

CITY OF VAUGHAN

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

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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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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

Environment Canada. 2013. How Much Habitat is Enough? Third Edition. Environmental Canada, Toronto, Ontario.

ICLEI Canada and Toronto and Region Conservation Authority. 2014. biodiverCITIES: A Primer on Nature in Cities. Toronto, Ontario. 48 pp.

Ontario Nature. 2014. Insights into Biodiversity Offsetting in Ontario. Toronto, Ontario, Canada. 42 pp. (ontarionature.org/offsetting)

Town of Aurora. 2013. The Economic Value of Natural Capital Assets. (<http://www.aurora.ca/Live/Pages/Environment%20and%20Sustainability/Natural-Capital-Assets.aspx>)
(<http://www.aurora.ca/Live/Documents/AURORA%20-%20ECRA%20CAP%20ASSETS.pdf>)

Town of Oakville. 2006. Oakville's Urban Forest: Our Solution to Our Pollution. (<http://www.oakville.ca/assets/general%20-%20residents/ufore.pdf>)

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.

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.



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Council - April 21/15	

April 14, 2015
File 6715

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

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Network Study
7553 Islington Avenue & 150 Bruce Street
City of Vaughan**

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.

We have had the opportunity 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", including the 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 April 14, 2015.

Based on our review of the Staff Report and related attachments, it appears that our Client's concerns have not been satisfactorily addressed as outlined in our previous submission letter dated June 17, 2014 (attached). We also note the subject properties are now subject to the new "SWH Special Concern Woodland Breeding Birds" overlay as shown on proposed Schedule 2c. We have enclosed our previous submission dated June 17, 2014 for reference purposes. We wish to advise that our Client maintains their concerns with respect to the constraints noted on the proposed Schedules and the "Phase 2-4 Natural Heritage Network Study City of Vaughan" (NHNS) as modified.

In 2008, our client submitted an Official Plan Amendment application (File no. OP.08.017) to redesignate the subject lands from "Open Space" (7553 Islington Avenue) and "Low Density Residential" (150 Bruce Street) under OPA 240 (Woodbridge Community Plan) to "High Density Residential" in order to facilitate a residential development. Further to the submission of the

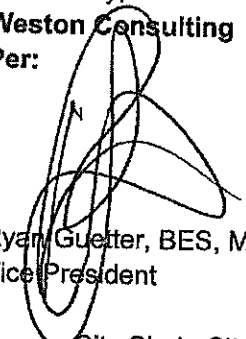
Official Plan Amendment application, our client submitted an appeal to the new City of Vaughan Official Plan (VOP 2010) in June 2012. Both the Official Plan Amendment application and the Official Plan Appeal remain active.

The owner has commissioned an updated Environmental Impact Study for the subject properties which is in support of a forthcoming revised application. The EIS does not identify any such overlay feature as identified in the proposed schedules. We request that the City's NHNS and corresponding mapping be modified so as not to preclude the information and analysis contained within the EIS, which is summarized in the attached letter prepared by WSP.

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.

Please contact Courtney Heron-Monk (ext. 401) or the undersigned if you have any questions.

Yours truly,
Weston Consulting
Per:



Ryan Guetter, BES, MCIP, RPP
Vice President

- c. City Clerk, City of Vaughan
R. Nicolini, 7553 Islington Holding Inc.
P. Harrington, Aird & Berlis LLP
C. Messere, City of Vaughan



**WESTON
CONSULTING**

planning + urban design

Planning Policy Department
City of Vaughan
Level 200
2141 Major Mackenzie Drive
Vaughan, Ontario L6A 1T1

June 17, 2014
File 6715

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Network Study
7553 Islington Avenue & 150 Bruce Street
City of Vaughan**

Weston Consulting is the authorized planning consultant for 7553 Islington Holding Inc., the registered owner of the properties located at 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 and are a combined area of approximately 4.39 acres.

Our client has previously filed an appeal (formerly known as Briardown Estates Inc.) to the City of Vaughan Official Plan 2010, which designates the subject properties as "*Natural Areas and Countryside*" based on Schedule 1: Urban Structure; "*Core Features*" based on Schedule 2: Natural Heritage Network; and "*Natural Areas*" based on Schedule 13: Land Use.

The owner has commissioned an Environmental Impact Study for the subject properties. Detailed investigation and analyses have been completed for the subject property, which do not identify the constraints noted on Schedule 2, Schedule 2a and Schedule 2b of the NHNS. A summary of the specific comments and concerns are outlined in the attached letter prepared by WSP and we wish to advise that our client does not support the findings of the NHNS, as prepared.

We hereby request the opportunity to meet with Staff to review this information and reserve our right to make further comments. We further request to be notified of any further meetings, reports, modifications, and / or decisions in relation to the NHNS.

Please contact the undersigned or Courtney Heron-Monk (extension 401) if you have any questions.

Yours truly,
Weston Consulting
Per:



Ryan Guetter, BES, MCIP, RPP
Vice President

- c. Jeffrey A. Abrams, City Clerk
Raymond Nicolini, 7553 Islington Holding Inc.
Howard Wortzman, 7553 Islington Holding Inc.
Joseph Reichmann, 7553 Islington Holding Inc.
Patrick Harrington, Aird & Berlis LLP



June 17, 2014

Tony Iacobelli
Senior Environmental Planner
Policy Planning Department
City Hall, Level 200
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

**Subject: Review of the Natural
Heritage Network Study (NHNS) as it relates to
7553 Islington Ave., Community of Woodbridge,
City of Vaughan, Regional Municipality of York
Project No. 121-24682-01**

WSP Canada Inc. (WSP) (formerly GENIVAR Inc.) was retained to review the Natural Heritage Network Study (NHN) and supporting documents. Our review will focus on issues as they apply to the property known as 7553 Islington Avenue, inclusive of 150 Bruce Street, City of Vaughan, Ontario. The property can be described as Part of Lot 4, Concession 7, Township of Vaughan, Regional Municipality of York; herein referred to as the "Site".

Under the Woodbridge Community Plan (City of Vaughan Amendment No. 240, 2007), land use on the Site is designated as being within 'Open Space', and 'Low Density Residential'. Within the 2012 City of Vaughan Official Plan land use on the Site has been designated as being 'Natural Area' within Schedule 1, within 'Urban Area' in Schedule 1A, within a 'Core Features' area in Schedule 2, and is not within the Oak Ridge's Moraine or Greenbelt planning areas. Southwestern portions of the Site are within the TRCA regulated area, which are associated with the Humber River which lay beyond Islington Avenue to the southwest.

The NHN report suggests that the policy can stipulate that the habitat of Endangered and Threatened species may be incorporated into the NHN, where identified. WSP completed an Environmental Impact Study (EIS) on the Site to determine the presence of any Species at Risk (SAR). One (1) Species at Risk (Butternut) was identified as being present on and surrounding the site. Four (4) individuals were identified and assessed in the presence of Ministry of Natural Resources forestry staff, and it was determined that only one (1) individual was retainable. This individual was greater than 25 m from the proposed development, and will not be negatively impacted during any phase of the project.



The NHN report strengthens and defines forest cover goals for Vaughan as follows:

- At least 30% overall forest cover for Vaughan (currently 11%);
- At least 10% overall interior habitat for Vaughan (currently 0.5%); and,
- At least one large contiguous forest within each watershed for Vaughan (>200 ha).

The Site is separated from the Humber River by Islington Ave., which acts as a significant barrier to wildlife movement, making it unlikely to be widely used as a wildlife corridor surrounding the river. Thus, the Site should not be considered part of the larger Humber River watershed forest.

The NHNS report strengthens and defines goals for overall Riparian Habitat in Vaughan (75% cover goal, currently 30%). The Site is separated from the Humber River by Islington Ave. and a section of manicured lawn area. This severely limits any potential use as direct riparian habitat and the Site should not be considered as such.

The NHNS report notes that Significant Wildlife Habitat (SWH) will be given increased importance in planning activities. Additional guidelines to define Significant Wildlife Habitat are also provided. Species inventories were completed during the Environmental Impact Study, with emphasis on Species at Risk and any rare or significant wildlife habitat types. In general, The Site consisted of a large portion of non-native or invasive species, with significant edge effects occurring due to previous development within the area. Though one SAR species was noted; one (1) retainable Butternut noted above, the Site likely does not fit the criteria for Significant Wildlife Habitat.

Thank you for the opportunity to complete this assignment. Please contact the undersigned with any questions or comments.

Yours truly,
WSP Canada Inc.

A handwritten signature in blue ink, appearing to read "Dan J. Reeves".

Dan J. Reeves, B.Sc., M.Sc.
Project Biologist

DJR:nah

WSP Canada Inc.
126 Don Hillcock Drive, Unit 2
Aurora, Ontario
L4G 4G9
www.wspgroup.com



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C	2
Item #	1
Report No.	17 (CW)
Council - April 21/15	

April 14, 2015
File 6381

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

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Network Study
4650 Highway No. 7
City of Vaughan**

Weston Consulting is the authorized planning consultant for Pebble Creek Developments Inc., the owners of the property located at 4650 Highway No. 7 in the City of Vaughan. The property is located on the west side of Pine Valley Drive, north of Highway 7 and is approximately 3.1 hectares in area.

The owner is proposing to develop the property with low rise condominium townhouses and semi-detached dwellings. Applications have been submitted to the City of Vaughan for Official Plan and Zoning By-law Amendment and Draft Plan of Subdivision, which are at an advanced stage. Site Plan Approval and Plan of Condominium applications are forthcoming.

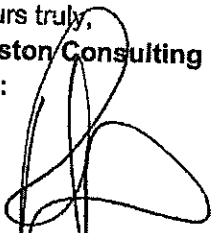
Portions of the subject property are designated "Natural Areas" by the City of Vaughan Official Plan. The Official Plan permits modifications to the boundaries of the Natural Areas designation based on the completion of the appropriate technical and environmental studies. Several studies have been completed to inform the development limits on the subject property. These include an Environmental Impact Statement (EIS), Floodplain Analysis Report, Geotechnical and Hydrogeological Study and detailed Grading Plans and efforts have been made to delineate and protect the natural heritage features. The developable limit for the property has the support in principle from City Staff and the TRCA.

We request that the limits of the Natural Areas designation be representative of the development limits established to date as currently submitted to Staff and that nothing in the proposed City of Vaughan Natural Heritage Network Schedules prejudice the processing of the submitted applications to their conclusion. Please also consider this our formal request to be notified

concerning any further meetings or decisions concerning this study and the related Official Plan Amendment.

Please contact Bruce McCall-Richmond (ext. 286) or the undersigned if you have any questions.

Yours truly,
Weston Consulting
Per:



Ryan Guetter, BES, MCIP, RPP
Vice President

- c. G. DiMartino, Pebble Creek Developments Inc.
- A. Benson, Dillon Consulting Limited
- City Clerk, City of Vaughan
- M. Caputo, City of Vaughan



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C	3
Item #	1
Report No.	17 (CW)
Council - April 21/15	

April 14, 2015
File 5264-1

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

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Network Study
Natural Heritage Network Inventory and Improvements
5859 Rutherford Road**

Weston Consulting represents the owners of the above noted lands in the City of Vaughan. We wish to make this submission on behalf of the owners as it relates to the subject lands and the proposed policy and schedule changes proposed through the Natural Heritage Study, being considered by the Committee of the Whole, April 14, 2015.

The lands located at 5859 Rutherford Road are designated within the Natural Heritage Network of the Vaughan Official Plan (2010). However, the owners have filed an appeal to the Vaughan Official Plan (2010) with respect to the designation and policies and are seeking to legalize the existing structures and to allow for reasonable development opportunities on the subject lands. We have done an initial review of the proposed schedule changes and while we support certain modifications to Schedule 2, which appear to recognize the developable portion of the property, we would like to ensure that there is an opportunity to allow further modifications to all Schedules.

Our Client is in the process of having its Environmental Consulting team assess the natural heritage features on the property and we would like to ensure that the proposed policies permit modifications to mapping based on the outcome of detailed environmental studies.

We are also in discussions with City Staff to address the matters of our appeal based on our Client's objectives and the outcome of our team's environmental work. Please consider this our formal request to be notified concerning any further meetings or decisions concerning this study and the related Official Plan Amendment.

Please contact the undersigned below or Julia Pierdon at ext. 307 if you have any questions.

Yours truly,

Weston Consulting

Per:

Ryan Guetter, BES, MCIP, RPP

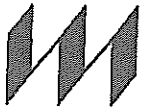
Vice President

c. Clients

A. Sherman, Andre Sherman Architect

A. Heisey, Papazian, Heisey, Myers Barristers & Solicitors

J. Abrams, City of Vaughan



**WESTON
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planning + urban design

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

C	4
Item #	1
Report No.	17 (CW)
Council - April 21/15	

April 14, 2015
File 6693

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Study
5511 King Vaughan Road
City of Vaughan**

Weston Consulting is the planning consultant for Mrs. Orah Buck, the registered owner of the properties municipally known as 5511 King Vaughan Road, in the City of Vaughan (herein referred to as the "subject property"). The subject property is approximately 42.7 hectares (105.5 acres) in area and currently contains a large single-detached dwelling, tennis court and farm building. Access to the property is provided from King Vaughan Road.

We have had the opportunity 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", 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 April 14, 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 schedule may not reflect actual conditions found on the ground. With respect to Schedule 2C, we have not conducted any field studies to confirm the extent of Significant Wildlife Habitat found on the subject property and we do not support the proposed depiction in the absence of detailed studies. Further to the above, we respectfully request on behalf of our client 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 City of Vaughan Natural Heritage 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 City of Vaughan Natural Heritage Study and ask that we receive notice of any decision on this matter by the Committee of the Whole and Council.

Please contact Josh Berry (ext. 310) or the undersigned if you have any questions.

Yours truly,
Weston Consulting
Per:



Ryan Guetter, BES, MCIP, RPP
Vice President

c. Clients
J. Abrams, City of Vaughan



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

C	5
Item #	1
Report No.	17 (CW)
Council - April 21/15	

April 14, 2015
File 6850

Attn: Tony Iacobelli, Senior Environmental Planner

Dear Sir,

**RE: City of Vaughan Natural Heritage Study
12700 7th Concession Road
Township of King, City of Vaughan**

Weston Consulting is the planning consultant for 1606620 Ontario Inc., the registered owner of the property municipally known as 12700 7th Concession Road, in the Township of King and 0 Pine Valley in the City of Vaughan (herein referred to as the "subject lands"). The subject lands are located on the east side of 7th Concession Road, south of King Road and King Vaughan Road. The subject lands are located within both the City of Vaughan and Township of King. The comments found in this letter only pertain to the portion of land located within the City of Vaughan.

We have had the opportunity 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", 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 April 14, 2015.

In response to this review we would like to offer the following comments. Although our client has conducted preliminary environmental analysis on the property, 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 schedule may not reflect actual conditions found on the ground. With respect to Schedule 2B we have not conducted any field studies to confirm the extent of the woodland found on the subject lands and we do not support the proposed depiction in the absence of detailed studies. Further to the above, we also have concerns with the proposed size criteria for woodlands and we respectfully request on behalf of our client 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 Josh Berry (ext. 310) or the undersigned if you have any questions.

Yours truly,
Weston Consulting

Per:



Ryan Guetter, BES, MCIP, RPP
Vice President

c. Client
J. Abrams, City of Vaughan

C	6
Item #	1
Report No.	17 (CW)
Council - April 21/15	



140 Renfrew Drive, Suite 201
Markham, Ontario L3R 6B3
Tel: 905-513-0170
Fax: 905-513-0177
www.mgp.ca

April 14th, 2015

Chair and Members of the Committee of the Whole
City Hall, City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

RE: Natural Heritage Network Inventory and Improvements Study Completion and Recommendations. Amendment to the Vaughan Official Plan 2010 (file #25.5.4)

We are the planners and project manager for the Block 41 Landowners Group in the City of Vaughan. We are submitting this letter to express our concern with mapping and policies contained within the NHN Study before you today.

We appreciate staff efforts to meet on April 9th to review this document and discuss our concerns. However, on further review of the document presented at that time, we note that several of the concerns we raised previously have not been addressed. Given the time constraints and the importance of this document, we would like to request a deferral of this item until we have had the opportunity to resolve the issues we have raised with the City previously.

We request that the item be deferred and that staff be directed to meet with the group and their technical consultants to resolve these issues.

Yours truly,

MALONE GIVEN PARSONS LTD.

Dan Given, MCIP, RPP
President

cc John Mackenzie, M.Sc.(PI), MCIP, RPP, Commissioner of Planning, City of Vaughan
Roy McQuillin, Manager of Policy Planning, City of Vaughan
Anna Sicilia, MCIP, RPP, Senior Policy Planner, City of Vaughan
Block 41 Landowners Group Inc.
Mr. R. Hubbard, Savanta Inc.
Ms. N. Mather, Stonybrook Consulting

Subject: FW: City of Vaughan - Committee of the Whole - April 14, 2015 - Natural Heritage Notice

C	7
Item #	1
Report No.	17 (CW)
Council - April 21/15	

From: david toyne [mailto:davidtoyne@me.com]

Sent: Tuesday, April 14, 2015 9:45 PM

To: Policyplanning; Abrams, Jeffrey; Iacobelli, Tony; Iafrate, Marilyn

Subject: Re: City of Vaughan - Committee of the Whole - April 14, 2015 - Natural Heritage Network Inventory and Improvements - Courtesy Notice

Dear Mayor and Councillors,

I wish I could attend your meeting on subject tomorrow but I must be elsewhere.

Last year I attended the presentation of the Natural Heritage Network study and the follow up discussion with the public. I was very pleased and proud of the leadership that Council demonstrated in engaging in this most important discussion about the long-term future vision of what it should be like to be a citizen of Vaughan for generations to come.

Transforming Vaughan from a suburban municipality to a world-class city **takes this kind of leadership** and true forward thinking. Think for a moment about the decision that the early city leaders in New York took in allocating so much prime land for what has become a very much celebrated Central Park. Forward thinking that is not easy given the demands of development and the sense of urgency associated with the development process.

My wife, Gillian Evans and I, are extremely fortunate to be the third generation of her family to steward the farming operations of Upper Cold Creek Farm. The decisions her grandfather, Grant Glassco, took nearly 40 years ago are benefiting both our family and the citizens of Vaughan and Ontario. Mr. Glassco donated nearly 500 of his 700 acres to the Ontario Heritage Trust, representing what we believe was the first ever land donation of this kind in Ontario. This land is now managed by TRCA and forms part of the wonderful valley pathways that connect the East Humber and the culturally significant Huron Wendat First Nation's history. Mr. Glassco's generosity and forward thinking has been recognized by the City in naming Glassco Park along the Humber River near McMichael Gallery.

My family joins me in celebrating and continuing to encourage the leadership of both Council and the Planning Department and particularly the terrific work being done by Tony Iacobelli and his colleagues in pursuing planning policies that protect, conserve and indeed preserve our natural and cultural heritage. And not just for this term of Council, but indeed for generations to come. Our great, great, grandchildren will better enjoy Vaughan for the work and decisions being made now.

Please keep up the great work! The NHN is an integral part of creating a world-class city. Thank you.

David Toyne
10240 Pine Valley Drive Woodbridge, On
L4L 1A6

On Apr 9, 2015, at 3:30 PM, City of Vaughan - Policy Planning Division <policyplanning@vaughan.ca> wrote:

COURTESY NON-STATUTORY MEETING NOTICE

April 9, 2015

**Re: 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**

Please be advised that the file noted above will be considered at a Committee of the Whole Meeting on:

**Tuesday, April 14, 2015
At 1:00pm
Vaughan City Hall, Council Chamber
2141 Major Mackenzie Drive
Vaughan, Ontario, L6A 1T1**

The City of Vaughan Official Plan (VOP 2010) designates a Natural Heritage Network (NHN) which is composed of Core Features, Enhancement Areas, Built-Up Valley Lands, and lands in the Greenbelt Plan and Oak Ridges Moraine Conservation Plan. Core Features include natural features such as valleylands, wetlands and woodlands. Enhancement Areas of the NHN are described in policy and identify possible restoration areas for potential inclusion as Core Features based on appropriate detailed studies. The Natural Heritage Network Study is aimed at protecting and conserving such resources in the City and providing for any necessary changes to the VOP 2010. This matter was the subject of a Public Hearing on June 17, 2014.

The purpose of this Committee of the Whole meeting is to seek approval of the Natural Heritage Network Study and recommendations based on the findings of the NHN Study, including:

- Recommended amendments to select policies of Chapter 3 (Environment) and Schedule 2 of the VOP 2010 for the purpose of finalizing the amendments for adoption by Council; and
- Action items related to the implementation of the environmental policies for monitoring, management, restoration and stewardship of the Natural Heritage Network.

If you have any questions, please contact the undersigned at 905-832-8581, ext. 8630.

A copy of the staff report can be obtained for your information on the City's web-site at:
http://www.vaughan.ca/council/minutes_agendas/AgendaItems/CW0414_15_1.pdf
under the City Council section, Agenda, Minutes and Extracts, or in person from the City Clerk's Office.

Respectfully,

Tony Iacobelli
Senior Planner, Environmental
Policy Planning Department

Forward this email

This email was sent to davidtoyne@me.com by policyplanning@vaughan.ca |
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City of Vaughan | 2141 Major Mackenzie Drive | Vaughan | Ontario | L6A 1T1 | Canada

C	8
Item #	1
Report No.	17 (CW)
Council - April 21 15	

Deb Schulte Deputation on Item #1 (Natural Heritage Network Study) on April 14, 2015

Good Afternoon Mayor and Members of Council. My name is Deb Schulte and I live at 76 Mira Vista Place in Vaughan and I appreciate the opportunity to come and share a few thoughts with you today on an issue of great importance to the future of Vaughan.

I don't need to impress upon you the importance of our natural environment to the health of our communities, our water, our air; because all of this is already documented in the report, our New Official Plan, in York Region's Official Plan, the Province's Places to Grow, and in the broader scientific community.

Staff have brought this report before you because they need your support. These policies being brought forward are not revolutionary or radical, they are the basis for a rational, balanced approach to development. They need to be approved, so they can be used to guide the future development in our City.

I have already seen the flurry of communication and deputations from some developers asking for you to again defer this report. The time to act is now! I appreciate the Commissioner's memo trying to address the need for more consultation and clarification, however given the amount of development underway in our City we cannot delay much further.

We now know, through the NHN study process, that despite having policies and a map in our previous Official Plan, there has been significant degradation and development encroachment of our identified natural heritage lands. Many important features have been diminished and isolated, removing them from a properly functioning system, and important opportunities to ensure connectivity were lost, forever. We cannot get them back and future generations will pay the price for that lack of vision. The current policies are not adequate to ensure a strong, functioning natural heritage network and we cannot delay any longer

Staff have been working on improving the framework for our natural heritage for over 7 years and an immense amount of time, engagement with both the public and development industry, and our taxpayer dollars have been spent to provide the report before you today.

The map is now validated, where possible, and I want to thank staff, the public, and the development industry for helping to provide all the information to ensure we have an accurate representation of the natural heritage on the ground in Vaughan. Can more be done to refine the map? Of course, the map will continue to change as we respond to new information and development proposals, however these policies and the identification of appropriate natural heritage and enhancement lands are necessary to ensure our staff have the tools to create a better balance than we have been able to achieve so far. We cannot just depend on the good will of developers to ensure our future is protected.

To be clear, we already have a significantly reduced natural heritage system from what we had even 10 years ago. Here is what we know; Vaughan is currently significantly below the recognized targets for healthy ecosystems and our northern high ecologically functioning areas are under development pressure, with a massive highway expansion project (GTA West) cutting through some of the most ecologically sensitive areas in the north west.

What people may not realize is our northern developments will be at much higher densities than we have ever seen before in Vaughan. The Region is mandating that new communities are developed at a minimum of 20 residential units/70 residents and jobs per hectare. This is incredibly dense for suburban communities, requiring some mid to high density buildings to achieve the numbers. This leaves very little room for trees and nature to exist within the developed area. Our normal image of homes and reasonable sized backyards is not applicable, so we need to be sure that the natural areas will be protected and even enhanced to provide opportunities for nature to survive, provide the necessary ecological function and for those important recreational opportunities for the health and well being of our residents.

