features that may not have defined bed or banks; they are first-order and zero-order intermittent and ephemeral channels, swales and connected headwater wetlands, but do not include rills or furrows" (TRCA 2013). Headwater drainage features are often not mapped as they are located in the upper reaches of watercourse catchments, therefore locations of potential headwater drainage features were selected through Arc Hydro modeling completed by the TRCA. Arc Hydro is a desktop tool that operates by using GIS to complete geospatial analysis to predict where water flow occurs on the landscape. HDF sample sites were originally selected by the TRCA and based on the following criteria:



- Connection to Redside Dace streams or coldwater streams;
- Representation of lower functioning features;
- Locations that represent a potential change in feature form, vegetation, and/or flow; and
- Lands subject to future development applications.

Only those points were surveyed where access was permitted and that met the following criteria:

- The drainage feature had a minimum 30 ha catchment area, identified lines had a minimum drainage area of 2.5 ha and were identified as being connected downstream via a surface outlet;
- The feature was relatively permanent in the landscape (i.e. if ploughed, would reappear following subsequent runoff events); and
- The feature had sufficient seasonal flow to have the potential to move bedload.

Of the total number of potential HDF sample sites identified, 57 points along modelled HDFs were surveyed between April 17th and May 30th, 2013 (Figure 3). Thirty-two additional points were investigated but were deemed not to meet the definition of an HDF. Where more than one point was completed on an HDF, points were spaced at least 250 m apart. A second survey was completed in mid-July at 12 points where there was a potential they could be permanent features (Figure 3). Following the first HDF assessment in the spring, HDF's were considered potentially permanent features if they exhibited one or a combination of the following characteristics:

- channel form was complex with clearly defined bed and banks, evidence of erosion/sedimentation, and sorted substrate
- the channel had not been modified recently for agricultural landuse due to inability to grow crops successfully in permanent water feature
- Wetland contained vegetation that requires permanent standing water or deeper areas where water would remain throughout the year

Data was collected based on methods outlined in the Ontario Stream Assessment Protocol, Section 4, Module 9 (Instream Crossing and Barrier Attribution) (April 2013) and Module 10 (Assessing Headwater Drainage Features) (March 2013) produced by the Ministry of Natural Resources and Toronto and Region Conservation Authority.

4.2.1 Headwater Drainage Feature Assessment

The assessment of HDFs was based on the Evaluation, Classification and Management of Headwater Drainage Features Guidelines prepared by the Credit Valley Conservation and the TRCA (April 2013 Draft and January 2014 Final version). The draft Guideline document was used for the field evaluation component and the final 2014 Guideline document was used to determine the management recommendation. The evaluation involved the use of orthoimagery, GIS data (e.g. soils mapping, wetland mapping, fish data), data obtained during field investigations and through reviewing environmental reports completed by private landowners including block landowner groups. The assessment of each of the HDFs considered, feature form and flow, aquatic habitat,



terrestrial habitat, in stream features, riparian features, vegetation and wildlife up and downstream of the HDF.

The science-based evaluation of each feature was used to classify each HDF into a management recommendation: *Protection, Conservation, Mitigation, Maintain Recharge, Maintain Terrestrial Linkage, and No Management Required*. Incorporation of a HDF into the NHN should be considered on a site specific basis with consideration of cumulative impacts at the larger landscape level. Those features which are classified as *Protection* were recommended to be incorporated into the NHN and be protected and/or enhanced in situ. Where a feature was classified as *Conservation*, it was recommended they also be included in the NHN; however, there may be considerations for relocation and/or enhancement of the HDF and its riparian zone corridor although the HDF must remain connected downstream.

Classification of each HDF into management recommendations was completed by following the flow chart illustrated on Figure 2 of the HDF Guidelines (2013). The following describes how each category was applied to each HDF in order to come up with a management recommendation.

Hydrology

Hydrology is classified into three categories: *Limited or Recharge, Valued or Contributing* and *Important*. The classification of an HDF as a hydrology category is described in Table 1.



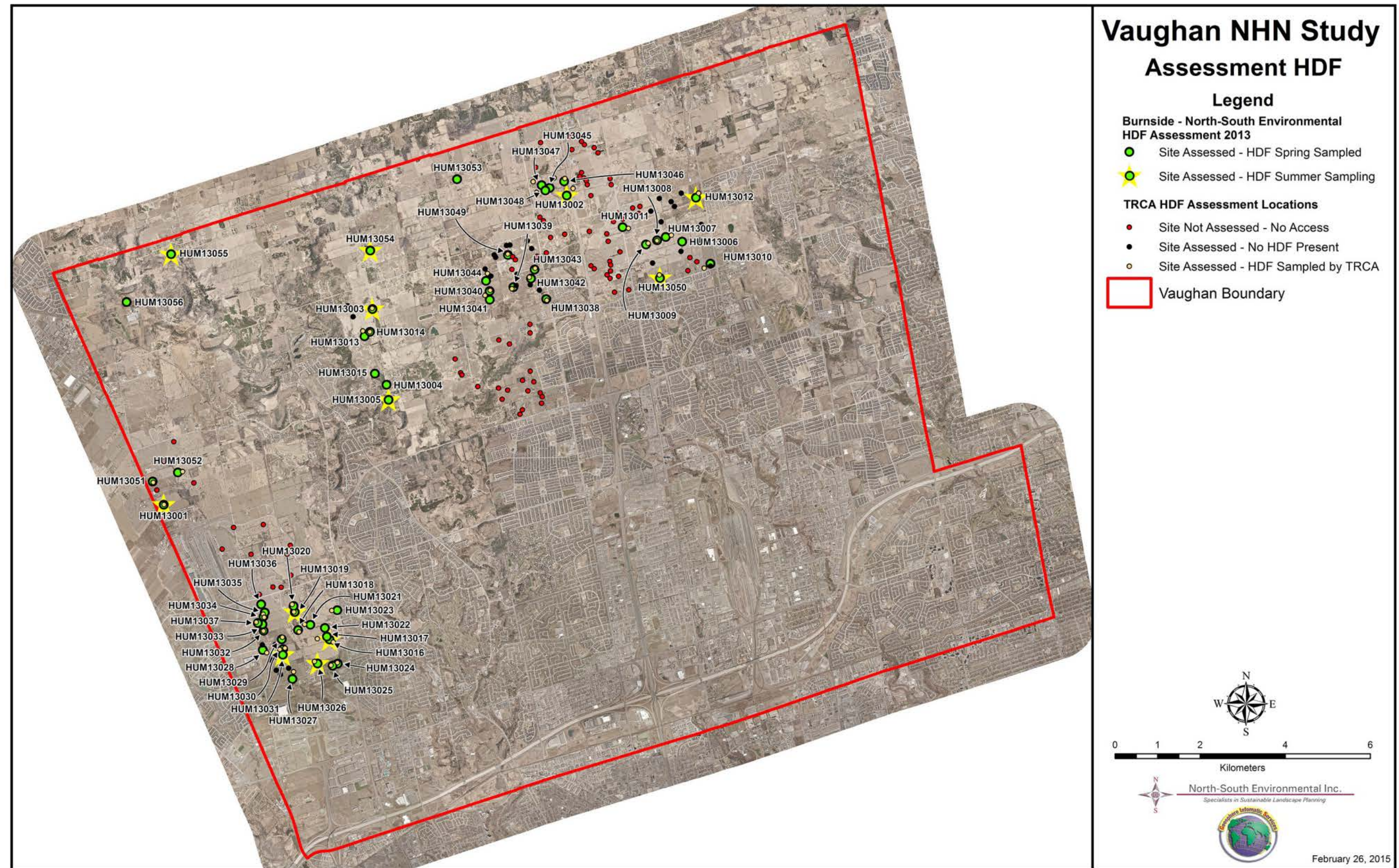


Figure 3: Location of 2013 Headwater Drainage Feature field site assessments

Table 1. Hydrology classification taken from Table 4 of HDF Guidelines (Toronto and Region Conservation Authority and Credit Valley Conservation 2013).

Assessment Period	TRCA Hydrology Classification		
	Limited or Recharge	Valued or Contributing	Important
Spring freshet (late March – mid-April)	FC = 1 or 2 AND FT = 4 or 7	FC = 3, 4, or 5 AND FT = 1, 2, 3, 4, 5, 7 or 8; OR if wetland (FT = 6) occurs upstream	
Late April – May	FC = 1 or 2 AND FT = 4 or 7	i. FC = 1 or 2 AND FT = 1, 2, 3 or 4 OR if wetland (FT = 6) occurs upstream; OR ii. FC = 3, 4, or 5 AND FT = 4, 5 or 7 OR if wetland (FT = 6) occurs upstream	
July - August			FC = 2, 3, 4 or 5 AND FT = 1, 2, 3, or 8; OR FT = 6 AND FC = 2

Note: The following categories are hierarchical with highest level of function increasing from left to right. The highest level of function satisfied according to the conditions outlined above is to be used to classify hydrology for features. Assessments may be completed for important features earlier in the season, but flow conditions need to be confirmed in summer in order to satisfy the criteria for this class.

OSAP Flow condition codes (FC): 1= no surface water (dry), 2 = standing water, 3 = interstitial flow, 4 = surface flow minimal (<0.5l/s), 5 = surface flow substantial (>0.5l/s)

OSAP Feature type codes (FT): 1 = defined natural channel (visible banks), 2 = channelized (historically natural channel, now straight with banks), 3 = multi-thread (> 1 channel), 4 = no defined feature (overland flow only), 5 = tiled drainage (buried stream/pipe with outlet), 6 = wetland, 7 = swale, 8 = roadside ditch (channelized running parallel with roadway), 9 = online pond outlet

*Springs and seeps can be assessed based on data from the Upstream and Downstream Site Features from the field sheet

Fish Habitat

Fish habitat is classified into two categories: *Important* and *Valued*. The classification of these categories is as follows:

1. Important Fish Habitat
 - a. Fish present year round, Species-at-Risk present or feature provides critical habitat
2. Valued Fish Habitat
 - a. Seasonal habitat (e.g. migration, spawning, feeding, cover) and indirect habitat to sensitive species (RSD) (i.e. if natural channel that would provide ephemeral habitat to RSD for feeding, etc.)
3. Contributing
 - a. Allochthonous transport through feature to downstream habitat



Recharge Hydrology

Recharge hydrology was determined through base mapping of Ontario soils from OMAFRA by cross referencing the HDF point with sandy or sandy loam soils with good drainage.

Riparian Vegetation

Riparian vegetation is either considered as *Important* or not and is considered *Important* if it contains the following attributes: FT = 6 or Riparian Vegetation = 5, 6, or 7 where it covers >50% of the area within 40 m upstream and downstream of the point (see Table 2).

Table 2. Riparian Vegetation classification taken from HDF Guidelines (Toronto and Region Conservation Authority and Credit Valley Conservation 2014).

Riparian Vegetation Code	Description	Observation
1	None	Over 75% of the soil has no vegetation; includes hard surfaces such as roads and buildings
2	Lawn	Grasses that are not allowed to reach a mature state due to mowing
3	Cropped Land	Planted or tilled in preparation for agricultural crops; plants typically arranged in rows (due to machine-planting); may be subject to periodic tillage
4	Pasture/Forage Crops	Grasses and forbs that are not allowed to reach a mature state due to grazing by livestock.
5	Meadow	Less than 25% tree/shrub cover; characterized by grasses, forbs and sedges
6	Scrubland	More than 25% and less than 60% trees and shrubs interspersed with grasses and forbs (a transitional area between meadow and forest, with trees generally less than 10 cm in diameter at breast height)
7	Forest	More than 60% of the canopy is covered by the crowns of trees
8	Wetland	Dominated by water tolerant wetland plants including rushes, and water tolerant trees or shrubs

Terrestrial Habitat

Terrestrial habitat is classified into three categories: *Important*, *Valued* and *Contributing*. The classification of these categories is as follows:

1. Important
 - a. FT = 6 with breeding amphibians*
2. Valued
 - a. FT = 6 acting as stepping stone for amphibians but no breeding amphibians (look for wetlands within 400 m)
3. Contributing



- a. Riparian Vegetation = 5, 6, 7 within 0-10 m that functions as riparian habitat along corridor with sampling point connecting two habitat features to facilitate movement of wildlife through corridor

4.3 Breeding Bird Surveys

The focus of breeding bird surveys was on identifying significant wildlife habitat (SWH) for breeding birds, particularly SWH related to successional areas and smaller forest patches. Though wetlands and large forest habitats can be considered SWH, they were considered a lower priority as generally they already met the criteria to be included in the NHN.

4.3.1 Selection of Breeding Bird Survey Sites

TRCA Ecological Land Classification (ELC) mapping, where available, was initially used to select habitat for surveying based on size. Additional habitat patches were selected in the field based on ground-truthing of aerial photography.

Selection of Areas to be Investigated as SWH for Open-country and Thicket-nesting Birds

Areas selected for bird surveys were initially focused on finding SWH for thicket-nesting and open-nesting bird species. Criteria shown in MNR Draft SWH Ecoregion 6E Criterion Schedule and Draft SWH Ecoregion 7E Criterion Schedule (MNR 2012) (Appendix 2) were used to guide the habitat on which to focus. While it is understood that these criteria are in draft form, they provide useful concrete guidance in initial screening for SWH. Ecoregion schedules include criteria related to size and those related to indicator species. Initial selection focused on habitat patches that met ecoregion criteria for size. The habitats of highest priority were the following:

- Cultural meadows greater than 30 ha; and
- Cultural thickets greater than 10 ha.

The initial screening also included obtaining information on presence of certain bird species from previous surveys, as Ecoregion schedules include criteria related to the presence of thicket- and grassland-dependent bird species. Bird surveys conducted by TRCA were available for the study area, so they were screened for the presence of indicator species noted in the past.

Priority bird species identified in the draft Ecoregion criteria for determination of open-country SWH are shown in Appendix 2. The presence of two or more of these listed species indicates SWH in both Ecoregion 6E and 7E. In addition to listed species, the presence of species listed as Special Concern under the Endangered Species Act, 2007 or species evaluated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Threatened or Endangered (even though not yet listed) can also be considered indicators of SWH. The species noted on the Ecoregion schedules that meet these criteria was Short-eared Owl. Common Nighthawk has been designated a species of Special Concern and therefore was considered in this study as an indicator species of open-country SWH.



Priority bird species identified in the draft Ecoregion criteria for determination of thicket SWH in Ecoregion 6E are shown in Appendix 2. Patches of cultural thicket supporting one indicator species plus two common species meet the criterion for SWH. The 2012 draft Ecoregion criteria included two species of Special Concern that could also be used as indicators of SWH: Golden-winged Warbler and Yellow-breasted Chat. However, these two species have since been designated Endangered under the ESA. Therefore they cannot be used as indicators of SWH. There are no species of Special Concern found in thicket habitats in the Vaughan area.

In addition to criteria related to size and species, there are some habitat criteria that are also provided for evaluation of SWH. To qualify as open-country SWH, grasslands should not include Class 1 or 2 agricultural lands, and should include lands not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. To qualify as thicket SWH, habitat must consist of shrubland or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years).

However, since it was not always possible to evaluate the condition of the habitat from roadsides, a conservative approach was taken that mapped as SWH all habitat that qualified because of the size and presence of indicator species. In addition, the exemption for Class 1 and 2 agricultural lands was not taken into consideration as the protection afforded within an NHN would only come into play if the land use changed from agricultural to urban, when the lands would no longer be useful for agriculture.

Surveys were focused on areas where bird surveys had not already been completed by TRCA, or where TRCA had completed surveys before 2005. However, a few surveys were completed in larger patches where access was available in order to provide a context for surveys in smaller habitat patches that could only be surveyed from the road.

Selection of Areas to be Investigated as SWH for Woodland Area-sensitive Birds

Selected smaller forests were investigated to determine whether there were smaller clusters of forest habitat that together would support species that are considered area-sensitive. Surveys therefore included forest clusters that considered together would comprise at least 20 ha; where at least one patch was a minimum of 10 ha, and as long as individual patches were smaller than 20 ha. The rationale for this was that forests over 20 ha are considered significant woodlands and would thus be included in the NHN. In addition, larger forests have generally been surveyed by TRCA. An additional habitat criterion noted in Ecoregion schedules, that the interior forest habitat should be >200 m from the forest edge, was not considered in selection of habitat for surveying as the purpose of woodland surveys was to determine whether larger clusters of forest supported area-sensitive species.



TRCA's data were examined for the presence of woodland area-sensitive bird species. Woodland area-sensitive species considered indicators in the Ecoregion Schedules for both 7E and 6E are shown in Table 3 of Appendix 2. In addition to indicator species, the presence of species listed as Special Concern under the Endangered Species Act, 2007 or species evaluated by the Committee on the Status of Endangered Wildlife in Canada as Threatened or Endangered (even though not yet listed) can also be considered indicators of SWH. Canada Warbler was listed in Ecoregion schedules as the only species that meets this criterion. However, as of 2013, two additional species have been designated Special Concern: Wood Thrush and Eastern Wood-Pewee. Thus, SWH mapped in this study includes forest patches that supported Wood Thrush and Eastern Wood-pewee.

4.3.2 Breeding Bird Survey Methods

Landowner contact was initiated for properties that were a priority for surveys. However, there were very few sites where permission was granted to access the site. Site surveys were conducted within sites if permission could be obtained, but most were conducted from roadsides.

Fifty-one point count surveys were conducted according to Environment Canada protocols for point counts. Points from which surveys were conducted are shown in Figure 4. Two surveys were conducted at 45 of the points, in the early part of the season (June 4th to 8th) and the late part of the season (June 18th to 19th). Six additional points were surveyed only on one occasion, as a result of permissions being granted at later dates. All surveys were conducted between 5:00 a.m. and 9:30 a.m., in fair weather with wind less than 4 on the Beaufort Scale. Each point count consisted of passive listening for 10 minutes. All birds heard or seen during each ten minute point count were noted.



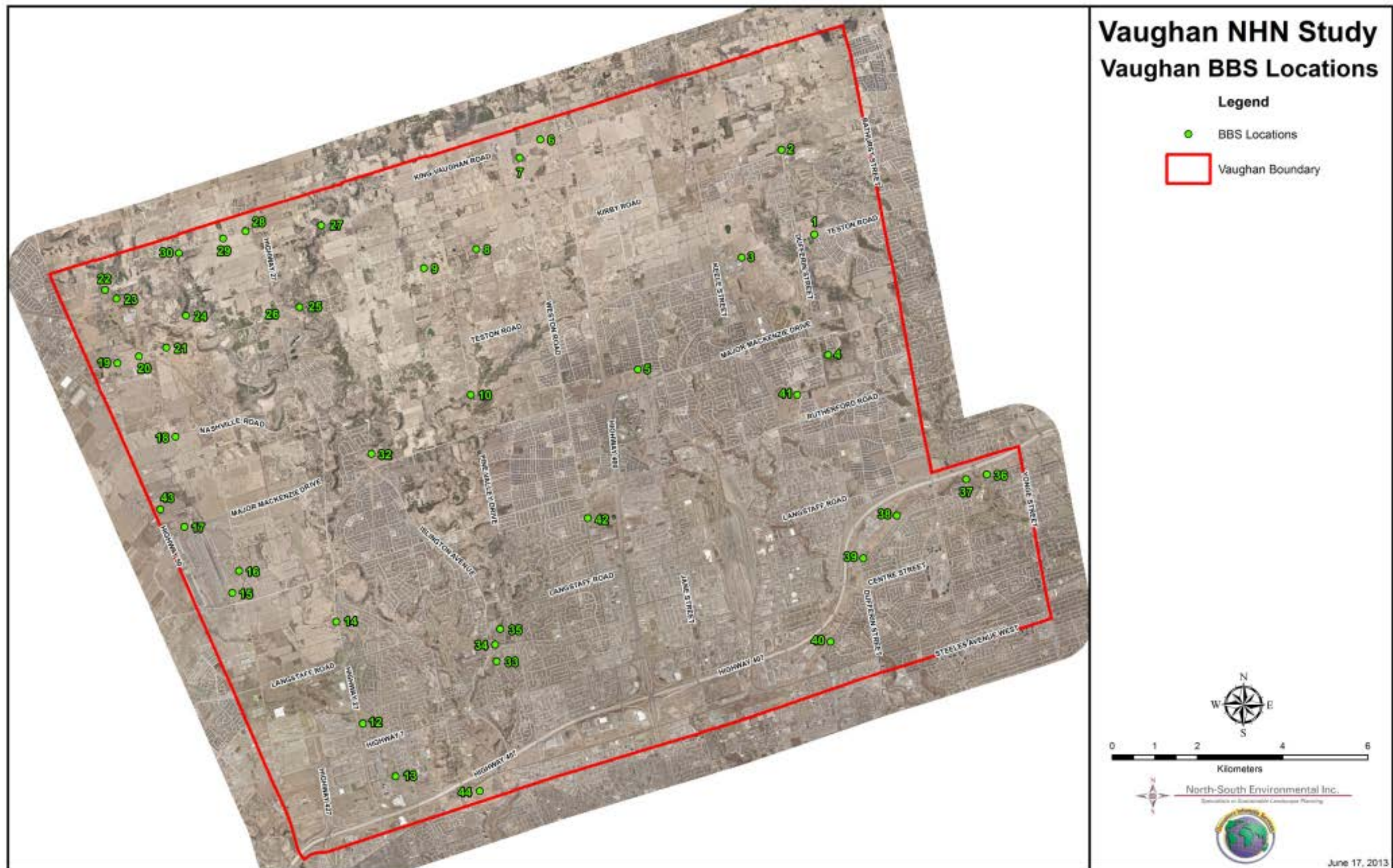


Figure 4: Location of 2013 point count surveys for breeding birds in Vaughan

4.3.3 Delineation of Significant Wildlife Patches for Birds

Patches of Significant Wildlife Habitat were initially identified on the basis of the presence of indicator species for each of the habitats in question (open-country, thicket and woodland), using both TRCA and NSE 2013 data. If the patch met the criteria according to the species present, it was then delineated through interpretation of its boundaries on aerial photography, assisted by TRCA mapping (if available) or, for woodlands, woodland patch mapping. The presence of indicator species coupled with the minimum patch sizes shown in Ecoregion schedules (30 ha for open-country habitat, 10 ha for thicket habitat and 30 ha for woodland habitat) was used to designate the patches as SWH for open-country species, thicket species and woodland species. No size criterion was required to designate habitat as SWH on the basis of Special Concern species listed under the ESA or species evaluated as Threatened or Endangered by COSEWIC.

Two area-sensitive grassland species considered Threatened under the ESA were noted widely within meadows in the study area: Bobolink and Eastern Meadowlark. Despite their area-sensitivity, these species are not considered indicators of significant open-country habitat because their habitat is regulated by the Endangered Species Act, 2007. However, because most surveys were conducted from roadsides, there was the potential for some of the species that inhabit the same habitat as Bobolink and Eastern Meadowlark to be overlooked if they were at a distance from the roadside that they could not be heard. Therefore, habitats where Bobolink and Eastern Meadowlark occurred were considered areas of potential SWH and so these patches were mapped and have been provided in the digital database provided to the City for future reference.

Barn Swallow is also considered a Threatened species under the Endangered Species Act. This species depends on human-made structures for breeding. Eight records of Barn Swallow were noted, but the habitats were not mapped as the breeding locations were likely in neighbourhoods adjacent to natural areas. Habitat for Barn Swallow would not be considered SWH, as it is regulated under the ESA.

4.4 Bluff Surveys

Bluff communities have the potential to contain rare plants (e.g. prairie species) and animals (e.g. Bank Swallow) and as such were surveyed along a reach of the Humber River by canoe between the northern limit of Vaughan and Nashville Road. The survey was completed on September 19th, 2013. Bluff communities were identified according to the Ecological Land Classification (Lee et. al. 1998) description.

Bank Swallow have recently been designated as Endangered under the ESA. Bluff habitat for these species is thus regulated by the ESA.



5.0 ANALYSIS OF FIELD DATA

5.1 Significant Wildlife Habitat

The Significant Wildlife Habitat Technical Guide (SWHTG) (2000; Appendix Q) provides guidance for evaluating Significant Wildlife Habitat (SWH), however, the SWHTG does not include detailed criteria to aid in the identification of SWH. More detailed draft criteria for evaluating SWH have been developed by the Ministry of Natural Resources (MNR) for some areas of the province; (see Appendix 2 for *Draft Significant Wildlife Habitat Ecoregion 6E Criterion Schedule and the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule*, MNR 2012). These draft criteria were used with the available spatial data (e.g. woodland, wetland, meadowland, successional woodland, orthoimagery, etc.) and species location data (North-South Environmental field data 2013 and TRCA data) for Vaughan to identify SWH; the criteria for eco-region 6E were applied to those areas within the Oak Ridges Moraine, and the criteria for eco-region 7E were applied to the remainder of Vaughan.

The SWH analysis has identified and delineated “Confirmed SWH” and this information has been added to the digital database used in defining the NHN in Vaughan.

5.1.1 Analysis of Amphibian SWH (Woodland and Wetland)

The Significant Wildlife Habitat Technical Guide (SWHTG) (2000; Appendix Q) provides guidance for evaluating woodland amphibian breeding habitat. However, it lacks concrete criteria for identifying significant wildlife habitat. Draft criteria for evaluating significant wildlife habitat for both amphibian woodland and wetland habitat are provided in the Draft Significant Wildlife Habitat Ecoregion 6E Criterion Schedule and the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (MNR 2012). These draft criteria were used to identify significant wildlife habitat where the criteria for eco-region 6E were applied to those areas within the Oak Ridges Moraine, and the criteria for eco-region 7E were applied to the remainder of Vaughan.

Data obtained from surveys completed by North-South in 2013 and data obtained from the TRCA were both used in evaluating features as significant wildlife habitat for amphibians. TRCA data from 2005 and 2008 were deemed acceptable if the current habitat (e.g. woodlands, wetlands and breeding ponds and their surroundings) appeared unaltered based on a review of orthoimagery of the features present at the time of the surveys. The abundance of frogs calling can change daily as well as annually based on climatic differences (e.g. temperature, precipitation); as such, the highest abundance code was used in the analysis, including data obtained in 2008, if the habitat had not been altered since the time of earlier surveys.

Woodland amphibian breeding habitat was identified in Ecoregion 7E where two or more of the listed frog species were present (Table 3) with at least 20 individuals recorded. In Ecoregion 6E (the Oak Ridges Moraine) woodland amphibian breeding habitat was identified where one or more of the listed frog species was noted. The habitat included the woodland and wetland ELC polygons combined where the



wetland/pond was within 120 metres of the woodland. A presumed travel corridor connecting the woodland and wetland/pond breeding habitat was also included as part of the significant wildlife habitat.

Where the wetland was over 120 metres from a woodland, was at least 500 m², and sufficient numbers and diversity of amphibians were present, the habitat was evaluated as wetland amphibian breeding habitat. Wetland amphibian breeding habitat was identified in Ecoregion 7E where two or more of the listed frog species (Table 3) with at least 20 individuals was recorded. In Ecoregion 6E, wetland amphibian breeding habitat was identified where three or more of the above listed frog species was recorded with at least 20 individuals. The ELC ecosite wetland area and the shoreline are considered the significant wildlife habitat where the wetland/pond was at least 500 m².

Table 3. Criteria used to evaluate amphibian woodland and wetland significant wildlife habitat.

Significant Wildlife Habitat	Frog Species	Criteria for Eco-region 7E	Criteria for Eco-region 6E
<i>Amphibian Woodland</i>	<ul style="list-style-type: none"> Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog 	Two or more of the listed species with at least 20 individuals	One or more of the listed species with at least 20 individuals
<i>Amphibian Wetland</i>	<ul style="list-style-type: none"> Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog 	Two or more of the listed frog species with at least 20 individuals	Three or more of the listed frog species with a least 20 individuals

5.1.2 Significant Wildlife Habitat Based on Breeding Bird Species

Table 4 provides a summary of types of SWH within the Vaughan study area, derived as a result of field surveys in 2013 as well as TRCA surveys. The number of habitat polygons and the areas of polygons are also summarized in Table 4. The following sections provide a description of the derivation of each type of SWH.



Table 4. Significant Breeding Bird Habitats noted within the Vaughan Study Area

Type of Habitat	Total Area (ha)	Number of Patches	Average Area of Patches (ha)	Size Range of Patches (ha)
SWH Area Sensitive Open Country Breeding Birds	46.27	1	46.3	46.27
SWH Special Concern Open Country Breeding Birds (Common Nighthawk)	19.16	1	19.2	19.16
SWH Special Concern Woodland Bird Species (Wood Thrush and Eastern Wood-pewee)	1641	67	24.4	2.1 to 129
SWH Area-sensitive Woodland Bird Species	638.63	9	71.0	23.1 to 130.5
SWH Shrub/Early Successional Breeding Birds	998.94	8	124.9	34.4 to 385.6
SWH for Shrub/Early Successional Breeding Birds and Threatened Grassland Bird Species	142.34	1	142.3	34.4 to 203.9
Potential SWH - Habitat for Threatened Grassland Bird Species (Bobolink and Eastern Meadowlark)	1143.99	56	20.4	0.24 to 114.4

5.1.3 SWH for Area Sensitive Open Country Breeding Birds

Only one patch of open-country breeding bird SWH was noted in the study area. This area was designated on the basis of the presence of both Grasshopper Sparrow and Vesper Sparrow, noted by TRCA in 2012, within a habitat patch of approximately 46 ha.

One other open-country indicator species, Savannah Sparrow, was noted widely within the study area. However, as noted in the Methods section, two indicator species are required to indicate SWH [see also MNR Draft SWH Ecoregion 6E Criterion Schedule and Draft SWH Ecoregion 7E Criterion Schedule (MNR 2012) provided below in Appendix 2]. Savannah Sparrow is considered area-sensitive by MNR, but it is on the lower end of the spectrum of area-sensitivity, and is very flexible in terms of habitat: it can nest in croplands such as wheat and corn fields (personal experience). Other indicator species, which include Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow and Northern Harrier, were rarely noted within the study area (Upland Sandpiper was not noted within the study area by TRCA or by NSE). Northern Harrier were noted occasionally, but they range widely while foraging so even though there was one occasion that a northern Harrier was noted in a habitat where Savannah Sparrows were noted, there was no evidence that the Northern Harrier was breeding so this patch was not delineated as SWH.

This habitat also supported two area-sensitive grassland species for which habitat is regulated by the Endangered Species Act, 2007 and thus cannot be considered



indicator species of SWH: Bobolink and Eastern Meadowlark. However, the presence of these species is a further indication that the habitat is important for area-sensitive grassland bird species.

5.1.4 SWH for Special Concern Open-Country Breeding Birds

Common Nighthawk, a species of Special Concern under the ESA, was noted conducting breeding displays within the power line corridor at the southeast corner of the study area, just south of Highway 407. This species breeds on gravelly surfaces on the ground and on rooftops, and conducts displays in open areas. It forages on aerial insects in a variety of habitats. The power line corridor provides suitable foraging habitat and breeding habitat is likely present within or in close proximity to the power line corridor.

5.1.5 Habitat for Threatened Area-sensitive Grassland Species

As noted in section 4.3.3, Eastern Meadowlark and Bobolink cannot be considered indicator species of SWH, as they are regulated by the ESA. However, their presence is an indication that the habitat is suitable for area-sensitive grassland species, which includes all species considered indicators of SWH for open-country species by MNR. Savannah Sparrows were also frequently found in these habitats. There is the potential for additional indicator species in these habitats, especially since the 2013 surveys were conducted from roadsides and not all parts of the habitat could be surveyed.

5.1.6 SWH for Shrub/Early Successional Breeding Birds

Eight patches of SWH for thicket-nesting species were noted, mainly on the basis of finding the indicator species Brown Thrasher plus two of the common species: primarily Willow Flycatcher, Eastern Towhee and Field Sparrow, with occasional Black-billed Cuckoo. Only one Clay-coloured Sparrow (also considered an indicator species) was found within the study area, and this area did not support additional qualifying species.

The patch sizes for these habitats were on average larger than other types of SWH noted within the study area. One reason for this may have been that the polygons were sometimes difficult to delineate, as thicket habitat tended to occur as patches interspersed with small patches of woodland, wetland and open field. In one case, Eastern Meadowlark and Bobolink were noted in open areas among patches of thicket in a large natural area that supported many thicket indicator species.