It is not a positive picture for our natural heritage if we don't provide better oversight for the identified remaining lands. This is what staff is trying to do and of course the development industry would prefer we leave it all up to negotiations.

Our staff depends on having policies in place to ensure they can create that balance at the negotiation table. Should the negotiations not go well, it is likely things will be taken to the OMB, and the OMB will look to what policies are in place. If we don't have them we will not be able to mount a successful defense. We are relying on you to make sure we have the policies in place for a strong, sustainable future.

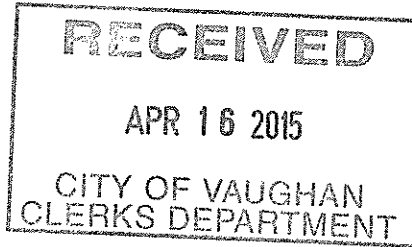
The cost of a failure to provide a proper balance will be born by future taxpayers who will have to fund the man made systems necessary to manage our stormwater, remove toxins from our drinking water and filter our air and we will cease to be the community of choice for many families.

We are already below identified targets. Please give staff the tools they need to ensure development interests don't trump our natural heritage requirements going forward. The process has been long and arduous with lots of public and development engagement. The development industry has been working with staff on this issue over the past 7 years, and through the OMB hearings. There has been a full exchange of information.

The public has elected you to be the stewards of our future. Please don't delay any further. The time to act is now!



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Mayor and Members of Council
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario L6A 1T1

C	<u>9</u>
Item #	<u>1</u>
Report No.	<u>17 (CW)</u>
<u>Council - April 21/15</u>	

April 14, 2015
File 5873-1

Dear Mayor and Members of Council,

**RE: Phase 2 – 4 Natural Heritage Network Study (March 2015)
11211 Weston Road, City of Vaughan**

Weston Consulting is the planning consultant for the owner of the property municipally known as 11211 Weston Road, in the City of Vaughan (the 'subject property').

The subject property is located on the east side of Weston Road, between Kirby Road and Teston Road. It is approximately 25 acres in area. The eastern portion of the subject property (approximately 19.5 acres) is located within the Protected Countryside of the Greenbelt Plan. The western portion of the Subject Property (approximately 5.5 acres) is located outside of the Greenbelt Plan.

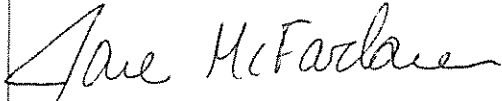
Further to our comments in January and June of 2014 regarding the subject property, we have reviewed the Final Report proceeding to Committee of the Whole on April 14th (Item 1). Based on our review of the 'Phase 2 – 4 Natural Heritage Network Study' (NHN Report), dated March 2015, it appears that the draft Schedules as presented in Figure 5-8 of the NHN Report do identify the following:

1. The designation of "Woodlands" on or near the subject property as illustrated on the proposed Schedule 2B attached to the NHN Study Report;
2. The designation of 'SWH Amphibian Breeding Habitat – Woodlands" on or near the subject property in accordance with Schedule 2C attached to the NHN Study Report; and
3. The designation of 'SWH Special Concern Woodland Breeding Birds" on or near the subject property in accordance with Schedule 2C attached to the NHN Study Report.

We wish to reiterate that we have recommended that the portion of the subject property outside of the Greenbelt Plan be removed from the designations as identified on Schedule 2B and 2C. We acknowledge that Staff has recommended in Attachment 3 to the Staff Report that the matter be addressed through the Block Plan process however, due to the recent nature of the OMB Board Order which removed the Natural Heritage Network designation on the portion of the subject property outside the Greenbelt Plan, we are of the opinion that it is appropriate to address this designation discrepancy at this stage rather than in the Block Plan Process.

Please contact me at extension 225 if you have any further questions.

Yours truly,
Weston Consulting
Per:

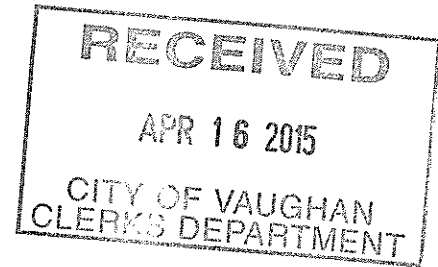


Jane McFarlane, MES (PI), MCIP, RPP
Senior Planner

- c. Amber Stewart, Amber Stewart Law
Clients



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Mayor and Members of Council
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario L6A 1T1

C	<u>10</u>
Item #	<u>1</u>
Report No.	<u>17 (CW)</u>
<u>Council - April 21/15</u>	

April 14, 2015
File 5303-2

Dear Mayor and Members of Council,

**RE: Phase 2 – 4 Natural Heritage Network Study (March 2015)
Woodbridge Park Ltd. (Steeles Avenue West and Gihon Spring Drive)**

Weston Consulting has been retained by Woodbridge Park Ltd. to provide planning services in support of a proposed mixed use development at the north east corner of Steeles Avenue West and Gihon Spring Drive in the City of Vaughan (the 'subject property') consisting of low rise residential and commercial uses.

The subject property is approximately 5.99 hectares (14.8 acres) in area and has been extensively modified through past activity including periodic ploughing and a layer of fill averaging approximately 7 metres in depth based on the boreholes drilled to investigate the geotechnical properties of the site. It is currently vacant and gradually slopes downwards towards the north east corner of the site with a depression near the northern boundary of the property. We understand that the depression was built in association with the CN Rail line to the north has been designed to convey storm water flows from the subject lands, CN Rail lands, and the adjacent property.

Based on our review of the 'Natural Heritage Network Inventory and Improvements' report, prepared for Committee of the Whole on April 14, 2015, the City is proposing to amend Chapter 3 and Schedule 2 "Natural Heritage Network" to the Vaughan Official Plan (2010). In regards to Woodbridge Park Ltd., Attachment '3' of the report recommends the following:


- "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."

The parcel has been removed as a Core Feature from the updated Schedule '2', Natural Heritage Network; however, with regard to the designation of 'SWH Shrub/Early Successional

Breeding Birds' in Schedule '2C', the parcel remains within the mapped area and is not removed despite the recommendation set out in Attachment '3' of the report.

We request that Schedule 2C be updated to remove the subject property from the 'SWH Shrub Successional Breeding Birds' designation.

Yours truly,
Weston Consulting
Per:



Tim Jessop, MES, MCIP, RPP
Associate

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

Magnifico, Rose

7.1

Subject: NHN Study - 21 Mill St.
Attachments: Letter to City June 16, 2014.pdf

c 7
Communication
cw: Apr 14/15
Item: 1

From: Alan Young [mailto:Alan Young]
Sent: Monday, June 16, 2014 4:20 PM
To: tony.iacobelli@vaughan.ca; info@topchi.ca; jsb@livingbox.ca; msimaan@kramersimaan.com; Jeffrey.Abrams@vaughan.ca; Bruce McCall-Richmond
Subject: NHN Study - 21 Mill St.

Hi Tony, further to our discussion, please find attached our submission for Committee of the Whole tomorrow. If you require further information, please let me know.

Thanks,
Alan

Alan Young, BES, MSc, MCIP, RPP
Senior Associate
In the Vaughan office



Vaughan office: T. 905.738.8080 ext. 231 | 201 Millway Ave, Suite 19, Vaughan, ON. L4K 5K8
Oakville office: T: 905.844.8749 ext. 231 | 1660 N. Service Rd. E, Suite 114, Oakville, ON. L6H 7G3
Toronto office: T: 416.640.9917 ext. 231 | 127 Berkeley Street, Toronto, ON. M5A 2X1
1-800.363.3558 | F: 905.738.6637 | ayoung@westonconsulting.com | www.westonconsulting.com



**WESTON
CONSULTING**

planning + urban design

7.2

June 16, 2014
File 6774

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

Dear Sir,

**RE: NATURAL HERITAGE NETWORK STUDY
AMENDMENTS TO THE VAUGHAN OFFICIAL PLAN 2010 ("VOP 2010")
MOHSEN CHARMCHY – 21 MILL STREET
FILE 25.5.4**

Further to our discussion this will confirm my request on behalf of Mr. Charmchy, the owner of the property at 21 Mill Street, that the VOP 2010 be amended to delete his entire property from the Natural Heritage Network on the grounds that:

- it is located outside the Don River valley feature; and
- the property comprises a new lot that was created by consent last year for the purpose of constructing a new detached dwelling.

The land use designation of the subject property in OPA 210 is "Low Density Residential". VOP 2010 redesignates the lands to "Natural Area". This redesignation was appealed by the former owner, Monica Murad, to the Ontario Municipal Board. The appeal has not yet been heard. Monica Murad continues to own the retained lot located immediately to the west at 15 Mill Street.

When the consent application was considered by the Committee of Adjustment, there were no objections expressed by the Toronto and Region Conservation Authority ("TRCA") because the lot is located above the top of bank of the Don River valley, which is located on the opposite side of Mill Street. The TRCA required the submission of a geotechnical report which established that the subject property was in a stable condition suitable for the construction of a detached dwelling. A copy of the TRCA letter dated May 9, 2013, is attached.

I would accordingly request that Schedule 13 ("Land Use") of VOP 2010 be amended to return the subject property at 21 Mill Street to an appropriate residential designation, i.e. Low-Rise Residential. I would also request that the property be removed from the "Core Feature"

designation shown on Schedule 2 ("Natural Heritage Network") and from any other schedule indicating inclusion of the property within the Natural Heritage Network.

Please notify me of the adoption of any official plan amendment that may arise from the study.


Thank you for your assistance.

Yours truly,
Weston Consulting
Per:



Alan Young, BES, MSc, MCIP, RPP
Senior Associate

- c. M. Charmchy
- M. Simaan, Kramer Simaan Dhillon LLP
- J. Barmi, Architect
- J. Abrams, City Clerk

 **TORONTO AND REGION**
Conservation
for The Living City

7.4

May 8, 2013

CFN:

BY MAIL AND FAX (905) 832-8535

Mr. Todd Coles
 Secretary Treasurer
 Committee of Adjustment
 City of Vaughan
 2141 Major Mackenzie Drive
 Vaughan, Ontario L6A 1T1

Dear Mr. Coles:

Re: Committee of Adjustment Applications A121/13 and B006/13
15 Mill Street
Lots 6 & 7, Part of Lot 5, RP 328
City of Vaughan, York Region
(Monica Murad)

This letter will acknowledge receipt of the above noted variance and consent applications. Toronto and Region Conservation Authority (TRCA) staff have reviewed the application and offers the following comments.

Background

It is our understanding that the purpose of the above-noted applications are to permit the severance of the subject property to create a new lot for future residential development.

Applicable Policies and Regulations

The subject property is partially located within a Regulated Area of the Don River watershed. In accordance with Ontario Regulation 166/08 (*Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation*), a permit is required from the TRCA prior to any of the following works taking place:

- a) straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, or for changing or interfering in any way with a wetland;
- b) development, if in the opinion of the authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected by the development.

Development is defined as:

- i) the construction, reconstruction, erection or placing of a building or structure of any kind,
- ii) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure,
- iii) site grading,
- iv) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

In addition, the TRCA's Valley and Stream Corridor Management Program (VSCMP) sets out development guidelines for properties influenced by valley and stream corridors. The overall objective of the VSCMP

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Member of Conservation Ontario



7.5

- 2 -

May 9, 2013

policies is to prevent new development from occurring within areas that may introduce risk to life and property associated with flooding, erosion, and slope stability, or that is not compatible with the protection of these areas in their natural state. VSCMP policies define the valley and stream corridor boundary by the greater of the long-term-stable top-of-bank (where there is a well-defined feature) plus 10 metres inland, or the flood plain (where there is no valley feature) plus 10 metres inland. The corridor boundary is also extended to include any significant adjacent vegetation. Please note that the fragmentation of the ownership of valley and stream corridors is discouraged under the VSCMP.

Comments

The subject property is partially regulated under Ontario Regulation 186/06 as the East Don River valley corridor is located on the north side of Mill Street and the top-of-slope of the valley wall is located along the edge of the roadway (approximately 9 metres from the subject property).

Based upon a Geotechnical Letter of Opinion, prepared by Soil Engineers Ltd., dated April 19, 2013, received by the TRCA April 22, 2013, TRCA staff are satisfied that the proposed lot and eventual proposed dwelling are adequately setback from the long-term-stable top-of-slope (approximately 10 metres from a 3 horizontal : 1 vertical gradient line to the new lot).

Please note that a small portion of the proposed severed lot would remain within a TRCA regulated area due to the proximity of the valley corridor and long-term-stable top-of-slope. However, TRCA staff are satisfied that the proposal does not result in the fragmentation of ownership of the valley system.

Recommendations

In light of the above, TRCA staff have **no objections** to the above noted Committee of Adjustment applications, as submitted subject to the following conditions:

1. The applicant submit the variance application fee of \$1,200 payable to the Toronto and Region Conservation Authority.

However, please be advised that all future development proposals should be circulated to the TRCA for our review and approval prior to any works taking place.

Fees

By copy of this letter, the applicant is advised that the TRCA has implemented a fee schedule for our planning application review services. This application is subject to a \$1,200 severance application review fee which has been included as a condition for our clearance of these applications. The applicant is responsible for fee payment and should forward the application fee to this office as soon as possible.

We trust these comments are of assistance. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,


Anthony Sun, B.B.S.
Planner I

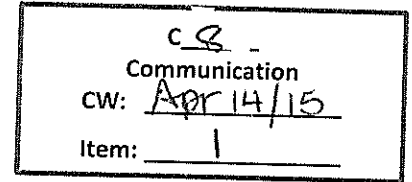
Planning and Development
Extension 5724

cc: Alan Young, Weston Consulting (fax: 905-738-6637)

F:\Home\Public\Development Services\York Region\Vaughan\A121-13 & B008-13 - 15 Mill St.wpd

Magnifico, Rose

From: Abrams, Jeffrey
Sent: Sunday, April 12, 2015 9:34 PM
To: Magnifico, Rose
Subject: Fw: NHN Study - 21 Mill St.
Attachments: Letter to City June 16, 2014.pdf



Sent from my BlackBerry 10 smartphone on the Bell network.

From: Alan Young <ayoung@westonconsulting.com>
Sent: Sunday, April 12, 2015 9:00 PM
To: Iacobelli, Tony
Cc: McQuillin, Roy; Bruce McCall-Richmond; Jane McFarlane; Tim Jessop; Micheal Simaan - Kramer Simaan Dhillon LLP (Micheal Simaan (msimaan@kramersimaan.com)); Jagdip Barmi (jsb@livingbox.ca); Abrams, Jeffrey
Subject: FW: NHN Study - 21 Mill St.

Hi Tony, In reading the report to the upcoming Committee of the Whole meeting (April 15, 2015) I am pleased to note that the property at 21 Mill Street will be removed from the Core Feature designation on Schedule 2. There appears however to be no recommendation that would put in place a corresponding redesignation from Natural Areas to Low-Rise residential on the Land Use Plan (Schedule 13). The owner's appeal of VOP 2010 would accordingly be only partially addressed, and the map schedules in VOP 2010 will be inconsistent with each other. Can this be remedied now? Otherwise a further appeal, to the NHN OPA, will be triggered, pointlessly.

I am attaching our previous submission.

Please treat this message as a submission to the Committee of the Whole, and as a request for notice of adoption of the NHN OPA.

Alan

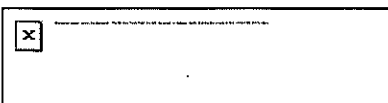
From: Alan Young [<mailto:Alan Young>]
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Subject: NHN Study - 21 Mill St.

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Thanks,

Alan

Alan Young, BES, MSc, MCIP, RPP
Senior Associate
In the Vaughan office



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Nick G. Pasquino, BA LLB
11 Sonya Place
Woodbridge, ON L4L 8L3

c.g.
Communication
CW: Apr 14 / 15
Item: 1

Email: npasquino@rogers.com

Phone: (416) 459-0039

DELIVERED VIA EMAIL

April 13, 2015

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

Attention: Mayor and Members of Council

Dear Mayor and Members of Council:

RE: April 14, 2015 Committee of The Whole - Item 1 – Natural Heritage Network – Amendments to Official Plan 2010 – Request for Further Community Consultation

I regret that I will not be able to speak to this issue in person on April 14, 2015, but would ask Council to consider the following written submission before making its decision in respect of the above-noted item.

I am deeply concerned that Vaughan residents have not been provided a chance to understand the implications of, and provide meaningful input into, Staff's recommended changes to the Vaughan Official Plan. Council should consider whether it is appropriate to direct Staff to provide a further opportunity to do so, given the scope and impact of these proposed changes.

While there is no question that Staff has conducted deliberate consultation throughout the process, in my respectful opinion Council would benefit from further consultation on Staff's recommended course of action to change the Vaughan Official Plan, before Council makes its decision on this matter.

Format Information to be more Accessible to Residents

As a procedural point, I would urge Council to look at the format of information that comes before Council, and would suggest that adding a "summary" document would improve a reader's ability to quickly understand the implications of the proposed change, and enhance meaningful participation in this democratic process.

From a legal perspective there of course needs to be precision in amendments being proposed (in this case to the Official Plan), and the existing amendment proposal document is necessary and in the right format.

However, I am suggesting an additional "Summary" document that allows readers to understand the recommended changes quickly and easily, because frankly the current format does not lend itself to easy understanding. As you know, a reader currently needs to consider the amendment document, then review and consider the Vaughan Official Plan, as amended, to mentally determine the impact of the proposed change. This is not an easy task and probably makes this information inaccessible to a

group of Vaughan residents who would otherwise be interested in the information and providing feedback to Council.

To make it easier, I am strongly suggesting that Council consider directing Staff, perhaps as a pilot project on this matter, to produce a reader-friendly companion document that would summarize the proposed changes in an accessible and easy-to-understand way.

In my view better disclosure enhances democratic participation (again, more people would understand the implications of the change, and would be able to voice an opinion on the change) which better informs Council's decisions.

A few examples might be helpful:

Rather than simply stating, on p. 144 of a 151 page report document:

"Deleting in 3.2.3.2 the word "additions" and replacing it with "modifications"

A brief, plain language disclosure / summary document might read:

"The Official Plan allows for enhancements to our natural heritage elements. Staff is proposing that we amend the Official Plan by deleting the word "additions" in Section 3.2.3.2 and replacing it with "modification", which means that areas identified as natural heritage features can be reduced or deleted entirely.

Staff's rationale for this change is: [XXXXX] *[Note: In this section Staff could describe comments from stakeholders, and how the change is in the best interest of the City, so residents can easily understand the intent and implication of the change.]*

For further information, please refer to Section X of the Recommendation, which is on page Y."

This approach centralizes information in one place, would enhance Staff accountability by making it clear what change is being proposed and why, and would allow readers to understand the change and the rationale for the change.

A second example of a narrative/summary would be:

"The Official Plan currently protects significant natural woodlots in the City. Staff is proposing that we amend the Official Plan to allow certain natural woodlots to be destroyed as part of a development, so long as the developer provides compensation for doing so and the developer's plan is approved by the City of Vaughan, the Region of York and the Toronto and Region Conservation Authority.

Staff's rationale for this change is: [xxxx]"

I set out below a few procedural comments I would anticipate being debated at the meeting:

Recommendation Prevails over Summary

To ensure there is no legal issue with adding a summary statement / disclosure document, a standard statement could be added to each disclosure document that makes it very clear of the summary nature of the document, directing readers to the actual Staff recommendation, and

indicating that to the extent the summary document conflicts with the body of Staff recommendation, the recommendation document prevails, so there is no ambiguity or risk of ambiguity leading to future dispute.

Cost

From an effort and cost perspective, given that all this information is already collected and analyzed through the consultation process, there would seem to be very little incremental additional cost in adding a summary / disclosure document.

Use of Examples

As a non-expert in this area, it is hard for me (and presumably for others) to understand the implications of these proposed changes on our community. Examples always help so if there are opportunities for examples to be added in the disclosure document that would be useful.

Timing

It strikes me that this type of broad-reaching policy decision is important enough that a few more months of consultation would not adversely impact the City.

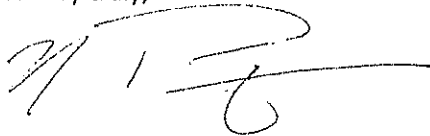
Position on Staff Recommendations

It seems to me that certain of the recommendations of Staff will dilute the protections to our natural heritage network that Council previously concluded were reasonable and appropriate.

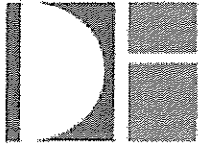
I think further consultation by Staff with residents, on a ward by ward basis, which consultation would include Staff bringing forward actual examples of how these recommended changes would impact residents of each ward, would be very helpful and would allow residents to provide informed and meaningful input into to process.

All Council decisions benefit from stakeholder engagement, and I hope Council decides this issue is significant enough to allow meaningful consultation in order to make a well-informed decision.

Yours very truly,

A handwritten signature in black ink, appearing to read 'Nick G Pasquino', written over a horizontal line.

Nick G Pasquino BA LLB



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

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.

c 10 Communication cw: Apr 14/15 Item: 1



Davies
Howe
Partners
LLP

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

HUMPHRIES PLANNING GROUP INC.

c 11
Communication
CW: Apr 14/15
Item: 1

April 10, 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 April 14, 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, 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.

A meeting was held on October 17, 2014 between representatives of the Group, City Staff and the NHN consultant team. 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 & 35, not the new NHN policies, if they are ultimately approved.

We requested written acknowledgment to this effect on January 30, 2015. We received no response. Also, based on our review of the April 14, 2015 Natural Heritage Network Report to the Committee of the Whole, there is no acknowledgement to this effect. At best, on Pages 11 and 12 of Attachment 3 (responses to public comments) the City appears to recognize that the lands are under the OPA 637 and OPA 450 policy regimes (as incorporated in sec. 11.4 of VOP2010), although it is not explicitly stated. Moreover, the Report does not say that the new NHN policies are not applicable to Block 34W and 35, but rather states that "the results of the NHN study can inform the Block Plan process." This is also discussed in Section 4 e, which states the NHN study can "inform" the block plans, including for the Hwy 400 North Employment lands.

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. Therefore, and once again, we request written confirmation that OPA 637 is

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based on OPA 450 policies, and that it is these underlying policies which are applicable to Block 34W & 35, not the new NHN policies. In addition, the proposed OPA and mapping should specifically say that this is the case.

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". The signature is fluid and cursive, written over a light blue horizontal line.

Mark McConville, MCIP, RPP, MScPI
Senior Planner

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

Magnifico, Rose

Subject:

FW: Natural Heritage Network Inventory and Improvements

c14 Communication cw: Apr 14/15 Item: 1
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From: Martha Bell [mailto:martha_bell@yahoo.com]

Sent: Monday, April 13, 2015 12:13 PM

To: Clerks@vaughan.ca; Bevilacqua, Maurizio; Iafrate, Marilyn; Carella, Tony; Shefman, Alan; DeFrancesca, Rosanna; Di Biase, Michael; Racco, Sandra; Rosati, Gino; Ferri, Mario

Subject: Natural Heritage Network Inventory and Improvements

Do you have any talking points? Here's a start. I can't go into too many details at this point.

Dear Mayor Bevilacqua and Councilors,

As you know the earth is in environmental crisis. Biodiversity disappearing faster than in the time of the dinosaurs; climate change; and a range of impacts that further threaten living species, clean water, air and soil.

Municipal decisions are where the rubber hits the road; where the fate of species is decided by land management decisions. The City's latest Official Plan has set the City in a new direction to work toward sustainability of Vaughan's people, economy, AND it's natural heritage. We commend Vaughan's Council and City management for this.

In the case of natural heritage on private property, including that owned by developers, I hope that the City can take the approach of working with the owners to help them see the bigger picture of what the natural heritage network means for the health of the small piece of the planet in our care and how losing it inch by inch will weaken the larger network or break a link in the continuous chain needed to support species over a much larger area.

You're about to make a critical decision. Please make it in favour of the planet's threatened life-support system. Please use every instrument available to save the Vaughan's natural heritage.

Sincerely yours,
Martha Bell

c 15 Communication CW: Apr 14/15 Item: 1

DATE: APRIL 13, 2015

TO: MAYOR AND MEMBERS OF COUNCIL

FROM: JOHN MACKENZIE, COMMISSIONER OF PLANNING

SUBJECT: ITEM #1 – REPORT #17 – COMMITTEE OF THE WHOLE – APRIL 14, 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 the following be added to the recommendations in Item #1, Report #17:

1. That prior to Council's adoption of the implementing amendment to VOP 2010, as part of the final staff review, staff continue negotiations with representatives of the landowners including BILD and other stakeholders, in order to resolve or minimize any remaining issues concerning the content of the draft amendment;
2. That upon completion of the negotiations, staff report to Council at the time of adoption of the amendment on the following matters:
 - a) The nature of the agreed to changes to the amendment and the resulting modifications to the text or the schedules;
 - b) Any remaining areas where consensus has not been reached;
3. That any changes to the limits of the Natural Heritage Network resulting from this process be reflected as required on any affected schedules to VOP 2010.

Background – Analysis and Options

City staff has continued to meet with representatives of the Building and Land Development Association (BILD) and the representatives of number of affected landowners to identify and resolve any remaining concerns over the Natural Heritage Network (NHN) Study. The latest meeting took place on April 9, 2015. Its purpose was to discuss the proposed amendments to the Vaughan Official Plan 2010 (VOP 2010) resulting from the NHN Study.

Arriving at consistent interpretations of the policies was at the forefront of the discussions. The meeting was productive and consensus was achieved on a number of issues. The identified responses maintain the overall intent of the environmental policies, while providing greater clarity in their interpretation. The following issues respecting the Schedules and five text policies were addressed. Recommendation 2 in the April 14, 2015 Committee of the Whole report speaks to staff reporting back to Council. As part of the process for finalizing the draft amendment staff will be drafting implementing language to reflect the refinements and the outcome of discussions with BILD and landowner negotiations prior to bringing forward the amendment for Council adoption.

Modifications will be pursued in the following areas:

Infrastructure in Core Features

It was discussed that policy 3.2.3.7 could be interpreted to permit infrastructure in Core Features only when authorized through an Environmental Assessment (EA), whereas the policy intent is to recognize the EA process as one mechanism to approve infrastructure projects along with approvals through other Acts which could also result in infrastructure being approved in Core Features.

Schedules 2A (Hydrologic Features and Valleylands), 2B (Woodlands) and 2C (Significant Wildlife Habitat)

It was agreed that a notation can be included on Schedules 2A to 2C to indicate that the information presented is intended to inform the implementation of the policies in Chapter 3 to delineate the NHN. The notation will draw on a similar notation found in Figure 3 "Greenlands System within York Region" of the Region of York Official Plan.

Wetlands

In relation to wetland assessments in VOP 2010 policy 3.3.2.2, it was suggested to remove the text referring to an assessment "in accordance with criteria provided by the Province". This allows the VOP 2010 to conform to the Provincial Policy Statement while providing for an approach to categorize "other wetlands" into two groups: those that are determined to require an evaluation according to Provincial criteria; and wetlands that can be assessed to determine their importance, functions and means of protection and/or maintenance of function. The industry is concerned that an assessment involving the provincial criteria is not feasible or required in all circumstances. This change in approach and the language of the policy addresses a practical concern about achieving provincial criteria regarding all wetland assessments when it may not be required.

Woodlands

A minor change was discussed for the test to permit development or site alteration in a woodland that is not a significant woodland.

Enhancement Areas Not Depicted on Schedule 2

It was recommended that a reference to a specific dimension for ecological corridors/linkages be removed in favour of an updated policy that emphasizes the function of an ecological linkage to facilitate species movement for target species of concern (e.g. appropriate corridor widths for migrating amphibians).

Other issues remain for BILD and certain landowners. They include concerns related to the compensation policy for features that may be impacted, where such impacts are unavoidable. On the matter of compensation, definitive policies have not been developed in relation to compensation at this time. During the discussion with BILD it was suggested that staff could work with stakeholders to develop a draft protocol that reflects best practices. Once a draft protocol is developed it would be brought forward in a separate report to Committee of the Whole and Council in the future.

Conclusion

Additional discussion prior to Council consideration of the amendment holds the prospect of resolving some or all of the above noted matters. In order to take advantage of this opportunity, it is recommended that staff receive direction on all of the matters in the report, continue with negotiations and report back to

Council when the amendment is considered. The recommendations set out above, if approved by Council will allow staff to continue discussions and to update Council on the outcome.

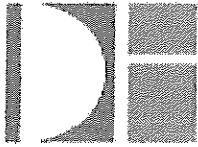
Respectfully submitted,

A handwritten signature in black ink, consisting of a large, stylized initial 'J' followed by several vertical strokes and a horizontal line extending to the right.

JOHN MACKENZIE
Commissioner of Planning

/lm

Copy To: Barbara Cribbett, Interim City Manager
 Jeffrey A. Abrams, City Clerk
 Roy McQuillin, Acting Director of Policy Planning
 Tony Iacobelli, Senior Environmental Planner



Davies
Howe
Partners
LLP

Lawyers

The Fifth Floor
99 Spadina Ave
Toronto, Ontario
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T 416.977.7088
F 416.977.8931
davieshowe.com

Please refer to: **Katarzyna Sliwa**
e-mail: katarzynas@davieshowe.com
direct line: 416.263.4511
File No. 702695

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

c 16 Communication CW: Apr 14/15 Item: 1

Attention: Mayor Bevilacqua and Council Members

Your Worship and Members of Council:

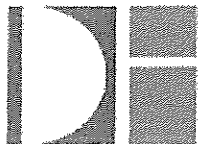
**Re: Item 1, Committee of the Whole Meeting, April 14, 2015
Natural Heritage Network Study ("NHN Study")
Natural Heritage Network Inventory and Improvements
Study Completion and Recommended Amendment to
Vaughan Official Plan 2010 (the "Proposed Amendments")
Block 66 West Landowners Group Inc. ("Block 66")**

We write on behalf of Block 66. The purpose of this letter is to respectfully request that this matter be deferred to allow for discussions with our clients to continue.

We continue to have concerns with the NHN Study and the Proposed Amendments. Our primary concern is the speed with which the City is proceeding. The NHN Study Staff Report was only made available last week. This does not allow our clients a fair and practical opportunity for review and continue dialogue with you or your Staff.

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 process.

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



Davies
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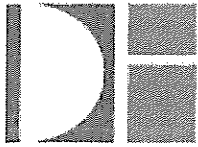
Page 2

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

Yours sincerely,
DAVIES HOWE PARTNERS LLP

Katarzyna Sliwa

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. Ryan Mino-Lehan, KLM Planning
Mr. Rick Hubbard, Savanta Inc.
Clients



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Please refer to: **Katarzyna Sliwa**
e-mail: katarzynas@davieshowe.com
direct line: 416.263.4511
File No. 702512

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 40/47 Developers Group Inc. ("Block 40/47")**

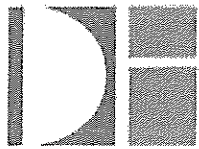
We write on behalf of Block 40/47. Our client consists of persons and corporations who own 239.73 hectares of land located south of Teston Road East, east and west of Pine Valley Drive and north of Cold Creek (the "Subject Lands").

The purpose of this letter is to respectfully request that the Subject Lands be specifically identified as not being subject to the Proposed Amendments.

The Subject Lands have undergone a lengthy and comprehensive planning process, including the identification and preservation of natural heritage features. The Proposed Amendments would result in additional lands being designated as "Core Feature" on Schedules 2, 2a, 2b and 2c; those same lands are currently proposed for residential and related use in Official Plan Amendment 744 ("OPA 744") and the Block Plan for the Subject Lands.

The level of environmental planning involved in preparing OPA 744 and the Block Plan was very detailed, including site-specific investigations which delineated both the limits of development and environmental features to be protected. The OPA 744 and Block Plan process also involved extensive consultation about

c 17 Communication CW: Apr 14/15 Item: 1



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environmental protection matters and mitigation with the City, Region of York, Toronto Region Conservation Authority and the Ministry of Natural Resources.

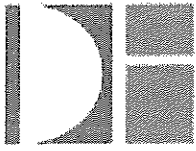
The Block Plan application was made on February 4, 2003 under Official Plan Amendment 600 ("OPA 600"), which was adopted by Council on September 25, 2000. An amendment to OPA 600 was required in order to create an area-specific comprehensive plan, or Secondary Plan, providing the basis to support land use designations consistent with the planning approach of OPA 600.

OPA 744 was filed on February 14, 2003 and adopted on February 18, 2014. On June 24, 2014 Council endorsed modifications, and on September 11, 2014 the Region of York approved it. The Region's Decision was appealed to the Ontario Municipal Board by a neighbouring landowner (on unrelated issues), and a Hearing is scheduled to commence on September 28, 2015.

OPA 744 builds upon the policies of OPA 600 and implements its principles, including those related to the protection of natural heritage features. On June 24, 2014, Council approved the Block Plan, subject to conditions, which establish the limits of development and significant natural features that are to be maintained.

The Block Plan is based on detailed planning and surveying, to accurately define uses through the preparation of a Master Environmental Servicing Plan ("MESP") and Environmental Impact Study ("EIS"). Subsequent to the submission of the latest MESP and EIS in April 2013, and approval of the Block Plan, the following additional materials have been submitted to the City to address the clearance of conditions:

1. Azimuth Environmental – *Revised Environmental Impact Study Block 40 – Peninsula Vellore Urban Village City of Vaughan*, prepared for Prima Vista Estates Ltd., dated May 2013;
2. Azimuth – *Headwater Drainage Features Evaluation, Classification and Management Block 40/47 Report*, dated August 2014;
3. Azimuth – *2014 Seep Monitoring – Block 40/47, City of Vaughan – DRAFT*, dated September 8, 2014;
4. Azimuth – *Amphibian Compensation Plan, Block 40/47*, dated January 14, 2015;
5. Azimuth – *Headwater Drainage Features Evaluation, Classification and Management Block 40/47*, dated November 2014;



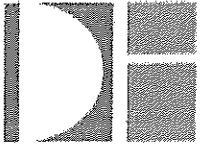
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6. Azimuth – *Provincially Significant Wetland Units Post Development Effects Block 40/47, City of Vaughan*, dated November 25, 2014;
7. Azimuth – *Provincially Significant Wetland Impact Assessment Block 40/47, City of Vaughan*, dated January 14, 2015;
8. EMC Group Ltd – *Runoff Deficit Mitigation Memo*, dated May 16, 2011;
9. EMC – *Conceptual Grading Drawing 200161-CG1-CG5*, dated August 2014; and
10. EMC letter dated January 26, 2015 outlining the revisions made to address the recommendations of the agencies including the following materials:
 - a) *Updated Water Balance Tables*, (Tables 1 to 11) and supporting figures (Figures 1 to 35) and notes;
 - b) *Updated Stormwater Management Pond Plans* (Drawings 200161-P1, P2 & P3) and related figures; and
 - c) Cross sections at grading constraint locations along the development limit.

Draft Plan of Subdivision and Zoning By-law Amendment submissions have also been made and were the subject of a public meeting on September 2, 2014. We anticipate that the Planning Department will be reporting on the clearance and status of the Block Plan conditions next month, with the Subdivision Plans to follow shortly thereafter. These applications were made and are being reviewed by planning Staff under the policy framework of OPA 744, the Block Plan and the MESP.

We respectfully request that the Subject Lands be specifically excluded from the Proposed Amendment, or in the alternative that transition provisions be incorporated to address this area-specific situation.

We also request notice of any item(s), decision(s), report(s) and/or meeting(s) regarding this matter. Importantly, we require notice in advance of this item being considered by Council, so our client may have the opportunity to make additional submissions.




Davies
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Page 4

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

Yours sincerely,
DAVIES HOWE PARTNERS LLP



Katarzyna Sliwa

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. Mark Yarranton, KLM Planning
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c 18
Communication
CW: Apr 14/15
Item: i

P-1617

April 13, 2015

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

Attention: Mr. Jeffrey Abrams
City Clerk

Re:

**Committee of the Whole Meeting April 14, 2015
Natural Heritage Study – 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. We note that the above noted materials do not reflect 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 April 14, 2015 Natural Heritage Network Report to the Committee of the Whole does not include a response to our received letter submitted on June 24, 2014.

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

Yours truly,
KLM PLANNING PARTNERS INC.

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

Cc: Block 34 East Landowners Group
Savanta Consulting

Magnifico, Rose

c 19
Communication
CW: Apr 14/15
Item: 1

Subject: FW: NHN Study Item 1, CW April 14th

From: Cam [mailto:cam.milani@milanigroup.ca]

Sent: Monday, April 13, 2015 3:42 PM

To: Clerks@vaughan.ca

Cc: Bevilacqua, Maurizio; Di Biase, Michael; Rosati, Gino; Ferri, Mario; Iafrate, Marilyn; Carella, Tony; DeFrancesca, Rosanna; Racco, Sandra; Shefman, Alan; MacKenzie, John

Subject: NHN Study Item 1, CW April 14th

Dear Members of Council,

With regards to the above noted item, I have the following comments and concerns:

1. Inaccuracies in the mapping are apparent across all of Vaughan, all of which we object to. We not only object to site specific mapping errors on properties we own, but on the mapping across the entire City. For example, the Rizmi Lands are inaccurate, VOP Appeal #21 Lands are inaccurate, the NE corner of Dufferin and Teston Rd. Are inaccurate, Kortright Center is inaccurate and Boyd Park is inaccurate, just to name a few.
2. A habitat compensation protocol is very interesting. I look forward to helping craft such a protocol. It goes a long way to creating flexible environments and likely increasing the amount of land set aside for environmental protections.
3. As Council is aware, you passed the following resolution On December 11th, 2012 (Item 2, Report No. 51, Committee of the Whole (Working Session): **"That a notwithstanding clause, similar to that found in Section 5.4 b) of OPA 604 amending OPA 332 (Oak Ridges Moraine Conformity OPA) be incorporated into the NHN Inventory and Improvement Plan for those areas within the jurisdiction of the municipality"** This clause is still missing from the document. I don't know why.
4. The document provides too much discretion regarding policy interpretation to external agencies such as the TRCA. There are no accountability measures in place with those external agencies. Such policy interpretations should be brought into the Vaughan Planning department, especially since this is Vaughan Official Plan, not the TRCA Official Plan. The only policy interpretations that the TRCA should have are those that are given to them under provincial authority, which is under the Conservation Authorities Act. The TRCA should not be included in clauses that say things like : "....to the satisfaction of.....the Toronto and Region Conservation Authority", unless it is under their provincial authority, like their Regulated Area and Flood Plains. Everything else is duplicitous and overly regulatory, not to mention undemocratic since the TRCA is not an directly elected body with democratic checks and balances, it is an appointed body. The City of Toronto for example has 5 private citizens on the Board.
5. All TRCA owned lands in their entirety should be included in the NHN Core Features. For example, the entire Kortright Center and the Boyd Conservation Ares should be entirely Core Features. Right now they are not. The current mapping shows them as partially developable lands.
6. Setbacks are too large. 10m is sufficient. Sometimes less where appropriate.

Yours Truly,
Cam Milani
Milani Group of Companies



**WESTON
CONSULTING**

planning + urban design

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

Attn: Mr. Jeffrey Abrams, Clerk

Dear Sir,

**RE: Committee of the Whole
Item 1
Natural Heritage Network Inventory and Improvements, Study Completion
City of Vaughan**

Weston Consulting is the planner for the owners of 9000 Bathurst Street in the City of Vaughan. Official Plan Amendment (OP.13.013) and Zoning Bylaw Amendment (Z.13.036) applications have been submitted to the City of Vaughan and are currently under consideration by the municipality. The development applications anticipate the full build-out of the site excluding the natural valley lands, and associated buffer, at the north-east portion of the site.

We have had the opportunity 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*", 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 April 14, 2015.

Previous comments on the *Natural Heritage Network Study* were submitted to City staff on June 10, 2014. These comments included an assessment by a certified arborist that the wooded area on the subject property should be properly classified as a '*Plantation*' and not a natural area. Based on our review of the staff report, and related attachments, our concerns have not been addressed. We have enclosed our previous submission to City Staff, setting out our concern regarding the proposed *woodland* depicted on Schedule 2B. These concerns remain.

We request formal notice of the decision on this matter by the Committee of the Whole and Council. Please contact Courtney Heron-Monk (ext. 401) or the undersigned if you have any questions.

c 21 Communication CW: <u>Apr 14/15</u> Item: <u>1</u>

April 13, 2015
File 4750

Yours truly,
Weston Consulting

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

Kurt Franklin MAES, MCIP, RPP
Vice President

Cc Mayor and Members of Council
Tony Iacobelli, City of Vaughan
Shafiq Punjani, ISIJ
Kim Beckman, Davies Howe



**WESTON
CONSULTING**

planning + urban design

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

June 10, 2014
File 4750

Attn: Mr. Tony Iacobelli, Sr. Environmental Planner

Dear Sir,

**RE: Phase 2-4 Natural Heritage Network Study
9000 Bathurst Street
City of Vaughan**

Weston Consulting is the planner for the owners of 9000 Bathurst Street in the City of Vaughan. Official Plan Amendment (OP.13.013) and Zoning Bylaw Amendment (Z.13.036) applications have been submitted to the City of Vaughan and are currently under consideration by the municipality. The development applications anticipate the full build-out of the site excluding the natural valley lands, and associated buffer, at the north-east portion of the site.

We have reviewed the *Phase 2-4 Natural Heritage Network Study City of Vaughan*, dated May 2014, and the associated mapping. Schedule 2B-Woodlands incorrectly identifies a *woodland* area on the subject property outside of the valley lands (see attached). We request that this designation be removed from the NHN mapping as the area is not a *woodland* area.

Materials submitted with the development applications state that the incorrectly identified *woodland* area is actually a **plantation**. Attached please find a letter prepared by Ontario Tree Experts summarizing their evaluation of the area and their determination that the area is a *plantation*. The 2010 Official Plan definition of *Woodland* specifically excludes "a *plantation* established for the purpose of producing Christmas trees or nursery stock."

Based on this evidence, we request that the incorrectly identified *woodland* area on the subject property be removed from all future mapping. If you have any questions, please contact the undersigned and we will be glad to assist. Thank you for the opportunity to provide our comments.

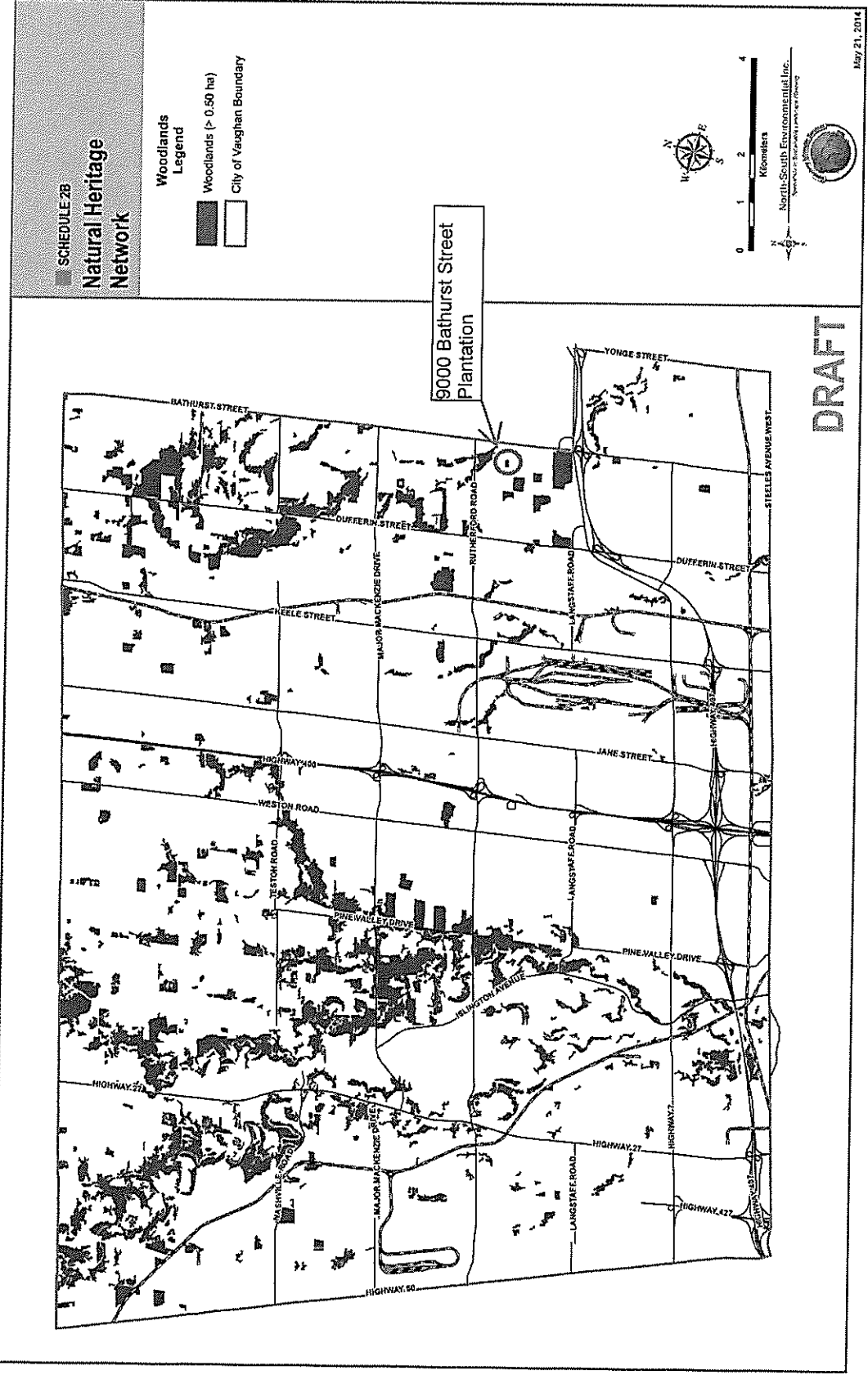
Yours truly,
Weston Consulting

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

Kurt Franklin MAES, MCIP, RPP
Vice President

Cc Shafiq Punjani, ISIJ
Jody Steiger, OnTree

Figure 7: Schedule 2b Woodlands





June 9, 2014

RE: Plantation at 9000 Bathurst Street

The purpose of this report is to outline general features of a treed area in order to identify it as a plantation. The treed area is located in the south west portion of the lot at 9000 Bathurst Street. A recent study prepared for the City of Vaughan by North-South Environmental Inc. ("Natural Heritage Network") has tentatively identified the area as a woodland.

The treed area was identified in the study as a woodland based solely on aerial photographs. While the area is treed, and does meet the study's size criteria of needing to be a minimum .50 hectares, a closer examination reveals that the area is man made, most likely originally as a tree farm.

The trees are planted on a ridge and furrow field, in straight rows with scattered groupings of different species. The east and larger portion consists of evergreen species, dominated by white spruce with scattered groupings of red and Scots pines. The smaller west portion consists of deciduous trees with rows of silver maple and Carolina poplar. Over the years, various other species have established on the perimeters, including aspen, buckthorn and green ash.

In size, the plantation is approximately 87 meters from south to north, and 133 meters from east to west. I have estimated that there are approximately 59 rows of planted trees. The evergreen trees are spaced approximately 1.5 meters apart, while the deciduous trees are spaced approximately two meters apart. The average DBH of the trees is 15 to 25 cm., indicating an age of less than 30 years.

It is apparent that the treed area at 9000 Bathurst Street did not arise naturally and is not part of the original woodland cover in the City of Vaughan. Species groupings and spacing suggest planting for the purpose of consumer production, possibly as a tree farm. Therefore, the area should be identified as a plantation and not as woodlands and should be removed from the mapping in Schedule 2B of the "Natural Heritage Network" study.