5.1.7 SWH for Area-Sensitive Woodland Breeding Birds

Area-sensitive woodland breeding birds were noted rarely within the 2013 surveys, indicating that the clusters of smaller forest patches studied in 2013 did not readily support area-sensitive woodland species. The lack of area-sensitive species may have also been partly because most surveys in 2013 were conducted from roadsides. The only woodland area-sensitive birds noted in 2013 surveys were Red-breasted Nuthatch (two records) and Scarlet Tanager (one record), and these birds were not found with other area-sensitive species.



Most of the delineation of woodland area-sensitive bird SWH incorporated larger forests studied by TRCA. TRCA's surveys incorporated some of the largest forests in Vaughan. The most common area-sensitive bird species found by TRCA were Ovenbird (51 records), Scarlet Tanager (45 records), Red-breasted Nuthatch (25 records), Black-throated Green Warbler (12 records), Veery (7 records), Winter Wren (4 records) and Yellow-bellied Sapsucker (1 record).

5.1.8 SWH for Special Concern Woodland Species

Sixty-seven patches of woodland support Eastern Wood-pewee, of which thirty-one patches also contain Wood Thrush (Table 4). Both species have a status of Special Concern in Ontario, and Wood Thrush was also recently designated Threatened in Canada by COSEWIC. This species is not considered area-sensitive by MNR, though it is often found in larger and more mature forest patches (personal experience). Most, though not all, habitats occupied by area-sensitive woodland species were also occupied by Wood Thrush. Conversely, however, most habitats occupied by Wood Thrush were not occupied by area-sensitive birds.

Eastern Wood-pewee and Wood Thrush are identified as priority landbird species for conservation planning in the *Ontario Landbird Conservation Plan* (Ontario Partners in Flight 2008).

5.2 Headwater Drainage Feature Analysis

North-South Environmental completed comprehensive analysis of HDF including field data collection in spring and summer 2013 and data analysis following the revised TRCA/CVC HDF Guidelines (2013). The analysis results have been provided to Vaughan as part of the digital GIS database for future reference. Analysis results provide one of the following management recommendations:

- Protection
- Conservation
- Mitigation
- Maintain Recharge
- Maintain Terrestrial Linkage
- No Management Required

For those HDF which, through comprehensive field data collection and analysis, receive a management recommendation of “protection”, “conservation” or “maintain terrestrial linkage” it is recommended that these HDF be included in the NHN for Vaughan. For those HDF which receive other management recommendations, but particularly “mitigation” and “maintain recharge”, it is recommended that any proposed development should maximize the implementation of Low Impact Development (LID) measures as recommended by Conservation Authorities (CVC/TRCA 2010) to reduce the impact of development on surface water flow, ground water infiltration and evapotranspiration. Based on the HDF field studies and analysis completed as a part of this project the following recommendations are made to strengthen future HDF studies:



- A single field visit is insufficient to make a final management recommendation, particularly in regard to Hydrology Classification, early and late spring field sampling as well as summer field sampling are needed to fully characterize the conditions of HDF.
- A desktop exercise using orthoimagery (and other available digital/hard copy data) is recommended prior to field analysis in addition to post field analysis to consider additional information such as presence of riparian habitat, digital soils information, vicinity to wetlands, vicinity to known amphibian habitat, and movement corridor function between wetlands/woodlands, ponds and forests.
- Agricultural tilling/plowing removes evidence of a channel (if present) making the determination of “Feature Type” difficult (or erroneous). We recommend sampling be completed prior to spring tillage/plowing. If this is not possible we recommend an effort may be made to look upstream/downstream beyond the area of tillage and/or similar adjacent HDF to make an accurate determination of Feature Type.
- Agricultural land use may remove and prevent the development of wetland vegetation. We recommend evidence of upstream wetland vegetation or strong evidence of downstream wetland vegetation should be taken into consideration in determining the “potential” presence of a wetland feature.
- We recommend data sheets include the following sections to record additional data important to determining a management recommendation (including data that may be compiled from additional sources such as orthoimagery):
 - fish presence with comment line to note species [information used to determine hydrology];
 - benthic insects present with comment line to note species [information used to determine hydrology];
 - amphibian presence with comment line to note species present and recommendation requiring amphibian survey [information may be used in determining terrestrial habitat classification];
 - presence of habitat (wetland, woodland, thicket) upstream, downstream, and adjacent and the estimated distance [information may be used in determining terrestrial habitat classification in regard to stepping stone function for amphibians and movement corridor function for other wildlife]; and
 - check box to recommend summer sampling for presence of flow and/or standing water in a wetland (include footnote outlining requirement for summer sampling based on Flow Condition of 5 recorded during spring base flow sampling and/or presence of a wetland with obligate wetland species) [information used to determine hydrology].



6.0 DIGITAL DATA AVAILABLE IN THE GIS DATABASE

Digital data from a wide variety of sources was assembled to provide the foundation for development of the NHN. Sources of data included:

- data from the Province's digital data warehouse - Land Inventory Ontario (LIO);
- data made available by York Region;
- data made available by the Toronto and Region Conservation Authority;
- digital data from the City of Vaughan; and
- data collected from field studies conducted for the NHN study.

A variety of types of data are in the GIS database including:

- information on the natural environment such as information on woodlands, wetland and watercourses, crest of slope, etc.;
- information regarding designated areas such as provincially designated Areas of Natural and Scientific Interest (ANSI) or Provincially Significant Wetlands (PSW); and
- information regarding existing land use designations such as the provincial Greenbelt Natural Heritage System and Oak Ridges Moraine Core and Linkage Area, York Region's Greenlands, and City of Vaughan Open Space and property boundaries.

In some cases the available digital data was updated to reflect current conditions in Vaughan. For example, areas of woodland in the digital database that are no longer present due to removal for urban development were removed to update the digital database. The complete list of available digital data is shown in Table 5.

Table 5. Digital Data available in the City of Vaughan digital data set.

DIGITAL DATA	SOURCE(S)	DESCRIPTION
Forest/Woodlands	York Region, LIO, TRCA	Woodland identified through interpretation of aerial imagery and field investigations Significant woodlands identified based on York Region criteria
Wetlands	LIO, TRCA	Wetlands identified through interpretation of aerial imagery and field investigations. Provincially Significant Wetlands identified based on Provincial criteria and noted in LIO data.
Meadowlands	TRCA	Meadowlands identified through interpretation of aerial imagery and field investigations.
Flora & Fauna	TRCA, NSE	Point locations of species observations based on field studies undertaken by TRCA and North-South Environmental (NSE)



DIGITAL DATA	SOURCE(S)	DESCRIPTION
Significant Wildlife Habitat	NSE, TRCA	As determined through analyses described in this report based on Draft Significant Wildlife Habitat Ecoregion 6E Criterion Schedule and the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (MNR 2012)
Watercourses	LIO, TRCA	Watercourses identified through interpretation of aerial imagery and field investigations.
Waterbodies	LIO, TRCA	Waterbodies identified through interpretation of aerial imagery and field investigations.
Crest of Slope	TRCA	The crest of slope was identified digitally using a Digital Elevation Model (DEM)
Oak Ridges Moraine	York Region	Includes Oak Ridges Moraine Core and Linkage Areas
Greenbelt Plan	York Region	Includes Greenbelt Natural Heritage System
York Regional Greenlands System	York Region	Includes areas designated York Regional Greenlands in Vaughan
Areas of Natural and Scientific Interest	LIO	Includes Earth Science and Life Science Areas of Natural and Scientific interest within the City of Vaughan
Environmentally Significant Areas	TRCA	Includes areas designated Environmentally Significant by the TRCA
City of Vaughan Zoning	Vaughan	Includes existing property boundaries and zoning maintained by the City of Vaughan



7.0 CRITERIA USED TO IDENTIFY A NHN FOR VAUGHAN

The criteria used to determine areas included in Vaughan's NHN are based on ecological principles intended to achieve the goal established for the NHN while also conforming to policies of the Province, York Region and the City of Vaughan.

To identify a Natural Heritage Network (NHN) consisting of core areas & enhancement areas that form a robust, linked ecological system of resilient natural habitats providing long term protection of native biodiversity. (NHN Goal statement)

The criteria used in identifying what natural features and areas in Vaughan are included within the NHN are described below. Criteria are applied to the available digital data set (see Section 6) following one of three methods briefly described as:

1. criteria are applied directly to digital data to identify NHN areas without any further modification (e.g. Areas of Natural and Scientific Interest);
2. criteria are applied to digital data and a vegetation protection zone of a specified width is added to natural heritage features, to identify NHN areas; or
3. digital data are analyzed based on the criteria described below to identify an area for inclusion in the NHN.

Protection of species at risk as required by the Federal Species at Risk Act (2002) and Provincial Endangered Species Act (2007), including the protection of habitat for Endangered and Threatened species and Fish Habitat, is addressed through the policies in the VOP 2010 in accordance with appropriate federal and/or provincial legislation. As a result, NHN criteria are not established specifically to map habitat of Endangered and Threatened species and Fish Habitat, although such habitat is often included in the natural features identified below.

The discussion below provides the rationale for the revision of Schedule 2, the Natural Heritage Network (see Figure 5 in this report), of the Vaughan Official Plan (VOP 2010). Schedule 2 depicts Core Features and Enhancement Areas, which are described in policy in section 3.2 of the VOP 2010. In response to requirements set out by York Region and the Province, the City proposes to add Schedules to depict the features used as the basis for the NHN:

- Schedule 2A Hydrologic Features and Valleylands (Figure 6 in this report);
- Schedule 2B Woodlands (Figure 7 in this report); and
- Schedule 2C Significant Wildlife Habitat (Figure 8 in this report).

As described below, not all features depicted on proposed Schedules 2A, 2B and 2C are included as Core Features on Schedule 2.

7.1 Woodlands

Core Features Mapping Criteria: Woodland patches 0.2 hectares in size and greater are included in the NHN, consistent with VOP 2010 policy 3.2.3.4(c). For Core Features on Schedule 2, a 30 metre vegetation protection zone is added to



woodlands within the Greenbelt NHS and Oak Ridges Moraine Core and Linkage designations; in all other areas a 10 metre vegetation protection zone is added.

Schedule 2B depicts all woodlands, some of which are not included in the Core Features as a result of previous development approvals, including:

- Woodlands determined not to be protected through the Block Plan application process, including some woodlands within lands designated and zoned for active parkland purposes; and
- several isolated woodlands in estate lots having been the subject of previous Draft Plans of Subdivision.

Justification: Approximately 88% of the original woodland cover has been removed in the City of Vaughan. This substantial reduction in native woodlands is more critical because the remaining woodland patches are much smaller, they often lack interior conditions, and they are often highly disturbed due to unsustainable logging, agricultural grazing and recreational use practices. As a result, woodland conservation is a high priority and there is need for programs to increase woodland cover.

Policy Implications: The criteria above to define woodlands as part of the NHN are consistent with policy 3.2.3.4(c), in which it is noted that Core Features of the NHN include “*woodlands* including those identified as *significant*, with a minimum vegetation protection zone as measured from the *woodlands* dripline of 10 metres, or 30 metres for those *woodlands* within the Oak Ridges Moraine and Greenbelt Plan Areas”. The definition for woodlands in the VOP 2010 includes woodlands at least 0.2 hectares in size.

Policy 3.3.3.3 is intended to provide tests to determine if development and/or site alteration can occur in a woodland in the Urban Area, in which case woodland enhancement is required in accordance with policy 3.3.3.4. Submissions received during the public comment period following the June 17, 2014 Committee of the Whole (Public Hearing) noted inconsistencies between the VOP 2010 policies and those of the York Region Official Plan (ROP 2010). The VOP 2010 policies are intended to allow for modifications to woodlands that are not considered significant, subject to appropriate compensation. The ROP 2010 policies allow for modification of woodlands that meet the tests of significance in ROP 2010 policy 2.2.45, but are not considered significant according to the tests in ROP 2010 policy 2.2.48. As the City of Vaughan has only 11% woodland cover, the VOP 2010 policies are intended to ensure no further loss of woodland cover, but provide flexibility to allow for woodland removals subject to compensation so that a more ecologically viable NHN is created over time.

Based on the stakeholder consultation, it is proposed to amend VOP 2010 policies 3.3.3.3 and 3.3.3.4 to clarify the policy approach. Policy 3.3.3.3 is simplified and refers to tests of significance in the ROP 2010, being ROP 2010 policies 2.2.45 and



2.2.48. VOP 2010 policy 3.3.3.4 is simplified to refer to the circumstances for which policy 3.3.3.3 applies.

The proposed amendments are provided below.

- 3.3.3.3. That notwithstanding policy 3.3.3.1 and policy 3.3.3.2, within the *Urban Area* on Schedule 1A, and outside of the Oak Ridges Moraine Conservation Plan and Greenbelt Plan Areas, *development or site alteration* may be permitted in a *woodland* if all of the following are met:
- a. the *woodland* is not a *significant woodland* as defined by the Region;
 - b. impact to the woodland is unavoidable and/or the woodland is not suitable for restoration and rehabilitation, as demonstrated through an assessment of development alternatives to the satisfaction of the City, York Region and the Toronto and Region Conservation Authority; and
 - c. a net ecological gain can be provided to the Natural Heritage Network, as measured by attributes such as size, habitat condition and landscape context, to the satisfaction of the City, York Region and the Toronto and Region Conservation Authority, should all or part of the woodland be modified.

Proposed addition to Policy 3.3.3.4:

- 3.3.3.4 That should policy 3.3.3.3 apply, a woodland determined not to be significant can be modified where compensation is provided to the satisfaction of the City, Region and the Toronto and Region Conservation Authority. A woodland compensation plan shall be provided that addresses woodland restoration and demonstrates net ecological gain to the Natural Heritage Network to satisfaction of the City, Region and the Toronto and Region Conservation Authority. The restoration area(s) shall be incorporated into the Natural Heritage Network.

It is also proposed to amend the definition of a woodland in the VOP 2010 to be consistent with the ROP 2010 to assist in the interpretation of the woodlands policies.

- A treed area of land at least 0.2 hectare in size with at least:
- a. 1000 trees of any size, per hectare;
 - b. 750 trees measuring over 5 centimetres diameter at breast height, per hectare;
 - c. 500 trees measuring over 12 centimetres diameter at breast height, per hectare; or,
 - d. 250 trees measuring over 20 centimetres diameter at breast height, per hectare,



but does not include a cultivated fruit or nut orchard, a plantation established for the purpose of producing Christmas trees or nursery stock. For the purposes of defining a *woodland*, treed areas separated by more than 20 metres will be considered a separate *woodland*. When determining the limit of a woodland, continuous agricultural hedgerows and woodland fingers or narrow woodland patches will be considered part of a woodland if they have a minimum average width of at least 40 metres and narrower sections have a length to width ratio of 3 to 1 or less. Undeveloped clearings within woodland patches are generally included within a woodland if the total area of each clearing is no greater than 0.2 hectares. In areas covered by Provincial Plan policies, woodland includes treed areas as further described by the Ministry of Natural Resources.

It is proposed to amend the definition of *significant* in regard to *woodlands* in order to remove the reference to ROP 2010 policy numbers.

- c. In regard to *woodlands*, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; economically important due to site quality, species composition, or past management history; or an area that meets criteria for *significant woodlands* in the York Region Official Plan; and

7.2 Wetlands

Core Features Mapping Criteria: All wetlands within Vaughan are included within the NHN. A 30 metre vegetation protection zone is added to all wetlands.

Justification: Over 85% of the original wetlands have been removed in the City of Vaughan. Wetlands are among the most important biological communities providing critical breeding habitat, and seasonal and overwintering habitat to hundreds of species. As well wetlands perform important hydrologic functions of water storage, attenuation and infiltration. Protecting and restoring wetland habitat and functions is a critical part of protecting Vaughan's natural heritage.

Policy Implications: It is noted in VOP 2010 policy 3.2.3.4(b) that Core Features of the NHN include "wetlands, including those identified as provincially *significant*, with a minimum 30 metre vegetation protection zone". Hence, the mapping criteria above is consistent with VOP 2010 policy 3.2.3.4(b). Furthermore, VOP 2010 policy 3.3.2.3 subparagraph (d) addresses the need for an appropriate vegetation protection zone (VPZ), which may be greater than 30 metres for a provincially significant wetland (PSW) depending on the ecological functions of the PSW and the impacts of the adjacent development.

Submissions received during the public comment period following the June 17, 2014 Committee of the Whole (Public Hearing) noted inconsistencies between VOP 2010



policy 3.3.2.2, the policy addressing PSWs and other wetlands, and the wetland policies in the ROP 2010. As a result, policy 3.3.2.2 is amended to address the following issues:

- Clearly noting that PSWs and Provincial Plan Area wetlands require a minimum 30 metre vegetation protection zone;
- Replacing the term “non-evaluated wetlands” with “other wetlands”;
- Noting that other wetlands that may be impacted shall be evaluated according to criteria provided by the Province, consistent with section 4.7 and the definition of “significant” in the Provincial Policy Statement (PPS), 2014;
- Adding a subparagraph to address ROP 2010 policy 2.2.36 with respect to evaluated wetlands and to recognize either: (i) the situation where the evaluated wetland is identified on Map 4 of the ROP 2010, in which case a VPZ generally no less than 15 metres is required; or (ii) the evaluated wetland is not recognized on Map 4 of the ROP 2010, in which case the VPZ is determined through an EIS and/or appropriate studies; and
- Adding a subparagraph to address the circumstance in which a wetland that is not a PSW is determined to be maintained on the landscape, but not likely to persist in its current location in the post-development context, such that it can be modified, subject to compensation.

The proposed amendment to policy 3.3.2.2 is provided below.

3.3.2.2. Provincially *significant* and Provincial Plan Area *wetlands* and their minimum vegetation protection zone of 30 metres are included as Core Features. Notwithstanding policy 3.3.2.1.a, prior to *development* or *site alteration* approval, other *wetlands* that may be impacted shall be assessed for their significance, in accordance with criteria provided by the Province, and to determine their importance, functions and means of protection and/or maintenance of function to the satisfaction of the City, Region, and the Toronto and Region Conservation Authority. Other *wetlands* and newly identified *wetlands*:

- a. determined to be provincially *significant* shall be protected according to Provincial requirements and the policies of this Plan;
- b. within the Oak Ridges Moraine and Greenbelt Plan Areas will be subject to the requirements of those plans;
- c. evaluated, where their importance and function are determined appropriate for protection, but not determined to be provincially *significant*, shall be protected in accordance with the Region Official Plan including a vegetation protection zone determined through appropriate studies;
- d. determined to have ecological functions to be protected shall generally be maintained in their current location, unless a *wetland* would not persist in the post-development situation, in which case it can be modified subject to compensation of the same to the



satisfaction of the City and Toronto and Region Conservation Authority.

7.3 Crest of Slope

Core Features Mapping Criteria: All areas within the crest of slope are included within the NHN. Within the Greenbelt NHS and the Oak Ridges Moraine Natural Core, Natural Linkage and Countryside designations, a 30 metre vegetation protection zone is added. In all other areas a 10 metre vegetation protection zone is added.

Justification: Valleylands are complex, dynamic riverine landscapes that change over time due to the action of running water. The large valley systems of the Don River and Humber River formed in part in association with high water flow that occurred over 10,000 years ago as glaciers retreated. In southern Ontario valleylands represent some of the most significant continuous natural areas remaining. Valleylands protect terrestrial communities such as forests, thickets, meadowlands, and cliff communities as well as aquatic communities such as wetlands, seasonally flooded areas, cut-off river channels such as oxbows, and a variety of active main and secondary braided river channels.

The City recognizes that the information regarding crest of slope estimates the valley top of bank and/or stable slope. The evaluated top of bank and/or stable long term slope may differ from the crest of slope when more detailed assessment is undertaken as part of a development application.

Past development has occurred below the top of bank in certain parts of Vaughan. These areas are recognized and mapped as Built-up Valley Lands in the NHN. The mapping of Built-up Valley Lands have not been refined as part of the NHN Study.

Policy Implications: It is noted in VOP 2010 policy 3.2.3.4(a) that Core Features of the NHN include “*valley and stream corridors*, including provincially *significant* valleylands and permanent and intermittent streams”. It is recognized by the City that the crest of slope information is: (i) not available for all valley features (i.e. valley corridors that “can visually be identified from its surrounding landscape” according to the definition in VOP 2010); and (ii) an estimate of the valley limits. VOP 2010 policy 3.3.1.3 directs that the precise limits of valley and stream corridors are determined to the satisfaction of the City and the TRCA. Hence, additional policy text is not required to ensure that valleylands are properly delineated and to accommodate changes to the NHN as depicted on Schedule 2 of the VOP 2010.

Sections 7.3.1.3 and 7.4.3 of the TRCA’s “*The Living City Policies*” provide further details regarding the delineation of valley and stream corridors and planning measures relating to the valley and stream erosion hazard. The VOP 2010 policies are consistent with “*The Living City Policies*”.



Proposed amendments to VOP 2010 policy 3.2.3.4(a) regarding valleylands are intended to clarify the application of the minimum vegetation protection zone within Provincial Plan areas (i.e. 30 metre minimum VPZ) and elsewhere (i.e. 10 metre minimum VPZ). Amendments in relation to stream corridors are discussed below in section 7.4 of this report.

7.4 Watercourses

Core Features Mapping Criteria: All watercourses are included within the NHN. Some watercourse reaches are not included in the Core Features as a result of modifications from past development approvals or application of the TRCA/CVC HDF Guidelines (2013, 2014) in which a management recommendation of “Protection” or “Conservation” was not achieved (see discussion of HDF in Section 5.2). That is, HDF reaches in which the assessment of the City’s consultants and the assessment of landowner consultants were in agreement that the management recommendation was “Mitigation” do not appear as Core Features, but appear on Schedule 2A as watercourses.

A 30 metre area of interest is added to either side of watercourses for the purposes of mapping the Core Features on Schedule 2. Policies regarding valley and stream corridors prevail to precisely delineate these features.

Justification: Watercourses and the associated riparian corridor provide important habitat for a wide range of terrestrial and aquatic plants and animals. The linear, connected nature of a watercourse means these areas also provide important ecological movement corridors and the water conveyed by a watercourse is important to associated wetlands and waterbodies that intersect the watercourse along its length.

HDF constitute the majority of the total catchment area (70% to 80%) within a watershed (Gomi, et al., 2002) and it has been suggested that 90% of a river’s flow may be derived from catchment headwaters (Kirby 1978). HDFs provide ecosystem services of benefit to residents including flood attenuation, water storage, infiltration/recharge, and water quality improvements within watersheds.

The 30 metre area of interest to watercourses for the purposes of mapping the Core Features on Schedule 2 is not to be confused with the minimum 10 metre vegetation protection zone for valley and stream corridors (or 30 metre VPZ to valley and stream corridors in the Greenbelt Plan and ORMCP areas). The 30-metre area of interest for mapping purposes is based on the compilation of studies summarized in the Environment Canada report, “How Much Habitat is Enough?” (Environment Canada 2013), for riparian habitat. Excerpts from the text of section 2.2.1 (Width of Natural Vegetation Adjacent to Stream) of the Environment Canada report are provided below.



“The 30-metre width guideline provided here is a minimum general approximation intended to capture processes and functions typical of the active riparian zone of a floodplain and the floodplain-to-upland transition with respect to ecological services provided to aquatic habitat.”

“The riparian width guidelines do not directly include transition buffers beyond the riparian zone, but transition buffers should be considered in managing the riparian zone and from an ecosystem management approach. The type of vegetation and other site-specific conditions beyond the immediate riparian zone may be of particular importance in the management of urban watersheds, as urban development entirely changes the characteristic of surface flow that laterally enters the riparian [zone].”

“Principally, the 30-metre riparian adjacent vegetation guideline is not based on a species- or function-specific need but reflects a general threshold distance for aquatic health and riparian functions.”

The reference in the Environment Canada document to “the active riparian zone of a floodplain and the floodplain-to-upland transition” is similar to the valley and stream corridor provisions to define these features as the greater of the long term stable top of slope/bank, stable toe of slope, Regulatory flood plain, and/or meander belt. However, the 30-metre riparian guideline described in the Environment Canada report is based primarily on studies demonstrating water quality benefits, such as removal of sediment loads in streams, mitigating erosion impacts of surrounding land uses, and reducing excess nutrient loading into the aquatic habitat. Hence, for watercourses that are located outside of defined valleys as estimated by the “crest of slope” data, the 30-metre area of interest for mapping purposes on Schedule 2 estimates the active riparian zone and floodplain-to-upland transition and reflects the best available science summarized in the report, “How Much Habitat is Enough?”. The full application of the policies in Chapter 3 to assess a watercourse to determine its ecological functions and precise limits, and applying a minimum 10 metre vegetation protection zone to the feature extent for those watercourses outside of the Provincial Plan areas, will result in the delineation of Core Features. This may result in feature and VPZ widths that are more or less than the mapped features on Schedule 2.

Policy Implications: It is noted in VOP 2010 policy 3.2.3.4(a) that Core Features of the NHN include “*valley and stream corridors*, including provincially *significant* valleylands and permanent and intermittent streams, with a minimum 10 metre vegetation protection zone, or a 30 metre vegetation protection zone for those *valley and stream corridors* within the Oak Ridges Moraine and Greenbelt Plan Areas”. The available watercourse data may include watercourses that are ephemeral and/or headwater drainage features (ill-defined, non-permanently flowing drainage features that may not have defined bed or banks). In addition, headwater drainage features occur on the landscape that have not been mapped and delineated on Schedule 2. As a result, and based on stakeholder input during the public comment period for the



June 17, 2014 meeting of the Committee of the Whole (Public Hearing), it is recommended to amend the VOP 2010 as provided below.

- Add the following text regarding watercourses as policy 3.3.1.5 in Section 3.3.1 of the VOP 2010. The proposed policy provides for field verification of watercourse data and identification and management of headwater drainage features according to standard practices and procedures. The proposed policy is based on policy 8.8.2 of the TRCA Living City Policies:

That *watercourses* may need to be confirmed by the City and the Toronto and Region Conservation Authority through field investigation. *Headwater drainage features* (HDFs) shall be identified and managed in accordance with standard practices and procedures of the Toronto and Region Conservation Authority.

- Renumber policy 3.3.1.5 to 3.3.1.6 and renumber policy 3.3.1.6 to 3.3.1.7
- Add the following definition to Section 10.2.2 (Definitions) of the VOP 2010:

Headwater Drainage Feature (HDFs): Ill-defined, non-permanently flowing drainage features that may not have defined bed or banks; they are zero-order intermittent and ephemeral channels, swales and rivulets, but do not include rills or furrows (also see *watercourse*). HDFs that have been assessed in accordance with standards and practices of the Toronto and Region Conservation Authority (TRCA) as “protection” and “conservation” are subject to TRCA’s Regulation; those assessed as “mitigation” may be subject to TRCA’s Regulation.

Together with existing VOP 2010 policy 3.3.1.5 (to be re-numbered to policy 3.3.1.6) regarding modification to watercourses, the policy framework covers instances based on appropriate studies, to include watercourses in the NHN that may not have been mapped as well as modification to watercourses that are included in the NHN.

- It is also proposed to clarify the feature extent in the Core Features policies. This serves the purpose of making the distinction between the mapping of valleys and watercourses on Schedule 2 and the precise delineation according to policy. The description of the feature extent as provided in section 7.3 of the Living City Policies document is proposed to be included in VOP 2010 policy 3.2.3.4(a), as shown below.

3.2.3.4 That Core Features, as identified on Schedule 2, provide critical ecosystem functions, and consist of the following natural heritage components and their minimum vegetation protection zones:

- a. *valley and stream corridors*, including provincially *significant* valleylands and permanent and intermittent streams, the limits



of which are determined from the greater of the long term stable top of slope/bank, stable toe of slope, Regulatory flood plain, and/or meander belt and any contiguous natural features or areas, and

- i. a minimum 10 metre vegetation protection zone from the feature limit outside of the Oak Ridges Moraine and **Greenbelt Plan Areas**, or
 - ii. a minimum 30 metre vegetation protection zone from the feature limit for those *valley and stream corridors* within the Oak Ridges Moraine and **Greenbelt Plan Areas**;
- Given that the valley and stream corridor policies of the TRCA have been revised in the Living City Policies document, an appropriate reference to these policies is now required in VOP 2010 policy 3.3.1.2.

3.3.1.2 That *valley and stream corridors* are defined in accordance with standard practices and procedures, including management documents, prepared by the Toronto and Region Conservation Authority as may be amended from time to time.

7.5 Waterbodies

Core Features Mapping Criteria: Waterbodies are included within the NHN where an ecological evaluation has determined significant natural features and functions are present. Waterbodies that are determined to be *Kettle Lakes* (Thompson Lake in Vaughan) are included as Core Features on Schedule 2. Waterbodies that are constructed for stormwater management purposes or irrigation ponds on golf courses are not included in the NHN and not depicted on Schedule 2A. Waterbodies included in the NHN have a 30 metre area of interest measured from the waterbody for mapping purposes.

Justification: Waterbodies often occur in association with wetlands or as open water features providing unique habitat for aquatic plants and animals. Areas of deeper water are particularly important to provide overwintering habitat for some species and the larger aquatic habitats needed for fish, waterfowl and aquatic mammals. In some cases it may be difficult to discern “natural” from “anthropogenic” waterbodies given the history of settlement and landscape alteration. Hence, in the event a waterbody is part of a development application, it is anticipated that a more detailed assessment will be undertaken to determine the ecological features and functions associated with the waterbody as part of determining an appropriate protection and/or restoration strategy.

Waterbodies were included as Core Features in the revised Schedule 2 prepared for the June 17, 2014 meeting of the Committee of the Whole (Public Hearing). Given the lack of information in the mapping data, and wide variety of types of waterbodies



included in the mapping data, the City has determined that only kettle lakes will be mapped as a Core Features on Schedule 2. However, it is proposed to amend specific policies in the VOP 2010 to ensure that waterbodies are assessed to determine their ecological functions.

Policy Implications: VOP 2010 policy 3.2.3.4 does not specifically include waterbodies as Core Features, although kettle lakes are specifically noted in VOP 2010 policy 3.2.3.4(g).

It is noted in section 3.4 of the Natural Heritage Reference Manual (OMNR 2010), regarding identification of a natural heritage system, that:

- Waterbodies, including wetlands, often represent a relatively small percentage of the total land area, yet they can be disproportionately more valuable than other areas.
- It is recommended that measures be taken to protect water features, wetlands and other areas of hydrological importance (e.g., headwaters, recharge areas, discharge areas) within natural heritage systems).

The term, waterbodies, is not defined in the Natural Heritage Reference Manual (OMNR 2010), but Table B-1 in Appendix B includes a description of waterbodies in relation to the identification of fish habitat as follows:

Where no detailed fish habitat mapping has been completed, all waterbodies, including permanent or intermittent streams, headwaters, seasonally flooded areas, municipal or agricultural surface drains, lakes and ponds (except human-made off-stream ponds) should be considered fish habitat unless it can be demonstrated to the satisfaction of the approval authority under the Planning Act that the feature does not constitute fish habitat as defined by the Fisheries Act.

Surface water feature is defined in the Provincial Policy Statement (2014)

Surface water feature: *means water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics.*

The York Region Official Plan (ROP 2010) defines sensitive surface water features and waterbody as provided below. Sensitive surface water features are identified as key hydrologic features in ROP 2010 policy 2.2.1(m).

Sensitive Surface Water Features: *Water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or*



topographic characteristics, that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Waterbody: *Lakes, woodland ponds, etc. which provide ecological functions. For the purposes of determining significant woodlands, waterbody generally does not include small surface water features such as farm ponds or stormwater management ponds, which would have limited ecological function.*

Given the information in the Provincial guideline documents, the ROP 2010 and TRCA's Living City Policy document, it is recommended to amend the VOP 2010 as described below.

Amend VOP 2010 policy 3.2.3.4(h) to include the term 'sensitive surface water features' as follows, which is consistent with ROP 2010 policy 2.2.1(m):

Seepage areas, springs and *sensitive surface water features* (including *waterbodies*), and their vegetation protection zone, and a 30 metre minimum vegetation protection zone for those seepage areas and springs in the Oak Ridges Moraine Conservation and Greenbelt Plan Areas.

Amend policy 3.3.5.1 by adding a subparagraph as follows:

Prohibiting development and site alteration within *sensitive surface water features* (including *waterbodies*), seepage areas and springs, and their vegetation protection zone unless it is demonstrated through an environmental impact study that the development or site alteration will not result in a negative impact to the ecological and/or hydrological functions of the *sensitive surface water feature*.

Add the following definitions from the ROP 2010 to Section 10.2.2 (Definitions) of the VOP 2010:

Sensitive Surface Water Features: Water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics, that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Waterbody. Lakes, woodland ponds, etc. which provide ecological functions, and generally does not include small surface water features, constructed ponds on golf courses for irrigation purposes, or stormwater management ponds which would have limited ecological function.



7.6 Areas of Natural and Scientific Interest

Core Features Mapping Criteria: All Areas of Natural and Scientific Interest (ANSI) are included in the NHN. This includes Earth Science ANSI's and Life Science ANSI's.

Justification: ANSI's are areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education (PPS 2014).

Policy Implications: There are no policy implications as the NHN criteria for ANSIs are consistent with policy 3.2.3.4(f) and Section 3.3.6 of the VOP 2010.

7.7 Environmentally Significant Areas

Core Features Mapping Criteria: All Environmentally Significant Areas (ESAs) are included within the NHN.

Justification: Sites identified as ESAs support areas considered to be some of the most critical and/or sensitive natural heritage features and functions important to protecting biodiversity within the City of Vaughan.

Policy Implications: There are no policy implications as the NHN criteria for ESAs are consistent with policy 3.2.3.4(f) and Section 3.3.6 of the VOP 2010.

7.8 Confirmed Significant Wildlife Habitat – Amphibians

Core Features Mapping Criteria: Amphibian Breeding Habitat - Woodland (MNR 2012).). These sites meet the thresholds for significant wildlife habitat in terms of habitat type and number of species (1 or more of the listed salamander species or 2 or more of the listed frog species) in the MNR Ecoregion Criterion Schedule (MNR 2012). See section 5.1.1 of this report for more details regarding identification of significant wildlife habitat for amphibian breeding.

Justification: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations

Core Features Mapping Criteria: Amphibian Breeding Habitat – Wetlands (MNR 2012). These sites meet the thresholds for significant wildlife habitat in terms of habitat type and number of species (1 or more of the listed salamander species or 2 or more of the listed frog or toad species) in the MNR Ecoregion Criterion Schedule (MNR 2012). See section 5.1.1 of this report for more details regarding identification of significant wildlife habitat for amphibian breeding.



Justification: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.

Policy Implications: There are no policy implications as the NHN criteria are consistent with policy 3.2.3.4(d) and section 3.3.4 of the VOP 2010.

7.9 Confirmed Significant Wildlife Habitat - Birds

Core Features Mapping Criteria: Open Country Bird Breeding Habitat (MNR 2012). As noted in section 5.1.3 of the consulting team report, only one habitat patch meets the thresholds for significant wildlife habitat in terms of habitat composition, patch size and species requirements (presence of nesting or breeding of 2 or more of the listed species). This habitat patch is located partly in the Greenbelt Plan NHS and partly outside of the Greenbelt Plan area.

Justification: This wildlife habitat is declining throughout Ontario and North America. Species and records show Open Country breeding birds have declined significantly over the past 40 years based on CWS (2004) trend records.

Core Features Mapping Criteria: Special Concern Open Country Bird Breeding Habitat (MNR 2012). As noted in section 5.1.3 of the consulting team report, only one habitat patch meets the thresholds for significant wildlife habitat in terms of habitat composition and species (in this case, Common Nighthawk). This habitat patch is located along a power transmission corridor and designated Parkway Belt. The East Don River also flows through part of this area.

Justification: Confirmed habitat of Special Concern species are considered significant wildlife habitat (MNR 2012).

Core Features Mapping Criteria: Shrub/Early Successional Bird Breeding Habitat (MNR 2012). Most of the habitat patches meeting the thresholds for significant wildlife habitat are located in the valleys of the Main Humber River, Robinson Creek and Rainbow Creek and mapped as Core Features. Parts of these habitat patches outside of the river valleys are located on lands designated for development and it is unlikely that the habitat can be maintained as urban development continues. Hence, these habitat areas outside of river valleys continue to be mapped as confirmed significant wildlife habitat on proposed Schedule 2C, but are not mapped as Core Features.

Justification: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.

Core Features Mapping Criteria: Woodland Area-Sensitive Bird Breeding Habitat (MNR 2012). The habitat patches meeting the thresholds for significant wildlife habitat for woodland area-sensitive bird breeding habitat in terms of patch size,



patch composition and species (presence of nesting or breeding pairs of 3 or more of the listed wildlife species) are associated with the largest remaining woodland areas in Vaughan.

Justification: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area-sensitive interior forest song birds.

Policy Implications: There are no policy implications as the NHN criteria are consistent with policy 3.2.3.4(d) and section 3.3.4 of the VOP 2010.

Core Features Mapping Criteria: Woodland Bird Breeding Habitat – Special Concern Species (MNR 2012). The habitat patches are identified as a result of observations of Wood Thrush and Eastern Wood-pewee, listed as Special Concern under the ESA (2007). Six of the woodlands are also identified as SWH for woodland area-sensitive bird breeding habitat. All woodlands are Core Features as a result of woodland size, such that the presence of Special Concern species will assist in setting priorities for management options of the NHN.

Justification: Confirmed habitat of Special Concern species are considered significant wildlife habitat (MNR 2012).

Policy Implications: There are no policy implications as the NHN criteria are consistent with policy 3.2.3.4(d) and section 3.3.4 of the VOP 2010.

7.10 Threatened Grassland Species – Birds (Bobolink and Eastern Meadowlark)

Fifty-six habitat patches were identified based on vegetation types and observations of Bobolink and Eastern Meadowlark. Both species are listed as Threatened and, hence, are protected through the ESA (2007). These species are not included as indicator species in the MNR Ecoregion Criteria for significant wildlife habitat. Hence, they are not identified as significant wildlife habitat on proposed Schedule 2C at this time and they are not mapped as Core Features.

These habitat patches are retained in the GIS database to assist in setting priorities related to research and planning. They represent “Open Country” habitat that may be further investigated as follows:

- a. additional studies working with the MNR to determine habitat which may be protected under the ESA, including creating and/or enhancing habitat under subsection 23.6 of the ESA (2007); and/or
- b. additional breeding bird studies to determine if SWH indicator Open Country birds are present (i.e. two or more of indicator birds Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow, and/or one or more of Special Concern species Short-eared Owl, Common Nighthawk) within large grassland areas (includes natural and cultural fields and meadows) > 30 ha.



7.11 NHN Enhancement Areas

Enhancement Areas are NHN areas without obvious natural heritage core features. They may be identified to connect or enhance core features or they may represent potential open habitat core areas. Enhancement Areas are identified for inclusion in the NHN to achieve a variety of ecological objectives which may include:

- providing ecological linkage functions (Linkage Enhancement Areas);
- protection of the Critical Function Zones (CFZ) for wetlands (CFZ Enhancement Areas);
- meeting specific habitat requirements for target species such as area sensitive species (Target Species Enhancement Areas); and
- contributing to the size and quality of core areas by reducing edge effects and establishing or increasing “interior habitat conditions” (Interior Habitat Enhancement Areas).

Linkage Enhancement Areas

Enhancement Area Mapping Criteria: *Linkage Enhancement Areas* are defined based on maintaining a minimum width along a linkage corridor. Local corridors have a minimum width of 50 to 200 metres while regional corridors have a minimum width of 300 to 400 metres (Section A.2.3.5 Natural Heritage Reference Manual, MNR 2010).

Riparian corridors are oriented north-south in Vaughan primarily in the West Don River watershed, including in the Oak Ridges Moraine, and in the Humber River watershed extending to the Greenbelt Plan area. Given the existing north-south corridors, there are two areas of focus for linkage enhancement areas. These are not specifically depicted on Schedule 2 and shall be evaluated through appropriate studies.

- Robinson Creek is a defined valley for much of its length in Vaughan. It flows through an area of Vaughan that will be subject to new development, in the West Vaughan Employment Area, providing an opportunity to ensure viable ecological functions as part of the valley system through the development review process. Of the listed species observed in association with Robinson Creek, the Western Chorus Frog (listed Federally as Threatened) and Barn Swallow (listed as Threatened under Endangered Species Act) should be indicator species to determine Enhancement Area opportunities in more detail. Robinson Creek also provides an opportunity to connect areas identified as significant wildlife habitat for woodland amphibian species.
- Upper tributaries of Purpleville Creek extend outside of the Greenbelt Plan in the ‘Natural Areas and Countryside’ designation in the VOP 2010. Purpleville Creek is identified for riparian zone regeneration in the Humber River Watershed Plan. An Enhancement Area in the upper Purpleville Creek subwatershed supports the regeneration plan for subwatershed 15 (Purpleville) in the TRCA’s Humber River Watershed Plan, which has a focus



on maintaining cold- and cool-water habitats supporting Brook Trout and Redside Dace.

Justification: Ecological linkage among natural heritage features such as woodlands and wetlands is critical for wildlife functions that include daily, seasonal or long-term movement within the landscape, such as:

- daily movement patterns related to foraging, predation, avoidance, and resting, etc.;
- seasonal movement to support breeding in ponds and foraging in woodlands; and
- long-term dispersal and/or re-colonization movement among habitat patches to sustain meta-populations.

Enhancement Areas for east-west linkages are not specifically identified. Given the pattern of urbanization in Vaughan, and particularly the Hwy 400 corridor, identifying viable east-west linkages outside of the Provincial Plan areas is limited. As a result, land stewardship approaches should be pursued to provide functional connectivity in the working agricultural landscapes of the Greenbelt Plan and ORMCP areas. Furthermore, this highlights the need for the viable north-south linkages other than in the Main Humber River, East Humber River and Don River valleys to ensure population, species and genetic movement.

Woodland Habitat Enhancement Areas

Enhancement Area Mapping Criteria: *Woodland Habitat Enhancement Areas* are defined based on improving forest connectivity, size, shape, and achieving minimum habitat patch size required for interior habitat. Interior habitat for area sensitive woodland species, for example, is generally considered to be associated with a minimum patch size of 10 to 25 ha or with a minimum 100 m buffer around all woodland sides. Interior habitat for area sensitive open country species is associated with a minimum patch size of 20 to 40 ha.

Justification: Many of the remaining woodland patches present do not have “interior woodland” and as such these woodlands may not be able to provide the same ecological functions that support high biodiversity which once existed in the undisturbed woodlands that dominated southern Ontario, particularly where urban development surrounds woodland patches. The ability to protect the full range of native woodland species diversity increases as the size of core areas increases, and as their shape becomes more regular (circular or square). Core areas that fall below certain size thresholds are incapable of providing suitable habitat for a large number of species that require large areas of habitat. These are frequently referred to as “area-sensitive” species. This is largely attributed to environmental conditions along the edges of cores (edge effects) that create light levels, soil and air moisture levels, ambient wind and temperature that are significantly different from conditions that characterize the “core interior”. Edge effects have been shown to penetrate 100 to 300+ metres into a forest patch. Thus to obtain one hectare of “interior conditions”



buffered by the minimum 100 metre of edge habitat, requires a circular patch size of approximately nine hectares. However, one hectare of interior habitat does not provide sufficient habitat for the many area-demanding species common to southern Ontario and of the historic vegetation that sustained these species prior to European colonization, as such patch sizes much larger than nine hectares are required.

Specific enhancement areas to augment woodland size, shape, connectivity and/or interior habitat are not depicted on Schedule 2. In the Greenbelt Plan or ORMCP areas, the delineation, extent and nature of such enhancement should be developed based on landowner consultation and development of a stewardship strategy for the NHN in Vaughan. In the Urban Area, the assessment of adjacent lands as part of an environmental impact study can include criteria to assess woodland enhancement options.

Critical Function Zone (CFZ) of Wetlands Enhancement Area

Enhancement Area Mapping Criteria: *Critical Function Zone (CFZ) of Wetlands Habitat Enhancement Areas* are protected based on “a good understanding of the local biophysical context, hydrologic regime and the species using the given wetland, as well as the nature and extent of their non-wetland habitat requirements of these species” (Environment Canada 2013). Based on current scientific knowledge, the literature increasingly indicates that the habitat requirements for wildlife that depend on wetlands tend to result in the widest and most varied CFZs. Table 3 in the Environment Canada report, “How Much Habitat is Enough?” (2013), provides a range of data for species movement to non-wetland areas related to wetland habitat.

Justification: Environment Canada (2013) provides the following description of the CFZ: “non-wetland areas within which biophysical functions or attributes directly related to the wetland occur. This could, for example, be adjacent upland grassland nesting habitat for waterfowl (that use the wetland to raise their broods). The CFZ could also encompass upland nesting habitat for turtles that otherwise occupy the wetland, foraging areas for frogs and dragonflies, or nesting habitat for birds that straddle the wetland-upland ecozone (e.g., Yellow Warbler). A groundwater recharge area that is important for the function of a wetland but located in the adjacent lands could also be considered part of the CFZ. Effectively, the CFZ is a functional extension of the wetland into the upland.”

At this time, Enhancement Areas to protect the CFZ of wetlands are not identified either in the urban area designations or in the Greenbelt Plan or Oak Ridges Moraine Conservation Plan areas. Rather, the criteria and justification for enhancement to protect the CFZ of wetlands is provided in this report and can be incorporated into the Terms of Reference for appropriate studies, such as a Master Environment and Servicing Plan (MESP) or environmental impact study (EIS) for appropriate development applications. In particular, the PPS and VOP 2010 policies



require an assessment of adjacent lands to natural features, which shall include the assessment of the CFZ for wetlands.

Target Species Enhancement Area

Enhancement Area Mapping Criteria: *Target Species Enhancement Areas* are identified based on habitat requirements considered necessary to sustain specific significant species. There are three such areas identified as part of the NHN based on the requirements of Open Country Breeding Birds: the criteria used for two of the Enhancement Areas are based on the minimum habitat (40 ha) required to sustain Area Sensitive Open Country breeding birds; and one area is defined based on the presence of suitable habitat for a Special Concern Open Country Breeding Bird (Common Nighthawk). These areas are depicted on Schedule 2.

Justification: Suitable wildlife habitat for many species is declining throughout Ontario as evidenced by the increasing number of Species at Risk identified by the Ministry of Natural Resources. For Open Country breeding birds records show these have declined significantly over the past 40 years based on CWS (2004) trend records.

Policy Implications for Enhancement Areas

Three policies address Enhancement Areas in section 3.2 of the VOP 2010. It is proposed to add a policy to address Enhancement Areas that are not depicted on Schedule 2, to be inserted as policy 3.2.3.15, which is provided below.

Enhancement Areas not depicted on Schedule 2, but that shall be evaluated for inclusion in the Natural Heritage Network as a component of an analysis of *adjacent* lands, include:

- a. corridors and/or linkages, with an aim to be 100 metres wide or more to facilitate species movement, particularly for West Robinson Creek and in the Purpleville Creek subwatershed;
- b. upland habitat of wetlands within which biophysical functions or attributes directly related to the wetland occur, and based on knowledge of species present and their use of habitat types; and
- c. woodland enhancements to improve forest connectivity, size, shape and interior habitat.

The evaluation criteria for Enhancement Areas may be further described in the Terms of Reference for a Master Environment and Servicing Plan and/or Environmental Impact Study.



8.0 GENERAL POLICY ISSUES

In addition to the technical criteria and policy scan provided above, several policies in VOP 2010 should be noted in support of the approach taken to mapping Core Features and Enhancement Areas.

Policy Prevails over the Mapping (VOP 2010 policy 3.2.3.2). A schedule in an official plan cannot provide the necessary detail to determine development limits and it is recognized that areas that proceed through a development application will undertake appropriate studies, including field investigations. VOP 2010 policy 3.2.3.2 explicitly states that the policy prevails over the mapping, and the following revised policy is proposed to provide greater clarity:

- 3.2.3.2 That the policy text prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network. Identification of elements comprising the Natural Heritage Network is an ongoing process and as such the Natural Heritage Network identified on Schedule 2 is based on the best information available. Schedule 2 may not identify all the natural heritage features in Vaughan. The precise limits of mapped natural heritage features, and any modifications to the mapped network, will be determined through appropriate study undertaken in consultation with the Toronto and Region Conservation Authority and the Province. This may occur on a site-by-site basis through the *development* process or through studies carried out by the City, Region, Toronto and Region Conservation Authority or other government agencies.

It may be appropriate to emphasize field verification of natural features in a general policy statement, similar to ROP 2010 policy 2.2.3. This can replace VOP 2010 policy 3.2.3.11 as shown below.

That **Core Features** shall be precisely delineated on a site-by-site basis using procedures established by the Province, where applicable. Such delineation shall occur through the approval of *Planning Act* applications supported by appropriate technical studies such as master environmental servicing plans, *environmental impact studies*, natural heritage or hydrological evaluations.

Establishing a Precautionary Approach. VOP 2010 policy 3.2.3.4 identifies natural features that comprise Core Features. All valley and stream corridors (policy 3.2.3.4(a)), all wetlands (policy 3.2.3.4(b)) and all woodlands (policy 3.2.3.4(c)) are Core Features, including those identified as significant (significant valleylands, Provincially Significant Wetlands, and significant woodlands in the language of the PPS). Feature-based policies in Section 3.3 then allow for modification of these features under particular circumstances and/or based on tests of significance. In this way, policy 3.2.3.4 establishes a precautionary approach for valley and stream corridors, wetlands, and woodlands. The specific policies that address the modification of these Core Features include:



- Policy 3.3.1.4 (public works in valleys);
- Existing policy 3.3.1.5, to be re-numbered 3.3.1.6 (modification to watercourses);
- Proposed new policy 3.3.1.5 addressing field verification of watercourses;
- Proposed amended policy 3.3.2.2 addressing wetland protection and/or maintenance of function; and
- Proposed amended policies 3.3.3.3 and 3.3.3.4 allow for modification of woodlands that are not significant woodlands, subject to a woodland compensation plan.

Protection in Greenbelt and Oak Ridges Moraine Provincial Plan Areas. Policy 3.2.3.6 establishes that Core Features represent key natural heritage features and key hydrologic features in the Provincial Plan areas. The policy is proposed to be amended to provide further clarity as to the prevailing policy.

That **Core Features**, as identified on Schedule 2, represent key natural heritage features and hydrologically sensitive features in the **Oak Ridges Moraine Conservation Plan Area**, key hydrologic features in the Protected *Countryside* of the Greenbelt Plan, and key natural heritage features within the Natural Heritage System of the Greenbelt Plan, as defined by those Provincial Plans. That the technical papers associated with the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan be consulted to provide clarification in implementing the policies related to **Core Features** within the Provincial Plan Areas. In the event of a conflict in the interpretation of the provincial technical papers and the policies of this Plan, the policy which is more protective of the feature will apply.

9.0 PROPOSED SCHEDULE MODIFICATIONS

The VOP2010 Schedule 2 Natural Heritage Network (Figure 5) will be updated to reflect current conditions in the City of Vaughan. This will include the removal of some areas of the NHN based on existing or approved development, as well as the addition of some areas based on the application of criteria described in Section 7.

To provide greater understanding of Schedule 2, the following Schedules are proposed for the VOP 2010:

- Schedule 2 Natural Heritage Network
- Schedule 2A Hydrologic Features and Valleylands (Figure 6);
- Schedule 2B Woodlands (Figure 7); and
- Schedule 2C Significant Wildlife Habitat (Figure 8).

The information proposed for presentation within each schedule is shown in the legends below.

Schedule 2 – Natural Heritage Network

Legend

- Core Features



- Enhancement Areas
- Built-up Valleylands (1)
- Greenbelt Plan Boundary(2)
- Greenbelt Natural Heritage System
- Oak Ridges Moraine Conservation Plan Boundary(2)
- Oak Ridges Moraine Natural Core and Natural Linkage Designations

This Schedule is subject to change based on the results of the Natural Heritage Network Study, which will define the Natural Heritage Network by both its natural features and as a natural heritage system in accordance with the Provincial Policy Statement.

The policy text in Chapter 3 prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network.

For watercourses and waterbodies outside of well-defined valleys, the vegetation protection zone is to be established according to the policies in Chapter 3 and to the satisfaction of the Toronto and Region Conservation Authority.

Enhancement Areas are identified conceptually on Schedule 2 and the text shall be consulted to determine the final location and design.

(1) Data provided by Urban Strategies.

(2) See Schedule 4 for limits and land use information of the Greenbelt Plan Area and Oak Ridges Moraine Conservation Plan Area

Schedule 2A – Hydrologic Features and Valleylands

Legend

- Provincially Significant Wetlands
- Other Wetlands (may include evaluated wetlands that are not Provincially Significant or non-evaluated wetlands¹)
- Surface Water Features² (headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs)
- Crest of Slope Screening Layer for Valleylands³

¹ other wetlands shall be assessed for their significance, in accordance with criteria provided by the Province, and to determine their importance, functions and means of protection and/or maintenance of function to the satisfaction of the City.

² to be confirmed through the application of policies of this plan

³ to be confirmed on a site specific basis

Schedule 2B – Woodlands

Legend



- Woodlands(1)

(1) Only woodlands 0.2 hectares in size and greater are depicted.

Schedule 2C – Significant Wildlife Habitat^{1,2}

Legend

- SWH Amphibian Breeding Habitat – Woodlands
- SWH Amphibian Breeding Habitat – Wetlands
- SWH Special Concern Open Country Breeding Birds
- SWH Area Sensitive Open Country Breeding Birds
- SWH Shrub/Early Successional Breeding Birds
- SWH Area-Sensitive Woodland Breeding Birds
- SWH Special Concern Woodland Breeding Birds

¹ Significant Wildlife Habitat (SWH) determined through the application of Ministry of Natural Resources *Draft* SWH Ecoregion 7E Criterion Schedule (February 2012)

² Schedule 2C does not show all SWH in the City of Vaughan. Site-specific assessments may identify additional significant wildlife habitat in accordance with criteria established by the Province.