Sincerely,

Jody Steiger
ISA Certified Arborist #ON-0338

Magnifico, Rose

Subject: FW: OMB Case No. PL111184 - Novagal Development Inc. - Committee of the Whole Public Meeting, Report No. 17 - Item No. 1

Attachments: April 14 2015 Letter to Mayor and Members of Council, City of Vaughan (01352174).PDF

c 22 Communication CW: <u>Apr 14/15</u> Item: <u>1</u>

From: Caterina Facciolo [<mailto:CFacciolo@bratty.com>]

Sent: Tuesday, April 14, 2015 10:03 AM

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

Cc: Abrams, Jeffrey; Iacobelli, Tony; MacKenzie, John; 'lognibene@remingtongroupinc.com'; 'Donald Fraser'; Linda Lau; rmason@klmplanning.com

Subject: OMB Case No. PL111184 - Novagal Development Inc. - Committee of the Whole Public Meeting, Report No. 17 - Item No. 1

Mr. Mayor and Members of Council:

Please find attached hereto correspondence regarding Item No. 1 on today's 1 p.m. Committee of the Whole Meeting Agenda.

For reasons noted in the attached, we are hereby requesting, on behalf of Novagal Development Inc., that the Committee defer the consideration of the matter to allow for discussions as between City Staff and the affected landowners to continue.

We understand that we are not alone in our request for a deferral, and that you will hear from other landowners in this regard.

Yours truly,

Caterina Facciolo

LL.B, LL.M.



BRATTYS ^{LLP}
BARRISTERS AND SOLICITORS

P (905) 760-2600 ext 293
F (905) 760-2900
cfacciolo@bratty.com

7501 Keele Street, Suite 200
Vaughan, Ontario L4K 1Y2
www.bratty.com

"Ranked by Canadian Lawyer as one of Canada's top 5 Commercial Real Estate Boutiques"

This email is confidential. Please destroy all copies if you are not an intended recipient. Visit www.bratty.com for our privacy policy.



BRATTYS ^{LLP}
BARRISTERS AND SOLICITORS

PLEASE REFER TO:
Caterina Facciolo (Ext: 293)
Email: cfacciolo@bratty.com
Linda Lau (Ext: 263)
Email: llau@bratty.com
Telephone: (905)760-2700

April 14, 2015

Delivered via E-mail

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

Attention: Mayor Maurizio Bevilacqua and Members Council

Dear Mayor and Members of Council

**Re: Committee of the Whole Public Meeting, Report No. 17 - Item No. 1
Natural Heritage Network Inventory and Improvements (the "Study")
Study Completion and Recommendations
Amendments to City of Vaughan Official Plan 2010 ("VOP2010")**

**OMB Case No. PL111184
Novagal Development Inc. – Appellant No. 52**

We are the solicitors acting on behalf of Novagal Development Inc. ("Novagal") with respect to the above referenced matter.

We have previously written to Council regarding the Study. Enclosed herein is a copy of our prior correspondence.

As you may know, our client is an appellant to the VOP2010, and remains a party to those proceedings. Novagal's appeal applies to lands owned by Novagal and lands for which Novagal acts as a manager. Specifically, the Novagal appeal also relates to lands owned by the following landowners: Galnova Developments Inc.; Bragal Developments Inc.; Branova North Developments Inc.; and Branova South Developments Inc. (see attachment for location of the respective lands).

We noted in the attached letter of June 23, 2014 that our client had been actively involved in the Study and had been working with City Staff with respect to same. Unfortunately, since that time, our client's involvement in this process has been minimal as they have not been extended invitations to the respective meetings that appear to have taken place as between City Staff and other landowners.

Our client is now in receipt of the consultant's Study and the Staff Recommendations Report being the subject of this Committee's consideration. Our client has concerns with the process being followed in this regard, and with how the proposed amendments to the VOP2010 are being communicated to the landowners, and has questions regarding same.

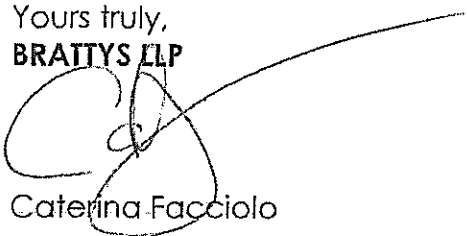
Because of the short time frame between the release of the Staff Recommendations Report enclosing the Study and the Committee of the Whole Meeting, our client has not had an opportunity to review the documents with its respective consultants, and accordingly does not have a sufficient appreciation of the impacts of the proposed amendments to the VOP2010 to comment on same. However, based on the preliminary review conducted, it does appear that substantial changes are being proposed to the VOP2010 that were not identified as part of the June 17, 2014 Public Hearing.

Accordingly, I am writing herein to confirm that Novagal continues to have concerns with respect to the Study and, more specifically the proposed modifications to VOP2010 being proposed in the Staff Recommendations Report to this Committee. Specifically, Novagal is concerned with the proposed timing for the approval of same, as it, notwithstanding its appellant status, has not been invited to participate in the process, except for receiving notice of this non-statutory public meeting. Our client is hopeful that the Committee will see fit to defer consideration of the Staff Recommendations Report so as to allow it, and other landowners, an opportunity to have its concerns resolved through further discussions with City Staff, prior to the approval of any amendments to the VOP2010.

We reiterate our formal request for Notice of any proposed amendments to the Official Plan which may result from the Study.

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

Yours truly,
BRATTYS LLP



Caterina Facciolo

encl:

cc: Jeffrey Abrams, City of Vaughan
Tony Iacobelli, City of Vaughan
John Mackenzie, City of Vaughan
Luch Ognibene, Novagal Development Inc.



BRATTY AND PARTNERS, LLP
BARRISTERS AND SOLICITORS

PLEASE REFER TO:
Barry Horosko (Ext: 339)
Email: bhorosko@bratty.com
Caterina Facciolo (Ext: 293)
Email: cfacciolo@bratty.com
Telephone: (905)760-2700

June 23, 2014

Delivered via E-mail

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

Attention: Mayor Maurizio Bevilacqua and Members Council

Dear Mayor and Members of Council

**Re: Committee of the Whole Public Hearing Report Item 6
Vaughan Natural Heritage Network
Inventory and Improvements Phases 2 to 4
Final Consulting Team Report and Recommendations
Amendments to City of Vaughan Official Plan 2010 ("VOP2010")
OMB Case No. PL111184
Novagal Development Inc. – Appellant No. 52**

We are the solicitors acting on behalf of Novagal Development Inc. ("Novagal") with respect to the above referenced matter.

Our client is an appellant to VOP2010. Novagal's appeal applies to lands owned by Novagal and lands for which Novagal acts as a manager for. Specifically, the Novagal appeal also relates to lands owned by the following landowners:

- Galnova Developments Inc.;
- Bragal Developments Inc.;
- Branova North Developments Inc.; and
- Branova South Developments Inc.

Please see attached hereto a map indicating the landownership of each of the land holdings for which the Novagal appeal applies.

Our client has been actively involved in the Natural Heritage Network Study and has been working with City staff with respect to same, and has made previous submissions. While our client continues to have concerns with respect to the Natural Heritage Network Study and the proposed modifications to VOP2010 being proposed in the Final Consulting Team Report and

Recommendations, our client is hopeful that its concerns can be resolved through further discussions with City staff.

Irrespective of our appeals to VOP2010, we formally request Notice of any further proposed amendments to the Official Plan which may result from the City's Natural Heritage Network Study.

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

Yours truly,
BRATTYS LLP



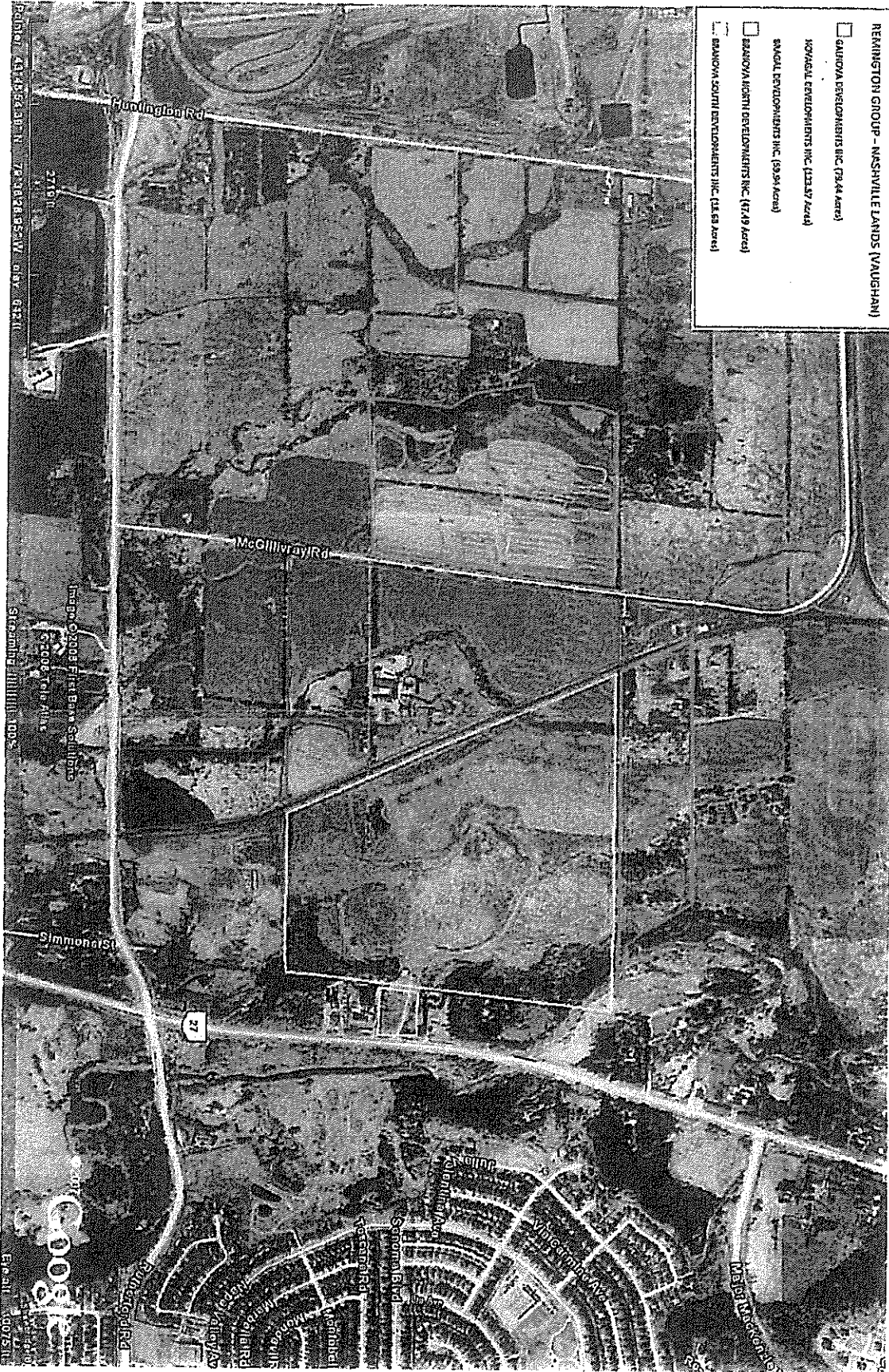
Caterina Facciolo

encl:

cc: Jeffrey Abrams, City of Vaughan
Tony Iacobelli, City of Vaughan
John Mackenzie, City of Vaughan
Luch Ognibene, Novagal Development Inc.

REMINGTON GROUP - NASHVILLE LANDS (VAUGHAN)

- GAMBONIA DEVELOPMENTS INC. (79.44 Acres)
- KNOXVILLE DEVELOPMENTS INC. (123.57 Acres)
- RAYGUL DEVELOPMENTS INC. (59.94 Acres)
- BAYLORVA HEIGHTS DEVELOPMENTS INC. (17.19 Acres)
- BAYLORVA SOUTH DEVELOPMENTS INC. (12.89 Acres)





**WESTON
CONSULTING**

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c. 25 Communication CW: Apr 14/15 Item: i
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Mayor and Members of Council
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario L6A 1T1

April 14, 2015
File 5303-2

Dear Mayor and Members of Council,

**RE: Phase 2 – 4 Natural Heritage Network Study (March 2015)
Woodbridge Park Ltd. (Steeles Avenue West and Gihon Spring Drive)**

Weston Consulting has been retained by Woodbridge Park Ltd. to provide planning services in support of a proposed mixed use development at the north east corner of Steeles Avenue West and Gihon Spring Drive in the City of Vaughan (the 'subject property') consisting of low rise residential and commercial uses.

The subject property is approximately 5.99 hectares (14.8 acres) in area and has been extensively modified through past activity including periodic ploughing and a layer of fill averaging approximately 7 metres in depth based on the boreholes drilled to investigate the geotechnical properties of the site. It is currently vacant and gradually slopes downwards towards the north east corner of the site with a depression near the northern boundary of the property. We understand that the depression was built in association with the CN Rail line to the north has been designed to convey storm water flows from the subject lands, CN Rail lands, and the adjacent property.

Based on our review of the 'Natural Heritage Network Inventory and Improvements' report, prepared for Committee of the Whole on April 14, 2015, the City is proposing to amend Chapter 3 and Schedule 2 "Natural Heritage Network" to the Vaughan Official Plan (2010). In regards to Woodbridge Park Ltd., Attachment '3' of the report recommends the following:

- *"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."*

The parcel has been removed as a Core Feature from the updated Schedule '2', Natural Heritage Network; however, with regard to the designation of 'SWH Shrub/Early Successional

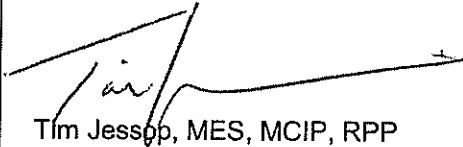
Breeding Birds' in Schedule '2C', the parcel remains within the mapped area and is not removed despite the recommendation set out in Attachment '3' of the report.

We request that Schedule 2C be updated to remove the subject property from the 'SWH Shrub Successional Breeding Birds' designation.

Yours truly,

Weston Consulting

Per:



Tim Jessop, MES, MCIP, RPP
Associate

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



**WESTON
CONSULTING**

planning + urban design

c26 Communication CW: <u>Apr 14/15</u> Item: <u>i</u>
--

Mayor and Members of Council

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

April 14, 2015
File 5873-1

Dear Mayor and Members of Council,

**RE: Phase 2 – 4 Natural Heritage Network Study (March 2015)
11211 Weston Road, City of Vaughan**

Weston Consulting is the planning consultant for the owner of the property municipally known as 11211 Weston Road, in the City of Vaughan (the 'subject property').

The subject property is located on the east side of Weston Road, between Kirby Road and Teston Road. It is approximately 25 acres in area. The eastern portion of the subject property (approximately 19.5 acres) is located within the Protected Countryside of the Greenbelt Plan. The western portion of the Subject Property (approximately 5.5 acres) is located outside of the Greenbelt Plan.

Further to our comments in January and June of 2014 regarding the subject property, we have reviewed the Final Report proceeding to Committee of the Whole on April 14th (Item 1). Based on our review of the 'Phase 2 – 4 Natural Heritage Network Study' (NHN Report), dated March 2015, it appears that the draft Schedules as presented in Figure 5-8 of the NHN Report do identify the following:

1. The designation of "Woodlands" on or near the subject property as illustrated on the proposed Schedule 2B attached to the NHN Study Report;
2. The designation of 'SWH Amphibian Breeding Habitat – Woodlands" on or near the subject property in accordance with Schedule 2C attached to the NHN Study Report; and
3. The designation of 'SWH Special Concern Woodland Breeding Birds" on or near the subject property in accordance with Schedule 2C attached to the NHN Study Report.

We wish to reiterate that we have recommended that the portion of the subject property outside of the Greenbelt Plan be removed from the designations as identified on Schedule 2B and 2C. We acknowledge that Staff has recommended in Attachment 3 to the Staff Report that the matter be addressed through the Block Plan process however, due to the recent nature of the OMB Board Order which removed the Natural Heritage Network designation on the portion of the subject property outside the Greenbelt Plan, we are of the opinion that it is appropriate to address this designation discrepancy at this stage rather than in the Block Plan Process.

Please contact me at extension 225 if you have any further questions.

Yours truly,

Weston Consulting

Per:



Jane McFarlane, MES (PI), MCIP, RPP
Senior Planner

- c. Amber Stewart, Amber Stewart Law
Clients



BUILDING A GREATER GTA
Building Industry and Land
Development Association

c27 Communication CW: <u>Apr 14/15</u> Item: <u>1</u>
--

April 14, 2015

Chair and Members of the Committee of the Whole
City Hall, City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Dear Chair and Members of the Committee of the Whole,

RE: Natural Heritage Network Inventory and Improvements Study Completion and Recommendations. Amendment to the Vaughan Official Plan 2010 (file #25.5.4)

The Building Industry and Land Development Association is in receipt of the April 14th Staff Report for the *Natural Heritage Network Inventory and Improvements Study Completion and Recommendations Amendment to the Vaughan Official Plan 2010 (File #25.5.4)*, and we offer you the following comments.

Firstly, we acknowledge and appreciate the effort of City Staff to organize a meeting on April 9th with BILD York Chapter members to discuss the study and recommendations. Extensive discussion took place at the meeting and we appreciate Staff's ongoing commitment to our group.

At a site-specific scale, we recognize that there were several items that were raised by representatives of the landowner group(s) and we understand that they have submitted these detailed technical comments to the Committee. BILD appreciates that at the meeting, Senior Staff expressed a willingness to continue these discussion at the block plan level.

On a city-wide basis, BILD York Chapter members believe that the City's method of evaluating wetlands and the size parameter to determine if a woodlot would be considered a core feature, could be strengthened to directly align with the Regional Official Plan.

Of particular interest to BILD York Chapter members is the forthcoming habitat compensation protocol. BILD recognizes that this protocol will aid in the implementation of Vaughan's Natural Heritage Network and we trust that it will be brought back, as part of this public OPA process. We would be happy to help facilitate conversations between the City and the Development Industry on this matter, when appropriate.

BILD would like to thank you for the opportunity to submit comments on the aforementioned City Staff Report and we look forward to meeting with Staff again. Please feel free to contact the undersigned if you have any comments or concerns.

Sincerely,

Danielle Chin, RPP, MCIP
Senior Planner

CC: Michael Pozzebon, BILD York Chapter Chair
Paula Tenuta, Vice President, Policy & Government Relations, BILD
BILD York Chapter members

20 Upjohn Rd., Suite 100
North York, ON M3B 2V9

Tel: 416.391.3145
Fax: 416.391.2118

www.gthba.ca



LOOPSTRA NIXON LLP

LAWYERS AND SOLICITORS

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

April 13, 2015

c 28
Communication
CW: Apr 14/15
Item: 1

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 1: Committee of the Whole Meeting, April 14, 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 Landowners Group ("Landowners Group") and as an individual property owner.

The purpose of this letter is to request that this matter be deferred and referred back to staff for further consultation with stakeholders.

There are significant problems with the NHN Study and the proposed amendments to the Vaughan Official Plan, 2010, which should be addressed prior to the amendments being adopted by this Council. Some of these problems were detailed in a letter sent to the City of Vaughan on behalf of the Landowners Group on January 30, 2015. Many of the problems with the NHN Study and proposed amendments have been raised with City staff on several occasions and have yet to be addressed.

Lormel also has serious concerns respecting the speed with which the City is proceeding. The NHN Study and proposed amendments were made available for review late last week and are to be



considered by the Committee of the Whole on Tuesday April 14, 2015 – this has not provided a practical opportunity for my client or its consultants to review and provide comments respecting the NHN Study and the proposed amendments. Further, it makes a meaningful dialogue between my client and City Council/City staff all but impossible.

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

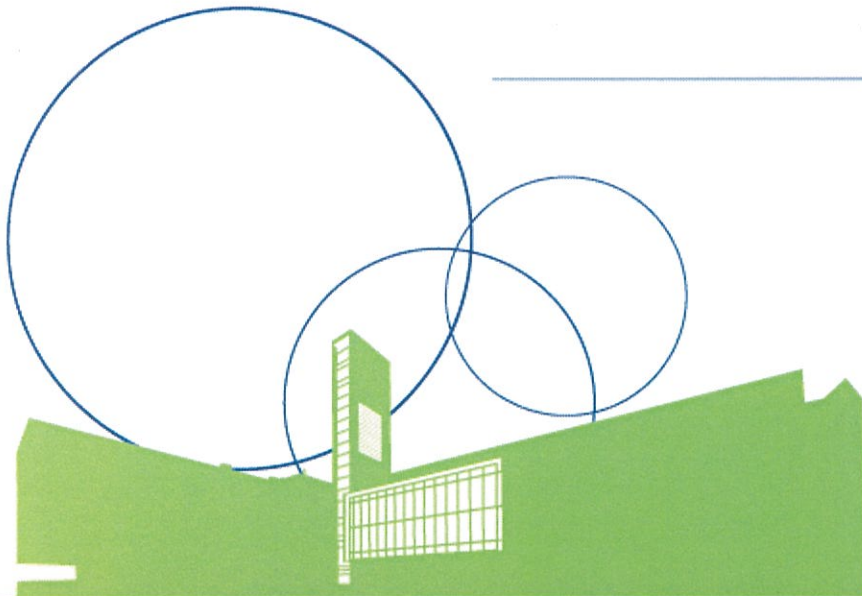
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Communication
CW: Apr 14/15
Item: 1

Natural Heritage Network Study

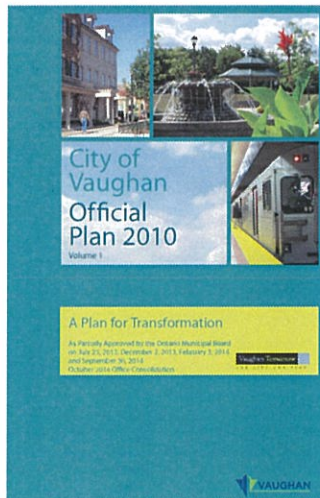
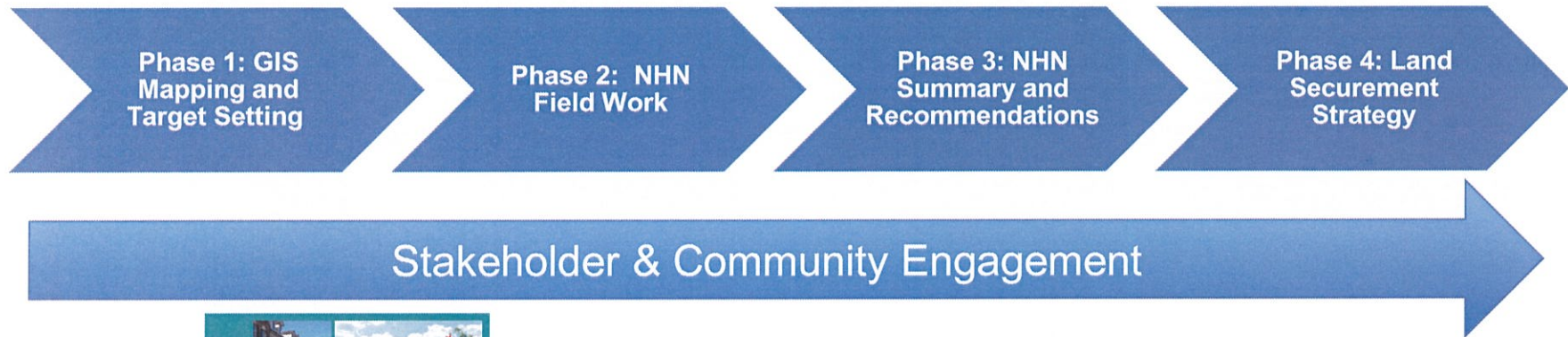
Committee of the Whole

April 14, 2015

Vaughan City Hall, Council Chamber

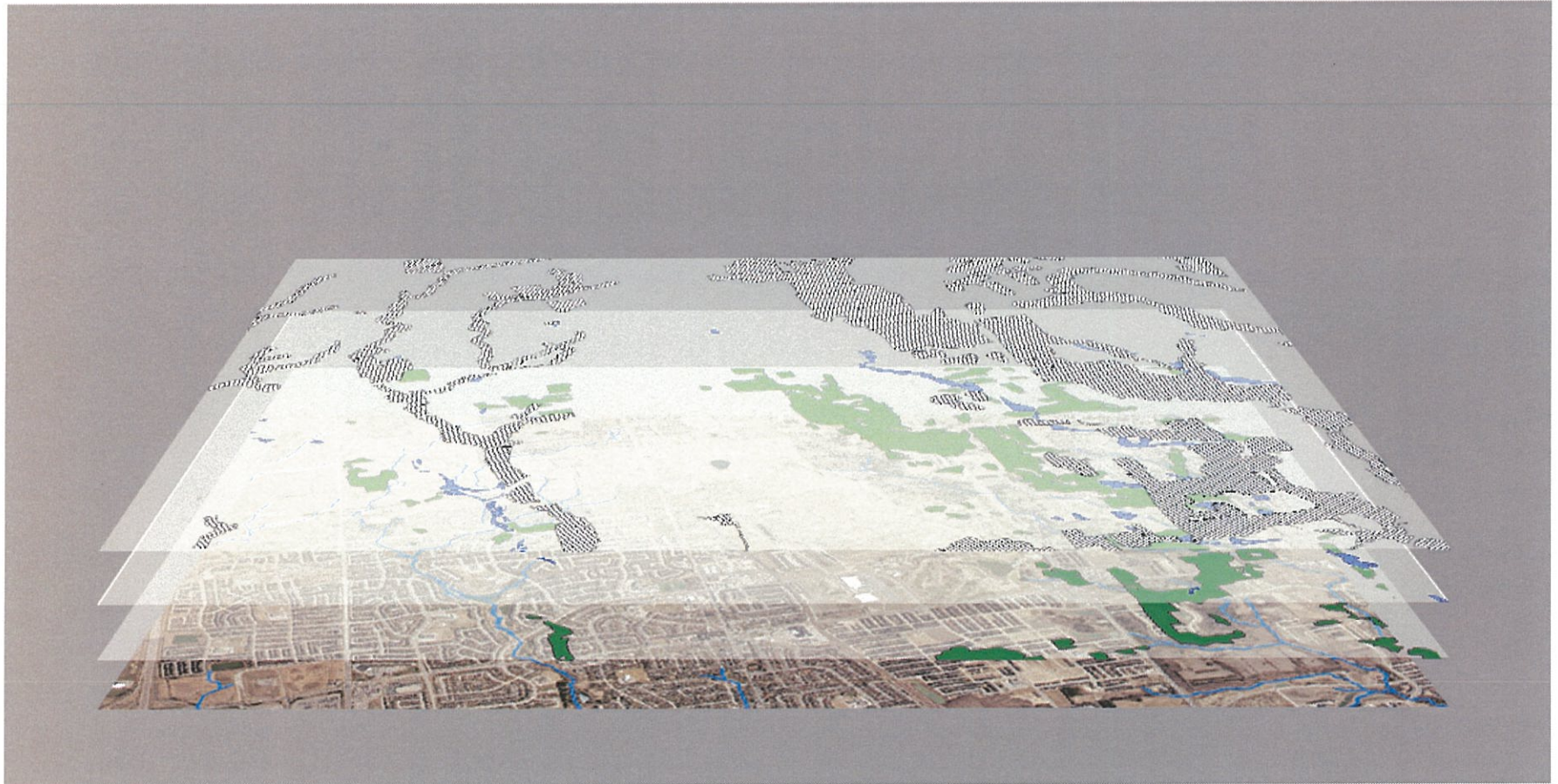


COMPLETED FOUR PHASES OF VAUGHAN'S NATURAL HERITAGE NETWORK STUDY



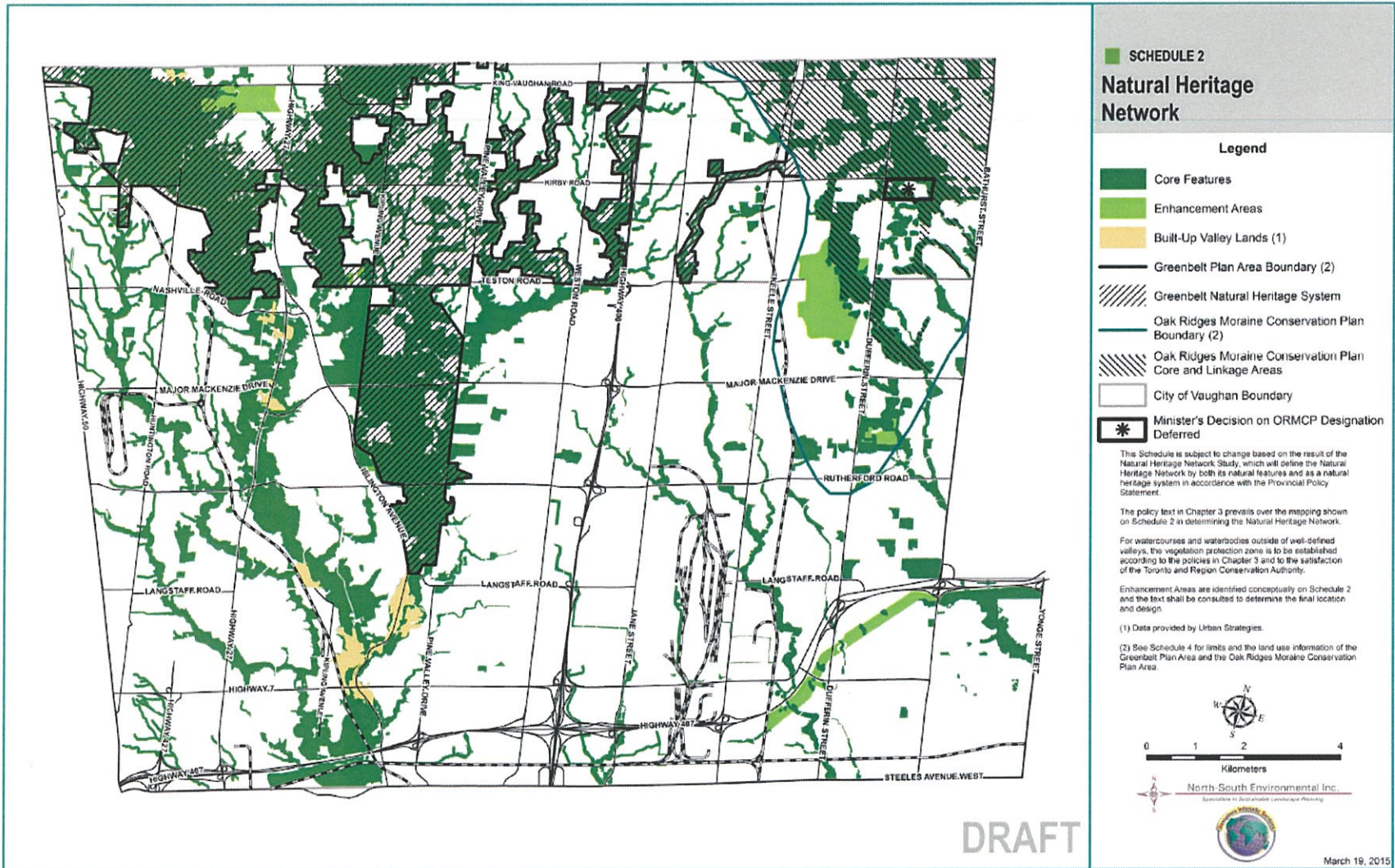
- Outcome of Green Directions Vaughan and Vaughan OP initiatives
- Open Houses/Community Forum (June 28 and October 4, 2012; November 13, 2013)
- Committee of the Whole reports (December 12, 2012; December 3, 2013; and June 17, 2014)
- First Nations consultation
- Stakeholder sessions
- More than 20 landowner meetings

COMPREHENSIVE GIS DATABASE



3

REFINEMENTS TO SCHEDULE 2 AND POLICIES



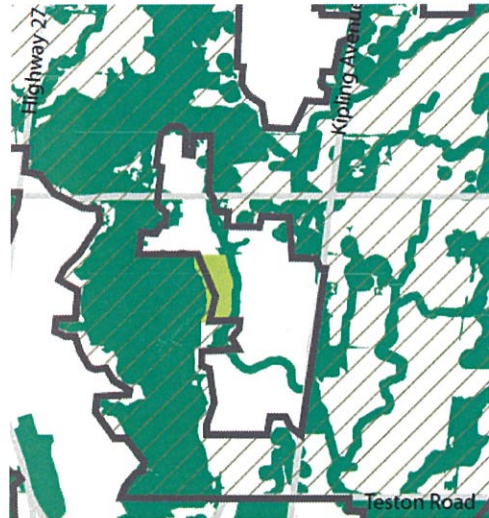
REFINEMENTS TO SCHEDULE 2 AND POLICIES

- Changes to mapping and draft policies have been made to reflect valuable input from stakeholders;
- Mapping updated to reflect development approvals process and property boundaries;
- Mapping reflects outcomes of field studies (Phase 2) and synthesis of data (Phase 3), integrated with the policy review.

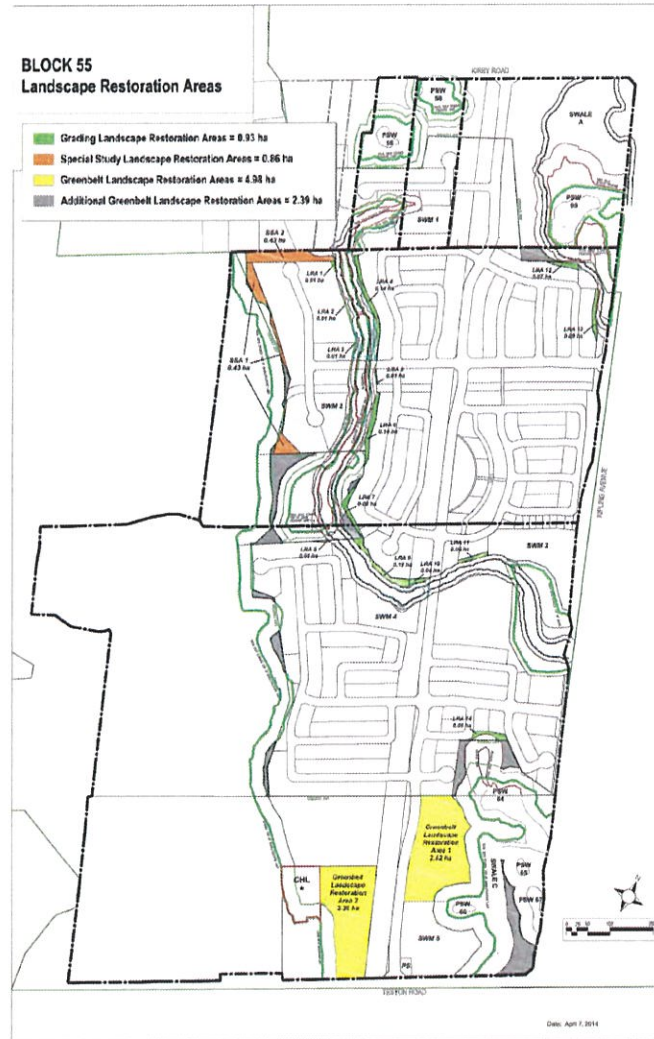


REFINEMENTS TO SCHEDULE 2

Existing
Schedule 2
– Block 55
Area



Revised
Schedule 2
– Block 55
Area



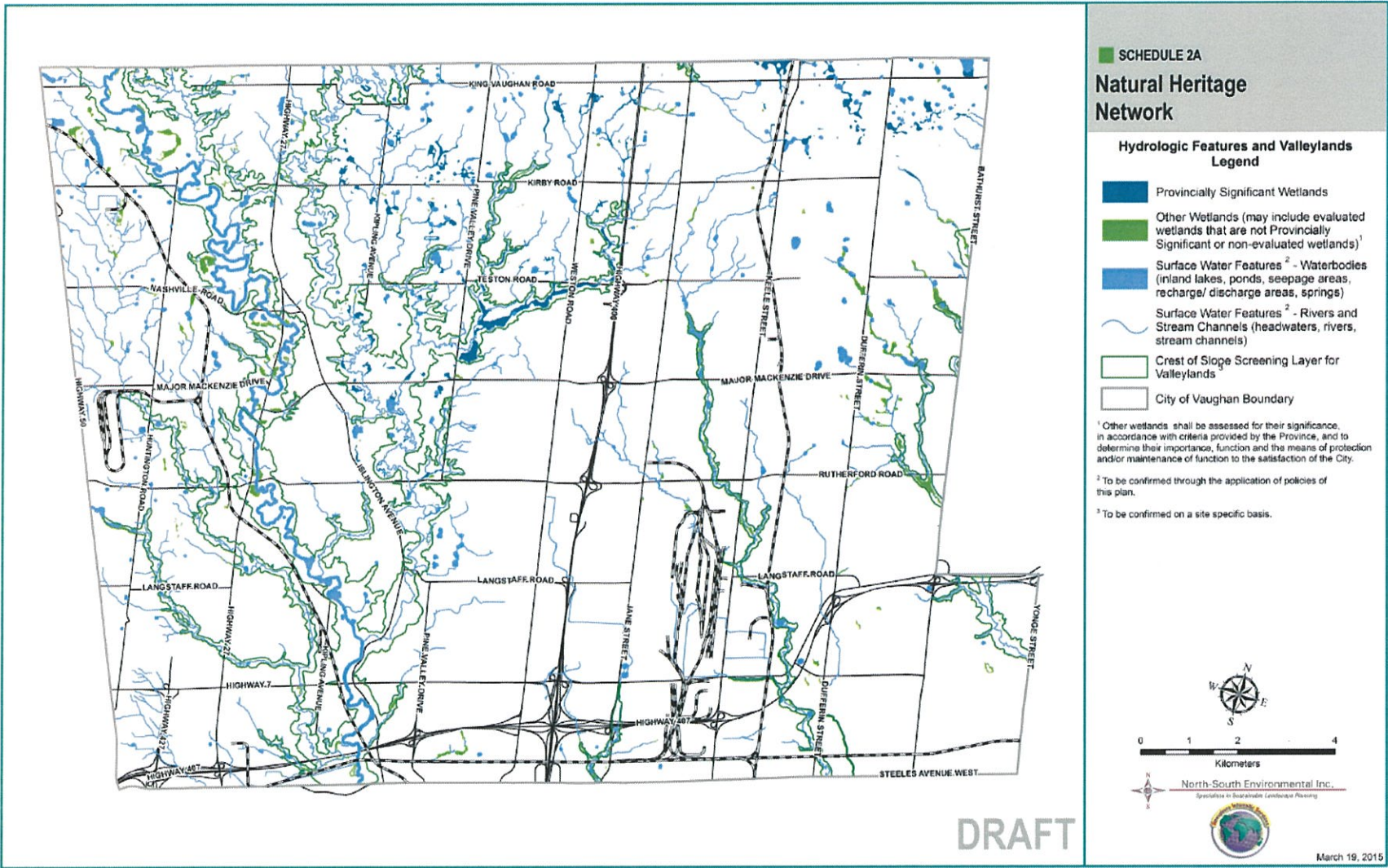
Block 55 East - Block Plan Area
Natural Heritage Compensation Plan -
Landscape Restoration Areas

APPLICANT: Castlepoint
Huntington Limited et al. LOCATION: Part of Lots 26 - 30,
Concession 8

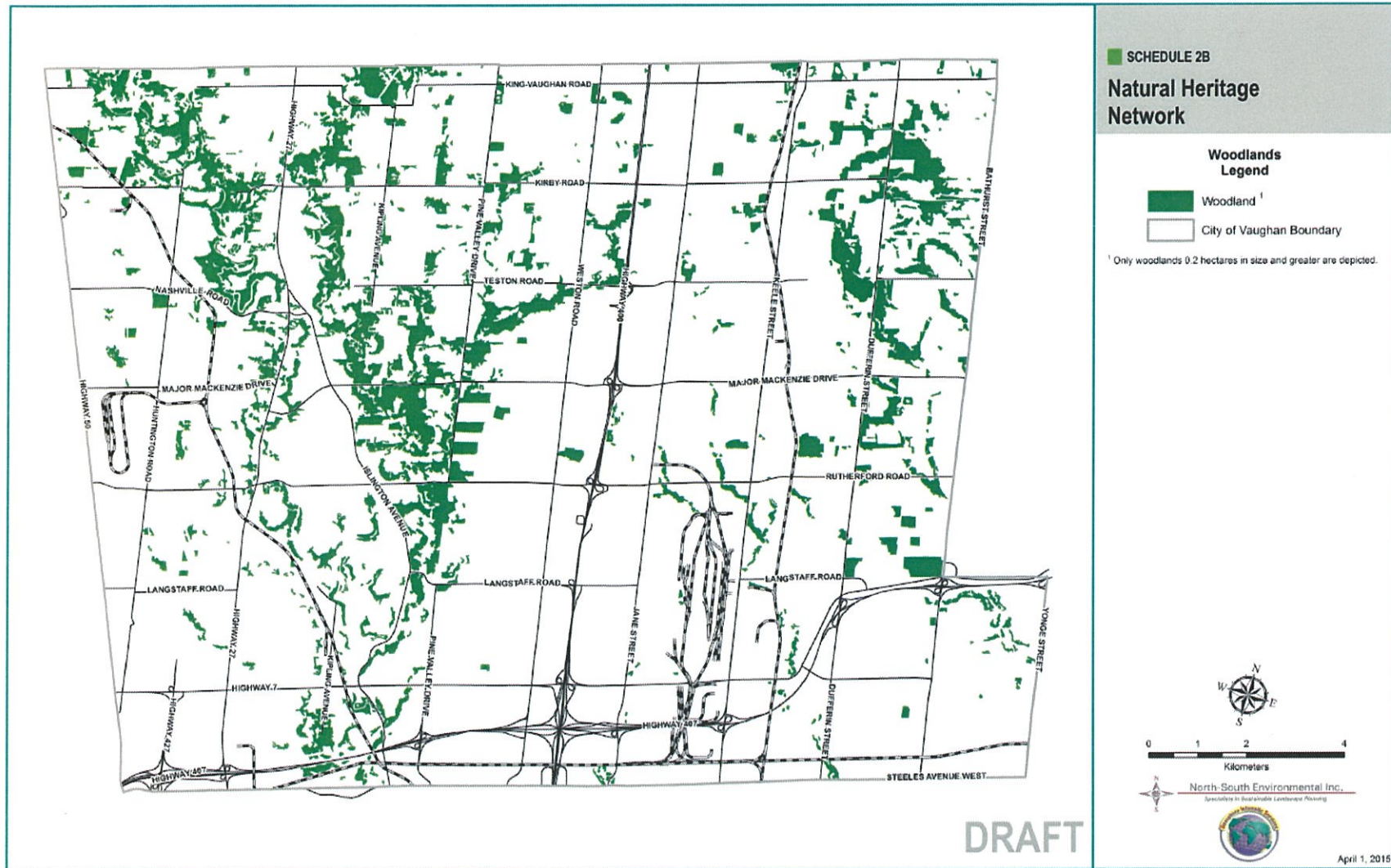
VAUGHAN
Policy Planning Department

Attachment
FILE:
BL55.2013
DATE:
May 13, 2014
5a

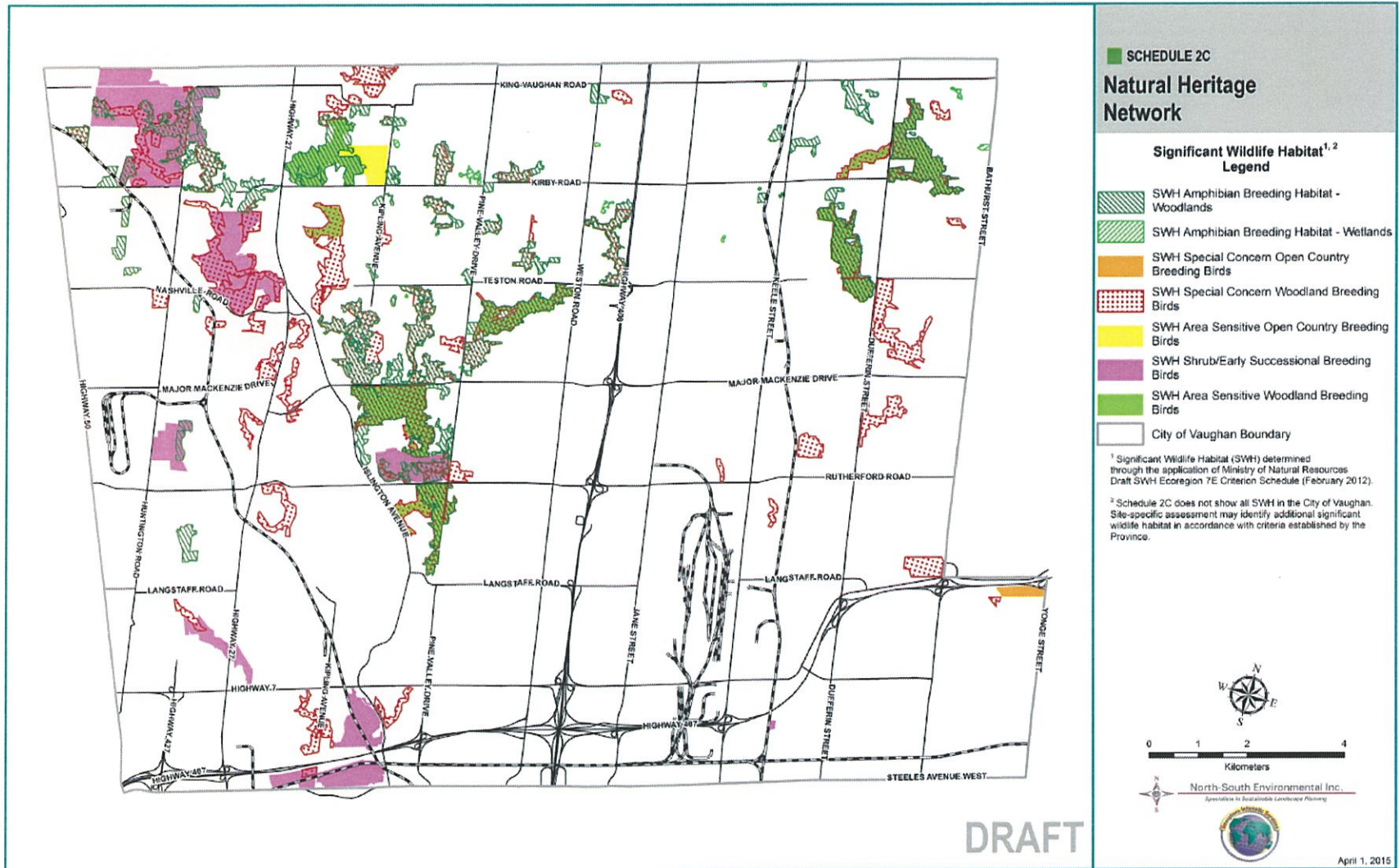
SCHEDULE 2A – Hydrologic Features and Valleylands



SCHEDULE 2B – Woodlands



SCHEDULE 2C – Significant Wildlife Habitat



AMENDMENT TO VOP 2010

Recommendations affect 14 policies and seven definitions, including:

- Clarification of application of vegetation protection zone to valley and stream corridors in policy 3.2.3.4;
- Introduced “sensitive surface water features” into policy 3.2.3.4;
- Field verification of watercourses and introduction of the term, headwater drainage feature;
- Clarification of modification of Core Features and compensation in relation to wetlands and woodlands not deemed significant.



CONSERVATION STRATEGY

Approaches, tools, potential partners and funding opportunities detailed in Phase 4.

Work together with GIS data to identify site-specific strategies.



BENEFITS OF THE NHN

- Baseline information to define restoration activities, to inform infrastructure projects, and track progress
- Updated, accurate database that reflects input from Vaughan stakeholders
- More certainty about what needs to be protected and the process to follow to define developable areas
- Creates a frame of reference for discussions with all stakeholders, whether the development community, for stewardship activities, or ongoing monitoring.

➤ Data Sharing



NEXT STEPS

- Finalize and approve amendment to VOP 2010
- Revise Environmental Management Guideline (EMG)
- Prepare draft Compensation Protocol in consultation with stakeholders (BILD, Sustainable Vaughan, etc.)
- Draft Management, Restoration and Stewardship Plan, including priority actions, cost estimates, and potential partnership and funding opportunities
- Ongoing improvement of GIS data as tracking and monitoring tool



COMMITTEE OF THE WHOLE APRIL 14, 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 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.