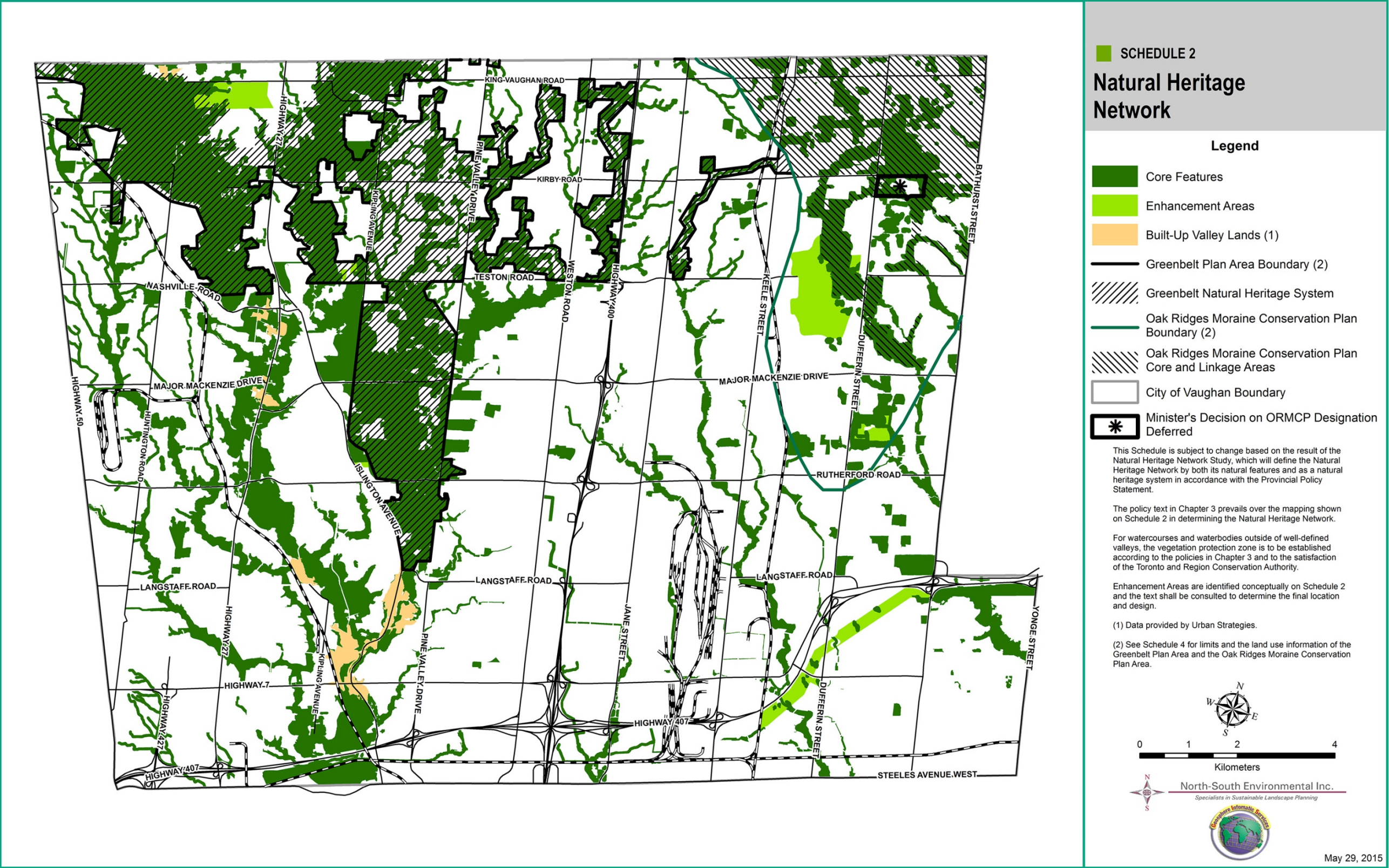


Figure 5: Schedule 2 Natural Heritage Network



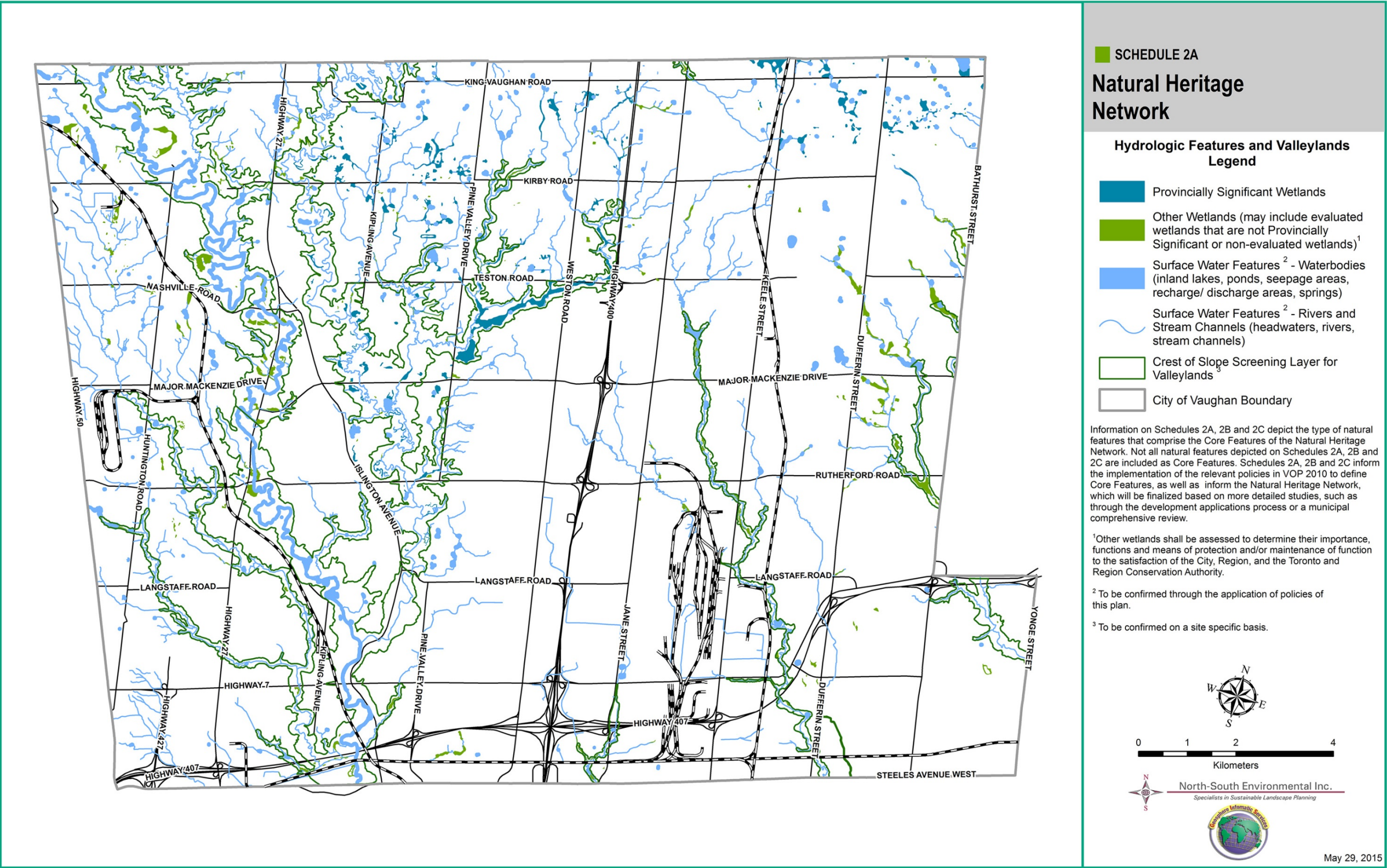


Figure 6: Schedule 2a Hydrologic Features and Valleylands



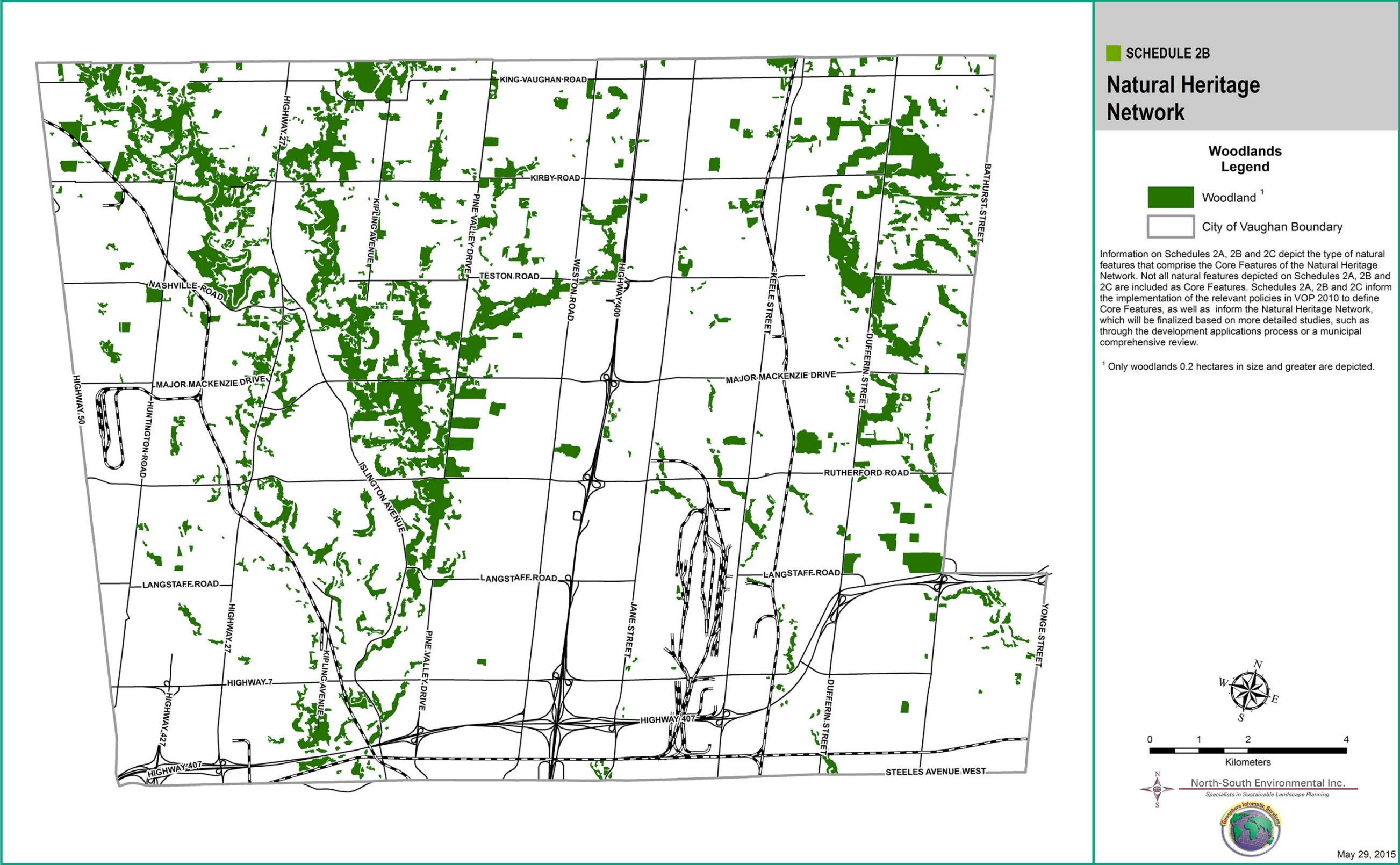


Figure 7: Schedule 2b Woodlands



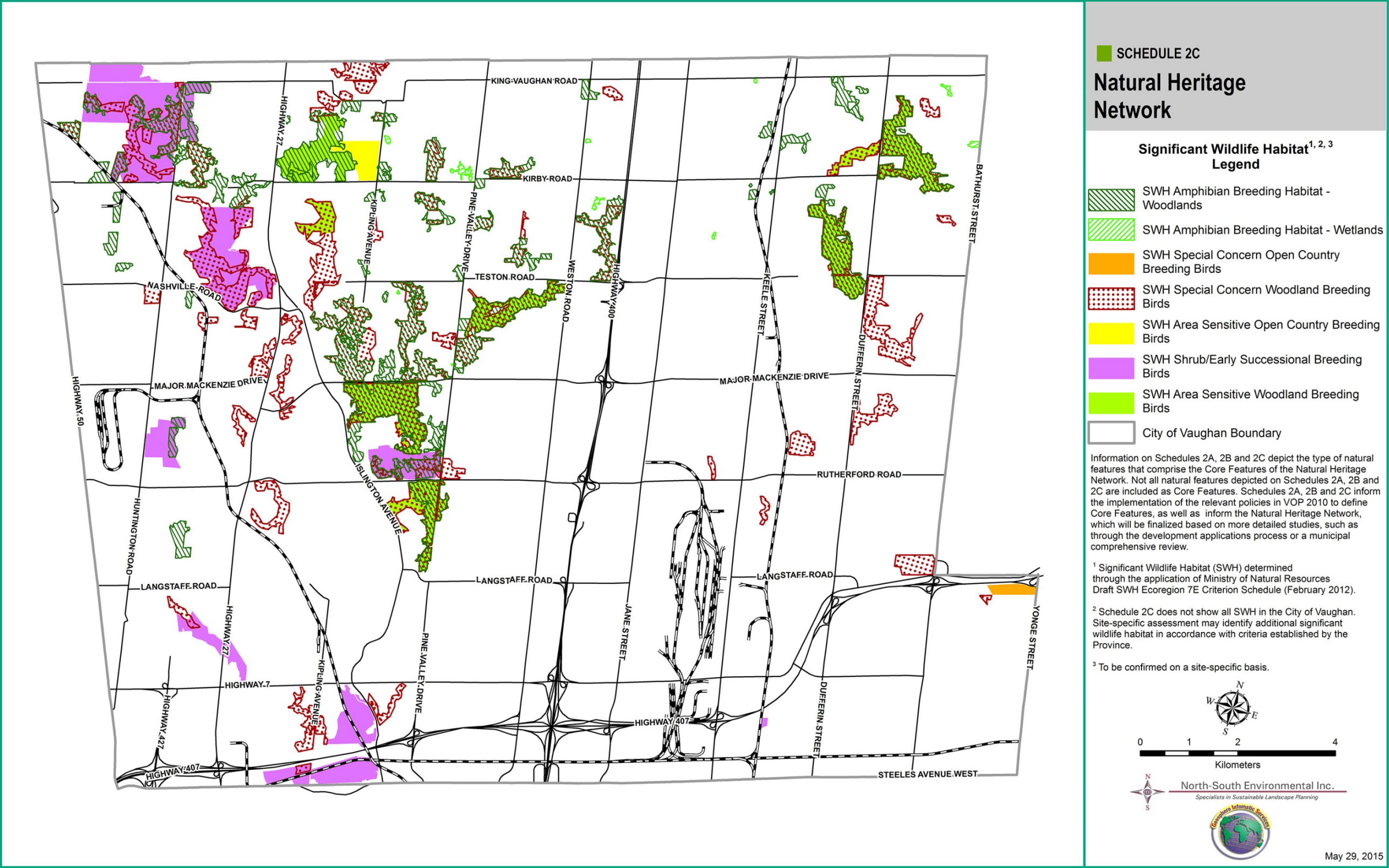


Figure 8: Schedule 2c Significant Wildlife Habitat



10.0 SCENARIO TESTING OF VAUGHAN'S NHN

Scenario testing is a means to assess the ability of Vaughan's NHN to achieve ecosystem targets aimed at protecting viable habitat that will provide long term protection of native biodiversity. Scenario testing involves an assessment of natural heritage features and functions as they currently exist within the NHN and the evaluation of scenarios that enhance the existing features and functions to better achieve certain ecosystem targets. Table 6 provides an assessment of baseline conditions within the NHN

The following ecosystem targets were established in the NHN Phase 1 study and they are based on guidelines from the Canadian Wildlife Service (CWS) publication "How much habitat is enough?" (Environment Canada 2013).

Woodland Cover

CWS Forest Habitat Guideline	Forest Habitat in Vaughan
At least 30% forest cover	11 %
At least 10% of forest cover should be interior forest >100 m from edge	0.5 %
At least one large contiguous forest within each watershed (>200 ha)	Humber Watershed largest forest – 152 ha Don Watershed largest forest – 92 ha

Wetland Habitat

CWS Wetland Habitat Guideline	Wetland Habitat in Vaughan
At least 10% wetland habitat	1.5%
Protection of a Critical Function Zone (CFZ) of 100 m from edge of wetland	40 % of 100m CFZ protected by natural cover (woodland, successional & meadow)

Riparian Habitat

CWS Riparian Habitat Guideline	Riparian Habitat in Vaughan
75 % cover along streams	30 % of stream length in Vaughan have forest cover within 3 m of stream banks
30 m buffer along streams	45 % of stream length has some forest cover within a 30 m buffer along stream banks

Table 6 provides baseline conditions in Vaughan against which ecosystem targets may be tested. Achieving ecosystem targets can projected through scenario testing that considers potential contributions to core features of the NHN such as:

- Improving habitat within the existing NHN (i.e. disturbed valleylands and similar 'open space' lands protected through development approvals) can substantially increase progress to select ecosystem targets, such as overall woodland cover. This will have an overall benefit in the provision of ecosystem services, but does not address ecosystem targets related to interior woodland or the Critical Function Zone of wetlands.



- Restoration of Greenbelt Plan lands in areas of planned urban development, such as the Hwy 400 North Employment Lands and New Community Areas, also improves overall woodland cover and incrementally improves the Critical Function Zone of select wetlands. Much of the Greenbelt Plan area in the City of Vaughan has been identified to include wetlands, such as the recently evaluated East Humber Provincially Significant Wetland Complex.
- Making the assumption of habitat restoration for the minimum vegetation protection zone of natural features (Note: in the Greenbelt Plan and ORMCP areas this is only a scenario for the purposes of the NHN Study, the City encourages agricultural practices in the Provincial Plan areas and recognizes, as in policy 2.1.9 of the PPS, that the NHN is not intended to limit the ability of agricultural uses to continue). However, the significant improvement in advancing measures towards select ecosystem targets makes stewardship and conservation land securement of importance for the City to balance agricultural uses and natural heritage improvements in these areas. NHN improvement is not necessarily limited to habitat restoration in the Greenbelt Plan and ORMCP areas as changes to farming practices may: provide habitat, such as for open country species; provide functionally connected landscapes between woodlands; and improve overall water quality while still limiting impacts on agricultural uses.

Examples showing approaches to achieving ecosystem targets defined for Vaughan through restoration of natural vegetation are provided in Figures 9 to 12, which add to existing areas of woodland, wetland and riparian cover. Within the NHN identified for Vaughan, including areas within the Greenbelt NHS and Oak Ridges Moraine Core and Linkage Areas, there are areas available for restoration. These areas may include the Vegetation Protection Zone identified for core features such as woodlands, wetlands and watercourses (Figure 9), areas within valleylands where core features are not present (Figure 10), NHN Linkage Enhancement Areas (Figure 11) and suitable areas within the Greenbelt and Oak Ridges Moraine (Figure 12).

The GIS data of the NHN and component features provided as part of this Study allows for an initial screening of potential restoration areas, and testing the benefits of restoration in terms of improvement of ecosystem parameters. The initial identification of restoration areas can then be evaluated by considering criteria such as: ownership (public or private); within the NHN (i.e. valleylands without natural cover); existing landowner agreements; alignment with Endangered Species Act stewardship objectives; alignment with conservation partner objectives (e.g. York Region, TRCA, Oak Ridges Moraine Land Trust, Ontario Farmland Trust, Nature Conservancy Canada); and opportunity to obtain external funding for specific projects.



Table 6: Scenario testing of NHN baseline conditions of existing natural heritage features and functions

NHN Statistics (January 2014)	Vaughan ha / #	Vaughan %	NHN ha / #	NHN %
Total Area	27,435	100	7,053	25.7%
Woodland Cover	3,113.30	11.3%	2,976	10.8%
Interior Woodland (minimum 100m edge)	140	0.5%	134	0.5%
Largest Woodland Patch - Don Watershed	92			
Largest Woodland Patch - Humber Watershed	152			
# of Woodland Patches - Vaughan	662			
# of Woodland Patches - Don Watershed	194			
# of Woodland Patches - Humber Watershed	475			
# of Woodland to Woodland Linkage Patches (30m minimum separation)	428	64.7%		
Wetland Cover	422	1.5%	408	1.5%
Wetland CFZ - 100m	3,340	100.0%	2,127	63.7%
Wetland CFZ - 200m	6,921	100.0%	3,545	51.2%
Natural Cover within Wetland CFZ - 100m	1,458	43.7%	1,330	39.8%
Natural Cover within Wetland CFZ - 200m	2,568	37.1%	2,287	33.0%
# of Wetland to Woodlands Linkage Patches (30m minimum separation)	429	72.5%		
Meadows	1,563		928	
Successional Woodlands	2,29		137	
Riparian Zone	2,912	100.0%	2,256	77.5%
Natural Cover within Riparian Zone	1,379	47.3%	1,295	44.5%



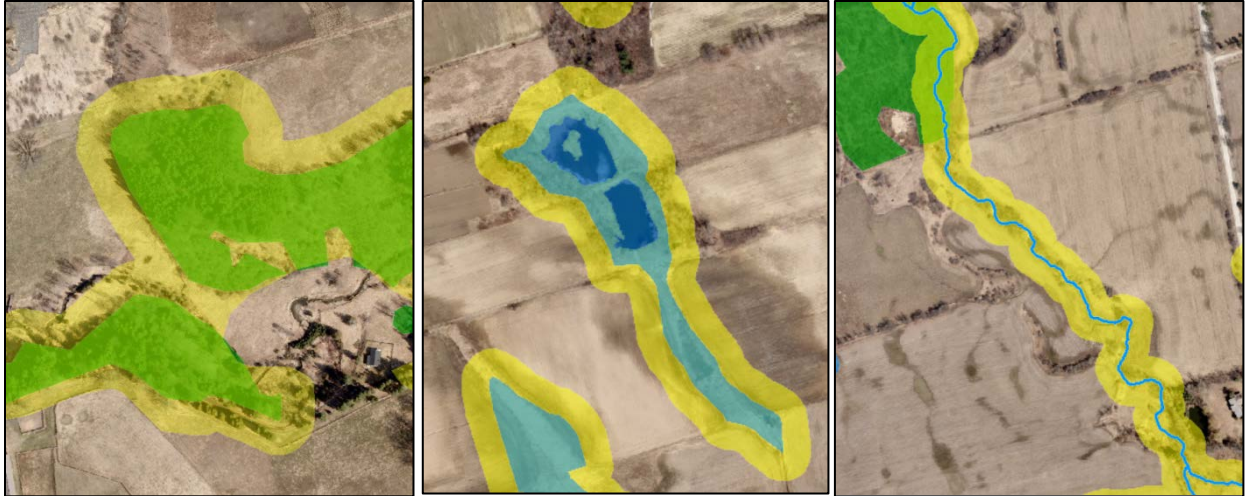


Figure 9: Potential restoration areas shown in yellow are within the Vegetation Protection Zone of woodland (green), wetland (blue) and riparian areas (blue watercourse line).



Figure 10: Potential restoration areas shown in orange have been identified to maintain a minimum width along an ecological linkage corridor associated with NHN Cores Area shown in red





Figure 11: Potential restoration areas shown in yellow within valleylands defined by crest of slope (orange line) to restore native floodplain communities such as bottomland woodland (green areas).

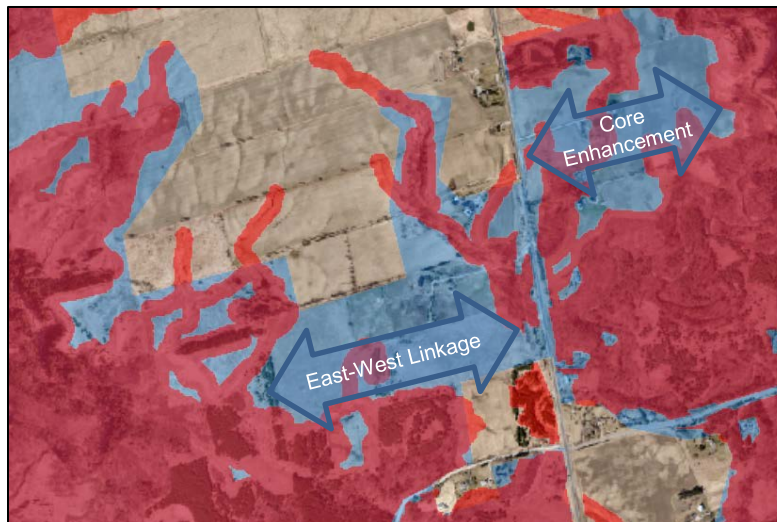


Figure 12: Potential restoration areas shown in blue within the Greenbelt Natural Heritage System may contribute to regional ecological linkage and the establishment of large habitat patches contributing to NHN Core Areas shown in red. While Enhancement Areas have not been specifically delineated in the Greenbelt Plan or Oak Ridges Moraine Conservation Plan areas, this figure depicts examples of potential restoration areas that serve as an east-west linkage and core woodland enhancement.



11.0 LAND STEWARDSHIP STRATEGY

This City of Vaughan Conservation Land Securement Strategy is a comprehensive conservation land securement planning document that includes recommendations and implementation guidelines for establishing on-the-ground program delivery in Vaughan.

Conservation land securement is the legal acquisition of natural areas or natural heritage lands through a range of land securement methods to facilitate long-term protection of land in perpetuity. It requires a willing seller/donor and a willing buyer/recipient. Such lands are generally held in public or non-profit ownership with the goal to maintain, if not protect, restore and enhance the natural features and their contribution to a larger ecological system. These lands typically result in the formation of parks, trails, conservation areas, nature reserves, etc. Conservation land securement differs from land procurement which is the acquisition of land that could be considered 'disposable' land assets (although disposition of portions of parcels may be advisable in unique cases).

The advantage of conservation land securement is that there are a range of securement methods available to the City, its partners, and the landowner that can adapt to each securement project on a case-by-case basis. This creates a win-win solution that will benefit the environment and all parties.

Conservation land securement can be done by any organization where their focus is solely on land securement (i.e. a land trust) or on larger conservation issues (i.e. a Conservation Authority). Conservation land securement could also be one component of a larger, public benefit mission (i.e. a municipality or provincial government), provided that the government body commits to the long-term protection of such properties. Conservation land securement can be facilitated on an ad-hoc basis; however this is not an efficient use of limited resources within an organization. Implementation of the Strategy can take several years to foster relationships with landowners and coordinate the work necessary to initiate each securement project. Considering the diverse range of conservation land securement tools and processes, an experienced staff member or consultant is typically required to oversee implementation of the strategy. See Table 1 for the basic steps of a conservation land securement project. The complete Conservation Land Securement Strategy (Orland Conservation 2014) proposed for Vaughan is provided under separate cover.



12.0 CONCLUSIONS AND NEXT STEPS

The NHN Study deliverables, including proposed amendments to select policies and Schedule 2 (Natural Heritage Network) of the VOP 2010, will be integrated into corporate objectives by:

- Providing a comprehensive database of natural features and areas, as part of a connected natural heritage system, for use in the review of development applications and as a baseline of digital data in a Geographic Information System (GIS) for ongoing tracking and monitoring;
- Providing further details for evaluation of the NHN and environmental aspects in Master Environment and Servicing Plans (MESPs) and Environmental Impacts Studies (EIS) related to development applications;
- Informing the subwatershed studies and Secondary Plans for the New Community Areas;
- Informing the City's input to the GTA West (Transportation Corridor) Study;
- Informing the City's input to the upcoming provincial review of the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan; and
- Providing the framework for a work plan to improve the NHN over time, such as through actions related to ecological restoration, habitat management, landowner liaison for stewardship activities, and securing funding for stewardship and land securement objectives.

Immediate next steps include obtaining further public input prior to the finalization of the NHN study and proposed amendments to select policies and schedules of the VOP 2010. Ongoing implementation efforts include mid-term and long-term actions such as documented below.

- The City of Vaughan Environmental Management Guideline will be updated to incorporate key results of the NHN Study.
- The NHN Study emphasized refinement of the criteria and mapping of Core Features and Enhancement Areas of the NHN. As a result, refinement of the Built-up Valley Lands component of the NHN is required given changes to Core Features. This is also a component of ongoing tracking and monitoring of NHN improvement over time.
- Identify aspects of the Conservation Land Securement Strategy for implementation using stewardship and securement approaches to complement NHN securement through the development review process.



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APPENDIX 1: COMMUNITY ENGAGEMENT



Appendix 1: Community Engagement

Community Stakeholder Workshops

- Community sessions - Monday October 21, 2013 - 1:00 p.m. 3:00 p.m. and 5:00 p.m. - 7:00 p.m. at City of Vaughan
- Environmental Non-Government Organizations (ENGOS) session – Monday, March 3rd, 2014, 1:00-3:00 p.m., at City of Vaughan
- Sustainable Vaughan – March 24, 2014
- Kleinburg Area Ratepayers Association (KARA) – March 27, 2014

OVERVIEW

Five stakeholder sessions were held between October 21st, 2013 and March 27, 2014 to discuss Vaughan's Natural Heritage Network Study. These sessions were advertised to a wide range of external stakeholders representing: government and agencies (including adjacent municipalities and local conservation authorities), educational institutions, environmental groups, community groups and residents associations, recreational facilities, business and development organizations, local utilities and transit, and arboriculture firms. Numerous individuals from eleven organizations participated in the sessions. Each session began with welcoming remarks from Tony Iacobelli (Project Manager, City of Vaughan), followed by a presentation on the project given by Brent Tegler (North-South Environmental, Project Lead for the consulting team). The meeting with Sustainable Vaughan was attended by Tony Iacobelli and two representatives of Sustainable Vaughan. Susan Hall from Lura Consulting facilitated the community discussions and solicited input from participants. The purpose of the workshops was to obtain input from stakeholders including: (1) existing or potential future initiatives that may contribute to the NHN; (2) opportunities and constraints that influence the NHN; (3) suggestions for evaluating criteria to establish the NHN scenarios.

The key themes and discussion points from the stakeholder workshops are summarized below. Much of the discussions were focused on clarifying the scope of the study including understanding the natural heritage features and enhancement areas.
[insert key points from KARA and ENGO sessions]

KEY DISCUSSION POINTS

Opportunities

- **Official Plan:** The NHN plan will provide an opportunity to clearly identify planning practices for natural heritage. It should be part of the Official Plan and be connected to recommendations in the secondary and block plans.
- **Greenbelt and Oak Ridges Moraine:** The Greenbelt and Oak Ridges Moraine have helped Vaughan manage growth and are helping to preserve natural heritage land.

Constraints

- **Utility Corridors:** One participant asked if there will be regulatory development limits imposed for utility corridor development as part of the NHN. Tony clarified that the regulatory limits are outlined in the City of Vaughan Official Plan.



- **Land Securement:** One participant asked if the City of Vaughan will be purchasing land for the NHN. The consulting team will be providing an overall strategy to address land securement options, including easements, land donations and stewardship agreements. If land securement is a priority for Vaughan, the NHN plan could recommend setting up a fund to purchase land as one of its goals.

Evaluation Criteria

Participants suggested the following elements should be considered as part of the evaluation criteria to select the NHN scenarios:

- Environmental linkages;
- Quality of forest cover;
- Buffers on a site specific basis;
- Impacts of disease and infections;
- Impacts of invasive species; and
- Clearly define the woodlot criteria and requirements.

Additional Discussion Points

- **Fill regulations:** One participant asked if fill regulated areas are included in the NHN. Tony indicated that the perspective of the NHN is ecological and that the NHN is based on the Toronto and Region Conservation Authority (TRCA) limits on fill regulated areas as identified in their guidelines.
- **Species at risk:** One participant asked how the NHN will address species at risk. Brent indicated that any delineation of the NHN will not detract from the Species At Risk legislation. Vaughan has conducted studies on species at risk that will guide the development of the NHN.
- **Enhancement areas:** One participant asked if meadowlands were becoming a significant component of enhancement areas. Brent and Tony indicated that meadowlands are one of the areas that the City is reviewing for the NHN in relation to significant wildlife habitat as defined in accordance with Provincial guidelines.

STAFF SESSION

- Wednesday November 30th, 2013 – 9:30 a.m. - 11:30 a.m. at City of Vaughan

OVERVIEW

A staff session was held on October 29th, 2013 to provide an update on the Vaughan NHN Study and to discuss the relationship of the NHN to other studies and projects underway or planned for the City. Seventeen staff members participated from a wide range of departments including Development Planning, Parks Development, Building Standards, Policy Planning, Parks and Forestry, Sustainability, Transportation Engineering, Asset Management, ITM, Innovation/Continuous Improvement and Engineering Services.

The session began with welcoming remarks from Tony Iacobelli (Project Manager, City of Vaughan), followed by a presentation by Brent Tegler (North-South Environmental, Project Lead for the consulting team). Susan Hall from Lura Consulting facilitated the discussions and solicited input from participants. The purpose of the workshops was to



obtain input including: (1) existing or potential future initiatives that may contribute to the NHN; (2) opportunities and constraints; and (3) decision-making criteria to inform the assessment of the NHN against ecosystem targets.

The key themes and discussion points from the staff session are summarized below.

KEY DISCUSSION POINTS

Linkages to Other City Plans and Projects

Staff indicated there are a number of existing and planned initiatives that are linked to the NHN such as:

- **Vaughan Transportation Master Plan** (complete) that includes comprehensive city-wide GIS map including all planned transportation initiatives until 2031. A key consideration from the transportation perspective is that a lot of the projects are not driven by the City, but by the province and region.
- **York Region Transportation Master Plan and 10-year capital roads program** (updating in 2014) will be beneficial to review and consider if the timing aligns.
- **GTA West Corridor** project will have impacts.
- **Water /Wastewater Master Plans** (complete). There are no major trunks that will cross the NHN areas identified. Individual projects may need Class Environmental Assessments and would have consideration of the environmental and ecological impacts to the NHN as part of that process. New maps will be available in January, 2014 that may be of benefit.
- **Regional Water and Wastewater Class EA projects** should also be considered.
- **Stormwater Management Master Plan.** The City currently has 100 ponds and has an additional 110 ponds planned. The existing ponds are documented in City database in GIS format. Cooling trenches have been used in association with SWM ponds for thermal regulation.
- **ITM** is currently updating GIS maps for the City currently.
- **Archeology and History.** The City is working with York Region to map sites with high archeological potential in GIS formats. Archeological sites cannot be shared as they are confidential.
- **Woodlot Management Strategy** (being developed) that should be considered.
- **Sustainability.** There are a number of projects underway that can support the NHN.

Constraints

The NHN and land securement elements (e.g. easements) do not apply under the building code, this needs to be addressed through zoning or site planning agreement process which would permit development to continue and support the NHN areas.

Opportunities

A key recommendation is to engage community members and neighbourhood groups (e.g. adopt a park program, restoration and stewardship activities, etc.) in implementation.

Additional Discussion Points



- **Approvals:** One participant asked if there are any provincial approvals needed for the NHN. Tony clarified that the NHN is approved through the Official Plan Amendment.
- **Landowner Buy-In:** One participant asked about the need for landowner buy-in to the process. Tony and Brent indicated that discussions are taking place with landowners and their representatives for the blocks planned for development. Stakeholder consultation is also underway for other groups as well.
- **Operations and Finance:** One participant asked if there will be operation standards for maintenance to be performed in the NHN study areas. Another asked if the study will include estimates for capital and operating costs. Tony indicated that the costing is not part of the scope of work for this phase of the project and that costing will be part of Program of Work (e.g.: review impact assessments, tracking NHN database, land stewardship piece, etc.). This will likely be noted in the staff report for further assessment to determine a budget for a program of effort related to managing the NHN.
- **Stormwater Management:** One participant asked if there will be recommendations relating to stormwater management design and operations as part of the NHN study. Brent indicated that the team acknowledges there are ecological functions in stormwater management pond that should be considered and that these ponds may be contributing to some of the wetland functions that naturally exist (recognizing these as secondary functions). Tony indicated that stormwater management ponds are identified currently in Schedule 2 as Enhancement Areas, but will likely be removed from the revised NHN

COMMUNITY FORUM

- November 13th, 2013 - 6:30 to 9:00 p.m., City of Vaughan

OVERVIEW

The City of Vaughan hosted a Community Forum to seek community input for both the Natural Heritage Network Study (Phase 2-4) and the Climate Action Plan as both projects fall under the *Green Directions Vaughan*, the City's Community Sustainability and Environmental Master Plan. In total there were 57 participants. The forum was advertised in the local paper, on the City website, distributed to all stakeholder who had participated in earlier sessions, posted on the City's social media feeds and invitations were issued to an extensive list of residents through the Planning Department. The community forum featured an open house from 6:30 – 7:00 p.m. and marketplace where participants could find out about other programs and projects by the conservation authority, Enbridge, Powerstream, Earth Hour and others. The forum began with welcoming remarks from John MacKenzie (Commissioner of Planning, City of Vaughan), followed by an overview presentation about the two projects given by Susan Hall from Lura Consulting. The remainder of the evening was dedicated to a world café format. The first station was dedicated to the Climate Action Plan where there was a brief overview presentation provided by Chris Wolnik and Jeff Garkowski (City of Vaughan and Lura Consulting) about the CAP and participants were encouraged to provide their input to the CAP vision, goals and key actions.



The second station was dedicated to Land Securement, where Kate Potter (Orland Conservation) provided participants with an educational presentation on the variety of options that exist for land securement beyond land purchase. Kate reviewed the features of land donation, split receipt, conservation severance, bequest, conservation easement agreement and life interest agreement.

The third station was dedicated to the NHN and included a brief overview presentation by Brent Tegler (North-South Environmental consultant lead for the NHN study) followed by a facilitated discussion.

KEY QUESTIONS AND DISCUSSION POINTS FOR THE NHN

NHN Draft Vision Statement

One participant asked what defines resiliency. This should include resiliency to climate changes and increases to biodiversity.

Greenbelt

- One participant asked if the core features in the Greenbelt are treated the same as those outside of the Greenbelt. Brent indicated that they are treated the same but those outside of the Greenbelt require environmental impact study if they are within the area of influence or 'adjacent lands'.
- One participant felt that the Greenbelt does not necessarily mean longevity in terms of preservation and that the NHN should be connected and supportive of the Greenbelt areas.

Enhancement areas

One participant asked if enhancement areas cover all other areas. Brent indicated that they do not and that different features perform different functions. Enhancement areas currently identify lands with a different underlying designation, such as for development or agriculture, but are intended to be evaluated to determine how much of an Enhancement Area should be a Core Feature.

Data sources

- A few of participants asked about the data sources used to create the NHN map. Brent explained that the maps were created from existing digital sources and orthomaps. He indicated that the open space layer is using historical data that doesn't show features within the boundaries. The meadowlands layer was created through interpretation of TRCA data at a high level.
- Brent indicated that mapping is an iterative process and if there are any errors the City is interested in gathering that information.

Meadowlands

A few participants asked how meadowlands would be considered in the NHN. Brent indicated that the study team is still considering meadowlands. The NHN could include large significant areas of meadow that provides habitat and ecological functions, such as for significant wildlife habitat. This is a piece of the NHN that requires further discussion.

Restoration

One participant noted they would like restoration to be included in the NHN.

Evaluation Criteria:

- A number of participants noted that increasing the forest cover is an important evaluation criterion in developing the NHN scenario.



- Participants asked how much forest cover does Vaughan currently have and asked if the NHN should focus on areas that already have some protection through other legislation (Greenbelt or Oak Ridges Moraine) or whether the NHN should focus on those areas not currently protected. Brent indicated that the City currently has 11% forest cover and that the study will look at both strategies to build on existing protection as well as areas that are not currently protected.
- Wetlands are an important part of the natural heritage of Vaughan and participants noted they should be protected.
- Wetland design criteria for stormwater management ponds should be considered. There are opportunities to test new innovations that can bring value to the NHN.
- Increased connectivity is an important criterion as well as increasing the interior forest area.

Costs

- A few participants cautioned that there are costs associated with natural heritage protection and restoration activities. Consideration needs to be given both the actual costs of restoration, the opportunity costs to developers, the natural services costs for restoration.
- A few participants also cautioned that the costs for these activities can increase the cost of housing and affordability of homes particularly given density targets.

ONLINE PUBLIC QUESTIONNAIRE

OVERVIEW

Ten members of the public participated in the online survey that was made available at the public meeting November 13th, 2013 and remained open until December 31st, 2013. The survey was designed to provide participants with an opportunity to provide comments and suggestions on the proposed vision, identify opportunities and constraints facing the NHN, and provide input to the scenario criteria. The key themes emerging from the online survey are summarized below.

Vision

- Four participants indicated that they liked the vision statement.
- Two respondents asked that enhancement areas be removed and another suggested that it needs to be clearly defined.

Assets and Opportunities

- The following key assets were identified for further protection:
 - valleys of the three major river systems;
 - ANSIs;
 - wetlands;
 - existing hedgerows made up of native mature trees and regenerating understorey;
 - woodlots that are composed of understorey, mid-storey;
 - canopy growth;
 - very large existing linked corridor system (western part of Vaughan);
 - large tract (NE Vaughan); and
 - heritage protection of Maple, Kleinberg and Woodbridge.



- One respondent suggested the City continue to work closely with the conservation authority to protect, manage and enhance the NHN.
- One respondent indicated more lands should be protected through the NHN to support and buffer core areas.
- One respondent noted the opportunity lies in part with political leaders to define the NHN as part of what makes Vaughan a great place.

Gaps and Constraints

- Four respondents noted development pressures.
- One respondent noted that there is a challenge to promoting the value of the NHN when seeking to protect it at the expense of other infrastructure expenditures. There is an opportunity to create a comprehensive NHN publicity campaign.
- One respondent noted gaps in protection along the Humber River where there are portions that are publically owned & managed conservation. There is an opportunity to fill gaps and convert the full length to public ownership.
- One respondent noted the replacement value of trees is not recognized.
- One respondent noted that enhancement areas are speculative.
- One respondent noted financial constraints to achieving a properly managed NHN. There are opportunities to invest in protection of our natural features today to ensure a healthier environment to live & sustain our lives tomorrow.
- One respondent noted the GTA West Corridor as a constraint.

Evaluation Criteria

Survey participants were asked to identify which of the following criteria they felt are important for the NHN.

- **Forest Cover**
 - 8 of 10 respondents noted that increasing forest cover and the amount of interior forest cover are important criteria.
 - Respondents indicated that increases should occur with a particular focus along streams and rivers, beside larger existing forests, connect smaller woodlands to larger ones and areas that fill gaps in woodlands to increase overall habitat.
 - Respondents indicated that forest cover should increase in areas that provide: (1) buffers between or next to developments; (2) trail linkages for travel by foot or bicycle; and (3) linkages to existing parks and trails.
 - The majority of respondents indicated that increased interior forest cover should: (1) be beside existing larger tracts of forest; (2) connect smaller woodlands to larger woodlands; (3) provide more habitat for specific species that need woodland habitat; and (4) fill gaps in woodlands to increase overall habitat.
- **Wetland Cover**
 - 9 of 10 respondents felt that increasing wetland cover is important in the City of Vaughan and that this should include areas that add to and enhance headwater streams, as well as areas beside valleylands that improve wetland cover as part of stormwater management practices.
 - The majority of respondents also supported increasing wetland cover in areas that restore wetlands to their historical locations and enhance areas that add to and enhance existing wetlands.