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)*	<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".

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 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.

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.

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 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 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 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	Landowner contact to determine stewardship opportunities for lands in the

Significant Wildlife Habitat	NHN Objectives	Restoration/Management Opportunities
	of woodlands	Greenbelt Plan and ORMCP areas. Identify restoration opportunities with Nature Conservancy Canada regarding the MacMillan Nature Reserve
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

- 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 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.

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 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 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.
- 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 ORMCP 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 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

Environment Canada. 2013. How Much Habitat is Enough? Third Edition. Environmental Canada, Toronto, Ontario.

ICLEI Canada and Toronto and Region Conservation Authority. 2014. biodiverCITIES: A Primer on Nature in Cities. Toronto, Ontario. 48 pp.

Ontario Nature. 2014. Insights into Biodiversity Offsetting in Ontario. Toronto, Ontario, Canada. 42 pp. (ontarionature.org/offsetting)

Town of Aurora. 2013. The Economic Value of Natural Capital Assets.
(<http://www.aurora.ca/Live/Pages/Environment%20and%20Sustainability/Natural-Capital-Assets.aspx>)
(<http://www.aurora.ca/Live/Documents/AURORA%20-%20ECRA%20CAP%20ASSETS.pdf>)

Town of Oakville. 2006. Oakville's Urban Forest: Our Solution to Our Pollution.
(<http://www.oakville.ca/assets/general%20-%20residents/ufore.pdf>)

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.

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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/LM



Phase 2-4 Natural Heritage Network Study City of Vaughan

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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.

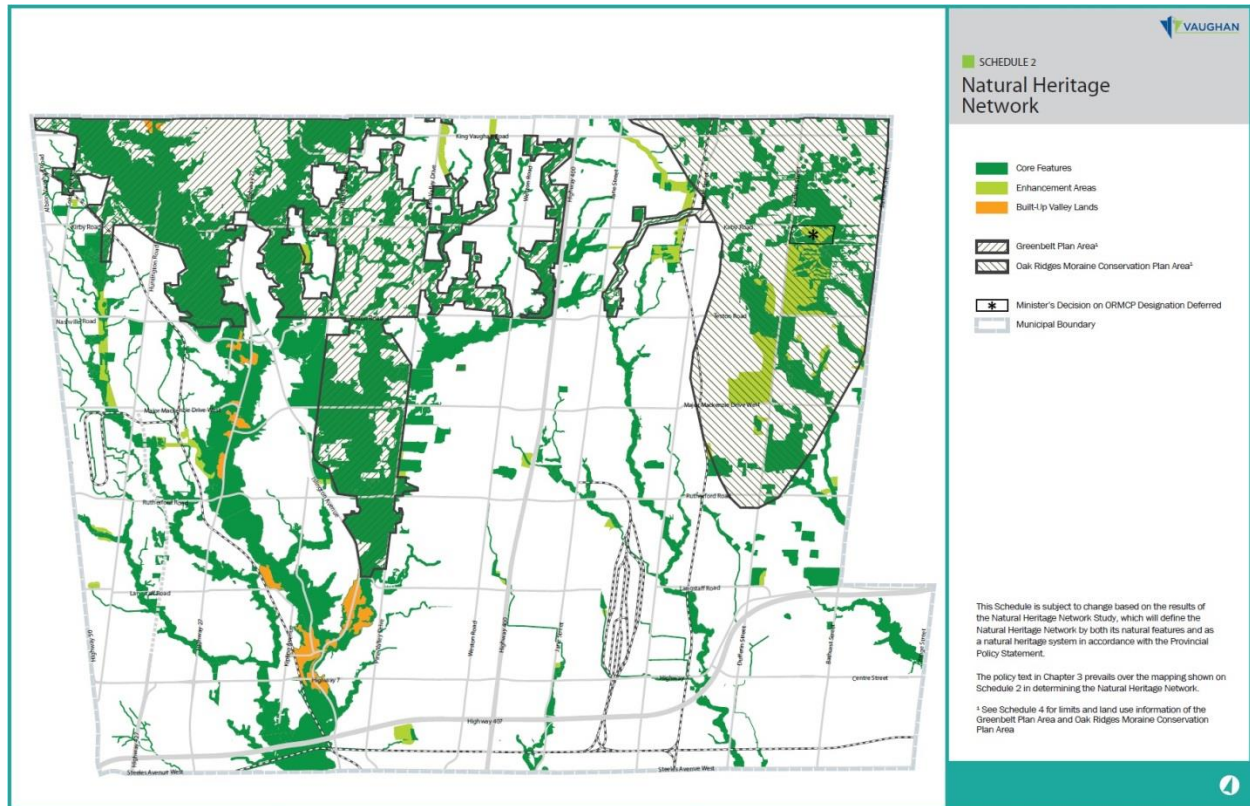


Figure 1. City of Vaughan Natural Heritage Network (VOP 2010)

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

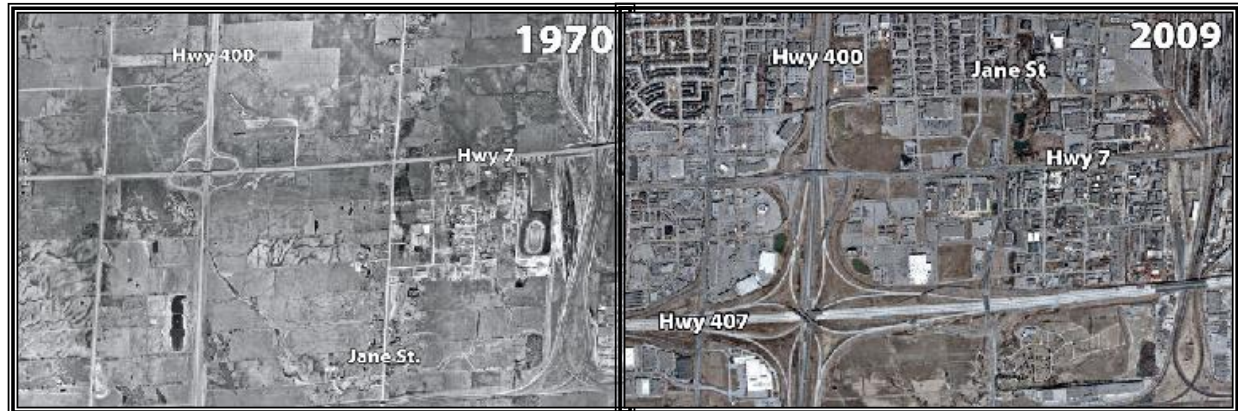
To meet these objectives there were four main study components in the phase 2-4 study:

- 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).

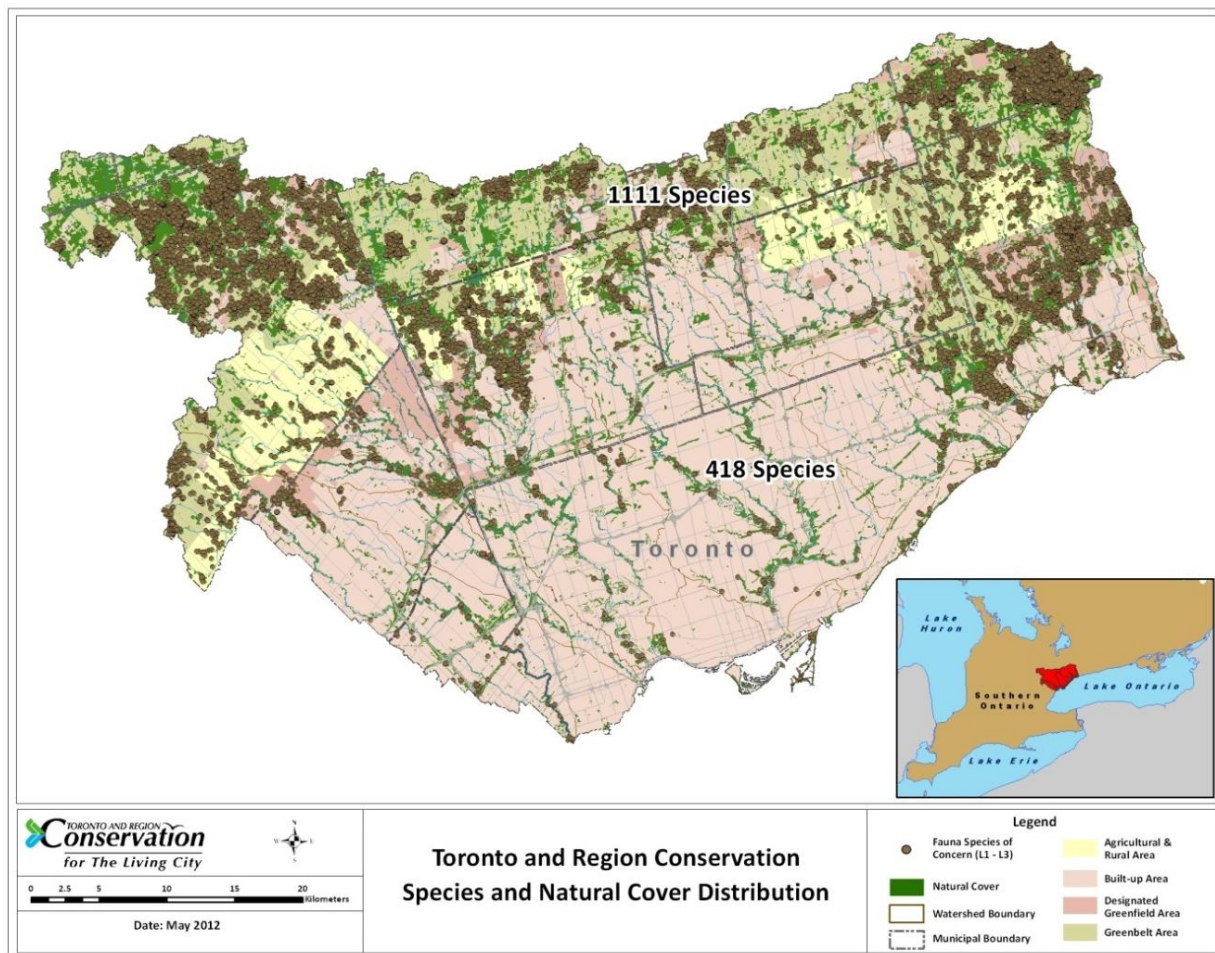


Figure 2: TRCA records of species diversity in the Greater Toronto Area



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 crows 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.



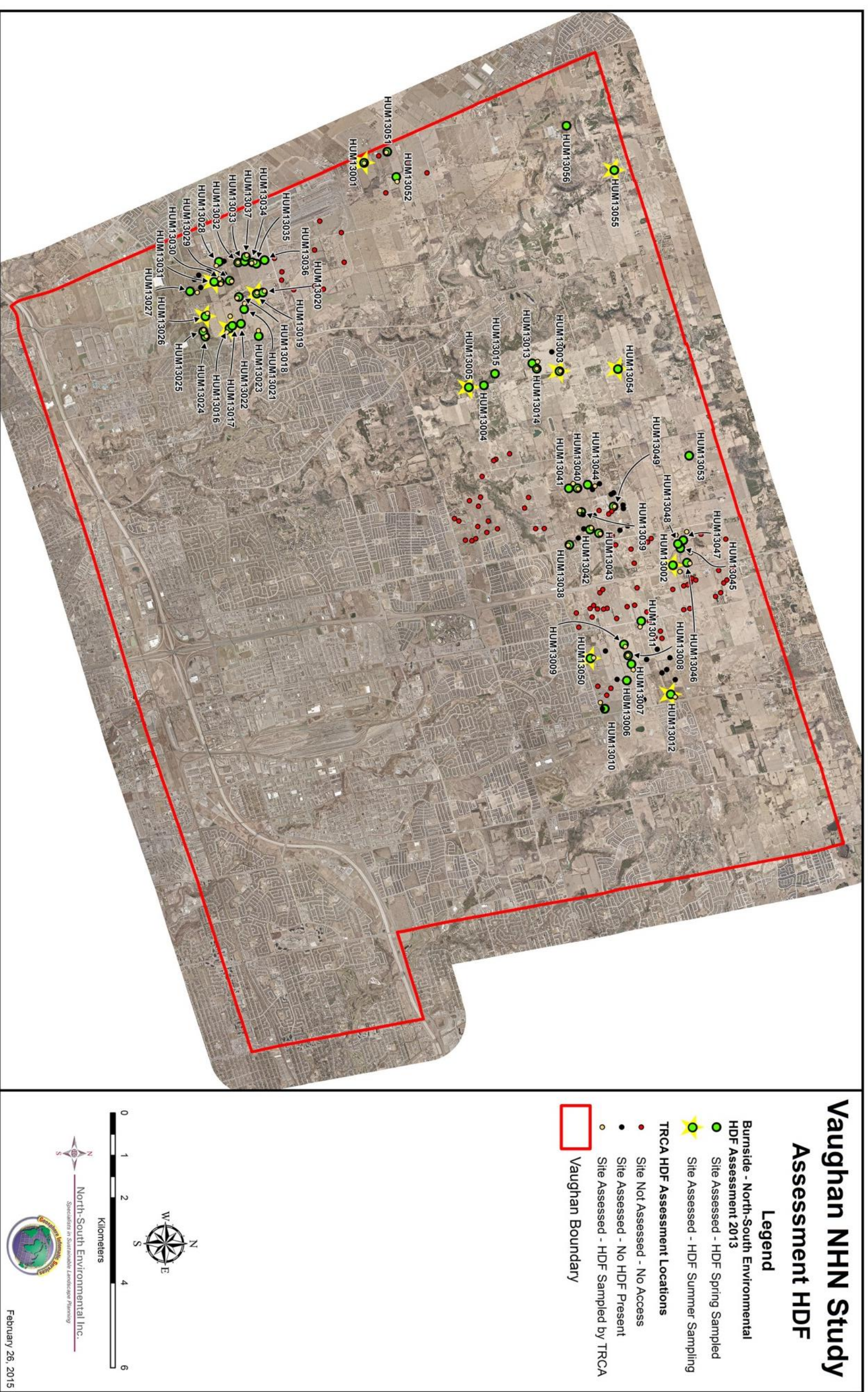


Figure 3: Location of 2013 Headwater Drainage Feature field site assessments

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.



Vaughan NHN Study Vaughan BBS Locations

- Legend**
- BBS Locations
 - Vaughan Boundary

0 1 2 4 6
Kilometers

North-South Environmental Inc.
Specialists in Sustainable Landscape Planning

June 17, 2013



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 Eco-region 7E where two or more of the listed frog species (Table 3) with at least 20 individuals was recorded. In Eco-region 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.



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.

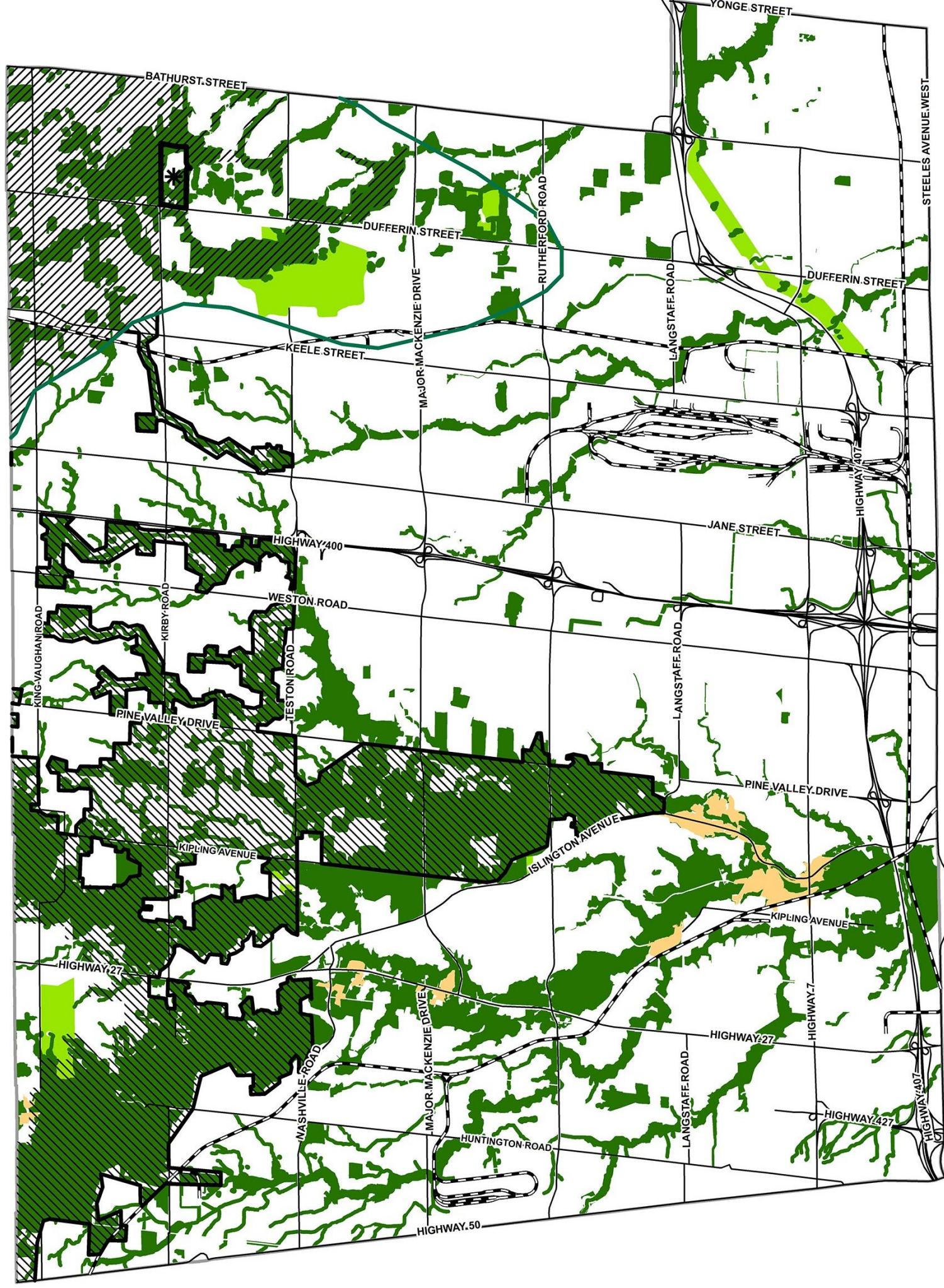
- (1) Data provided by Urban Strategies.
- (2) See Schedule 4 for limits and the land use information of the Greenbelt Plan Area and the Oak Ridges Moraine Conservation Plan Area.



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Figure 5: Schedule 2 Natural Heritage Network



SCHEDULE 2A

Natural Heritage Network

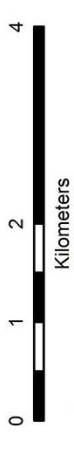
Hydrologic Features and Valleylands Legend

-  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 Valleylands
-  City of Vaughan Boundary

¹ Other wetlands shall be assessed for their significance, in accordance with criteria provided by the Province, and to determine their importance, function and the 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.

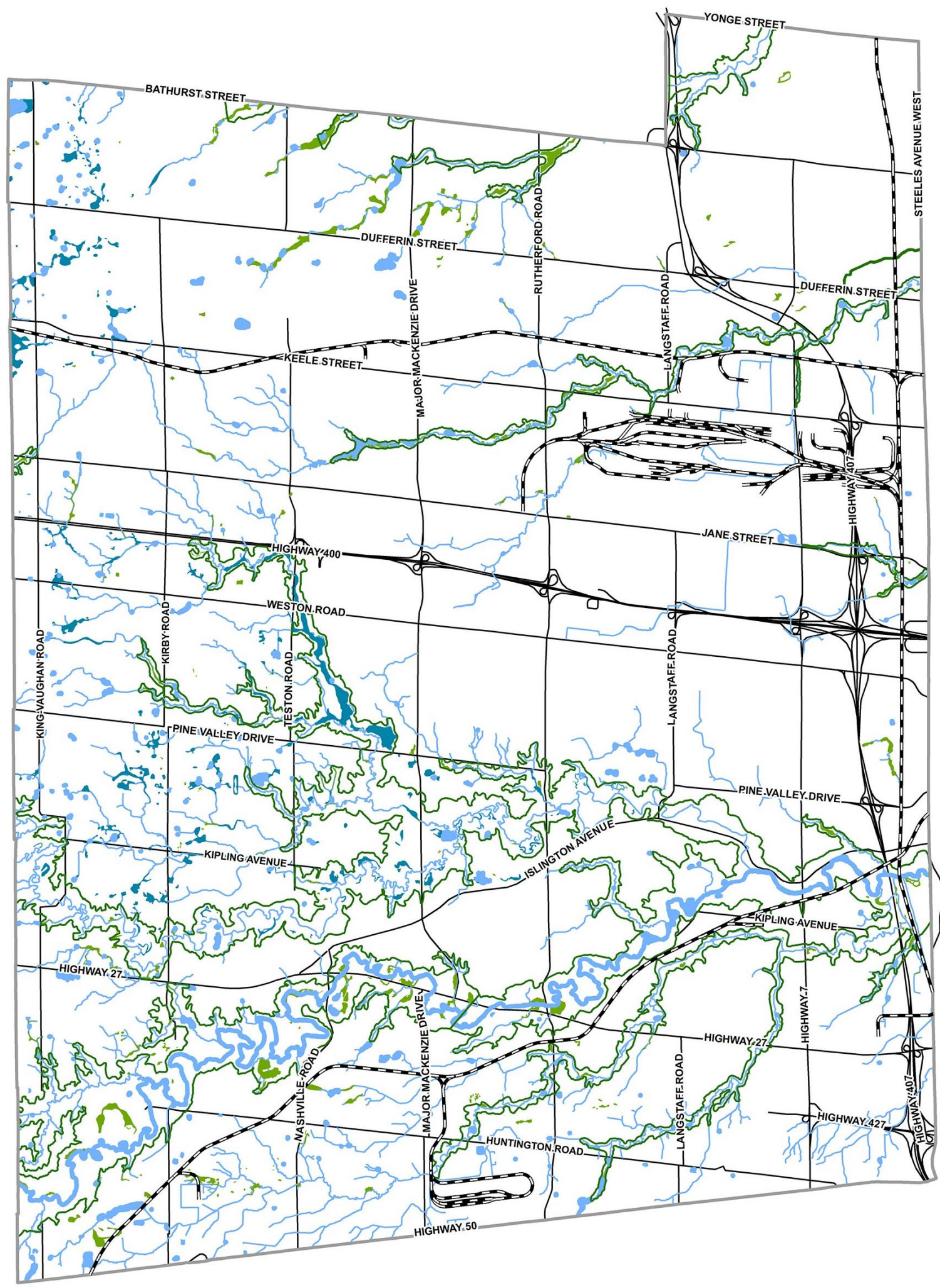
³ To be confirmed on a site specific basis.