- **Critical Function Zones**

- 8 of 10 respondents felt that it is important to establish Critical Function Zones around wetlands to maintain water quality and to maintain wildlife habitat for wetland species and that critical function zones should be used for wetlands that are located in valleys, in Greenbelt Plan areas, in Oak Ridges Moraine Conservation Plan areas and in association with woodlands or wetlands which are located in close proximity to woodlands.

- **Riparian Zone**

- 9 of 10 respondents felt that riparian cover should be increased in the City of Vaughan with particular emphasis along headwater streams, as well as streams associated with cold and cool-water fish species.

LANDOWNER MEETINGS

- October 2nd to October 10th in 2013; and
- February 24th to 26th in 2014

OVERVIEW

Twelve landowner meetings were held in two rounds between October 2nd to October 10th in 2013 and between February 24th to 26th in 2014 to discuss Phase 2-4 of Vaughan's Natural Heritage Network Study Strategy. The number of participants at each meeting ranged from 6 to 15. The first meetings were held to discuss the objectives of the study and identify issues and opportunities that shape the study. The second round of meetings were held to review and seek input on the development of proposed NHN scenario criteria. Tony Iacobelli (Project Manager, City of Vaughan) and Brent Tegler (North-South Environmental, Project Lead for the consulting team) conducted the meetings. .

The key themes and discussion points from the meetings are summarized below.

SUMMARY

- The evaluation of HDF were discussed, including specific reaches of watercourses as well as the overall evaluation framework. The City's consulting team had previously shared the raw data from the HDF field investigations where permission to enter lands had been provided by the landowners. Landowners expressed interest that information provided by them according to appropriate standards and procedures would be interpreted in the NHN mapping.
- There was discussion of the criteria for the determination of significant wildlife habitat.
- The role of active restoration was discussed in relation to the development approvals process and the Greenbelt Plan lands.
- Potential changes to the VOP 2010 in terms of policy or schedule modifications were discussed, with reference to specific policies in some cases.

ABORIGINAL GROUPS



The City of Vaughan contacted First Nations and Metis organizations by telephone and E-mail according to the protocol in the draft York Region First Nation and Metis Consultation Tool. The Consultation Tool is a component of Amendment 6 to the York Region Official Plan, including the York Region Archaeological Management Plan, adopted February 20, 2014, establishing specific policies to ensure the responsible management of archaeological resources, as required by Provincial policy and legislation.

The Consultation Tool includes a contact database with over 40 individual contacts for 14 First Nation or Metis organizations. The following consultation meetings were arranged based on the responses to the City's correspondence.

Williams Treaty First Nation, March 26, 2014, Office of the Mississaugas of Scugog Island

The meeting included representative from Chippewas of Georgina Island, Curve Lake First Nation, Hiawatha First Nation and Mississaugas of Scugog Island. The presentation by the City demonstrated the information collected and assessed to refine the NHN. Discussion points included:

- The importance of water from headwater drainage features to the main stem of rivers;
- The traditional knowledge and recent experience with habitat restoration of the black oak savannah, primarily of Alderville First Nation and Mississaugas of Scugog Island.

Nation Huron Wendat, April 28, 2014, Webinar

City staff and a representative from Nation Huron Wendat convened a webinar so that GIS information regarding refinements to the NHN could be viewed in the online webinar format.



APPENDIX 2: SIGNIFICANT WILDLIFE HABITAT CRITERIA



Appendix 2. Significant Wildlife Habitat Criteria (Note: Only examples of areas most likely to have potential significance in Vaughan and may be currently outside the NHN are provided)

Table 1: Examples of criteria for SWH provided by the SWHTG (Section 8.3 & Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: seasonal concentrations of animals. (For details see Draft Ecoregion Schedule 6E and SWHTG)					
Seasonal Concentration Areas	Wildlife Species (Draft Ecoregion Schedule 6E)	CANDIDATE SWH (DRAFT Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
Waterfowl Stopover and Staging Areas (Terrestrial) Rationale; Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid March to May). <ul style="list-style-type: none"> Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH. 	Studies carried out and verified presence of an annual concentration of any listed species <ul style="list-style-type: none"> Any mixed species aggregations of 100¹ or more individuals required. The area of the flooded field ecosite habitat plus a 100-300m radius buffer dependant on local site conditions and adjacent land use is the significant wildlife habitat. Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). 	<ul style="list-style-type: none"> Criteria for terrestrial sites not described by SWHTG
Waterfowl Nesting Areas	please see Table 3: specialized habitat for wildlife				
Raptor Wintering Area Rationale; Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl	Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW.	The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites need to be > 20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands	Studies confirm the use of these habitats by: <ul style="list-style-type: none"> One or more Short-eared Owls or; At least 10 individuals and two listed spp. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds¹. 	<ul style="list-style-type: none"> Significant sites are generally the only known sites in the planning area; significant sites may be one of only a few in the area. Most significant sites support several species of concern; significant sites support one species. Sites with the greatest number of species are more significant. Sites with the highest number of individuals are more significant. Large sites (e.g., at least 20 ha) are more significant than smaller sites. Least disturbed sites may be more significant. Sites located near other open field areas,



Table 1: Examples of criteria for SWH provided by the SWHTG (Section 8.3 & Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: seasonal concentrations of animals. (For details see Draft Ecoregion Schedule 6E and SWHTG)					
Seasonal Concentration Areas	Wildlife Species (Draft Ecoregion Schedule 6E)	CANDIDATE SWH (DRAFT Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
					<p>with adjacent woods are more significant.</p> <ul style="list-style-type: none">• Sites with better habitat (e.g., abundant prey and perches; a tendency toward less snow accumulation due to exposure to strong prevailing winds) are probably more significant.• Significant sites may have been used for several years and/or at least 60% of winters.
<p>Reptile Hibernaculum</p> <p>Rationale; Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake</p> <p>Special Concern: Milksnake Eastern Ribbonsnake</p> <p>Lizard: <u>Special Concern</u> (Southern Shield population): Five-lined Skink</p>	<p>For all snakes, habitat may be found in any ecosite in central Ontario other than very wet ones. Talus, Rock Barren, Crevice and Cave, and Alvar sites may be directly related to these habitats.</p> <p>Observations of congregations of snakes on sunny warm days in the spring or fall is a good indicator. The existence of rock piles or slopes, stone fences, and crumbling foundations assist in identifying candidate SWH.</p> <p>For Five-lined Skink, ELC</p>	<p>For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural locations. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</p> <p>Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures</p>	<p>Studies confirming:</p> <ul style="list-style-type: none">• Presence of snake hibernacula used by a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp.• Congregations of a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct).• <u>Note:</u> If there are Special Concern Species present, then site is SWH	<ul style="list-style-type: none">• All sites of locally rare or uncommon species should be considered significant• representative hibernacula for common species should be protected• Most significant sites support two or more species of concern; significant sites may support one species.• Sites with the greatest number of species are more significant.• Sites with the highest number of individuals are more significant.• the least disturbed and most diverse habitats are likely more significant



Table 1: Examples of criteria for SWH provided by the SWHTG (Section 8.3 & Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: seasonal concentrations of animals. (For details see Draft Ecoregion Schedule 6E and SWHTG)					
Seasonal Concentration Areas	Wildlife Species (Draft Ecoregion Schedule 6E)	CANDIDATE SWH (DRAFT Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
		Community Series of FOD and FOM and Ecosites: FOC1 FOC3			
Bullfrog Concentration Areas	Please see table 3 in this appendix: specialized habitat for wildlife		<ul style="list-style-type: none">		
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) Rationale; Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Bank Swallow Cliff Swallow Northern Rough-winged Swallow	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles (Bank Swallow and N. Rough-winged Swallow). Cliff faces, bridge abutments, silos, barns (Cliff Swallows). Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	<ul style="list-style-type: none">Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.Does not include a licensed/permitted Mineral Aggregate Operation.	Studies confirming: <ul style="list-style-type: none">Presence of 1 or more nesting sites with 8 or more cliff swallow pairs or 50¹ bank swallow and rough-winged swallow pairs during the breeding season.	<ul style="list-style-type: none">Sites that have been used the longest are important;The number of nests is important;Sites that support provincially rare species are more important than those that support regionally rare speciesSuggested number of nests that should be considered significant: Cliff Swallow, 8; Bank Swallow, 100; Northern Rough-winged Swallow, 10
Migratory Butterfly Stopover Areas Rationale: Butterfly	Painted Lady White Admiral Special Concern Monarch	Combination of ELC Community Series; need to have present one Community Series from each	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. <ul style="list-style-type: none">The habitat is typically a	Studies confirm: <ul style="list-style-type: none">The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs,	<ul style="list-style-type: none">Large sites are usually the most significant because they contain the greatest diversity of plant speciesSignificant sites are generally the only known sites in the planning area; significant sites may be one of only a few



Table 1: Examples of criteria for SWH provided by the SWHTG (Section 8.3 & Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: seasonal concentrations of animals. (For details see Draft Ecoregion Schedule 6E and SWHTG)					
Seasonal Concentration Areas	Wildlife Species (Draft Ecoregion Schedule 6E)	CANDIDATE SWH (DRAFT Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.		land class: Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate sight for butterfly stopover will have a history of butterflies being observed.	combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south <ul style="list-style-type: none">The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitatStaging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes	multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day; significant variation can occur between years and multiple years of sampling should occur. <ul style="list-style-type: none">MUD of >5000 or >3000 with the presence of Painted Ladies or White Admirals is to be considered significant.¹	in the area. <ul style="list-style-type: none">Most significant sites support two or more species of concern; significant sites may support one species.Sites with the greatest number of species are more significant.Sites with the highest number of individuals are more significant.Large sites are more significant than smaller sites.Sites with a variety of habitat types (e.g., forest, grassland) are often more significant than sites with homogeneous habitat.Sites within 5 km of Lake Ontario and Lake Erie shoreline are most significant.Least disturbed sites may be more significant.Sites that have been traditionally used for at least 10 years are more significant.



Table 2. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Rare Vegetation Communities. (For detail see Draft Ecoregion Schedule 6E and SWHTG)					
Rare Vegetation Community	CANDIDATE SWH (Ecoregion Schedule 6E)			CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
	ELC Ecosite Code	Habitat Description	Detailed Information	Defining Criteria	
Sand Barren Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.	Any sand barren area, no minimum size.	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Sand Barrens Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics)¹. 	<ul style="list-style-type: none"> All provincially rare vegetation communities (S1 to S3 as listed by NHIC) should be considered significant
Savannah Rationale: Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	No minimum size to site Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none"> Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). 	<ul style="list-style-type: none"> All provincially rare vegetation communities (S1 to S3 as listed by NHIC) should be considered significant
Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site ¹ . Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present Note: Prairie plant spp. list from Ecoregion 6E should be used <ul style="list-style-type: none"> Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). 	<ul style="list-style-type: none"> All provincially rare vegetation communities (S1 to S3 as listed by NHIC) should be considered significant
Other Rare Vegetation	Provincially Rare S1, S2	Rare Vegetation Communities	ELC Ecosite codes that	Field studies should confirm if an ELC	<ul style="list-style-type: none"> All provincially rare vegetation



Table 2. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Rare Vegetation Communities.(For detail see Draft Ecoregion Schedule 6E and SWHTG)					
Rare Vegetation Community	CANDIDATE SWH (Ecoregion Schedule 6E)			CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
	ELC Ecosite Code	Habitat Description	Detailed Information	Defining Criteria	
Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	and S3 vegetation communities are listed in Appendix M of the SWHTG . Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	may include beaches, fens, forest, marsh, barrens, dunes and swamps.	have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNR/NHIC will have up to date listing for rare vegetation communities.	Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. <ul style="list-style-type: none">Area of the ELC Vegetation Type polygon is the SWH.	communities (S1 to S3 as listed by NHIC) should be considered significant <ul style="list-style-type: none">Communities that represent < 3% of remaining natural area and/or are found in only five or fewer locations within the municipality might be considered locally significant communities.



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.
For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)

Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
Waterfowl Nesting Area Rationale; Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. 	Studies confirmed: <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	<ul style="list-style-type: none"> This category falls under Habitat of Seasonal Concentrations of Animals in the SWHTG Most significant sites are the only known sites in the planning area; significant sites may be one of only a few in the area. Most significant sites support several species of concern; significant sites support one species. Sites with the greatest number of species are more significant. Sites with nesting and brood habitat for American Black Ducks should be considered significant All nesting areas for Gadwall, Green-winged Teal, Northern Pintail, Northern Shoveler, and American Wigeon should be considered significant Sites with the highest number of individuals are more significant. Larger sites of suitable habitat (e.g., grasslands adjacent to wetlands, ponds, lakes for many species) are more significant. Most significant sites have better habitat (e.g., optimal vegetation structure, stable water levels, abundant cover, and a wetland/water body within 150 m). Sites providing safe movement of broods from nest to wetland/water body (i.e., no roads) are more significant. Sites with lower rates of nest predation are more significant. Sites with little disturbance (e.g., haying, cattle grazing) are more significant.
Turtle Nesting Areas Rationale; These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle Special Concern Species Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAM2 MAM3 MAM4 MAM5 MAM6 MAM1 MAM2 MAM3 SAS1	<ul style="list-style-type: none"> Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road and embankments 	Studies confirm: <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles¹ One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH Travel routes from wetland to 	<ul style="list-style-type: none"> Larger sites are most significant because fewer nests are likely to be lost to predation and larger areas are more likely to be important to larger numbers of turtles. Nesting areas adjacent to permanent water bodies and large wetlands, and removed from roads are more significant because of increased likelihood of nesting success and hatchlings reaching the water; as well as reduced road mortality. Higher, well-drained sites are more important than poorly drained, low-lying areas at risk of inundation by water. Sites with good exposure to sunlight are more significant. Generally nesting areas of preferred substrate (e.g., sands and gravels) are preferred to sites over other substrates. Presence of several nests or adult females observed during the nesting season, within a single area indicates a significant habitat. Sites with evidence of use by several species are more significant. Sites with traditional use are more significant.



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife. For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)					
Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
		SAM1 SAF1 BOO1 FEO1	<ul style="list-style-type: none"> shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. 	<ul style="list-style-type: none"> nesting area are to be considered within the SWH. 	<ul style="list-style-type: none"> Nesting habitats used by rare species are more significant. More significant sites are less prone to nest predation (e.g., they are not located in highly active wildlife corridors). Most significant nesting habitats are connected to other turtle habitats (e.g., wetland) by corridors permitting relatively safe movement of these reptiles.
Amphibian Breeding Habitat (Woodland). Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians	<ul style="list-style-type: none"> Presence of a wetland, lake, or pond within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat 	Studies confirm; <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed species with at least 20 individuals (adults, juveniles, eggs/larval masses). 	<ul style="list-style-type: none"> Greatest significance is ascribed to ponds that support a high diversity of species, species of conservation concern, and high numbers of amphibians; but there is little discussion of ponds that support woodland amphibian breeding that are located outside woodlands Ponds supporting high species diversity are more significant. Ponds supporting rare amphibian species are more significant than ponds supporting only common species. Ponds with a good diversity of emergent and submergent aquatic vegetation are most significant. Presence of shrubs and logs increase significance of pond for some amphibian species because of increased structure for calling, foraging, and escape and concealment from predators. More significant areas will have closed canopy forest providing shaded, moist understorey and abundance of downed woody debris for cover habitat. Breeding ponds with shortest distance to forest habitat are more significant because of reduced risk to moving amphibians and are more likely to be used. Prefer unpolluted waters. <input type="checkbox"/>
Amphibian Breeding Habitat (Wetlands) Rationale; Wetlands supporting breeding for these amphibian species are	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog	ELC Community Classes SW, MA, FE, BO, OA and SA.	<ul style="list-style-type: none"> Wetlands and pools (including vernal pools) >500m² (about 25m diameter) isolated from woodlands (>120m), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping 	Studies confirm: <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed salamander species or 3 or more of the listed frog or toad species and with at least 20 breeding individuals (adults, juveniles, eggs/larval masses) or; Wetland with confirmed 	<ul style="list-style-type: none"> The SWHTG included only Bullfrog concentration areas, which are discussed under Habitat for Seasonal Concentrations of Animals in areas where bullfrogs have declined and there is potential for population recovery, even small concentrations of bullfrogs may be significant. Sites supporting low densities of bullfrogs may be significant if they are near the limits of the species' range Sites that have supported bullfrogs for at least 10 years are significant



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.(For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)					
Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
extremely important and fairly rare within Central Ontario landscapes.	Green Frog Mink Frog Bullfrog		and could be important amphibian breeding habitats. <ul style="list-style-type: none">• Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.• Bullfrogs require permanent water bodies with abundant emergent vegetation.	breeding Bullfrogs are significant.	
Open Country Bird Breeding Habitat (noted under Species of Conservation Concern in Ecoregion Schedules) Rationale; This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow Special Concern Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	Field Studies confirm: <ul style="list-style-type: none">• Presence of nesting or breeding of 2 or more of the listed species.• A field with 1 or more breeding Short-eared Owls is to be considered SWH.	<ul style="list-style-type: none">• Sites supporting area-sensitive species of birds that are rare or uncommon, and/or exhibiting population declines provincially are most significant.• Largest grasslands in the municipality are likely most significant with those >30 ha most likely to support and sustain diversity of these species.• Grasslands with a variety of different layers of vegetation at different heights likely provide more habitats and support more bird species and are consequently more significant.• Roadless, relatively undisturbed sites with no history of disturbance from grazing, forestry operations during the last 20 years are most significant.• In general, early successional grasslands that are not being used for agricultural production are more significant than similar grasslands that are used for agriculture (e.g., crops, cattle grazing).• Sites with the least amount of adjacent residential development are more significant.• Sites that could be lost or severely degraded and cannot be replaced by similar sites in the planning area, are highly significant.• Specialized habitats with the poorest current representation within the planning area are significant.• Sites providing several identified significant wildlife habitats (e.g., raptor nest sites, rare vegetation community, habitat for species of conservation concern) are most significant.
Shrub/Early	Indicator Spp:	CUT1	Large field areas succeeding	Field Studies confirm:	<ul style="list-style-type: none">• shrub-nesting, area-sensitive species not noted in SWHTG but they were



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.(For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)					
Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
Successional Bird Breeding Habitat (noted under Species of Conservation Concern in Ecoregion Schedules) Rationale; This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records	Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher Special Concern: Yellow-breasted Chat Golden-winged Warbler	CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	to shrub and thicket habitats>10ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. •	<ul style="list-style-type: none">• Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species.• A field with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat.	not specifically ruled out as criteria for SWH <ul style="list-style-type: none">• Sites supporting area-sensitive species of birds that are rare or uncommon, and/or exhibiting population declines provincially are most significant.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Rationale; Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing	Osprey Special Concern Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).	Studies confirm the use of these nests by: <ul style="list-style-type: none">• One or more active Osprey or Bald Eagle nests in an area.• Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH.• For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with	<ul style="list-style-type: none">• Most significant nesting habitats are adjacent or close to relatively clear and shallow (< 1 m) water bodies with productive fish populations.• Presence of large, sturdy trees near shoreline• Most significant nesting habitats have numerous large conifer and/or deciduous trees in good condition along the shoreline providing birds with good visibility and clear flight line to the nest.• More significant sites will have no disturbance from human activities within 200 m of the nest during the nesting season.• Some Ospreys may tolerate some disturbance but more significant sites and sites of more sensitive birds should not be disturbed after onset of nesting.• Most significant habitat contains several nests within a single area (e.g., within 1 square km)• Sites with current evidence of use are most significant.• Sites with traditional use are most significant (many nests are used for several consecutive years).



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.(For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)					
Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
shoreline development pressures and scarcity of habitat. Possible occurrences have been noted in the Maple ANSI area and additional functions (e.g. foraging habitat) should be considered if development is proposed adjacent to this part of the NHN.				<p>large trees within this area is important.</p> <ul style="list-style-type: none">For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitatTo be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant.	<ul style="list-style-type: none">Potential nesting habitats that could be lost or severely degraded and cannot be replaced by similar sites in the planning area, are significant.Sites threatened with degradation or loss are more significant than similar, but currently unthreatened sites.
<p>Woodland Area-Sensitive Bird Breeding Habitat (Classified as Habitat for Species of Conservation Concern in Draft Ecoregion Schedules)</p> <p>Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.</p>	<p>Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren</p> <p>Special Concern: Cerulean Warbler Canada Warbler</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p>	<p>Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha.</p> <p>Interior forest habitat is at least 200 m from forest edge habitat.</p>	<p>Studies confirm:</p> <ul style="list-style-type: none">Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.	<ul style="list-style-type: none">Sites supporting area-sensitive species of birds that are rare or uncommon, and/or exhibiting population declines provincially are most significant.Largest natural forest stands in the municipality are likely most significant with those >30 ha being most likely to support and sustain a diversity of these birds.Most significant forest stands should contain at least 10 ha of forest interior excluding at least a 200m buffer around the forest interior.Smaller interior habitats may still be significant where no larger examples exist.Sites with an abundance of large (e.g., >40 cm DBH, >25 m tall), mature trees are more significant for certain nesting raptor species as well a number of songbird species.Forests and grasslands with a variety of different layers of vegetation at different heights likely provide more habitats and support more bird species and are consequently more significant.Uneven-aged forests are generally more significant than even-aged forests because they provide more forest structure.Sites with largest contiguous canopy cover and fewest gaps in the canopy are likely most significant. Natural gaps (e.g., windthrown trees, woodland ponds) are preferred to man-made gaps (e.g., roads).Gaps should be < 20 m including roads and rights-of-way.



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.
For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)

Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
Though these areas would almost certainly be incorporated into the NHN, additional function should be considered if development is proposed adjacent to this part of the NHN.					<ul style="list-style-type: none"> Roadless, relatively undisturbed sites with no history of disturbance from grazing, forestry operations during the last 20 years are most significant. Sites with history of only light grazing and/or forestry operations over the last 20 years are potentially significant if properly managed. Uneven-aged forest stands are often more significant than even-aged forest stands because they may be less intensively managed, and generally contain a natural representation of species. Forest stands with a history of little or no forest management may be most significant. Sites with the least amount of adjacent residential development are more significant. Sites that could be lost or severely degraded and cannot be replaced by similar sites in the planning area, are highly significant. Specialized habitats with the poorest current representation within the planning area are significant. Sites providing several identified significant wildlife habitats (e.g., raptor nest sites, rare vegetation community, habitat for species of conservation concern) are most significant.
Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites	Studies Confirm: <ul style="list-style-type: none"> Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. Habitat form and function needs to be assessed from the assessment of vegetation types and an area of significant habitat that protects the rare or special concern species identified. 	<ul style="list-style-type: none"> called habitat for species of conservation concern in the SWHTG habitats that support large populations of a species of concern (in the broad sense) should be considered significant Habitats of the rarest species are more significant than those of less rare species. For example, habitats for species ranked S1 and S2 should be considered more significant than habitats for species ranked S3. Species ranked as vulnerable by the OMNR should also be considered significant. Less rare species and their habitats in the planning area may be deemed species of conservation concern by the municipality based on such factors as the number of known occurrences, total extent of remaining habitat, degree of threat or risk to habitat, and/or local interest in a particular species. The habitat for species experiencing the greatest declines is most significant. The habitat for declining species that has the lowest representation in the planning area is more significant. Those habitats that provide the best opportunity for the long-term sustainability of the declining species are most significant (e.g., large well-protected sites; sites that best meet the species' habitat requirements; sites with good connections to other similar habitats). Habitat for those species with the poorest representation within the



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.(For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)					
Specialized Wildlife Habitat	Wildlife (Ecoregion 6E)	Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)
			ELC Ecosite Codes	Habitat Criteria	Defining Criteria
					<div>SWH (SWHTG)</div> <div>Defining Criteria</div> <ul style="list-style-type: none">• planning area is more significant.• These species and their habitats are significant even if well represented in the planning area, due to high provincial responsibility for their protection.• Those habitats that provide the best opportunities for the long-term sustainability of the target species are most significant (e.g., large well protected sites; sites that best meet the species' habitat requirements; sites with good connections to other similar habitats).• Sites that provide habitat that best meets the survival requirements of the target species and that also include a natural buffer zone are most significant (i.e. most likely to sustain species/population over the long term).• Sites that contain the fewest non-native species of potential threat to the target species are significant.• Undisturbed or least-disturbed habitats (e.g., no/few deleterious impacts from roads, human activities) are significant.• Sites capable of producing a large number of individuals of a single species of conservation concern are significant.• Highly diverse sites that support one or more species of conservation concern are most significant.• Habitats supporting large populations of a several species of conservation concern are most significant.• Habitat supporting large populations of a single species is significant.• Large sites supporting large populations of several species of conservation concern are most significant.• Large sites are generally more significant than most comparable but smaller sites.• Sites large enough to ensure long-term support and viability of species of conservation concern are significant.• Sites with large areas of suitable habitat that are also connected to other potentially suitable habitat and/or natural areas are most significant.• Habitats that provide the best opportunity for long-term protection are usually more significant than similar habitats with little opportunity for protection or facing an uncertain future due to potential threats (e.g., habitat found in a large natural area vs. an isolated site close to an expanding residential development).• Habitats threatened with degradation or loss are more significant than similar, but currently unthreatened habitats, if they can be protected.• Habitats of species currently experiencing severe population declines in Ontario (e.g., grassland bird species) due to habitat loss are most



Table 3. Examples of criteria for SWH provided by the SWHTG (Section 8.3 and Appendix Q) and Draft Ecoregion Schedule 6E (OMNR 2012) for evaluation of SWH: Specialized Habitat for Wildlife.(For detail, mitigation and protection measures etc., see Draft Ecoregion Schedule 6E and SWHTG)					
Specialized Wildlife Habitat	Wildlife Species (Ecoregion Schedule 6E)	CANDIDATE SWH (Ecoregion Schedule 6E)		CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining Criteria
					<p>significant.</p> <ul style="list-style-type: none">• Habitats of species currently experiencing significant population declines in the municipality are significant.• Poorly represented habitats for species of conservation concern are significant.• Habitats that could be lost or severely degraded and cannot be replaced by similar habitats in the planning area, are highly significant.• Sites with documented traditional use by species are most significant.• Species of particular interest to the planning authority (e.g., the CAC may recommend certain species such as indicator species) may be considered significant• Sites providing the best examples of habitat that will ensure the longterm sustainability of the species are significant.
<p>Seeps and Springs</p> <p>Rationale; Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams. Although these features are likely within the NHN, a feature-based water balance approach may be required to maintain these functions.</p>	<p>Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.</p>	<p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.</p>	<p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species</p>	<p>Field Studies confirm:</p> <ul style="list-style-type: none">• Presence of a site with 2 or more seeps/springs should be considered SWH.• The area of a ELC forest ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat	<ul style="list-style-type: none">• Sites with several seeps/springs (e.g., >5) are most significant.• Most significant seeps/springs are present even during very dry summers.• Most significant sites support diversity of native vegetation.• Sites supporting rare or uncommon species (e.g., plants, salamanders), or species that are unique to the area (e.g., Wild Turkey) are more significant than those that support only common species.• Seeps/springs located on south-facing slopes are probably more significant than seeps with other aspects because of their winter value to some wildlife species.• Seeps/springs in forest stands and/or headwater areas are generally more significant than those found in other areas.• Seeps/spring found in relatively undisturbed areas are generally more significant than those found in areas disturbed by human activities (e.g., off-road vehicle travel).



NHN Study**Details of the Amendment to Schedule 2 and Policies in Chapter 3 of the VOP 2010**

It is proposed to amend VOP 2010 as follows:

Item 1. Replacing Schedule 2, the Natural Heritage Network

Purpose. Schedule 2 delineates the natural heritage system in Vaughan, the Natural Heritage Network (NHN). The NHN includes Core Features, Enhancement Areas, Built-up Valleylands and other lands in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas. Refinements to Core Features and Enhancement Areas are a result of the NHN Study undertaken from 2012 to 2015, and depicted in the revised boundaries on Schedule 2.

In addition, three additional schedules are included to delineate natural features that inform the Core Features boundaries: Schedule 2A identifies hydrologic features and valleylands; Schedule 2B identifies woodlands; and Schedule 2C identifies areas that meet thresholds for particular categories of Significant Wildlife Habitat. The addition of these Schedules is the City's response to comments from York Region and the Province that both the natural heritage system (the NHN in Vaughan) and natural features shall be delineated on pertinent schedules.

Several notations are added to the schedules to clarify the purpose within the context of the VOP 2010. A notation is added on Schedule 2 that Enhancement Areas are depicted conceptually. A notation is added to Schedules 2A to 2C that the information on the schedules informs the implementation of the relevant policies in the VOP 2010, but is not precisely determinative of the Core Features depicted on Schedule 2, as provided below:

Information on Schedules 2A, 2B and 2C depict the type of natural features that comprise the Core Features of the Natural Heritage Network. Not all natural features depicted on Schedules 2A, 2B and 2C are included as Core Features. Schedules 2A, 2B and 2C inform the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform the Natural Heritage Network, which will be finalized based on more detailed studies, such as through the development applications process or a municipal comprehensive review.

Amendment

Deleting Schedule 2 "Natural Heritage Network" contained in VOP 2010 as adopted by Council on September 10, 2010 and subject to further modifications on September 27, 2011, March 20, 2012 and April 17, 2012, and replacing it with the new Schedules 2 "Natural Heritage Network", 2A "Hydrologic Features and Valleylands", 2B "Woodlands" and 2C "Significant Wildlife Habitat" attached hereto as Schedule A.

Item 2. Minor Revision to Policy 3.2.3.2

Purpose. The policy directs that the text prevails over the mapping on Schedule 2 in determining the Natural Heritage Network and that precise limits of natural features may be determined through appropriate study. The amendment is a technical change to refer more generically to the refinement to Core Features.

Amendment

Deleting in 3.2.3.2 the word "additions" and replacing it with "modifications".

Item 3. Policy 3.2.3.4(a) Regarding Valley and Stream Corridors

Purpose. Proposed revisions to Schedule 2 to include a 30 metre riparian zone on either side of watercourses to estimate the feature extent for stream corridors (i.e. drainage features outside of defined valleys) as Core Features require that the policy text refer to the feature extent and the minimum vegetation protection zone (VPZ) for valley and stream corridors. In addition, stakeholder input requested clarification of the application of a minimum VPZ inside and outside of the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas.

Amendment

Amending 3.2.3.4 by deleting subparagraph (a) and replacing it with the following:

- a. *valley and stream corridors*, including provincially *significant* valleylands and permanent and intermittent streams, the limits of which are determined from the greater of the long term stable top of slope/bank, stable toe of slope, Regulatory flood plain, and/or meander belt and any contiguous natural features or areas, and
 - i. a minimum 10 metre vegetation protection zone from the feature limit outside of the Oak Ridges Moraine and **Greenbelt Plan Areas**, or
 - ii. a minimum 30 metre vegetation protection zone from the feature limit for those *valley and stream corridors* within the Oak Ridges Moraine and **Greenbelt Plan Areas**;

Item 4. Policy 3.2.3.4(h) Regarding Seeps, Springs and Sensitive Surface Water Features

Purpose. Waterbodies were evaluated for inclusion as Core Features as part of the NHN Study. Other than kettle lakes, it was determined that waterbodies are not mapped as Core Features on Schedule 2, but they are noted in policy text for evaluation to determine their inclusion as part of the Natural Heritage Network. Text referring to “sensitive surface water features” and “waterbodies” is included in VOP 2010 policy 3.2.3.4(h) to direct such an evaluation. Whether the waterbody is of natural or anthropogenic origin, the assessment of a waterbody as a “sensitive surface water feature” shall focus on the ecological functions provided by the waterbody. See also recommended amendments to policy 3.3.5.1. The York Region Official Plan (ROP 2010) includes policies and definitions for “sensitive surface water feature” and “waterbody”.

Amendment

Amending 3.2.3.4 by deleting subparagraph (h) and replacing it with the following:

- h. seepage areas, springs and *sensitive surface water features* (including *waterbodies*) and their vegetation protection zone, and a 30 metre minimum vegetation protection zone for those seepage areas and springs in the Oak Ridges Moraine Conservation and **Greenbelt Plan Areas**.

Item 5. Policy 3.2.3.6 Regarding Conformity with the Greenbelt Plan and Oak Ridges Moraine Conservation Plan Regarding Core Features, Key Natural Heritage Features, and Key Hydrologic Features.

Purpose. VOP 2010 includes policies for the Oak Ridges Moraine Conservation Plan (section 3.4) and the Greenbelt Plan (section 3.5). Policy text is added to reference the technical papers for interpretation of policies in the Provincial Plan areas, following ROP 2010 policy 2.2.29. Policy text is also added to address policy conflicts, based on ROP 2010 policies 6.1.7 (regarding the Greenbelt Plan) and 6.2.18 (Regarding the Oak Ridges Moraine Conservation Plan).

Amendment

Deleting 3.2.3.6 and replacing it with the following:

Core Features, as identified on Schedule 2, represent key natural heritage features and hydrologically sensitive features within the **Oak Ridges Moraine Conservation Plan Area**, or key hydrologic features in the Protected *Countryside* of the Greenbelt Plan, or key natural heritage features within the Natural Heritage System of the Greenbelt Plan, as defined by those Provincial Plans. That the technical papers associated with the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan be consulted to provide clarification in implementing the policies related to **Core Features** within the Provincial Plan Areas. Where there is a conflict between the Greenbelt Plan or Oak Ridges Moraine Conservation Plan and this Plan, the policy which is more protective of the feature will apply.

Item 6. Policy 3.2.3.7 Regarding Natural Area Management in Core Features

Purpose. Policy 3.2.3.7 identifies limited permitted uses in Core Features. A minor edit is required to subparagraph (a) of policy 3.2.3.7 with regard to natural area management.

Amendment

Amending 3.2.3.7 by deleting the second reference to “management” in subparagraph (a).

Item 7. Policy 3.2.3.7 Regarding Infrastructure Projects in Core Features

Purpose. Policy 3.2.3.7 identifies limited permitted uses in Core Features. The revision to policy 3.2.3.7 clarifies several issues related to locating infrastructure in Core Features where there are no other alternatives:

- Merging two previous subparagraphs that address types of infrastructure projects;
- Noting that such projects may be approved through an Environmental Assessment or Planning Act approval; and
- Unavoidable impacts to Core Features may require the identification of compensation measures.

Amendment

Amending 3.2.3.7 by deleting subparagraph (b).

Amending 3.2.3.7 by deleting the text of subparagraph (c), renumbering it to subparagraph (b) and replacing it with the following:

transportation, infrastructure, utilities, conservation projects, and flood or erosion control projects, as may be authorized through processes such as an Environmental Assessment or Planning Act approval, where such projects are necessary and deemed in the public interest after alternatives have been considered, and where such projects will minimize negative impacts on the **Core Features** and may include measures to provide compensation, to the satisfaction of the City and the Toronto and Region Conservation Authority; and

Amending 3.2.3.7 by re-numbering subparagraph (d) to subparagraph (c).

Item 8. Policy 3.2.3.11 Regarding Precise Delineation of Core Features

Purpose. The version of policy 3.2.3.11 approved by Council in 2010 addressed the policy structure that a precautionary approach is taken to include valley and stream corridors, wetlands, and woodlands as Core Features. Policy 3.2.3.11 addressed that modifications to Core Features were permitted subject to appropriate study. Through the NHN Study, this approach has been refined such that the provision to modify Core Features is specifically set out in policies in Section 3.3 of the VOP 2010. As such, a general policy regarding modifications to Core Features is no longer required and it is proposed to be replaced with a policy that addresses the precise delineation of Core Features based on more detailed studies.

Amendment

Deleting 3.2.3.11 and replacing it with the following:

That Core Features shall be precisely delineated on a site-by-site basis using procedures established by the Province, where applicable. Such delineation shall occur through the approval of *Planning Act* applications supported by appropriate technical studies such as a Master Environment and Servicing Plan, Environmental Impact Study, natural heritage or hydrological evaluations. Where such delineation refines boundaries shown on Schedules within this Plan, refinements to these Schedules can occur without an amendment to this Plan.

Item 9. Policy 3.2.3.14 Regarding Enhancement Areas Depicted on Schedule 2

Purpose. It was raised during the public comment period that Enhancement Areas depicted on Schedule 2 were being interpreted more precisely in terms of location and boundaries than intended in the policies. The policies are intended to emphasize the general areas for evaluation of restoration opportunities for inclusion into the Natural Heritage Network as Core Features. The policy text is revised to indicate that locations of Enhancement Areas are conceptual.

Amendment

Deleting 3.2.3.14 and replacing it with the following:

Enhancement Areas shown on Schedule 2 are conceptual in terms of context and location. As part of the *development* process, environmental studies will be conducted to determine the final location and design of the Enhancement Area. An Environmental Impact Study may be required.

Item 10. Inserting a New Policy for Enhancement Areas Not Depicted on Schedule 2

Purpose. Categories of Enhancement Areas are identified in the NHN Study that are not delineated on Schedule 2, including: riparian corridors; upland habitat of wetlands; and woodland enhancements. The design and variability of these enhancement options cannot be practically conveyed on a schedule. Hence, a new policy describes the types of Enhancement Areas for evaluation as part of a development application.

Amendment

Adding a new policy as 3.2.3.15 as follows:

Enhancement Areas not depicted on Schedule 2, but that shall be evaluated for inclusion in the Natural Heritage Network as a component of an analysis of *adjacent* lands, include:

- a. corridors and/or linkages of an appropriate width and design to facilitate movement of target species, for the main branch of West Robinson Creek and in the upper Purpleville Creek subwatershed;
- b. upland habitat of wetlands within which biophysical functions or attributes directly related to the wetland occur, and based on knowledge of species present and their use of habitat types; and
- c. woodland enhancements to improve forest connectivity, size, shape and interior habitat.

The evaluation criteria for **Enhancement Areas** may be further described in the Terms of Reference for a Master Environment and Servicing Plan and/or Environmental Impact Study.

Item 11. Technical Amendments Resulting from Inserting a New Policy as 3.2.3.15

Purpose. References to policy numbers are adjusted resulting from the addition of a new policy as policy 3.2.3.15.

Amendment

Renumbering 3.2.3.15 to 3.2.3.16 and deleting the text “policy 3.2.3.14” and replacing it with “policies 3.2.3.13 to 3.2.3.15”.

Renumbering 3.2.3.16 to 3.2.3.17.

Renumbering 3.2.3.17 to 3.2.3.18.

Renumbering 3.2.3.18 to 3.2.3.19.

Renumbering 3.2.3.19 to 3.2.3.20.

Item 12. Inserting a New Policy Regarding the Minimum Vegetation Protection Zone in the Greenbelt Plan and Oak Ridges Conservation Plan Areas.

Purpose. It was requested to confirm that the minimum vegetation protection zone that applies within the Greenbelt Plan or Oak Ridges Moraine Conservation Plan areas is not required to extend beyond the boundaries of those Provincial Plans. The City agrees with the interpretation, noting that Region Official Plan policy 2.2.10 extends the more protective vegetation protection zone for features that occur both within and outside of the Provincial Plan areas under specific circumstances.

Amendment

Adding a new policy as 3.2.3.21 as follows:

The minimum vegetation protection zone that applies within the Greenbelt Plan or Oak Ridges Moraine Conservation Plan is not required to extend beyond the boundaries set out in the Greenbelt Plan or Oak Ridges Moraine Conservation Plan save and except as follows:

- a. an Environmental Impact Study confirms that a minimum vegetation protection zone within the Provincial Plan Area should be extended beyond the Provincial Plan boundary;
- b. where a *woodland, wetland, or* Life Science **Area of Natural and Scientific Interest** identified for protection is located both within and outside the boundary of the Oak Ridges Moraine or the Natural Heritage System of the Protected Countryside in the

Greenbelt, and more than 50% of the feature is located within that boundary, the vegetation protection zone that is most protective of the feature shall generally apply to the portion outside of the Provincial Plan area unless an Environmental Impact Study demonstrates that a lesser vegetation protection zone is appropriate.

Item 13. Policy 3.3.1.2 Regarding Delineating Valley and Stream Corridors

Purpose. The Toronto and Region Conservation Authority recently approved The Living City Policies document, which is an update of the previous Valley and Stream Corridor Management Program document and consolidation with other policy documents. The policy revision to VOP 2010 changes the reference to materials published by the Toronto and Region Conservation Authority with regard to management of valley and stream corridors.

Amendment

Deleting 3.3.1.2 and replacing it with the following:

That *valley and stream corridors* are defined in accordance with standard practices and procedures, including management documents, prepared by the Toronto and Region Conservation Authority as may be amended from time to time.

Item 14. Inserting a New Policy for Field Verification of Watercourses

Purpose. Policy 3.2.3.4(a) is inclusive of all valley and stream corridors. It is recommended to add a new policy to verify watercourses through field investigation. There are also (i) headwater drainage features (HDFs) mapped as watercourses and (ii) HDFs on that may exist on the landscape that are not in the watercourse digital data used as the basis for Schedule 2. Hence, the second part of the recommended new policy addresses the evaluation and management of HDFs based on standards and procedures of the TRCA. The policy text is based on text in the Toronto and Region Conservation Authority's Living City Policies.

A definition for HDFs is recommended to be provided and this term is italicized in the recommended policy. A definition for watercourses is not required as it is provided in the Toronto and Region Conservation Authority's Living City Policies and in the appropriate regulation.

Amendment

Adding a new policy as 3.3.1.5 as follows:

That watercourses may need to be confirmed by the City and the Toronto and Region Conservation Authority through field investigation. *Headwater drainage features* (HDFs) shall be identified and managed based on the standard practices and procedures of the Toronto and Region Conservation Authority.

Renumbering 3.3.1.5 to 3.3.1.6.

Renumbering 3.3.1.6 to 3.3.1.7.

Item 15. Policy 3.2.3.2 Regarding Wetland Protection for Provincially Significant Wetlands, Provincial Plan Area Wetlands, and Other Wetlands

Purpose. Policy 3.2.3.2 addresses wetland protection including an appropriate vegetation protection zone. The revision to policy 3.2.3.2 clarifies interpretation issues for wetland protection in several circumstances:

- Clearly establishes (i) wetlands evaluated as provincially significant and their 30 metre minimum vegetation protection zone and (ii) wetlands in the Provincial Plan areas and their 30 metre minimum vegetation protection zone, as Core Features.
- Uses the term “other wetlands” to denote wetlands not determined to be provincially significant or in a Provincial Plan Area, such that other wetlands are assessed to determine their importance and means of protection;
- Subparagraphs (a) through (c) are added to be consistent with Region Official Plan 2010 policy 2.2.42 and, in particular, to identify the circumstance when a wetland is assessed as an “evaluated” wetland consistent with the Region Official Plan:
 - Newly identified wetlands determined to be provincially significant shall be protected according to Provincial requirements and the policies of this Plan;
 - That where newly identified wetlands are within the Oak Ridges Moraine Conservation and Greenbelt Plan Areas, they will be subject to the requirements of those plans;
 - Other wetlands deemed to be evaluated in accordance with the Region Official Plan, where their importance and function are determined appropriate for protection, but not determined to be provincially significant, shall have a vegetation protection zone determined through appropriate study.
- Subparagraph (d) is added to address the situation of other wetlands determined to be maintained on the landscape, but are not provincially significant and not in a Provincial Plan area, that result in removal of part or all of the wetland must demonstrate compensation.

Amendment

Deleting 3.3.2.2 and replacing it with the following:

Provincially *significant* and Provincial Plan Area *wetlands* and their minimum vegetation protection zone of 30 metres are included as **Core Features**. Notwithstanding policy 3.3.2.1.a, prior to *development* or *site alteration* approval, other *wetlands* that may be impacted shall be assessed to determine their importance, functions and means of protection and/or maintenance of function to the satisfaction of the City, Region, and the Toronto and Region Conservation Authority. Other *wetlands* and newly identified *wetlands*:

- a. determined to be provincially *significant* shall be protected according to Provincial requirements and the policies of this Plan;
- b. within the Oak Ridges Moraine and **Greenbelt Plan Areas** will be subject to the requirements of those plans;
- c. evaluated, where their importance and function are determined appropriate for protection, but not determined to be provincially *significant*, shall be protected in accordance with the Region Official Plan including a vegetation protection zone determined through appropriate studies;
- d. determined to have ecological functions to be protected shall generally be maintained in their current location, unless a *wetland* would not persist in the post-development situation, in which case it can be modified subject to compensation of the same to the satisfaction of the City and Toronto and Region Conservation Authority.

Item 16. Policy 3.3.3.3 Regarding Protection of Woodlands that are Not Significant Woodlands

Purpose. The proposed amendments to VOP 2010 policy 3.3.3.3 and 3.3.3.4 are to clarify that woodlands meeting the definition of a woodland, but that do not meet tests of significance as set out in the Region Official Plan 2010, can be modified subject to compensation.

Amendment

Deleting 3.3.3.3 and replacing it with the following:

That notwithstanding policy 3.3.3.1 and policy 3.3.3.2, within the **Urban Area** on Schedule 1A and outside of the Oak Ridges Moraine Conservation Plan and **Greenbelt Plan Areas**,

development or *site alteration* may be permitted in a *woodland* if all of the following are met:

- a. the *woodland* is not a *significant woodland* as defined by the Region;
- b. impact to the woodland is unavoidable or the woodland is not suitable for restoration and rehabilitation, as demonstrated through an assessment of development alternatives to the satisfaction of the City, York Region and the Toronto and Region Conservation Authority; and
- c. a net gain in *woodland* area can be provided as measured by attributes such as size, habitat condition and landscape context, to the satisfaction of the City, York Region and the Toronto and Region Conservation Authority, should all or part of the woodland be modified.

Item 17. Woodland Compensation

Purpose. The proposed revision to policy 3.3.3.4 simplifies the text to emphasize compensation in the form of a net gain in woodland cover in the event that a woodland, that is not a significant woodland, is modified.

Amendment

Deleting 3.3.3.4 and replacing it with the following:

That should policy 3.3.3.3 apply, a *woodland* determined not to be *significant* can be modified where compensation is provided to the satisfaction of the City, Region and the Toronto and Region Conservation Authority. A *woodland* compensation plan shall be provided that addresses *woodland* restoration and demonstrates a net gain in *woodland* area to satisfaction of the City, Region and the Toronto and Region Conservation Authority. *Woodland* compensation will not generally be accepted in areas verified as Core Features, being the features and their appropriate vegetation protection zones. The restoration area(s) shall be incorporated into the Natural Heritage Network.

Item 18. Policy 3.3.5.1 Regarding Protecting Aquatic Biodiversity

Purpose. Several revisions are proposed related to policy 3.3.5.1, including:

- revisions to the first sentence to indicate that the policy applies outside of the Greenbelt Plan and Oak Ridges Moraine Conservation Plan areas;
- in subparagraph (a), italicizing “fish habitat” so that it is subsequently defined in the Definitions section of VOP 2010;
- in subparagraph (b), clarifying best practices regarding water balance and groundwater flows;
- inserting text as subparagraph (c) to protect sensitive surface water features; and
- a technical amendment to renumber subparagraphs resulting from the addition of a new subparagraph.

Amendment

Deleting 3.3.5.1 and replacing it with the following:

To protect aquatic biodiversity, outside of the Oak Ridges Moraine Conservation and **Greenbelt Plan Areas**, by:

- a. prohibiting *development* and *site alteration* in areas identified as *fish habitat* except in accordance with provincial and federal requirements;

- b. preserving or remediating natural variation in stream flows to maintain healthy aquatic systems ensuring any permitted *development* meets the Toronto and Region Conservation Authority stormwater management criteria regarding water balance, groundwater direction, infiltration quantities, surface water quality and groundwater quality;
- c. prohibiting development and site alteration within *sensitive surface water features* (including *waterbodies*), seepage areas and springs, and their vegetation protection zone unless it is demonstrated through an Environmental Impact Study, natural heritage evaluation or hydrologic evaluation that the development or site alteration will not result in a *negative impact* to the ecological and/or hydrological functions of the *sensitive surface water feature*;
- d. encouraging consistency with the framework for fisheries management outlined in the Humber River Fisheries Management Plan (2005) and Don River Fisheries Management Plan, particularly with respect to rehabilitation activities;
- e. encouraging the protection and improvement of in-stream habitat for target species identified for each fisheries management zone in the Humber River Fisheries Management Plan and Don River Fisheries Management Plan; and
- f. requiring any *development* proposal on lands *adjacent* to existing fish habitat to consider the best management practices for new *development* as documented in the Humber River Watershed Based Fisheries Management Plan and the Don River Watershed Based Fisheries Management Plan.

Item 19. Technical Amendment to Policy 3.5.10.3 Regarding Non-Renewable Resources

Purpose. The term “early successional” was defined in VOP 2010 in relation to the woodlands policies, not specifically for reference in the Greenbelt Plan. The term “early successional” is not italicized in the Greenbelt Plan and only occurs in the non-renewable resource policies in Section 3.5 of VOP 2010 following amendments to the woodlands policies in Section 3.3. The revision is a technical amendment to remove the italics from the term, “early successional”, consistent with the Greenbelt Plan.

Amendment

In Policy 3.5.10.3(a)(iii), replace the term “*early successional*” with “early successional”.

Item 20. Policy 9.2.2.16 Regarding Uses in Natural Areas

Purpose. Subparagraph (c) of policy 9.2.2.16 recognizes select uses for publicly owned lands recognized as Natural Areas. The technical amendment ensures consistency with policy 3.2.3.7, which also refers to select uses permitted in Core Features.

Amendment

Amending 9.2.2.16 by adding the words “and policy 3.2.3.7” after the words “policy 9.2.2.16.a” in subparagraph (c).

Item 21. Definitions Section – Early Successional

Purpose. A definition for “early successional” is no longer required as recommended revisions to policy 3.3.3.3 and 3.3.3.4 refer to the Region Official Plan for policies regarding significant woodlands. The term, “early successional” no longer appears in the VOP 2010

Amendment

Amending 10.2.2.1 by deleting the definition for “early successional”.

Item 22. Definitions Section – Fish Habitat

Purpose. The reference to “fish habitat” is italicized in the revised policy 3.3.5.1, requiring a definition.

Amendment

Amending 10.2.2.1 by adding the following definition:

Fish habitat. Fish habitat is defined in the Federal Fisheries Act as spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life process.

Item 23. Definitions Section – Headwater Drainage Feature

Purpose. The term, Headwater Drainage Feature, is introduced in a new policy recommended to be inserted as policy 3.3.1.5.

Amendment

Amending 10.2.2.1 by adding the following definition:

Headwater Drainage Feature (HDFs). Ill-defined, non-permanently flowing drainage features that may not have defined bed or banks; they are zero-order intermittent and ephemeral channels, swales and rivulets, but do not include rills or furrows. HDFs that have been assessed in accordance with standards and practices of the Toronto and Region Conservation Authority (TRCA) as “protection” and “conservation” are subject to TRCA’s Regulation; those assessed as “mitigation” may be subject to TRCA’s Regulation.

Item 24. Definitions Section – Negative Impact

Purpose. The definition of negative impact in the Provincial Policy Statement (2014) is amended to be consistent with the use in the policies in the VOP 2010. The term “negative impact” is used in the following VOP 2010 policies: 3.2.3.7 regarding limited permitted uses in Core Features (i.e. infrastructure); 3.2.3.8 regarding adjacent lands in general; 3.3.4.3 regarding adjacent lands to significant wildlife habitat and habitat of endangered and threatened species; 3.3.5.5 regarding adjacent lands to fish habitat; 3.5.5.5 regarding recreational uses in Core Features in the Greenbelt Plan; 3.5.6.2 regarding general infrastructure in the Greenbelt Plan, and; 10.2.1.4 regarding legally existing land uses in the Natural Areas designation.

Amendment

Amending 10.2.2.1 by adding the following definition:

Negative impacts means:

- a) in regard to *sensitive surface water features*, degradation of the *ecological functions* of the *sensitive surface water feature* due to single, multiple or successive *development* or *site alteration* activities;
- b) in regard to *fish habitat*, any permanent alteration to, or destruction of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the *Fisheries Act*; and;
- c) in regard to other **Core Features**, degradation that threatens the health and integrity of the natural features or *ecological functions* for which an area is identified due to single, multiple or successive *development* or *site alteration* activities.

Item 25. Definitions Section – Sensitive Surface Water Feature

Purpose. The term “sensitive surface water feature” is introduced in policies 3.2.3.4(h) and 3.3.5.1(c).

Amendment

Amending 10.2.2.1 by adding the following definition:

Sensitive Surface Water Features. Water-related features on the earth’s surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics, that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Item 26. Definitions Section – Significant

Purpose. Amendments to the policies regarding modification and compensation of woodlands that are not significant woodlands requires that an appropriate reference to the Region Official Plan is provided in the definition for “significant” as it pertains to woodlands.

Amendment

Amending 10.2.2.1 by deleting in subparagraph (c) to the definition, *significant*, the words “or an area that meets any one of the criteria in policy 2.2.40 of the York Region Official Plan;” and replacing it with the following:

or an area that meets criteria for *significant woodlands* in the York Region Official Plan;

Item 27. Definitions Section – Valley and Stream Corridors

Purpose. The definition for “valley and stream corridor” in the approved VOP 2010 includes terms from the *Valley and Stream Corridor Management Program* document of the Toronto and Region Conservation Authority, which has been replaced by *The Living City Policies* (2014).

The revision continues to equate valley corridors to significant valleylands, and recognizes that stream corridors are evaluated in accordance with the policies of the VOP 2010, which in turn recognizes the jurisdiction of the Toronto and Region Conservation Authority.

Amendment

Deleting the following text from the definition of Valley and Stream Corridors:

Where a *Significant Area*, as defined in the *Valley and stream corridor Management Program*, is within and/or immediately *adjacent* to a valley or stream corridor, the corridor boundary is extended to include the *Significant Area* and a minimum 10 metres inland.
Valley and stream corridors are significant valleylands and will be further clarified through ongoing studies such as the Natural Heritage Network Study and studies in support of development applications.

Inserting the following text at the end of the definition of Valley and Stream Corridors:

The limits of valley and stream corridors shall be determined in accordance with the standards and practices of the Toronto and Region Conservation Authority and the policies of this Plan.

All valley corridors in Vaughan are significant valleylands. Stream corridors are evaluated in accordance with the policies of this Plan.

Item 28. Definitions Section – Waterbody

Purpose. The term “waterbody” is introduced in policy 3.2.3.4 (h), such that a definition is required.

Amendment

Amending 10.2.2.1 by adding the following definition:

Waterbody. Lakes, woodland ponds, etc. which provide ecological functions, and generally does not include small surface water features, constructed ponds on golf courses for irrigation purposes, or stormwater management ponds which would have limited ecological function, or farm ponds which are determined to have limited ecological function.

Item 29. Definitions Section - Woodland

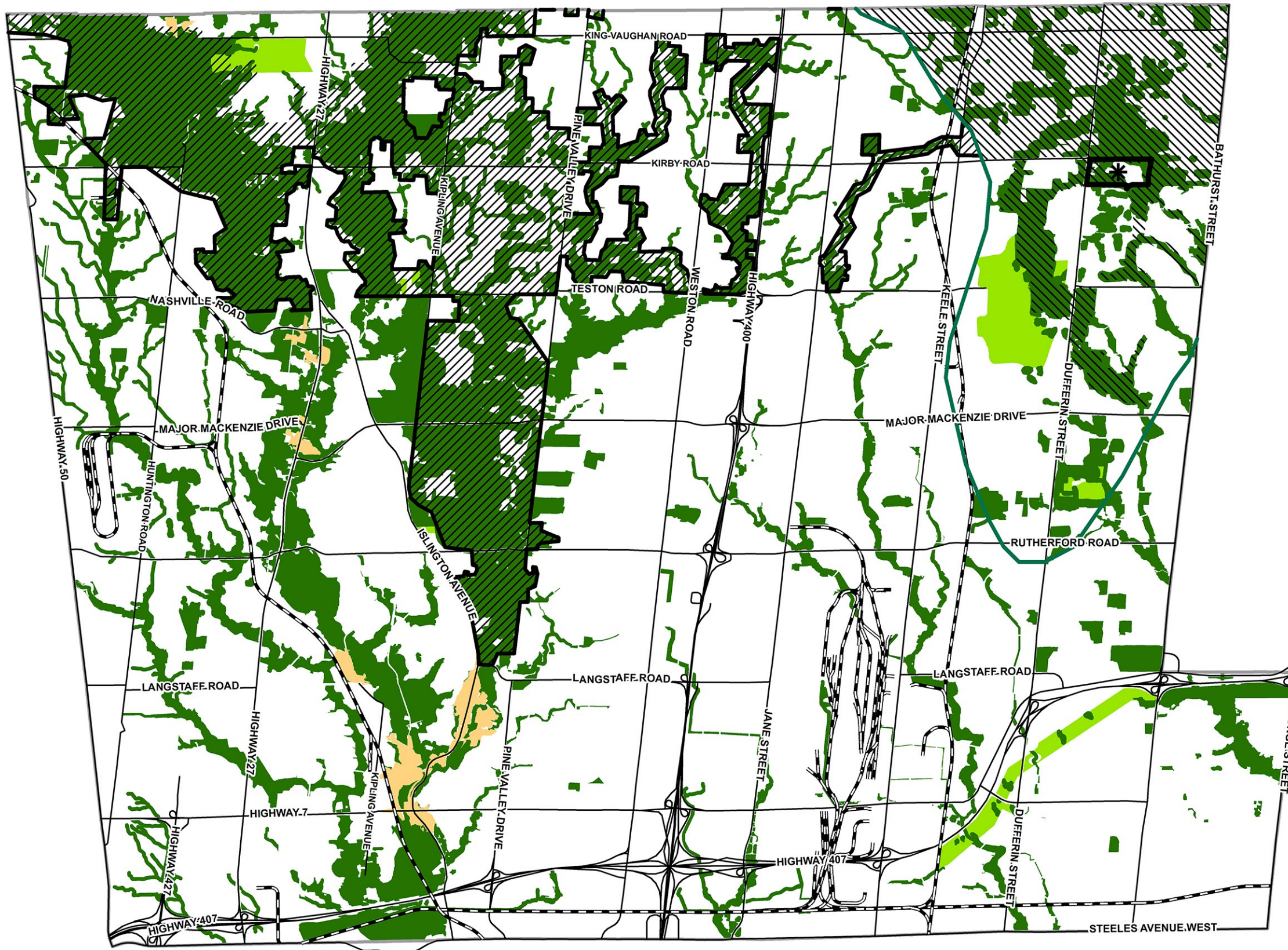
Purpose. Text is added to the definition for “woodland” to be consistent with the definition in the York Region Official Plan.

Amendment

Amending 10.2.2.1 by adding the following to the definition of *woodland* after the words “treed areas separated by more than 20 metres will be considered a separate *woodland*”:

When determining the limit of a *woodland*, continuous agricultural hedgerows and *woodland* fingers or narrow *woodland* patches will be considered part of a *woodland* if they have a minimum average width of at least 40 metres and narrower sections have a length to width ratio of 3 to 1 or less. Undeveloped clearings within *woodland* patches are generally included within a *woodland* if the total area of each clearing is no greater than 0.2 hectares. In areas covered by Provincial Plan policies, *woodland* includes treed areas as further described by the Ministry of Natural Resources. For the purposes of determining the densities above for woodlands outside of Provincial Plan Areas, the following species are excluded: staghorn sumac, European buckthorn and common lilac.

SCHEDULE A
TO
ATTACHMENT 2



SCHEDULE 2

Natural Heritage Network

Legend

- Core Features
- Enhancement Areas
- Built-Up Valley Lands (1)
- Greenbelt Plan Area Boundary (2)
- Greenbelt Natural Heritage System
- Oak Ridges Moraine Conservation Plan Boundary (2)
- Oak Ridges Moraine Conservation Plan Core and Linkage Areas
- City of Vaughan Boundary
- * Minister's Decision on ORMCP Designation Deferred

This Schedule is subject to change based on the result of the Natural Heritage Network Study, which will define the Natural Heritage Network by both its natural features and as a natural heritage system in accordance with the Provincial Policy Statement.

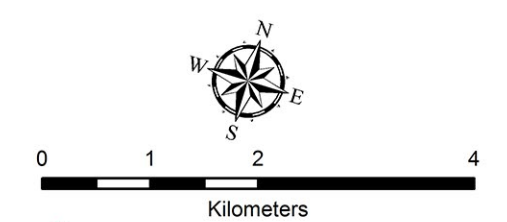
The policy text in Chapter 3 prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network.

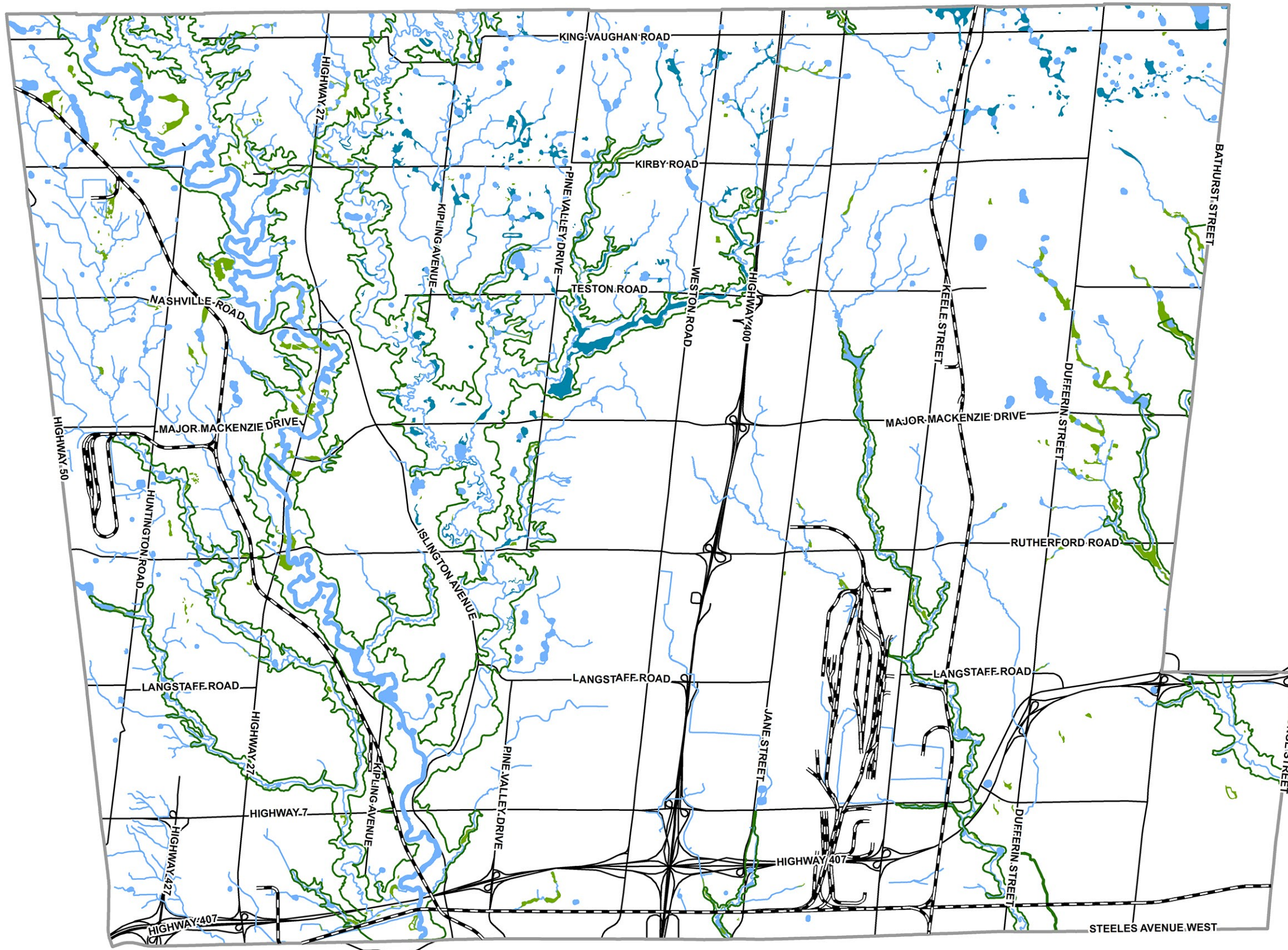
For watercourses and waterbodies outside of well-defined valleys, the vegetation protection zone is to be established according to the policies in Chapter 3 and to the satisfaction of the Toronto and Region Conservation Authority.