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Figure 6: Schedule 2a Hydrologic Features and Valleylands



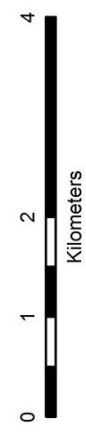
SCHEDULE 2B

**Natural Heritage
Network**

**Woodlands
Legend**

- Woodland ¹
- City of Vaughan Boundary

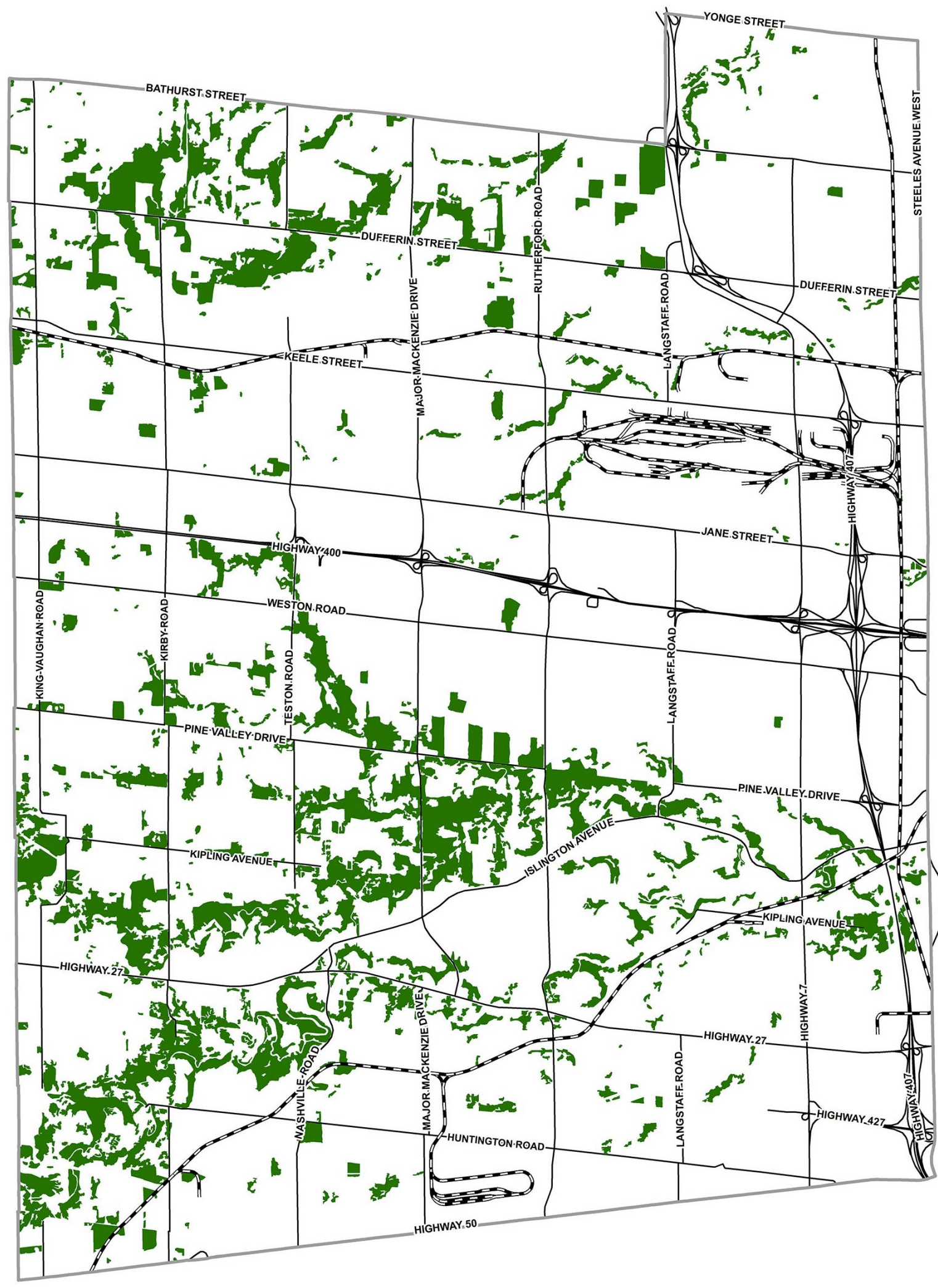
¹ Only woodlands 0.2 hectares in size and greater are depicted.



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
Figure 7: Schedule 2b Woodlands



SCHEDULE 2C

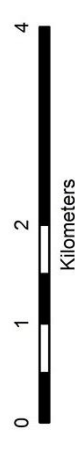
**Natural Heritage
Network**

**Significant Wildlife Habitat^{1, 2}
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

¹ Significant Wildlife Habitat (SWH) determined through the application of Ministry of Natural Resources Draft SWH Ecoregion 7E Criterion Schedule (February 2012).

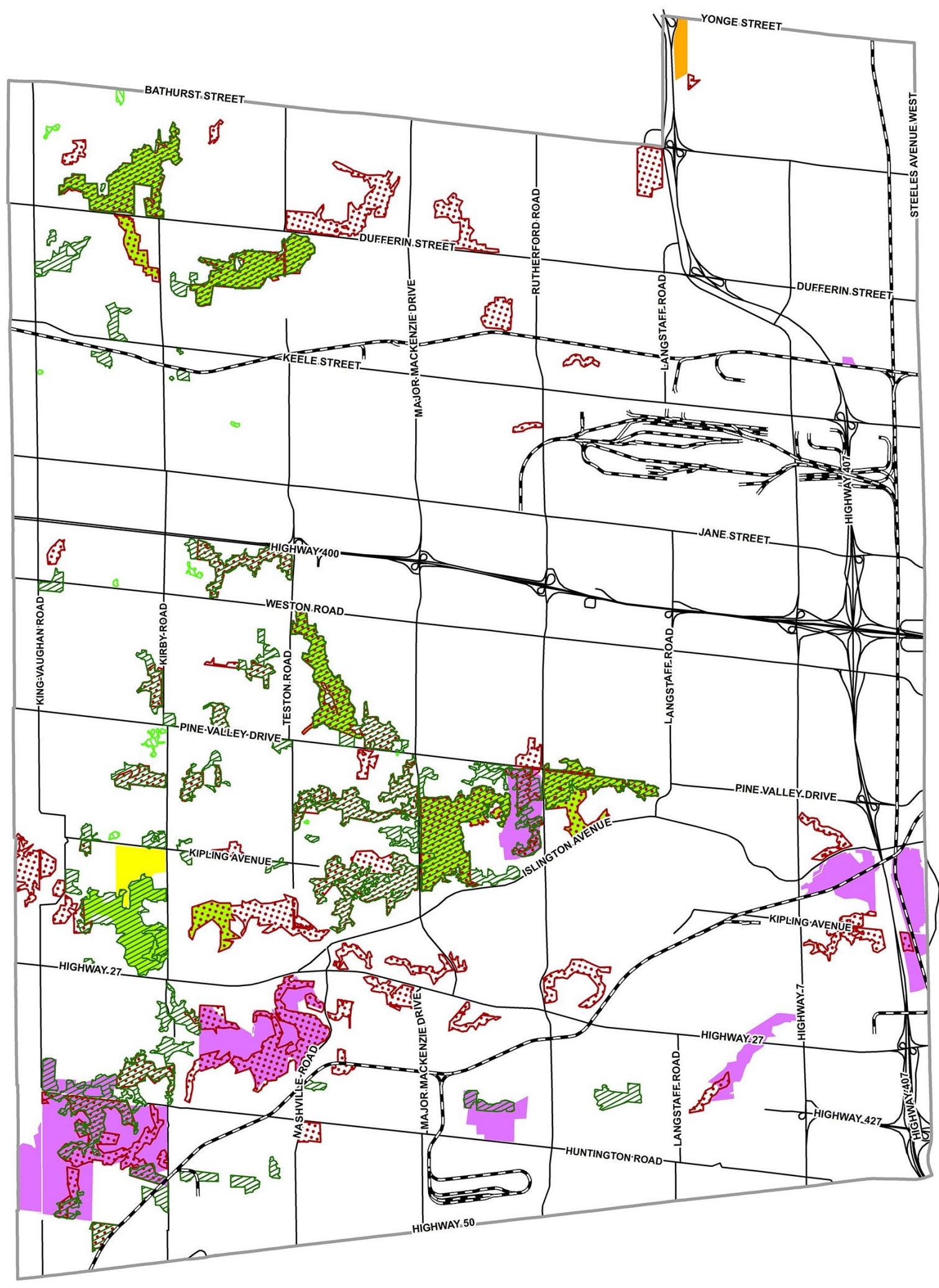
² Schedule 2C does not show all SWH in the City of Vaughan. Site-specific assessment may identify additional significant wildlife habitat in accordance with criteria established by the Province.



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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%



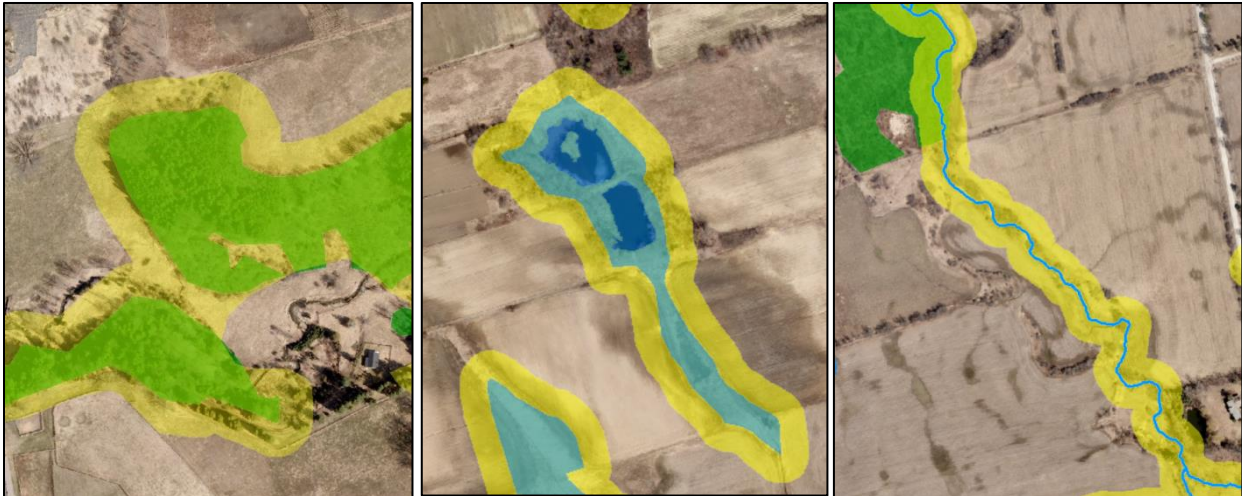


Figure 9: Potential restoration areas shown in yellow are within the Vegetation Protection Zone of woodland (green), wetland (blue) and riparian areas (blue watercourse line).



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).

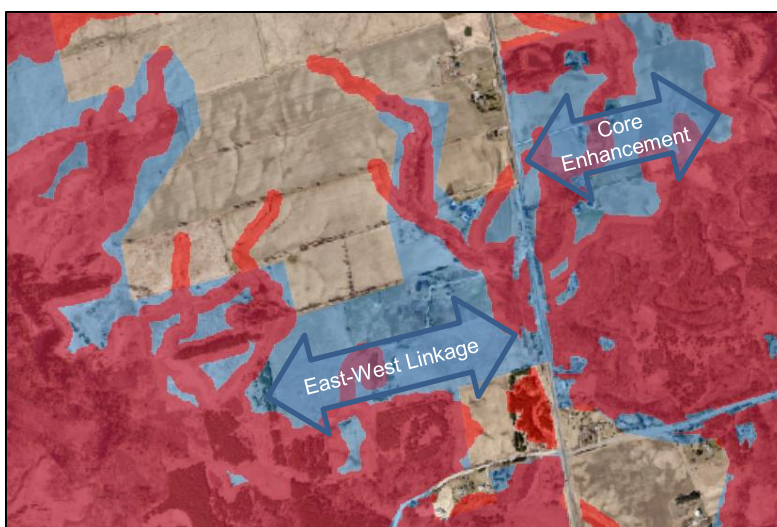


Figure 12: Potential restoration areas shown in blue within the Greenbelt Natural Heritage System may contribute to regional ecological linkage and the establishment of large habitat patches contributing to NHN Core Areas shown in red. While Enhancement Areas have not been specifically delineated in 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.



13.0 REFERENCES

- AECOM. 2010. Natural Heritage in the City.
- AGRA Earth and Environmental. 2001. Kleinburg – Nashville Community Plan: Natural Environment – Background Study Report.
- AMEC Earth and Environmental. 2002. Focus Rural Area Woodland Ecosystem Assessment.
- City of Vaughan. 2004. Regional Road 27 Valley Corridor Study - Valley Corridor Management Plan.
- City of Vaughan. 2001. Tableland Woodlot Protection Strategy. Prepared by J.H. Stevens, Planning and Development Consultants.
- CVC/TRCA. 2009. Evaluation, Classification and Management of Headwater Drainage Features: Interim Guidelines. Updated March 2009. Credit Valley Conservation and Toronto and Region Conservation.
- Environment Canada. 2013. How Much Habitat is Enough? Second Edition. Canadian Wildlife Service, Environment Canada.
- Gartner Lee. 1993. City of Vaughan Subwatershed Study – Existing Environmental Conditions.
- Heagy, A., D. Badzinski, D. Bradley, M. Falconer, J. McCracken, R.A. Reid and K. Richardson. 2014. Recovery Strategy for the Barn Swallow (*Hirundo rustica*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 64 pp.
- OMNR. 2012a. Provincially Significant East Humber River Wetland Complex. Ontario Ministry of Natural Resources.
- OMNR. 2012b. *Draft* Ecoregion schedules for designation of Significant Wildlife Habitat. Ontario Ministry of Natural Resources.
- OMNR, 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.
- OMNR, 2000. Significant Wildlife Habitat. Technical Guide. Ontario Ministry of Natural Resources.
- Ontario Ministry of Natural Resources. 2000. Inventory of the Life Science Maple Uplands & Kettle Wetlands and Earth Science Oak Ridges Moraine Maple Spur Areas of Natural and Scientific Interest, City Of Vaughan, Ontario.



Ontario Partners in Flight. 2008. Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Region 13. Ontario Ministry of Natural Resources, Bird Studies Canada, Environment Canada. Draft Version 2.0

TRCA. 2007. Toronto and Region Terrestrial Natural Heritage System Strategy. Toronto and Region Conservation.

TRCA. 2013. Evaluation, Classification and Management of Headwater Drainage Features Guidelines. Toronto and Region Conservation and Credit Valley Conservation.



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)	
	Wildlife Species (Draft Ecoregion Schedule 6E)	ELC Ecosite Codes	Habitat Criteria	Defining Criteria	Defining 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). • 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 • Any mixed species aggregations of 100 ¹ 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).	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: • 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 birds ¹ .	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) ELC Ecosite Codes	Habitat Criteria	CONFIRMED SWH (Ecoregion Schedule 6E) Defining Criteria	SWH (SWHTG) Defining Criteria
<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 overlying 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 	<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. • 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)		SWH (SWHTG)
		ELC Ecosite Codes	Habitat Criteria	
		Community Series of FOD and FOM and Ecosites: FOC1 FOC3	Defining Criteria	Defining Criteria
Bullfrog Concentration Areas	Please see table 3 in this appendix: specialized habitat for wildlife			
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	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. 	<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 species Suggested number of nests that should be considered significant: Cliff Swallow, 8; Bank Swallow, 100; Northern Rough-winged Swallow, 10
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.			Studies confirming: <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more cliff swallow pairs or 50 bank swallow and rough-winged swallow pairs during the breeding season. 	
Migratory Butterfly Stopover Areas	Painted Lady White Admiral Special Concern Monarch	Combination of ELC Community Series; need to have present one Community Series from each	<p>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.</p> <ul style="list-style-type: none"> The habitat is typically a 	<ul style="list-style-type: none"> Large sites are usually the most significant because they contain the greatest diversity of plant species Significant sites are generally the only known sites in the planning area; significant sites may be one of only a few
Rationale: Butterfly			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, 	



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) ELC Ecosite Codes	Habitat Criteria	CONFIRMED SWH (Ecoregion Schedule 6E) Defining Criteria	SWH (SWHTG) 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 habitat Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes 	<p>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.</p> <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.† 	<p>in the area.</p> <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	
<p>Sand Barren</p> <p>Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p>	<p>ELC Ecosites: SBO1 SBS1 SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.</p>	<p>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%.</p>	<p>Any sand barren area, no minimum size.</p>	<p>Confirm any ELC Vegetation Type for Sand Barrens</p> <ul style="list-style-type: none"> 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
<p>Savannah</p> <p>Rationale: Savannahs are extremely rare habitats in Ontario.</p>	<p>TPS1 TPS2 TPW1 TPW2 CUS2</p>	<p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p>	<p>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.</p>	<p>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.</p> <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
<p>Tallgrass Prairie</p> <p>Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.</p>	<p>TPO1 TPO2</p>	<p>A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.</p>	<p>No minimum size to site¹. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p>	<p>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</p> <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)	Detailed Information	CONFIRMED SWH (Ecoregion Schedule 6E)
<p>Communities</p> <p>Rationale: Plant communities that often contain rare species which depend on the habitat for survival.</p>	<p>ELC Ecosite Code</p> <p>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.</p>	<p>Habitat Description</p> <p>may include beaches, fens, forest, marsh, barrens, dunes and swamps.</p> <p>Detailed Information</p> <p>have the potential to be a rare ELC Vegetation Type as outlined in appendix M</p> <p>The OMNR/NHIC will have up to date listing for rare vegetation communities.</p>	<p>SWH (SWHTG)</p> <p>communities (S1 to S3 as listed by NHIC) should be considered significant</p> <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 (Ecoregion 6E)	Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E)
			ELC Ecosite Codes
			Habitat Criteria
<p>Waterfowl Nesting Area</p> <p>Rationale; Important to local waterfowl populations, with greatest number of species and highest number of individuals are significant.</p>	<p>American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard</p>		<p>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</p> <p>Note: includes adjacency to Provincially Significant Wetlands</p>
			<p>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.</p> <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites.
			<p>Defining Criteria</p> <p>Studies confirmed:</p> <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"
			<p>Defining Criteria</p> <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.
<p>Turtle Nesting Areas</p> <p>Rationale; These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p>	<p>Midland Painted Turtle Special Species Northern Map Turtle Snapping Turtle</p>		<p>Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAM2 MAM3 MAM4 MAM5 MAM6 MAM1 MAM2 MAM3 SAS1</p>
			<p>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.</p> <ul style="list-style-type: none"> 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 embankments and
			<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles! 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
			<p>Defining Criteria</p> <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.



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Specialized Wildlife Habitat	Wildlife (Ecoregion Schedule 6E)	Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E)
	ELC Ecosite Codes	Habitat Criteria	CONFIRMED SWH (Ecoregion Schedule 6E)
			Defining Criteria
			SWH (SWHTG) Defining Criteria
			<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		<p>shoulders are not SWH.</p> <ul style="list-style-type: none"> Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.
	SAM1 SAF1 BOO1 FEO1		<p>nesting area are to be considered within the SWH.</p>
			<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.
	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	<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 	<p>Studies confirm;</p> <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).
	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		
Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding 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		<p>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</p>
	ELC Community Classes SW, MA, FE, BO, OA and SA.		<p>Studies confirm:</p> <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
			<p>The SWHTG included only Bullfrog concentration areas, which are discussed under Habitat for Seasonal Concentrations of Animals</p> <ul style="list-style-type: none"> 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



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Specialized Wildlife Habitat	Wildlife (Ecoregion Schedule 6E)	Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E) ELC Ecosite Codes	Habitat Criteria	
				CONFIRMED SWH (Ecoregion Schedule 6E) Defining Criteria	
				SWH (SWHTG) 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



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Specialized Wildlife Habitat	Wildlife (Ecoregion 6E)	Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E)	CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
			ELC Ecosite Codes	Habitat Criteria	Defining Criteria
<p>Successional Bird Breeding Habitat (noted under Species of Concern in Ecoregion Schedules)</p> <p>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</p>	<p>Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher</p> <p>Special Concern: Yellow-breasted Chat Golden-winged Warbler</p>		<p>CUT2 CUS1 CUS2 CUW1 CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species</p>	<p>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).</p> <p>Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species.</p> <p>Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands.</p> <ul style="list-style-type: none"> 	<p>not specifically ruled out as criteria for SWH</p> <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.
<p>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</p> <p>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</p>	<p>Osprey Special Concern Bald Eagle</p>		<p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p>	<p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <p>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.</p> <p>Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).</p>	<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).
				<p>Studies confirm the use of these nests by:</p> <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 	



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		ELC Ecosite Codes	Habitat 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>CONFIRMED SWH (Ecoregion Schedule 6E)</p> <p>Defining Criteria</p> <ul style="list-style-type: none"> large trees within this area is important. 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 habitat To 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.
<p>Woodland Area-Sensitive Bird Breeding Habitat (Classified as Habitat for Species of 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 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>SWH (SWHTG)</p> <p>Defining Criteria</p> <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>Defining Criteria</p> <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.



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Specialized Wildlife Habitat	Wildlife (Ecoregion 6E)	Species Schedule	SWH (SWHTG)
	CANDIDATE SWH (Ecoregion Schedule 6E)	CONFIRMED SWH (Ecoregion Schedule 6E)	SWH (SWHTG)
	ELC Ecosite Codes	Habitat 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.	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	<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
	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	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. 	



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Specialized Wildlife Habitat	Wildlife (Ecoregion 6E) Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E) ELC Ecosite Codes	CONFIRMED SWH (Ecoregion Schedule 6E) Defining Criteria
		Habitat Criteria	SWH (SWHTG) Defining Criteria
			<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



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Specialized Wildlife Habitat	Wildlife (Ecoregion 6E)	Species Schedule	CANDIDATE SWH (Ecoregion Schedule 6E)			
		ELC Ecosite Codes	Habitat Criteria			
			CONFIRMED SWH (Ecoregion Schedule 6E)			
			Defining Criteria			
			SWH (SWHTG)			
			Defining Criteria			
			<p>significiant.</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>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 	<p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas forested habitats. Any Ecosite within the headwater areas of a stream could have seeps/springs.</p>	<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).



Attachment 2
NHN Study – Tracking Changes to Core Features and Enhancement Areas

Location	Rationale	Comments and Recommendations
15 and 21 Mill Street	Approved Consent (Application File #: A121/13 and B006/13)	Valley top of bank determined by TRCA to be aligned with the north side of Mill Street in the vicinity of the properties. Core Features removed from parcel.
1600 Teston Road	Council Direction (Staff Report to Committee of the Whole, January 17, 2012)	Replace Enhancement Areas according to Section 13.21 of VOP 2010. Enhancement Areas placed on portion of 'Settlement Area' designation in the ORMCP.
192 Pine Grove	Parcel has a development designation, is outside of the floodplain, and the scattered trees on the property are not identified as woodland by the Region or TRCA.	Remove parcel from Core Features.
4700 Hwy 7	Approved Site Plan (Application File #: DA.11.069)	No further changes required. The floodplain mapping has been updated since the approval of Vista Park (DA.11.069). However, the NHN reflects the existing approvals, also since By-Law 96-2012 did not include dual zoning for the valley buffer. Hence, the NHN limit to the property boundary is appropriate at this time. Other changes may occur through the development approval of the adjacent Pebble Creek development proposal.
7241 Jane Street (Beechwood Cemetery)	Consent approval (Z.06.054) in which a watercourse re-alignment was a condition of approval. (Application File #: 19T-06V09, OP.06.024, Z.06.054 TRCA Permit Nos. C-07768 (re-issued as C-10779R) and C-07767)	NHN Core Features includes the drainage feature at south of property and the OS1 zone at the eastern edge of the property. TRCA indicates that the development approval has resulted in the watercourse feature aligned north-south within the eastern boundary of the cemetery property. As a result, a 30 metre area of interest has been extended west of the OS1 zone at this location.
7379 Islington Avenue	Woodland area partly in the power corridor right-of-way, identified by the Region and/or TRCA, meets woodland size criteria.	Development application DA.13.022 approved re-development of Place of Worship largely outside of the woodland. Most of the woodland is in the Parkway Belt West lands (zoned PB1) and part of Hydro One owned lands for the power corridor. Woodland included in the Core Features.
7397 Islington Avenue	Approved Site Plan (Application File #: Z.11.027)	Valley limit staked to be aligned with north side of property at Islington Avenue frontage. Property frontage removed from Core Features.