Enhancement Areas are identified conceptually on Schedule 2 and the text shall be consulted to determine the final location and design.

(1) Data provided by Urban Strategies.

(2) See Schedule 4 for limits and the land use information of the Greenbelt Plan Area and the Oak Ridges Moraine Conservation Plan Area.





SCHEDULE 2A **Natural Heritage Network**

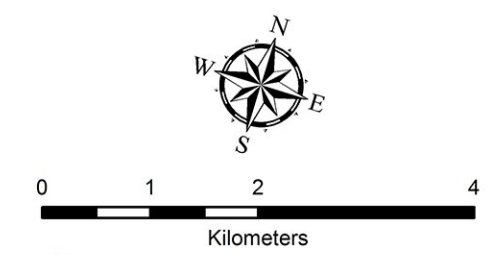
- ### Hydrologic Features and Valleylands Legend
- Provincially Significant Wetlands
 - Other Wetlands (may include evaluated wetlands that are not Provincially Significant or non-evaluated wetlands)¹
 - Surface Water Features² - Waterbodies (inland lakes, ponds, seepage areas, recharge/ discharge areas, springs)
 - Surface Water Features² - Rivers and Stream Channels (headwaters, rivers, stream channels)
 - Crest of Slope Screening Layer for Valleylands³
 - City of Vaughan Boundary

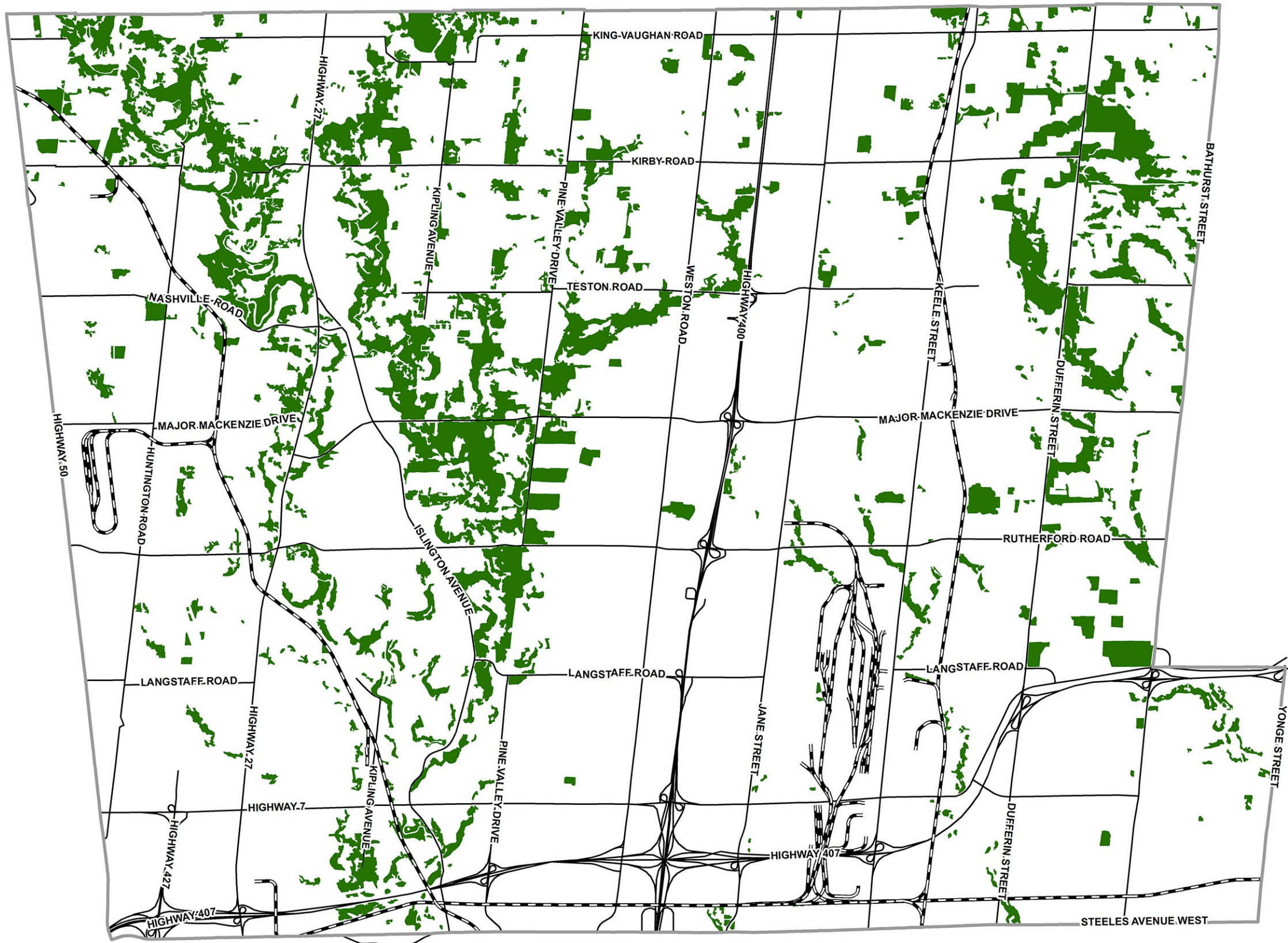
Information on Schedules 2A, 2B and 2C depict the type of natural features that comprise the Core Features of the Natural Heritage Network. Not all natural features depicted on Schedules 2A, 2B and 2C are included as Core Features. Schedules 2A, 2B and 2C inform the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform the Natural Heritage Network, which will be finalized based on more detailed studies, such as through the development applications process or a municipal comprehensive review.

¹Other wetlands shall be assessed to determine their importance, functions and means of protection and/or maintenance of function to the satisfaction of the City, Region, and the Toronto and Region Conservation Authority.

² To be confirmed through the application of policies of this plan.

³ To be confirmed on a site specific basis.







SCHEDULE 2B

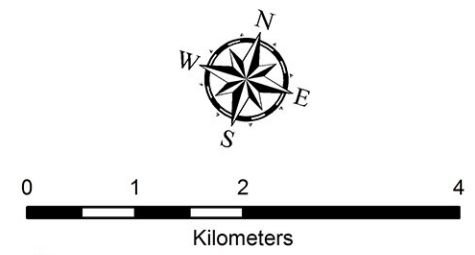
Natural Heritage Network

Woodlands Legend

-  Woodland ¹
-  City of Vaughan Boundary

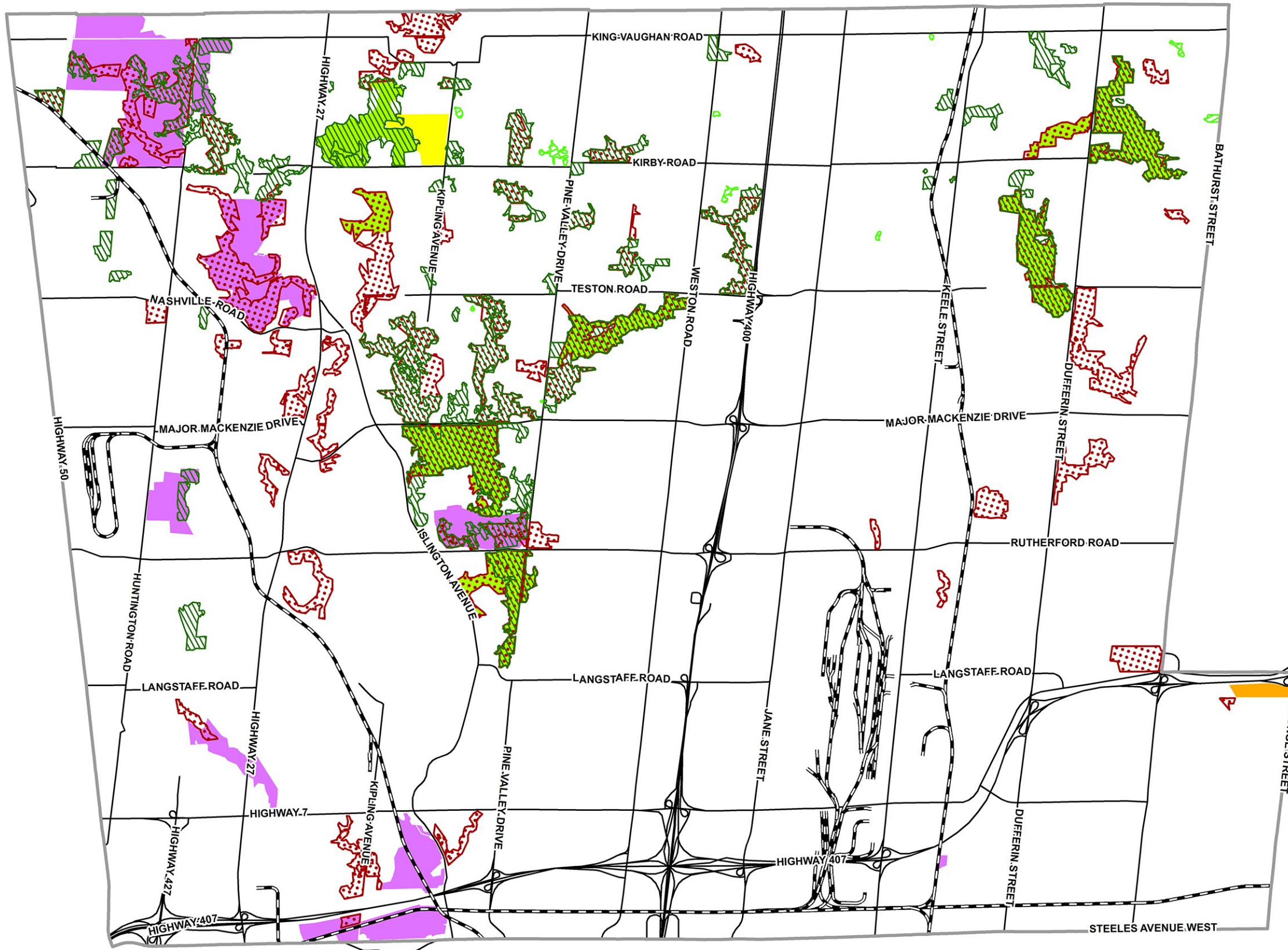
Information on Schedules 2A, 2B and 2C depict the type of natural features that comprise the Core Features of the Natural Heritage Network. Not all natural features depicted on Schedules 2A, 2B and 2C are included as Core Features. Schedules 2A, 2B and 2C inform the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform the Natural Heritage Network, which will be finalized based on more detailed studies, such as through the development applications process or a municipal comprehensive review.

¹ Only woodlands 0.2 hectares in size and greater are depicted.



North-South Environmental Inc.
Specialists in Sustainable Landscape Planning





SCHEDULE 2C **Natural Heritage Network**

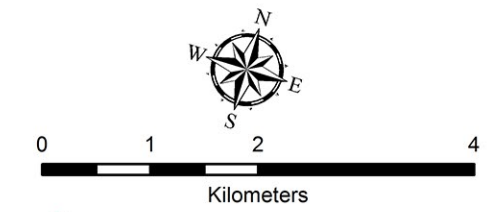
- Significant Wildlife Habitat^{1, 2, 3}**
- Legend**
- SWH Amphibian Breeding Habitat - Woodlands
 - SWH Amphibian Breeding Habitat - Wetlands
 - SWH Special Concern Open Country Breeding Birds
 - SWH Special Concern Woodland Breeding Birds
 - SWH Area Sensitive Open Country Breeding Birds
 - SWH Shrub/Early Successional Breeding Birds
 - SWH Area Sensitive Woodland Breeding Birds
 - City of Vaughan Boundary

Information on Schedules 2A, 2B and 2C depict the type of natural features that comprise the Core Features of the Natural Heritage Network. Not all natural features depicted on Schedules 2A, 2B and 2C are included as Core Features. Schedules 2A, 2B and 2C inform the implementation of the relevant policies in VOP 2010 to define Core Features, as well as inform the Natural Heritage Network, which will be finalized based on more detailed studies, such as through the development applications process or a municipal comprehensive review.

¹ Significant Wildlife Habitat (SWH) determined through the application of Ministry of Natural Resources Draft SWH Ecoregion 7E Criterion Schedule (February 2012).

² Schedule 2C does not show all SWH in the City of Vaughan. Site-specific assessment may identify additional significant wildlife habitat in accordance with criteria established by the Province.

³ To be confirmed on a site-specific basis.



EXTRACT FROM COUNCIL MEETING MINUTES OF APRIL 21, 2015

Item 1, Report No. 17, of the Committee of the Whole, which was adopted, as amended, by the Council of the City of Vaughan on April 21, 2015, as follows:

By receiving the following Communications:

- C1 to C5** ***Mr. Ryan Guetter, Weston Consulting, 201 Millway Avenue, Vaughan, dated April 14, 2015;***
C6. ***Mr. Don Given, Malone Given Parsons Ltd., Renfrew Drive, Markham, dated April 14, 2015;***
C7. ***Mr. David Toyne, Pine Valley Drive, Woodbridge, dated April 14, 2015;***
C8. ***Ms. Deb Schulte, Mira Vista, Vaughan;***
C9. ***Ms. Jane McFarlane, Weston Consulting, 201 Millway Avenue, Vaughan dated April 14, 2015; and***
C10. ***Mr. Tim Jessop, Weston Consulting, 201 Millway Avenue, Vaughan dated April 14, 2015.***

Regional Councillor Di Biase declared an interest with respect to this matter insofar as it relates to Block 27, as his children own land in Block 27 given to them by their maternal Grandfather and did not take part in the discussion or vote on the matter.

Regional Councillor Ferri declared an interest with respect to this matter as his son is employed by a legal firm that represents the landowners within the study area, and did not take part in the discussion or vote on the matter.

**1 NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS,
 STUDY COMPLETION AND RECOMMENDATIONS
 AMENDMENT TO THE VAUGHAN OFFICIAL PLAN 2010
 FILE #25.5.4
 WARDS 1 TO 5**

The Committee of the Whole recommends:

- 1) That the report along with all communications, deputations, and the related presentation be referred to staff for further review and brought back to a June 2015 meeting of the Committee of the Whole for consideration;**
- 2) That Communication C15, from the Commissioner of Planning, dated April 13, 2015, be received;**
- 3) That the following deputations and Communications be received:**
 - 1. Mr. Kevin Hanit, Queensbridge Drive, Concord;**
 - 2. Mr. Joel Ginsberg, Wigston Place, Vaughan;**
 - 3. Ms. Katarzyna Sliwa, Davies Howe Partners, Spadina Avenue, Toronto and Communications C10, C16 and C17, dated April 13, 2015;**
 - 4. Mr. Mark McConville, Humphries Planning Group, Chrislea Road, Vaughan, and Communication C11, dated April 10, 2015;**
 - 5. Mr. Stephen Roberts, Bentoak Crescent, Vaughan;**
 - 6. Ms. Susan Sigrist, York Region Environmental Alliance; Matterhorn Road, Vaughan; and**
 - 7. Ms. Deb Schulte, Mira Vista Place, Woodbridge; and**

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF APRIL 21, 2015

Item 1, CW Report No. 17 – Page 2

4) That the following Communications be received:

- C7 Mr. Alan Young, Weston Consulting, Millway Avenue, Vaughan, dated June 16, 2014;**
- C8 Mr. Alan Young, Weston Consulting, Millway Avenue, Vaughan, dated April 12, 2015;**
- C9 Mr. Nick Pasquino, Sonya Place, Woodbridge, dated April 13, 2015;**
- C14 Ms. Martha Bell, dated April 13, 2015;**
- C18 Mr. Billy Tung, KLM Planning Partners Inc., Jardin Drive, Concord, dated April 13, 2015;**
- C19 Mr. Cam Milani, dated April 13, 2015;**
- C21 Mr. Kurt Franklin, Weston Consulting, Millway Avenue, Vaughan, dated April 13, 2015;**
- C22 Ms. Caterina Facciolo, Brattys Barristers and Solicitors, Keele Street, Vaughan, dated April 14, 2015;**
- C25 Mr. Tim Jessop, Weston Consulting, Millway Avenue, Vaughan, dated April 14, 2015;**
- C26 Ms. Jane McFarlane, Weston Consulting, Millway Avenue, Vaughan, dated April 14, 2015;**
- C27 Ms. Danielle Chin, BILD, Upjohn Road, North York, dated April 14, 2015;**
- C28 Mr. Quinto M. Annibale, Loopstra Nixon, Queens Plate Drive, Toronto, dated April 13, 2015; and**
- C31 Presentation Material entitled “Natural Heritage Network Study”, dated April 14, 2015.**

Recommendation

The Commissioner of Planning in consultation with the Acting Director of Policy Planning recommends:

1. THAT the final report, “Phase 2-4 Natural Heritage Network Study, City of Vaughan”, forming Attachment 1 to this report as prepared by North-South Environmental Inc., BE APPROVED;
2. THAT the recommended amendments to Chapter 3 and Schedule 2 “Natural Heritage Network” to the Vaughan Official Plan Volume 1 (VOP 2010), set out in Attachment 4, be endorsed and that the resulting amendment be brought forward for adoption by Council, subject to final staff review, for approval by York Region and the Ontario Municipal Board (OMB), as required;
3. THAT staff continue to update the Natural Heritage Network database through the ongoing addition of information to characterize habitat type and habitat quality, to inform progress in meeting ecosystem targets, in tracking modifications resulting from the development application review process, and in doing so seek out partnerships in the municipal, agency, non-government and academic sectors to participate in maintaining and enhancing the database;
4. THAT staff report to Council regarding the development of a management, restoration and land stewardship program to identify potential ecological restoration and stewardship projects, in consultation with appropriate City departments and partner agencies to identify implementation options and funding strategies on a project by project basis; and
5. THAT staff, in consultation with stakeholders, develop a habitat compensation protocol based on the habitat compensation principles in this report as a supporting tool to implement the policies of the VOP 2010 regarding the Natural Heritage Network and that the resulting draft protocol be brought forward for Council consideration.

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EXTRACT FROM COUNCIL MEETING MINUTES OF APRIL 21, 2015

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Contribution to Sustainability

Two specific action items in Green Directions Vaughan (2009), the City's Community Sustainability and Environmental Master Plan, relate to the need to complete a natural heritage system.

1.3.2. Through the development of the City's new Official Plan, and in partnership with the Toronto and Region Conservation Authority, ensure protection of remaining natural features and explore opportunities for habitat restoration in headwater areas, along riparian corridors, and around wetlands.

2.2.4. Develop a comprehensive Natural Heritage Strategy that examines the City's natural capital and diversity and how best to enhance and connect it. As part of this action:

- Develop an inventory of Vaughan's natural heritage, and identify opportunities for habitat restoration;*
- Ensure that policies in the City's new Official Plan protect all ecological features and functions as per current provincial and regional policies, and also include consideration for locally significant natural features and functions;*
- Develop policies to create opportunities for near urban agriculture within Vaughan's rural areas, through policies described in the City's new Official Plan.*

The refinement of the Natural Heritage Network and development of a stewardship strategy in Phases 2 through 4 of the Natural Heritage Network Study are key elements that support Green Directions Vaughan.

Consistent with Green Directions Vaughan, the Environmental policies in Chapter 3 of VOP 2010 direct that appropriate studies be undertaken to determine the precise limits of "natural heritage features and any additions to the mapped network". VOP 2010 is also consistent with the York Region Official Plan, which directs local municipalities to develop local greenlands systems.

Economic Impact

The budget for undertaking the Natural Heritage Network Study was included in the 2011 Capital Budget (PL-9025-11) on the basis of a two part allocation. Phase 1 was treated as a stand-alone project and was funded in the amount of \$52,400. In the 2012 Capital budget, the funding for Phases 2, 3, and 4 was approved at \$199,700. The total budget for the preparation of the Natural Heritage Network Study was \$252,100. A contract Change Order was approved by Council on September 2, 2014 in the amount of \$46,372.36, for the purposes of completing the Natural Heritage Network Study, recognizing the interest from stakeholders for more detailed consultation. This Change Order also addressed the need for additional work taking into account the approval of the City-adopted amendments to the Vaughan Official Plan 2010. The contract change order was funded based on: (i) the balance remaining from the existing Capital Project (PL-9025-11) in the amount of \$28,299.64; and (ii) additional funds in the amount of \$18,072.72, sourced 40% or \$7,229.09 from City-Wide Development Charges (CWDC) – Management Studies and 60% or \$10,843.63 from the 2014 Policy Planning Operating Budget – Professional Fees.

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Natural Heritage Network Study- PL-9025-11

Phase 1 Budget (approved in 2011)	52,400
Phase 2, 3, 4 Budget (approved in 2012)	199,700
Change Order (approved in 2014)*	<u>18,073</u>
Total Budget	270,173
Less: Commitments/Expenses to Date	244,640
(includes 1.76% HST)	
3% administration fees	<u>7,339</u>
Remaining Budget	18,193

* Note: 40% funded by City-Wide Development Charges (CWDC)- Management Studies and
60% by Policy Planning 2014 Operating Budget- Professional Fees

Communications Plan

A communications and public consultation plan was implemented as part of the process of conducting Phases 2 to 4 of the Natural Heritage Network Study. A summary of the stakeholder and broader public consultation processes and resulting outcomes was provided in the staff report to the Committee of the Whole (Public Hearing) on June 17, 2014. Further consultation has been undertaken after the June 17, 2014 Public Hearing. Submissions were made during the post-hearing public comment period and are addressed in this report. This process is summarized in Part 1 of the section, "Background- Analysis and Options".

Purpose

The purpose of this report is to obtain approval of recommended amendments to select policies of Chapter 3 (Environment) and Schedule 2 of the VOP 2010 and to proceed with the finalization of the amendment for Council's adoption; and in the case of Schedule 2, which is under OMB appeal, to support its timely approval. Recommendations are also provided to report on the implementation of the findings of the NHN Study with regards to preparation of a management, restoration and land stewardship plan and a compensation protocol.

Background - Analysis and Options

This report is structured into two main components.

- Parts 1 to 3 below address the finalization of the NHN Study. Part 1 provides a summary of consultation that took place during the public comment period after the June 17, 2014 meeting of the Committee of the Whole (Public Hearing). Parts 2 and 3 address the finalization of the consulting team report (Part 2 and Attachment 1) and the recommended amendments to VOP 2010 (Part 3 and Attachment 4).
- Part 4 begins to demonstrate how the results of the NHN Study, including the comprehensive GIS database, can be used to develop a management, restoration and stewardship plan consistent with policy 2.1.2 of the Provincial Policy Statement (PPS) such that "the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved".

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1. Summary of Public Comment Originating with the June 17, 2014 Meeting of the Committee of the Whole (Public Hearing)

Public consultation during the NHN Study process was documented in previous staff reports and included the following meetings and/or presentations up to June 17, 2014:

- 7 public meetings, including open houses and Committee meetings of Council;
- 4 community consultation events;
- Several presentations to stakeholders such as the Kleinburg Area Ratepayers Association and the Building Industry and Land Development Association (BILD);
- Over 20 meetings with individual landowners and/or their consultants; and
- Web-based information updates include interactive mapping and an online survey.

In response to the consulting team report and staff report received by Committee of the Whole on June 17, 2014, 28 submissions were received by the City in relation to specific land development issues (Attachment 3). One submission was received from a resident commenting on the relation of the NHN Study to transportation infrastructure. The City also received comments from the Toronto and Region Conservation Authority (TRCA) identifying recommended modifications to the consulting team report. Specific responses are addressed in this report along with any required changes to Chapter 3 and Schedule 2 of the Vaughan Official Plan 2010 (VOP 2010).

Seven of the submissions pertained to appeals to VOP 2010. The City will be addressing these matters through the VOP 2010 Ontario Municipal Board (OMB) process, as required.

The City provided responses to eight of the submissions to address the following issues:

- Two letters to clarify that NHN matters would be resolved through mediation with respect to the Vaughan Metropolitan Centre;
- Two letters indicating that the matters raised in the submission would be considered as part of the NHN Study and that the City may request further information; and
- Four letters (Blocks 27, 34/35, 66, North Kleinburg/Nashville) recommending a meeting to address issues raised as a result of the Block Plan Process.

Responses were not provided for six submissions which pertained to ongoing development applications. Any changes to the NHN will result from the development review process in these cases.

In total, seven further meetings were held to discuss Block Plan scale matters and interpretation of policy related to defining the NHN (Blocks 27, 34/35, 41, 42, 60, 66, and North Kleinburg/Nashville). Meeting notes, including specific action items, were delivered to the meeting participants through October and November 2014.

On January 12, 2015, a summary of recommended policy amendments was distributed to the stakeholders that provided submissions during the public comment period. The policy recommendations represented a synthesis of the information gathered from submissions and meetings during the public comment process, which took place after the Public Hearing on June 17, 2014. City staff also consulted with the Province, York Region and TRCA in preparing the policy recommendations, which were prepared to conform to the approved Region Official Plan (ROP 2010) policies.

The City requested comments by January 30, 2015 on the recommended policy amendments for evaluation in the finalization of the VOP 2010 amendment. Six submissions were received by January 30, 2015, including one with specific recommendations for policy amendments. Two of

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the six submissions did not address policy recommendations, but spoke to process matters related to the Highway 400 North Employment Lands and portions of the Vaughan Mills Centre Secondary Plan.

Comments received by the City have been incorporated into the NHN Study documents as described below.

2. Revised Consulting Team Report for Phases 2 to 4 of the NHN Study

The majority of the submissions and consultation during the public comment period addressed the mapping criteria and policy assessment in section 7 of the consulting team report. Incorporation of comments from TRCA and changes to the figures describing field study locations to make them more legible comprise other revisions. The revised consulting team report forms Attachment 1 to this report.

a. NHN Mapping Changes

Changes to the Core Features mapping are documented in Attachment 2. The changes result from: stakeholder consultation and submissions to the June 17, 2014 meeting of the Committee of the Whole (Public Hearing); review of recent development application approvals; and review of previous VOP 2010 modifications to ensure changes have been incorporated into the GIS data.

No further changes to headwater drainage features (HDFs) were made in the post-Hearing comment period. Removal of select reaches of HDFs in Blocks 27, 41 and 59, based on agreement between the results of field visits by the City's consultants and the results of landowner efforts, was already incorporated into Schedule 2 that was made available for the June 17, 2014 meeting of the Public Hearing. The protocol for these changes is described in the report of the consulting team (Attachment 1).

b. Public Comment Period Subsequent to the June 17, 2014 Public Hearing

Responses to submissions to the June 17, 2014 meeting of the Committee of the Whole (Public Hearing) are provided in Attachment 3 and summarized above in Part 1 of this section, "Background- Analysis and Options" of this staff report.

3. The Amendment to VOP 2010

The amendment includes revisions to 13 policies in Chapter 3, revision to one policy in Chapter 9, introduction of two new policies in Chapter 3, and changes regarding seven definitions. Schedule 2 "Natural Heritage Network" is revised and three new Schedules identifying the components that make up the NHN have been added: Schedule 2A "Hydrologic Features and Valleylands"; Schedule 2B "Woodlands"; and Schedule 2C "Significant Wildlife Habitat". The draft amendment is provided in Attachment 4.

The policy amendment is the result of a synthesis of information received as part of the stakeholder consultation for the NHN Study, including:

- Review of the 28 submissions received by the City in response to the Committee of the Whole (Public Hearing) on June 17, 2014;
- Discussion items for the seven meetings held on October 17, 2014, October 20, 2014, October 22, 2014 and November 14, 2014 regarding Block Plan scale matters; and
- Responses received by January 30, 2015 on the recommended policy amendments issued on January 12, 2015.

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One of the primary concerns of the landowners was the identification of the Natural Area Network and related features on the amended Schedule 2 and the new Schedules 2A, 2B, and 2C. Generally, it was thought that depicting them in the manner shown entailed a level of certainty that would not be amenable to further modification. In addition, there was the concern that the features were shown more extensively than needed or were potentially marginal and may not be worth preserving.

The underlying policy approach provides that the Chapter 3 policies of the plan override the mapping schedules when considering the preservation or final delineation of a feature or the NHN boundary. This refinement would take place sequentially through the development approval process as more precise environmental information is accumulated through the Secondary Plan, Block Plan, subdivision and zoning processes. The boundaries would ultimately be created by the plan of subdivision and the feature would be zoned appropriately. As a result, given the level of information available at this point (i.e. in the City-wide Official Plan) and the scale of the mapping, the features and boundaries have been drawn more generally, in anticipation of the more detailed information that will emerge later.

Staff is moving in this direction. In developed areas, the Natural Heritage Network features reflect the limits identified by the approved developments. Various parcels, like Blocks 27 and 41 are subject to Secondary Plan processes. As such, in addition to the information produced by the NHN study, a substantial amount of data has been assembled by the landowners. In some instances, this information has been made available to the City. In reviewing the original drafts of the schedules, it was agreed that if the same conclusions were reached by both the City and landowners' consultants then there could be an amendment to the schedule to reflect this outcome. A number of these circumstances have been noted above, such as the removal of select reaches of headwater drainage features from the Core Features in Blocks 27, 41 and 59.

This "precautionary" approach ensures that a potential attribute is clearly identified and can be subject to an appropriate level of review. It will be subjected to a rigorous refinement process, which will result in an accurately delineated feature or system, based on the best available information and science. It is also noted that the landowner, as the applicant, will be a participant in this process. These principles have already been applied successfully. Block 55 (Kipling Community – North Kleinburg-Nashville Secondary Plan) has achieved Block Plan approval and draft plan approval has been obtained for the majority of the block.

The evaluation of stakeholder information involved a policy-by-policy review and discussions with the Province, York Region and the TRCA to ensure agency agreement. Highlights of the refinements to Schedule 2 and the policy amendments are described below.

a. Changes to Schedule 2

- There are numerous small corrections to Core Features based on previous development approvals and interpretation of the digital data (see Attachment 2).
- Enhancement Areas depicted on Schedule 2 are targeted for potential open country habitat and select restoration areas. A new Enhancement Areas policy is recommended to identify categories of Enhancement Areas not depicted on Schedule 2, including: north-south linkages for Robinson Creek and in the Purpleville Creek watershed; wetlands; and woodlands. The Enhancement Areas rationale and criteria are discussed in the report of the City's consulting team (Attachment 1).
- The linkage Enhancement Areas for Robinson Creek and Purpleville Creek watershed are removed and replaced with a description in the text of a new policy, as noted above.
- Waterbodies, except kettle lakes, are removed from the Core Features and policy is included to direct the evaluation of waterbodies to determine if they are sensitive surface water features.

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b. Policy Review

- Clarification is provided in the consulting team report regarding the mapping of watercourses and the policies directing the delineation of the feature extent of watercourses and application of a minimum vegetation protection zone. Text regarding the delineation of the feature extent for valley and stream corridor is added in policy 3.2.3.4 of VOP 2010.
- Stakeholder comments and discussions noted implementation issues and discrepancies with the Region Official Plan regarding the precautionary approach for valley and stream corridors, wetlands and woodlands. These policies in section 3.3 of VOP 2010 have been revised to aid in policy implementation regarding modification of these Core Features and compensation. General references to modification of Core Features and compensation are removed from Policy 3.2.3.11, which now speaks to the precise delineation of Core Features.
- The specific policies that address the modification of these Core Features include: policy 3.3.1.4 regarding public works in valleys; existing policy 3.3.1.5, to be re-numbered 3.3.1.6, regarding modification to watercourses; proposed new policy 3.3.1.5 addressing field verification of watercourses; proposed amended policy 3.3.2.2 addressing wetland protection and/or maintenance of function; and proposed amended policies 3.3.3.3 and 3.3.3.4 allowing for modification of woodlands that do not meet tests for significant woodlands according to the Region Official Plan, subject to a woodland compensation plan.

4. Management and Restoration of the Natural Heritage Network

Land clearing for early settlement and urbanization has resulted in highly fragmented natural areas in southern Ontario. While targeted ecological restoration is important across southern Ontario, agricultural landscapes can support biodiversity in fragmented woodlands and wetlands and allow for some wildlife movement. Urbanization, however, creates barriers to species dispersal, such that it is important to improve habitat condition and provide linkages to ensure a viable network and species persistence.

The discussion below identifies key implementation measures for the management and restoration of the NHN over time. Good spatial data and knowledge of habitat condition allow for targeted management, restoration and stewardship actions that can be budgeted and demonstrate improvement in ecosystem targets and natural capital assets. Improving habitat condition will maximize the functions of the NHN not just for biodiversity, but in the provision of ecosystem services that benefit Vaughan citizens.

a. Significant Wildlife Habitat

The location of significant wildlife habitat (SWH) identified in the NHN Study is important information for determining the management and restoration opportunities available to the City. Ecological restoration in the vicinity of SWH, such as for breeding bird habitat and amphibian habitat, will increase the viability of the habitat and the likelihood of persistence of these species. This is an efficient use of funds obtained and/or allocated for ecological restoration.

Area-Sensitive Woodland Breeding Birds

Woodland patches that meet thresholds for woodland area-sensitive bird breeding habitat are already considered Core Features of the NHN due to the size and function of the woodlands. The presence of bird species that utilize interior habitat conditions reinforces the need to

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maintain the ecological functions associated with woodland interior habitat through restoration and/or enhancing direct linkages and functional connectivity. Of the nine woodlands that are SWH, two are part of TRCA-owned properties such that the City can work with the TRCA on management plans to improve habitat conditions. Four woodlands are aligned with the Natural Core designation in the Oak Ridges Moraine Conservation Plan (ORMCP) and two woodlands are located in the Natural Heritage System of the Greenbelt Plan, such that restoration and/or managing edge habitat through stewardship efforts can improve interior forest habitat conditions. One woodland is in the urban area, such that opportunities for restoration and enhancing connections in the adjacent wooded valleylands will be important for long-term species persistence. In the case of the woodland in the urban area, the Environmental Impact Study as part of a Block Plan submission included data from independent field observations that supports the identification of SWH for woodland area-sensitive bird breeding habitat, lending credibility to the assessment in the NHN Study.

Special Concern Woodland Breeding Birds

Almost 70 woodlands provide habitat for Special Concern woodland breeding bird species, identified by the presence of Eastern Wood-Pewee and/or Wood Thrush, both of which have the status of Special Concern in Ontario. Most of the woodlands are in the Humber River watershed and associated with valleylands and/or in the Natural Heritage System overlay of the Greenbelt Plan, as well as associated with the Natural Core designation of the Oak Ridges Moraine Conservation Plan. Several of the woodlands are associated with TRCA properties, including two of the larger woodlands in the Nashville Conservation Reserve. Important management and restoration activities to improve the likelihood of persistence of Special Concern woodland bird species in these areas includes: valleyland restoration in collaboration with TRCA; and land stewardship in the Provincial Plan areas, starting with land owner contact to understand the interest and available stewardship options.

Several woodlands located in the Urban Area that support Special Concern woodland bird species are notable and may require specific management activities:

- Located in the valley of Rainbow Creek, woodlands west of Hwy 27 and south of Langstaff Road will be further impacted by the Hwy 427 extension, such that valleyland restoration may mitigate such impacts;
- Woodlands south of Hwy 7 and east of Martin Grove Road associated with the Veneto Club;
- At the southwest corner of Huntington Road and Nashville Road, the woodland identified as Stand 66-02 in the Rural Focus Area Woodland Ecosystem Assessment, and assessed as having “Moderate” ecological function, is potentially impacted by the GTA West Corridor route and proposed pipeline projects including TransCanada Pipelines;
- Block 18 woodland complex in the Upper West Don is identified as a Priority 4 regeneration site in the Don River Watershed Plan; and
- Baker’s Woods in the Upper West Don is identified as a Priority 3 regeneration site in the Don River Watershed Plan.

Shrub/Early Successional Breeding Birds

Most of the eight SWH patches under this category are in valleylands and are included in the Core Features of the NHN. There are three areas that occur outside of valleylands that meet thresholds for SWH for shrub/early successional breeding birds. These areas are not included in the Core Features. They are designated for urban development, tend to be outliers in the distribution of this type of SWH, and represent a minor component of the SWH

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patches (approximately 10%). There is low likelihood of maintaining these areas as suitable habitat. Meanwhile, larger SWH patches for shrub/early successional breeding bird habitat exists in the Humber River valley and are essentially connected along the valley corridor.

The two largest areas of SWH habitat for shrub/early successional breeding birds are in the TRCA-owned Nashville Conservation Reserve. Some of the habitat has also been identified as habitat for woodland breeding birds that are listed as Special Concern. Hence, management prescriptions for the Nashville Conservation Reserve offer potential for the persistence of both woodland and early successional habitat types.

Open Country Bird Breeding Habitat

As noted in the report by North-South Environmental (Attachment 1), only one area in Vaughan meets the thresholds for SWH for area sensitive open country bird breeding habitat. Approximately half of the area is in the Greenbelt Plan and the remainder of the site is in the Non-Urban Area designation in the VOP 2010.

The City's consulting team also identified 56 habitat patches utilized by grassland species listed as Threatened (Bobolink and Eastern Meadowlark) under the Endangered Species Act, 2007 (ESA). A further review of these habitat patches is required to determine the feasibility of maintaining grassland and/or open country habitat. In addition, such a review should consider the amount of suitable open country habitat to maintain at any given time. Lands in agricultural production for hay and pasture, for example, can support grassland/open country bird species

Preparing a land stewardship and management plan for open country bird species, including habitat of species regulated under the Endangered Species Act (2007), should be a priority for the City. This may assist in implementing habitat compensation for habitat regulated under the ESA, such as for Bobolink and Eastern Meadowlark, to assist in approving development applications.

Amphibian Breeding Habitat (Woodland)

Approximately 60 woodland patches meet thresholds for SWH for woodland amphibian breeding habitat, where the associated wetlands are within 120 metres of the woodland. These areas are included in the Core Features based on the woodland habitat.

The larger woodland patches that meet the SWH thresholds for woodland amphibian breeding habitat occur in TRCA-owned properties (Nashville Conservation Reserve, Kortright and Boyd) and in the Natural Core designation of the ORMCP (also corresponding with the Maple Uplands ANSI).

Smaller woodland patches meeting thresholds for SWH for woodland amphibian breeding habitat are largely located in the Natural Heritage System overlay of the Greenbelt Plan area and the Natural Linkage designation of the ORMCP area. Once again, this emphasizes the need to develop a land stewardship approach for landowners in the Greenbelt Plan and ORMCP areas to understand potential restoration and/or securement opportunities.

Several woodland patches are located in greenfield areas proposed for development (Blocks 27, 59 and 60). The SWH in Block 60 is located in and immediately adjacent to Robinson Creek, which provides an opportunity to maintain and enhance this habitat as part of the valley system. The SWH in Block 59 is located in the power transmission corridor and within 200 metres of Robinson Creek, although soon to be separated from Robinson Creek by the Hwy 427 extension. As a result, discussions with Hydro One regarding transmission line

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management, with MTO regarding the detailed design of Hwy 427, and with TransCanada Pipelines regarding mitigation and management of the pipeline right-of-way is critical to the long-term persistence of this habitat. Furthermore, this area is listed as SWH in part because of observations of the Western Chorus Frog, which is listed federally as Threatened and for which there is a draft recovery plan.

Amphibian Breeding Habitat (Wetland)

Ten wetlands meet thresholds for SWH for amphibian breeding habitat and distributed as follows:

- 5 wetlands are in the Humber watershed in the Greenbelt NHS;
- 3 wetlands in the Natural Linkage designation of the ORMCP;
- One wetland associated with a riparian corridor in Block 27; and
- One wetland in the Hwy 400 North Employment lands and outside of the Greenbelt Plan area.

Given the few occurrences of SWH for wetland amphibian breeding, these areas should be prioritized to explore land stewardship approaches for those wetlands in the Greenbelt NHS and ORMCP. Protection of the wetlands in future urban areas will be evaluated as part of the Secondary Plan and/or Block Plan review process.

The following table summarizes the initial considerations in developing a management and restoration plan for the Natural Heritage Network with a focus on improving the likelihood of persistence of existing significant wildlife habitat. A future report to Council will address the restoration opportunities in more detail, including cost estimates and available external funding as part of a business plan.

Significant Wildlife Habitat	NHN Objectives	Restoration/Management Opportunities
Area Sensitive Woodland Breeding Birds – ORMCP Natural Core and Maple Uplands ANSI	Measurable increase in the amount of interior forest	Explore management and site restoration for North Maple Regional Park
	Functional connectivity and edge management	Explore private land stewardship for landowners in the Greenbelt Plan and ORMCP areas.
Area Sensitive Woodland Breeding Birds – TRCA properties	Measurable increase in the amount of interior forest and overall forest cover	Explore City and TRCA collaboration for funding options for restoration activities.
Special Concern Woodland Breeding Birds	Improve quality, connectivity and extent of valley woodlands	Priority restoration in valleylands in collaboration with TRCA. Landowner contact to determine stewardship opportunities for lands in the Greenbelt Plan area.
	Improve woodland patch size	Priority restoration in TRCA properties (Nashville Conservation Reserve and Kortright)
	Improve quality and functional connectivity of woodlands	Landowner contact to determine stewardship opportunities for lands in the Greenbelt Plan and ORMCP areas. Identify restoration opportunities with Nature Conservancy Canada regarding the MacMillan Nature Reserve

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Significant Wildlife Habitat	NHN Objectives	Restoration/Management Opportunities
Woodland Amphibian Breeding Habitat – TRCA properties	Improve population viability and critical function zone of wetlands	Explore City and TRCA collaboration for funding options for restoration activities.
Woodland Amphibian Breeding Habitat – Maple Uplands ANSI, Greenbelt and ORMCP areas	Improve population viability and critical function zone of wetlands	Landowner contact to determine private land stewardship opportunities.
Woodland Amphibian Breeding Habitat – Transmission Lines	Improve population viability and critical function zone of wetlands	Seek to collaborate with Hydro One and utilities including TransCanada Pipelines regarding land management options, as well as input to MTO regarding Hwy 427 Detailed Design.

b. Ecosystem Targets and NHN Scenarios

The total area of the Natural Heritage Network (NHN) is 6,943 hectares. This does not include parts of the Greenbelt Plan and Oak Ridges Moraine Conservation Plan (ORMCP) in agricultural lands, but only those lands meeting criteria for Core Features and the minimum vegetation protection zone, or 30 metre area of interest for stream corridors (i.e. watercourses outside of defined valleys). Lands identified as feature types (valleys, wetlands, woodlands) comprise 4,989 hectares. Core Features include other lands without existing natural habitat: lands deeded into public ownership (36.3 hectares); significant wildlife habitat (66.9 hectares) not associated with a valley, wetland or woodland; and lands zoned open space without natural cover (21.6 hectares). While approximate, it demonstrates that areas generally protected as feature types comprise 5,114 hectares (18.6% of Vaughan), such that lands mapped as vegetation protection zones or the 30 metre area of interest comprise 1,829 hectares (6.7% of Vaughan). Woodlands and wetlands comprise 3,262.5 hectares or 11.9% of Vaughan.

As noted above, existing natural features within the NHN comprise about 4,989 hectares. However, the area of the NHN with restoration potential is not a simple subtraction of this amount from the total NHN (6,943 – 4,989 = 1,954 hectares). For example, it is noted in the PPS (2.1.9) that natural heritage protection is not intended to limit the ability of agricultural uses to continue. As such, the vegetation protection zones to wetlands and riparian areas as shown on Schedule 2 in the Agricultural designation are not de facto restoration areas.

Specific restoration scenarios can be identified to inform the appropriate ecosystem targets for Vaughan's NHN and identify priority activities. Three restoration scenarios are described below and is intended to illustrate potential restoration and the approach to track outcomes against ecosystem parameters:

- Scenario 1 - Areas without natural cover in well-defined valleys (i.e. below the crest of slope), already identified as Core Features, comprising 1,316 hectares, of which 378.6 hectares in the upper Main Humber and upper East Humber River valleys is selected to illustrate woodland restoration potential;
- Scenario 2 - Areas of the Greenbelt Plan that can reasonably be expected to be restored, which will be surrounded by urban development (i.e. Hwy 400 North Employment Lands and New Community Areas), including (i) areas in the NHN without existing cover (i.e. valley lands without cover and vegetation protection zones to features) comprising 135 hectares and (ii) lands outside of the Core Features of the NHN, but within the Greenbelt Plan, comprising another 132 hectares; and

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- Scenario 3 - Specific restoration opportunities on public and/or conservation agency lands, such as the North Maple Regional Park, MacMillan Farm, and lands already deeded into public ownership.

Ecosystem Parameter¹	Guideline Target¹	Existing Condition	Scenario 1 – Example Valleyland Restoration	Scenario 2 – Example Greenbelt Plan Restoration	Scenario 3 - Site Specific Restoration Options
Woodland Cover (% of Municipality)	30%	11.2% 3,070.6 ha	12.7% 3491.9 ha	13.7% 3,758.6 ha	13.9% 3,800.1 ha
Interior Woodland ² (% of Municipality)	>10%	144.8 ha 0.53%	277.7 ha 1.01%	314 ha 1.16%	326 ha 1.21%
Largest Woodland Patch for Watershed (ha)	200 ha	152 ha	721 ha	721 ha	721 ha

¹ Environment Canada 2013

² Proportion of forest cover that is 100 metres or further from the forest edge.

If it is assumed that these areas are restored only to woodland cover, for the purposes of this example, then progress towards ecosystem targets can be demonstrated as shown in the table above. The scenarios are calculated to be cumulative, such that Scenario 1 (select valleyland restoration) is added to the existing woodland cover, then Scenario 2 (select Greenbelt Plan restoration) is added to Scenario 1, and so on.

Major infrastructure projects and urban development will continue to impact the NHN. For example, the dramatic increase in the largest contiguous woodland patch in the scenarios above, while almost entirely in the Greenbelt Plan and largely on public lands, is misleading as the upper Main Humber and East Humber valleys will be fragmented by the proposed GTA West Transportation Corridor. Some of the lands also have long-term leases for agricultural and other uses. Nonetheless, the examples of restoration opportunities shown above demonstrate that a management and restoration program can dramatically improve the NHN over time. Improving overall woodland cover is important for biodiversity and the provision of ecosystem services. However, as shown by the doubling of interior forest habitat and dramatic increase in the largest contiguous woodland patch in the example scenarios above, it is more important to target restoration for maximum ecological gain. This should also consider proposed new infrastructure that will fragment existing habitat and constrain restoration options. A more detailed approach to assess restoration potential, together with partner agencies such as the TRCA, York Region, Oak Ridges Moraine Land Trust and the Nature Conservancy Canada, can inform appropriate ecosystem targets, provide cost estimates for restoration and identification of potential external funding, and demonstrate progress towards the targets on an annual basis.

c. Habitat Compensation Principles

Value of a Natural Heritage System

As explained in ICLEI Canada's report, "biodiverCITIES: A Primer on Nature in Cities" (ICLEI Canada and Toronto and Region Conservation Authority 2014), Vaughan's Natural Heritage Network is one component of urban biodiversity which, as well as protected and restored natural areas, also includes naturalized parks and greenspaces, the urban tree canopy, and green roofs and other low impact development installations. In addition to wildlife habitat and amenity space, Vaughan's NHN provides a range of ecosystem services of benefit to

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residents, including: stormwater management, water regulation, flood attenuation, erosion control, nutrient cycling, carbon storage and climate change mitigation, and removal of small particulates in the air that would otherwise contribute to smog. More and more municipalities are documenting the economic value of green space and green infrastructure (Town of Aurora 2013, Town of Oakville 2006).

Habitat Compensation Principles

Of the 27,435 hectares that comprise Vaughan, only 11% of lands are in woodland cover and 1.5% as wetland habitat. This is well below the woodland cover target set by York Region (25%) and the minimum wetland cover target (6% of each subwatershed) recommended by Environment Canada (2013). Not only is a targeted restoration strategy required to regenerate habitat that has been modified through settlement, it is also critical to ensure no further loss of existing habitat. Specific policies in the VOP 2010 articulate provisions for modification of valley and stream corridors, wetlands and woodlands under specific circumstances and subject to compensation.

Habitat compensation, or often referred to as biodiversity offsetting, involves identifying measurable conservation outcomes to compensate for adverse biodiversity impacts and/or habitat loss of a proposed project. There are valid concerns that past examples of habitat compensation in Canada and elsewhere has not resulted in a net ecological gain, particularly when existing quality habitat has been removed and compensated by restoration areas that require considerable management effort over many years or even decades and monitoring for establishment and regeneration. For this reason, it is important for the City of Vaughan to pursue a habitat compensation framework with clear principles to create more certainty that the result will be a net positive conservation outcome. Several Ontario municipalities, the TRCA, and Ontario Nature are in various stages of exploring habitat compensation frameworks. As noted in the report by Ontario Nature (Ontario Nature 2014), effective implementation of habitat compensation can:

- Position industry as a positive force in biodiversity conservation efforts;
- Ensure that offset providers (e.g. farmers, landowners, conservation organizations, municipalities) have the financial means to undertake conservation efforts on their lands; and
- Provide an overall net gain for biodiversity.

It is recommended that the following principles guide the future development of a habitat compensation framework for the City of Vaughan.

Principle 1 – The main objective is to strengthen the long-term viability of the NHN. Implementing habitat compensation should not simply be seen as numbers game to meet quantitative targets. Conservation design principles suggest that larger habitat patches and greater connectivity between habitat patches is the most effective way to promote long-term ecological viability. This should guide the evaluation and selection of compensation options. Furthermore, while a goal is to ensure areas have natural self-sustaining vegetation, it is the reality in urban areas with constant pressure on biodiversity that management will be required of certain areas.

Principle 2 – Habitat compensation is a conservation tool of last resort. Direct impacts to the NHN should be avoided and impacts of adjacent land uses should be mitigated, consistent with the interpretation in the PPS, the York Region Official Plan and the VOP 2010. Any unavoidable negative impacts should be minimized to the extent possible. Compensation then allows for any residual impacts to be offset by identifying appropriate conservation outcomes.

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Principle 3 – Habitat compensation shall achieve an overall net ecological gain. The City of Vaughan is below natural heritage target levels expressed in the report, “How Much Habitat is Enough?” (Environment Canada 2012). Hence, there is a clear need for restoration actions to meet ecosystem targets, particularly with respect to woodland cover, extent of interior woodlands, riparian habitat, and wetlands. This principle also emphasizes that compensation options need to be evaluated so that measurable conservation outcomes are clear. This can be achieved in two ways. First, it is important to establish the baseline NHN, which is the natural heritage system of natural features and the vegetation protection zone (often referred to as a buffer). Hence, net ecological gain is an addition to the baseline NHN, not just in comparison to the existing modified and fragmented landscape. Second, ecological gain can be measured by demonstrating progress towards ecosystem targets. Nonetheless, interpretation of this principle will need to consider site-specific context, such as whether the proposed development is in an intensification area (such that off-site compensation will likely need to be considered) or ‘greenfield’ area, and the quality of the habitat that is impacted.

Principle 5 – Some sites, habitats and features should be off-limits to habitat compensation, based for example on an assessment of vulnerability and irreplaceability. This can be viewed as an assessment of risk, in which habitat compensation can be supported where risk factors are low or favourable. Ontario Nature (2014) has described the situation of less risk (from a conservation perspective) where:

- There is abundant opportunity to add value (i.e. replacing biodiversity of similar or higher value);
- The outcome is predictable;
- Biodiversity is easy to restore with proven, reliable techniques; and/or
- There are still abundant source populations for target species.

Principle 6 – Gains are commensurate with losses (i.e. establish equivalence) within the planning context of the City of Vaughan, ecological value, and the need for ecological restoration. This involves determining an appropriate compensation ratio and replacing “like with like”.

Principle 7 – The conservation outcomes secured through compensation should last at least as long as the project’s impacts, and ideally in perpetuity. Lands restored and deeded into public ownership clearly meet the intent and overall objective to improve long-term viability. However, this principle also recognizes opportunities to work on land stewardship projects with landowners, such as modifying farm practices to support select species or habitat types.

Principle 8 – While it is preferred to locate habitat compensation on site or near to the project, the siting and type of compensation should consider the Enhancement Areas criteria of the City of Vaughan. In this way, habitat compensation can be evaluated in terms of making progress against ecosystem targets and as articulated in VOP 2010.

It is recommended that staff provide a report to a future meeting of Council to explore a detailed compensation protocol for the NHN to implement policies in the VOP 2010, and also to explore opportunities to implement aspects of the Ontario Endangered Species Act (2007).

d. Conservation Land Securement Strategy

A Conservation Land Securement Strategy was prepared by Orland Conservation as part of the NHN Study and made available for the June 17, 2014 meeting of the Committee of the Whole (Public Hearing). The Conservation Land Securement Strategy covers a wide range of

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issues for consideration by the City and provides a ready-to-use framework to develop specific action items. Topics covered include partner agencies for implementation and funding (e.g. York Region, TRCA, Nature Conservancy Canada, Oak Ridges Moraine Land Trust, Ducks Unlimited and the Ontario Farmland Trust), detailed steps regarding landowner contact, disposition policy, and communicating success. The discussion above regarding the maintenance of significant wildlife habitat demonstrates the importance of beginning landowner outreach as early as possible to identify stewardship options of interest and importance to Vaughan residents.

A few specific programs being implemented in southern Ontario municipalities are notable as they can inform the development of a management, restoration and land stewardship program in Vaughan.

City of Brampton Valleys Naturalization Planting Program

The City of Brampton “Valleys Naturalization Planting Program” has naturalized over 120 hectares of land with 24,000 native trees, 200,000 shrubs and 100,000 perennials over the period from 2003 to 2012. The project was initiated with a staff recommendation that the City enter into a 10-year growing contract with a local grower (Sheridan Nurseries Limited) to supply native trees and shrubs for a long term valley naturalization planting project. This innovative approach to purchasing plant material was essential to ensuring an ample supply of the appropriate native species each year, given the tendency of growers to mainly produce non-native, unsuitable plants at that time. This recommendation was approved by Brampton Council on November 14, 2001. The City deemed this program imperative to improve the health, diversity and environmental sustainability of the valley lands within the watersheds of the Credit River, Fletchers Creek, Etobicoke Creek and West Humber River tributaries. The \$8M cost of the Program over the last 10 years has been supported by Development Charges (DC) with only the statutory 10% non-DC requirement being contributed from the tax base. The anticipated cost of the 10-year extension of the program is \$9.6M and was approved by Brampton Council in April 2012.

Credit Valley Conservation (CVC) Bird-Friendly Certified Hay Program

The CVC “Bird-Friendly Certified Hay Program” connects hay growers, hay purchasers and landowners with land available for growing Bird-Friendly Certified Hay. Hay producers who register their lands as Bird-Friendly Certified agree to modify pasture practices, such as delaying hay cutting until July 15th to support breeding and nesting grassland species, such as endangered Bobolink and Eastern Meadowlark. This is an innovative example of the working agricultural landscape directly supporting species at risk, particularly in this case as there are few areas of native grasslands remaining in southern Ontario. A registry allows users to negotiate hay sale and land rental agreements through the Bird-Friendly Certified Hay Marketplace. The program was launched in 2014 and accomplishments include: 14 registered participants; eight hay producers that grew 143 acres of Bird-Friendly Certified Hay on nine farms; at least 78 Bobolink and Eastern Meadowlark observed in the fields; and confirmed five bobolink and eastern meadowlark pairs breeding in the fields.

Valuing Natural Capital Assets

The GIS database prepared as a key deliverable of the NHN Study allows the City to track the biodiversity contribution of existing habitat, restoration areas and stewardship projects. The Town of Aurora has measured progress regarding natural heritage protection one step further by providing a dollar value to the ecosystem services provided by the Town’s natural heritage areas (Town of Aurora 2013). The Town of Oakville has quantified the urban forest

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structure and calculated the ecosystem services benefits in economic terms as a dollar value (Town of Oakville 2006). These municipalities have also taken steps to ensure proper valuation of these green assets in the corporate asset management tracking. Below is an excerpt summarizing the valuation of natural habitat such as wetlands and woodlands, but also including parks and stormwater management facilities, for the Town of Aurora.

“The value of Aurora’s natural assets is estimated at approximately \$7.4 million annually. This amount does not include the value of street trees and other urban trees. This is a significant value attributed to the protection of environmental features, reduction in greenhouse gases and other ecological benefits. The entire budget for Aurora in 2012 including water rates, was approximately \$62 million. Without the values of Aurora’s natural capital assets it is possible that the overall budget of the Town could potentially be increased by \$7.4 million, which is a 12.4 per cent increase per year, to replicate or replace the ecosystem services and other benefits that Aurora’s Natural Capital Assets provide. Typically natural assets provide economic benefits that do not require an outlay of tax dollars to maintain.”

e. Implications of the NHN Study Findings

Informing New Development

Provision of a complete GIS database was a key deliverable of the NHN Study. For Development Planning staff, the GIS data regarding the NHN can be used to more efficiently and effectively process development applications. Staff in Policy Planning, Parks Development, Parks and Forestry Operations, and Engineering can utilize the data for long-range planning purposes.

Findings of the NHN Study can also inform the Secondary Plan and/or Block Plan processes for the new development areas in Vaughan (i.e. New Community Areas, Hwy 400 North Employment Lands, and the West Vaughan Employment Area), including:

- Measures to maintain significant wildlife habitat (including linkages related to SWH), are to be addressed in the Terms of Reference for an MESP and/or EIS in the Block Plan process. This has implications regarding the assessment of adjacent lands according to the Provincial Policy Statement, ROP 2010 and VOP 2010 policies.
- SWH in the Greenbelt Plan has implications for assessing adjacent lands in terms of establishing an appropriate vegetation protection zone, including:
 - Several locations of SWH for amphibian breeding habitat (woodlands); and
 - SWH for woodland species of conservation concern (Wood Thrush, Eastern Wood-pewee).
- Consideration of improvements to the NHN adjacent to the Greenbelt Plan area to consolidate the NHN and consider recommending that these areas be included in the Greenbelt Plan as part of the Provincial Plan review (i.e. addition to Greenbelt Plan area) and addition of remnant lands that may potentially be purchased for the GTA West Corridor that are excess to the needs of the ultimate alignment.
- Amended Enhancement Areas policies identify Robinson Creek for appropriate study to design a viable north-south ecological corridor in the West Vaughan Employment Area.
- Maintenance of SWH in the West Vaughan Employment area requires interacting with Hydro One Networks (management of lands for transmission corridor and transformer station), MTO (detailed design of Hwy 427 extension) and TransCanada Pipelines to ensure ecological functions, such as hydrological connections and wildlife corridors, are sustained.

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- Possible funding under species at risk stewardship funds for Western Chorus Frog (Federal) and Barn Swallow in the West Vaughan Employment Area.
- Develop habitat compensation/biodiversity offsetting policies as part of Secondary Plan policies for the New Community Areas.
- Ensure NHN policies in the Secondary Plan for New Community Areas is aligned with the Region's Greenlands System policies.
- Consider alignment of Redside Dace recovery habitat options with Greenbelt Plan restoration opportunities in the western branch of Purpleville Creek.
- Maximize restoration options in the Greenbelt Plan lands in the New Community Areas and Hwy 400 North Employment Lands.

Secondary Plans for New Community Areas

The New Community Area Secondary Plans are now underway for Blocks 27 and 41. Significant technical work for these lands has been undertaken to set the terms of reference for the required subwatershed studies and to inform the early planning of these areas. Some refinements of the NHN have already been made, such as those regarding headwater drainage features, and further refinements will be outlined through the detailed work to be undertaken as part of the Secondary Plans and ensuing Block Plan development process.

Greenbelt Plan and ORCMP Review

On February 27, the Government of Ontario launched a coordinated review of the Growth Plan for the Greater Golden Horseshoe, the Niagara Escarpment Plan, the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan as required under their respective legislation. These four provincial land use plans work together to manage growth, protect agricultural lands and natural environment, reduce greenhouse gas emissions, and support economic development in Ontario's Greater Golden Horseshoe and Greenbelt. The coordinated review has two rounds of consultation. The first seeks input to inform the development of amendments to the plans, and the second is to consult on proposed amendments, if any. May 27, 2015 is the deadline to submit comments on the first round of reviews.

The findings of the NHN Study can inform the City's submissions to the Province regarding any amendments to the boundaries of the Greenbelt Plan or the ORMCP to support the NHN. The City can anticipate parts of the Greenbelt Plan that can be restored from current agricultural use to natural habitat for those Greenbelt Plan lands that will be surrounded by new development, such as in the New Community Areas and the Hwy 400 North Employment Lands. Many parts of the Greenbelt Plan and the Natural Linkage designation in the ORMCP, however, will be maintained as productive farm land. An agricultural matrix is an important part of a vibrant countryside and should be promoted as part of a food strategy, and can also contribute to an ecologically viable Natural Heritage Network. An agricultural matrix is more permeable for wildlife movement than urban development, can be part of the working landscape within the NHN, and is contributing to the presence of significant wildlife habitat in the Provincial Plan areas.

Clarification of select policies in the Greenbelt Plan and ORMCP will be of interest in implementing the VOP 2010 policies regarding the NHN. New infrastructure has the potential to fragment existing habitat and limit restoration opportunities. New policy language to assist in interpreting infrastructure policies in the Provincial Plans will be useful to the City. This could include strengthened policy language to require the study of cumulative effects, mitigation and maintenance of ecological function for areas affected by proposed infrastructure, and the provision of habitat compensation for unavoidable negative impacts to

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the NHN. Recreational use policies are also of interest to fast-growing municipalities. Specifically regarding natural heritage, clarification of the application of a vegetation protection zone outside of the Provincial Plan areas, policies regarding connectivity of natural heritage features, and consideration of the urban river valley designation are of interest to the City.

GTA West Corridor Environmental Assessment and Hwy 427 Extension

Major infrastructure projects have the potential to remove and fragment remaining habitat in Vaughan. The prognosis for the NHN is that actual habitat (woodlands, wetlands) is likely to decline before ecological restoration activities result in improvements to the NHN as measured against ecosystem targets. Depending on the route selection for the GTA West Corridor, the two highway projects have the potential to cross up to 30 streams, remove up to 30 hectares of woodland cover, and impact up to 30 individual wetlands. The Hwy 427 EA is complete, such that efforts to mitigate impacts to the NHN rely on the ability to influence detailed design aspects of the project. For the GTA West Corridor, the City has an opportunity to influence the route selection to minimize negative impacts to the NHN, but also to recommend restoration strategies and compensation measures to offset impacts.

5. References

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Town of Aurora. 2013. The Economic Value of Natural Capital Assets.
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(<http://www.aurora.ca/Live/Documents/AURORA%20-%20ECRA%20CAP%20ASSETS.pdf>)

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Relationship to Vaughan Vision 2020/Strategic Plan

The Natural Heritage in the City report is consistent with the Vaughan Vision 2020 Strategic Plan, through the following initiatives, specifically:

Service Excellence:

- Lead & Promote Environmental Sustainability

Management Excellence:

- Manage Growth & Economic Well Being
- Demonstrate Leadership & Promote Effective Governance

This report is consistent with the priorities previously set by Council.

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Regional Implications

Policies in the ROP 2010 support the effort of local municipalities to identify local greenlands systems. York Region staff were consulted during the study process. York Region is the approval authority for amendments to the VOP 2010 that will be adopted as a result of this study.

Conclusion

The NHN Study has involved policy analysis, field studies and ecological research; and throughout the process, public and landowner consultation was undertaken. The recommendations to Council are directly related to the key Study deliverables:

- A comprehensive GIS database of the NHN and component features that can be used immediately by Development Planning staff in the review of applications, to be shared with other City departments, and as critical base information to implement a long-term management, restoration and land stewardship program;
- Amendments to Schedule 2 (Natural Heritage Network) and environmental policies of VOP 2010, following extensive stakeholder and agency consultation, to improve the implementation of VOP 2010, to guide efficient urban growth and improve the ecological viability of the NHN;
- Identification of key aspects of a long-term management, restoration, land stewardship and compensation programs for the NHN for the purposes of reporting back to Council on the development of implementation measures.

On this basis, the measures set out in the Recommendation section of this report are recommended for adoption.

Attachments

1. Phase 2-4 Natural Heritage Network Study, City of Vaughan. Prepared by North-South Environmental Inc. March 2015.
2. Tracking Changes to Core Features and Enhancement Areas.
3. Public Comment Submissions to the June 17, 2014 Meeting of the Committee of the Whole (Public Hearing) and City Response.
4. Detailed Amendment to the VOP 2010.

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(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

Regional Councillor Ferri declared an interest with respect to the foregoing matter, as his son is employed by a legal firm that represents landowners within the study area, and did not take part in the discussion or vote on the matter.