Location	Rationale	Comments and Recommendations
7465 Kipling Avenue	Stormwater ponds are not included as waterbodies.	Stormwater ponds removed from the Core Features.
7541 Hwy 50 (Glenview Memorial Cemetery)	Approved Site Plan (Application File #: DA.06.091)	East-west drainage feature removed from the Core Features, but the north-south drainages remain in the Core Features as agreed with TRCA.
7890 Pine Valley Drive	Approved Site Plan (Application File #: DA.12.014)	Core Features boundary changed to reflect valley limit in the approved Site Plan.
8269 New Huntington Road	Approved Site Plan (Application File #: DA.14.002)	Drainage features not identified to be retained through the development review process for the Sobey's Distribution Centre. Drainage features removed from Core Features.
88/99 Nashville Road	Severance application included site walk information from TRCA (Application File #: B52-14)	Core Features aligned to the back limit of the properties. Although there is a severance application from the adjoining property to the south that may result in another change to the valley limit, there are no further changes at this time until a formal application is reviewed through the development review process.
9078 Jane Street	OPA 653 approved by Council. (Application File #: OP.05.020)	Core Features reduced by approximating northward extension of Caldari Road as OMB-approved.
9909 Pine Valley Drive	Approved Site Plan (Application File #: DA.12.098)	Core Features aligned to approved Site Plan limit.
Block 12 TRCA lands	Approved Block Plan	Core Features boundaries for valley feature at westerly part of the block aligned to TRCA ownership reflecting the approved Block Plan development limits.
Block 40 South	Approved Block Plan	Riparian area of interest at west side of the Block removed from the Core Features consistent with the approved Block Plan for Block 40 South.
Block 55 Habitat Compensation	Approved Block Plan (May 27, 2014)	Landscape Restoration Areas, as shown on Attachment 5a to the staff report to the Committee of the Whole of May 13, 2014, incorporated into the Core Features.
Block 67	OS1 zone not aligned with watercourse.	OS1 zone removed from Core Features where it is not aligned with the existing drainage feature.
Concord Floral/Rose City	Concord Centre Secondary Plan adopted by Council and pending approval by Region.	Schedule F of the Secondary Plan identifies the woodland connected to the valley 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 Centre Secondary Plan identify the woodland feature as an area for evaluation, it is recommended to remove the woodland feature from the Core Features mapping on Schedule 2, but retain the woodland in Schedule 2B, consistent with the approach in the Secondary Plan.

Location	Rationale	Comments and Recommendations
Copper Creek Golf Course	Permit to take water from Humber River to store in irrigation ponds.	Irrigation ponds removed from Core Features and removed from Schedule 2A.
Enhancement Areas - Robinson Creek and Purpleville Creek watershed	Findings of the NHN Study	Valley corridor Enhancement Areas are removed and replaced with a new policy in Chapter 3 identifying Enhancement Areas that are not depicted on Schedule 2, including valley corridors/linkages, upland habitat of wetlands, and woodland enhancements.
Hwy 27 North of Nashville Road	Approved Plan of Subdivision (Application File #: 19T-08V06)	Core Features aligned to approved Plan of Subdivision, including incursion into Greenbelt Plan boundary (April 13, 2013 staff report to Committee of the Whole).
Parcels in Greenbelt Plan. North of Kirby and east of Kipling	19T-03V07	Wetlands and woodlands correctly mapped as Core Features and are recognized as Key Natural Heritage Features or Key Hydrologic Features under the Greenbelt Plan policies. No changes required at this time.
Milani Boulevard (various parcels)	Approved VOP 2010 Designation	Core Features removed from parcels designated General Employment.
Mplan 65M3165 - Woodlot in private ownership	Approved Draft Plan	Lands zoned OS1, but privately owned and split among several parcels. No changes required. Zoning by-law exception recognizes fragmented ownership, but supports woodland protection.
School site in Block 12	Approved Block Plan	Woodland removed from Core Features, but retained on Schedule 2B.
Steeles and Gihon Park Drive	Approved VOP 2010 Designation (Application File #: OP.14.003)	Core Features removed from parcel subject to development application and based on VOP 2010 designation. TRCA confirmed that the drainage feature south of the railway is not providing ecological functions.
Thornhill Green Park (TN28)	Zoned OS2. Bathurst and Centre area.	Woodland removed from Core Features, but retained in Schedule 2B.
TRCA lands at Islington and Rutherford	VOP 2010 modification #249B	Enhancement Areas depicted on the property and Natural Areas following the drainage features have been corrected according to the previous modification approved by Council.
Wetland in southwest Block 35E	Fill permit approved by TRCA	Wetland depression at northwest of property removed from Core Features and removed from Schedule 2A.
Waterbodies	Findings of the NHN Study	Policies regarding sensitive surface water features (including waterbodies) are proposed amendments to VOP 2010, but the waterbody data is no longer included on Schedule 2 as Core Features given the wide variety of waterbodies included within the data layer.

Attachment 3

NHN Study - Responses to Public Comment Submissions to the June 17, 2014 Meeting of the Committee of the Whole (Public Hearing)

Item	Submission	Issue	Comments	Recommendation
1	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Christopher Williams, Aird & Berlis LLP</p> <p>LOCATION: 4603 and 4611 Hwy 7 (Forest Green Homes)</p>	<p>Request that the Natural Heritage Network boundary be revised to be consistent with the Toronto and Region Conservation Authority staked top of bank and 10 metre setback.</p>	<p>The development application (DA.13.090) is in progress.</p>	<p>Any changes to the Core Feature limits will be made once the development application is approved.</p>
2	<p>DATE: June 17, 2014</p> <p>RESPONDENT: J. MacDonald and D. Fraser, Beacon Environmental</p> <p>LOCATION: 9290 McGillivray Road, Block 60</p>	<p>Provided air photo of HDF and recommends that the HDF is ephemeral and should be removed from the Core Features.</p> <p>Unclear as to why Enhancement Areas identified along Rainbow Creek.</p>	<p><u>Headwater Drainage Features (HDFs)</u> The City followed specific criteria to incorporate results of HDF assessments into the NHN mapping for select areas of the City that were field investigated by the City's consultants. The information provided by Beacon does not meet the criteria used for the NHN Study as the City's consultants were not able to undertake field investigations in this area.</p> <p><u>Enhancement Areas</u> Enhancement Area criteria have been revised to be more targeted as a result of the NHN Study. Categories of Enhancement Areas that are depicted on Schedule 2 include open country habitat for grassland/open country species and select private lands based on previously approved open space designations. Categories of Enhancement Areas that are not specifically depicted on Schedule 2 include: areas to create viable north-south corridors, including along West Robinson Creek and in the upper Purpleville Creek subwatershed; the critical function zone of wetlands; and woodland enhancements.</p>	<p><u>HDFs</u> No change is recommended at this time.</p> <p><u>Enhancement Areas</u> Enhancement Areas are no longer depicted along Robinson Creek and in the Purpleville Creek watershed. A new policy is proposed that identifies Enhancement Areas not depicted on Schedule 2.</p>

Item	Submission	Issue	Comments	Recommendation
3	<p>DATE: August 1, 2014</p> <p>RESPONDENT: Don Fraser, Beacon</p> <p>LOCATION: Anland Developments Inc., 281187 Ontario Limited, H&L Title Inc., and Ledbury Investments Ltd.</p>	<p>Letter of August 1, 2014 from Beacon objects to proposed Schedule 2 amendments and Schedule 2A depicting the drainage feature west of Hwy 400 and south of Rutherford Rd to be consistent with the Vaughan Mills Secondary Plan. Justification is that current feature is not in that location.</p>	<p>The depiction of the stream corridor on Schedule 2 is consistent with the schedules in the Vaughan Mills Centre Secondary Plan.</p>	<p>The respondent is an appellant to VOP 2010 (Appeal #75 and Appeal # 83) and the matter will be addressed through the approvals process of the Vaughan Mills Centre Secondary Plan at the Ontario Municipal Board.</p>
4	<p>DATE: September 25, 2014</p> <p>RESPONDENT: J. MacDonald and D. Fraser, Beacon Environmental</p> <p>LOCATION: Block 42</p>	<p><u>Removal of Watercourses from Core Features</u> Noted that previous information was provided regarding the flow regime of specific watercourses, which were identified as 'Core Feature' on Vaughan NHN mapping, but were identified through field investigation and aerial photo interpretation as ephemeral in nature and would therefore not qualify as a 'Core Feature'</p> <p><u>Watercourses</u> Criteria outlined at the beginning of section 7.4 of the consulting team report does not match the HDF guideline.</p> <p>No rationale in support of 30 metre VPZ.</p> <p>Recommend that the VPZ adjacent to a watercourse should remain at 10 m, as per TRCA's policies.</p>	<p><u>Removal of Watercourses from Core Features</u> It is described in the staff report of June 17, 2014 that watercourses were removed from the Core Features only for those reaches of watercourses for which an HDF assessment was undertaken by the City's consultants and the landowner, and there was agreement that the management recommendation was "Mitigation" according to the TRCA/CVC Guidelines.</p> <p><u>Watercourses</u> <i>Mapping Criteria and HDF Guideline.</i> The City agrees with the comments of the respondent. The text regarding mapping criteria will be revised to better reflect: (i) the decision-rules used for removing watercourses from Core Features based on the available HDF assessments, and (ii) the policy framework.</p> <p><i>Rationale for 30 metre area of interest.</i> More explanation is provided in the revised consulting team report to distinguish the mapping of waterbodies and watercourses, for watercourses not in a well-defined valley, and the pertinent policies to determine the feature extent and appropriate vegetation protection zone. The 30-metre area of interest to waterbodies and watercourses, for mapping purposes, reflects the summary of the best available science in the Environment Canada report, "How Much Habitat is Enough?" (see the excerpt below) and is not intended as a buffer or vegetation protection zone.</p> <p>"Principally, the 30-metre riparian adjacent vegetation guideline is not based on a species- or function-specific</p>	<p>No further mapping changes to watercourses are recommended at this time.</p> <p>Waterbodies are no longer included as Core Features in the revised Schedule 2 given the variety of waterbodies included in the available data layer. The proposed policy amendment regarding sensitive surface water features and the proposed definitions for sensitive surface water feature and waterbodies emphasize the assessment of ecological function to determine whether the waterbody is a Core Feature.</p> <p>Proposed policy amendments are intended to address</p>

Item	Submission	Issue	Comments	Recommendation
		<p>There is no figure that indicates which specific watercourses in Vaughan were examined in the field. Furthermore, many of the watercourse alignments are inaccurate and do not reflect site conditions.</p> <p>Recommend a more practical approach in simply depicting watercourses as blue lines on Schedule 2A and refer to the text of policy 3.3.1.5 (to be amended to reflect same).</p> <p>A comparison of Schedule 2 in the VOP 2010 with the proposed amendment of Schedule 2 that includes watercourses as Core Features clearly shows that there are considerably more Core Feature areas being added, many of which may not meet the definition.</p> <p><u>Waterbodies</u> There are artificial ponds within the study area that are mapped on Figure 2 as Core Features with application of a 30 m VPZs.</p> <p><u>General Mapping Issues</u> Recommend inclusion of text to indicate that the determination of features and application of buffers be subject to verification through seasonally appropriate field work.</p>	<p>need but reflects a general threshold distance for aquatic health and riparian functions.”</p> <p>The 30-metre area of interest approximates the active floodplain and floodplain-upland transition (or aquatic-terrestrial transition for waterbodies and wetlands). The policies of VOP 2010 direct that appropriate studies be undertaken to determine the feature extent and application of an appropriate VPZ, or a minimum VPZ of 10 metres for watercourses outside of the Provincial Plan areas.</p> <p><i>Minimum VPZ.</i> The policies provide for a minimum VPZ from the feature extent for valley and stream corridors, which is 30 metres in the Provincial Plan areas and 10 metres elsewhere in the City.</p> <p><i>Figure of HDF Sample Sites.</i> Figure 3 on page 13 of the consulting team report does identify reaches assessed using the HDF guidelines. However, this figure is difficult to interpret at this scale.</p> <p><i>Mapping of Watercourses on Schedule 2 and Schedule 2A.</i> The recommendation to depict watercourses as blue lines on Schedule 2A is not consistent with policy 3.2.3.4(a), in which all valley and stream corridors are Core Features. Modification of features may be permitted in accordance with the feature-based policies in Section 3.3 of VOP 2010.</p> <p><i>Added Watercourse Features.</i> The changes to Schedule 2 as a result of watercourse mapping adds approximately 855 metres of drainage features in 5 specific areas (145 m + 370 + 60 + 130 + 150 m) in Block 42. This is an addition of approximately 10% to the stream network in the Block shown on Schedule 2 in VOP 2010. Modification of features may be permitted in accordance with the feature-based policies in Section 3.3 of VOP 2010.</p> <p><u>Waterbodies</u> Waterbodies are no longer included as Core Features in the revised Schedule 2 given the variety of waterbodies included in the available data layer. There are examples in the City of Vaughan of artificial ponds, depending on location and hydrology, providing habitat for amphibians and other wildlife. As a result,</p>	<p>issues relating to the mapping of watercourses and waterbodies.</p> <p>Figure 3 in the consulting team report is revised to allow readers to expand the image to see the field location sites.</p> <p>Policy 3.2.3.11 is proposed to be amended to address the precise delineation of Core Features, based on ROP 2010 policy 2.2.3. See Attachment 4 for further details.</p>

Item	Submission	Issue	Comments	Recommendation
			<p>additional policy text has been recommended, using the language of sensitive surface water features from the ROP 2010, to ensure appropriate studies to determine the importance of waterbodies to the NHN based on an assessment of ecological function.</p> <p><u>General Policy for Field Verification</u> The recommendation for a general policy for field verification will be considered by the City and is similar to ROP 2010 policy 2.2.3, which states: “That <i>key natural heritage features</i> and <i>key hydrologic features</i> 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 <i>Planning Act</i> applications supported by appropriate technical studies such as master environmental servicing plans, <i>environmental impact studies</i>, natural heritage or hydrological evaluations. Where such delineation refines boundaries shown on Maps within this Plan, refinements to these Maps can occur without an amendment to this Plan.”</p>	
5	<p>DATE: June 23, 2014</p> <p>RESPONDENT: C. Facciolo, Bratty and Partners LLP</p> <p>LOCATION: Novogal Development Inc., Block 60 Lands</p>	<p>Client is an appellant to VOP 2010.</p> <p>Hopeful that concerns can be resolved.</p>	<p>The respondent is an appellant to the VOP 2010 (Appeal #52)</p> <p>The City and the City’s consultant met with the respondent on October 20, 2014 given that the lands will be the subject of a future block plan process. A summary of the meeting was provided by the City to the attendees.</p>	<p>Proposed policy amendments as well as proposed modifications to the mapping regarding Enhancement Areas are intended to address the issues discussed on October 20, 2014.</p>
6	<p>DATE: June 16, 2014</p> <p>RESPONDENT: Gaetano Franco, Castlepoint Investments</p>	<p><u>Woodland Criteria</u> City should consider revising the definition of woodlands to be consistent with the York Region Official Plan (ROP 2010).</p> <p><u>Wetland Vegetation Protection Zone</u></p>	<p>City staff and the City’s consultants met with the respondent on October 17th, 2014. Meeting notes and action items were delivered to meeting attendees on November 3rd, 2014.</p> <p><u>Woodland Criteria</u> There is an error in proposed Schedule 2B and Section 7.1 of the consulting team report that only woodlands > 0.5 hectares are included. Woodlands 0.2 hectares or greater are considered</p>	<p>Mapping changes regarding waterbodies and Enhancement Areas are noted elsewhere in this table. Proposed policy amendments are intended to address issues raised by the</p>

Item	Submission	Issue	Comments	Recommendation
	<p>LOCATION: Comments regarding the NHN criteria and policy interpretation</p>	<p>Consider adopting ROP 2010 policy 2.2.36 that evaluated non-PSW wetlands have a minimum 15 metre buffer.</p> <p><u>30 Metre Area of Interest to Watercourses</u> It is noted that the criterion for a 30 m buffer to watercourses is not consistent with VOP 2010 policy 3.2.3.4(a) for watercourses in the Urban Area, in which a 10 m buffer is specified.</p> <p><u>Headwater Drainage Features (HDFs)</u> Recommends that results of an EIS in which HDFs are not recommended for “protection”, “conservation” or “linkage” are not considered for Core Features without further amendment to VOP 2010.</p> <p><u>30 Metre Area of Interest to Waterbodies</u> A discrepancy is noted between the criterion for Core Features mapping to include a 30 metre VPZ for waterbodies and the lack of a VPZ specified in policy.</p> <p><u>Sensitive Surface Water Features</u> It is recommended to include the following text in the proposed new policy to address sensitive surface water features: “including waterbodies, seepage areas and</p>	<p>woodlands, according to the definition in the VOP 2010 and Region Official Plan (ROP 2010), and should be mapped as Core Features. Not all woodlands are included as Core Features depending on past Block Plan approvals.</p> <p>VOP 2010 policy 3.2.3.4(c) protects for all woodlands, but VOP 2010 policy 3.3.3.3 allows for development and site alteration in woodlands that do not meet tests of significance as set out in the York Region Official Plan. If VOP 2010 policy 3.3.3.3 applies, then woodland enhancement shall be considered as per policy 3.3.3.4. Amendments are proposed for VOP 2010 policies 3.3.3.3 and 3.3.3.4 to more accurately reflect this option for modification of Core Features.</p> <p>The woodland definition is proposed to be modified consistent with the ROP 2010. See Attachment 4 for details.</p> <p><u>Wetland Vegetation Protection Zone</u> VOP 2010 policy 3.3.2.2 specifically sets a minimum VPZ of 30 metres to PSWs and is proposed to be amended to recognize the minimum 30 metre VPZ for wetlands in Provincial Plan areas. However, the policy is not specific about a minimum VPZ for other wetlands that are assessed as part of a development application and determined to be protected. In such cases, an appropriate VPZ is based on an analysis of adjacent lands as per VOP 2010 policy 3.3.2.3. This provides for some flexibility in the determination of the VPZ for non-Provincially significant wetlands determined to be retained on the landscape or re-created.</p> <p>Policy 3.3.2.2 is proposed to be amended to distinguish provincially significant wetlands from other wetlands, and recognize the situation where a wetland is considered to be evaluated in accordance with the ROP 2010, in which case a minimum 15 metre VPZ would apply.</p> <p><u>30 Metre Area of Interest to Watercourses</u> More explanation is provided in the revised consulting team report to distinguish the mapping of watercourses, for watercourses not in a well-defined valley, and the pertinent policies to determine the feature extent and appropriate vegetation protection zone. The 30-metre area of interest to</p>	<p>respondent with respect to wetlands, woodlands, waterbodies, watercourses and Enhancement Areas.</p>

Item	Submission	Issue	Comments	Recommendation
		<p>springs” .</p> <p><u>Criteria for Enhancement Areas</u> There are questions about undertaking the evaluation of Enhancement Areas that are not specifically mapped on Schedule 2, such as to enhance interior woodland habitat, include the critical function zone for wetlands, or corridor enhancement for wildlife dispersal and/or movement.</p> <p><u>Schedule 2, 2A, 2B, 2C</u> Consider including all arterial roads on the Schedules.</p> <p><u>Clarification of Mapping versus Policy Provisions</u> Request clarification where NHN criteria mapping is not consistent the VOP 2010 policy provisions.</p>	<p>watercourses for mapping purposes reflects the summary of the best available science in the Environment Canada report, “How Much Habitat is Enough?” (see excerpt below) and is not intended as a buffer or vegetation protection zone.</p> <p>“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.”</p> <p>The 30-metre area of interest, for mapping purposes, approximates the active floodplain and floodplain-upland transition (or aquatic-terrestrial transition for waterbodies and wetlands) to maintain water quality. The policies of VOP 2010 direct that appropriate studies be undertaken to determine the feature extent and application of an appropriate VPZ, or a minimum VPZ of 10 metres for watercourses outside of the Provincial Plan areas.</p> <p><u>Headwater Drainage Features (HDFs)</u> The City proposes to add a policy that watercourses are confirmed through field investigation and to introduce the term “headwater drainage feature”. In the proposed policy, there is a reference to the evaluation of HDFs in accordance with standards and practices of the TRCA, rather than specifically noting the types of management recommendations that are determined through the use of the HDF protocol.</p> <p><u>Waterbodies</u> Waterbodies are no longer included as Core Features in the revised Schedule 2 given the variety of waterbodies included in the available data layer. Additional policy text is recommended, using the language of sensitive surface water features from the ROP 2010, to ensure appropriate studies to determine the importance of waterbodies to the NHN based on an assessment of ecological function.</p> <p><u>Sensitive Surface Water Features</u> The City agrees with the recommended text to be added to the proposed policy regarding sensitive surface water features. See Attachment 4 for proposed policy 3.2.3.4(h) and 3.3.5.1(c).</p>	

Item	Submission	Issue	Comments	Recommendation
			<p><u>Enhancement Area Criteria</u> The section of the consulting team report addressing Enhancement Area criteria will be revised to clarify where Enhancement Areas are specifically mapped and where only criteria are provided. These criteria can be used to direct specific types of analyses, such as incorporating studies into the analysis of adjacent lands to wetlands, woodlands, etc. Specific criteria for the evaluation of Enhancement Areas can be articulated in the Terms of Reference for an environmental impact study or MESP.</p> <p><u>Clarification of Mapping versus Policy Provisions</u> Proposed amendments to policies regarding watercourses and waterbodies are intended to address the discrepancy between a scientifically-based area of interest applied to watercourses for mapping purposes on Schedule 2 and the specification of a minimum VPZ in policy. See Attachment 4 and proposed amendments for: policy 3.2.3.4.a; policy 3.2.3.4.h; policy 3.3.1.2; new policy for field verification of watercourses and HDFs as policy 3.3.1.5; and inserting a new policy for sensitive surface water features as subparagraph (c) in policy 3.3.5.1.</p>	
7	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Jason Lewis, Davies Howe LLP</p> <p>LOCATION: Block 27</p>	<p><u>Headwater Drainage Features (HDFs)</u> Data in the HDF assessment not faithfully incorporated.</p> <p><u>30 Metre Area of Interest to Watercourses and Waterbodies</u> Disagree with the 30 metre buffer to waterbodies and watercourses (“creates an inflexible regime reaching beyond the requirements of the TRCA and contradicts the existing VOP 2010 policies”).</p> <p><u>Inclusion of Watercourses and Waterbodies</u> Disputes the City’s precautionary approach to</p>	<p>City staff and the City’s consultants met with landowners and agents for Block 27 on October 17, 2014. Meeting notes, including action items, were delivered to meeting attendees on November 3rd, 2014.</p> <p><u>Headwater Drainage Features (HDFs)</u> All watercourses in the digital information received from MNR and TRCA are included as Core Features. The City agreed to a protocol to remove a watercourse from the Core Features if the assessment of the City’s consultants and the landowner’s environmental consultants agreed that the management recommendation is evaluated to be “Mitigation” according to the HDF assessment protocol established by the TRCA. The City is of the opinion that the City’s consulting team correctly interpreted the information provided in modifying the Core Features for the materials made available for the June 17, 2014 meeting of the Committee of the Whole (Public Hearing).</p> <p><u>30 Metre Area of Interest to Watercourses</u></p>	<p>Changes to Schedule 2 for waterbodies and woodlands reflect the consultation discussion and confirmation of policy intent.</p> <p>Block 27 is the subject of a Subwatershed Study and Secondary Plan study, which will form the basis for the future Block Plan process.</p>

Item	Submission	Issue	Comments	Recommendation
		<p>include watercourses and waterbodies.</p> <p><u>Two Specific Waterbodies</u> Concerned about two dug farm ponds identified as Core Features.</p> <p><u>Two Specific Woodlands</u> Two small areas to west of Block 27 with no apparent feature.</p>	<p>More explanation is provided in the revised consulting team report to distinguish the mapping of watercourses, for watercourses not in a well-defined valley, and the pertinent policies to determine the feature extent and appropriate vegetation protection zone. The 30-metre area of interest to watercourses for mapping purposes reflects the summary of the best available science in the Environment Canada report, “How Much Habitat is Enough?” (see excerpt below) and is not intended as a buffer or vegetation protection zone.</p> <p>“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.”</p> <p>The 30-metre area of interest, for mapping purposes, approximates the active floodplain and floodplain-upland transition (or aquatic-terrestrial transition for waterbodies and wetlands) to maintain water quality. The policies of VOP 2010 direct that appropriate studies be undertaken to determine the feature extent and application of an appropriate VPZ, or a minimum VPZ of 10 metres for watercourses outside of the Provincial Plan areas.</p> <p><u>Inclusion of Watercourses and Waterbodies</u> There is a lack of feature-specific information accompanying the digital mapping data to characterize types of features for watercourses, such as flow regime and thermal regime. Policy 3.2.3.4(a) protects valley and stream corridors as Core Features, while feature-specific policies in section 3.3.3 provide for modification of watercourses. As a result, all mapped watercourses are included as Core Features, with the exception of those for which more information was provided by the City’s consultants and landowner consultants using the HDF guidelines.</p> <p>Waterbodies are no longer included as Core Features in the revised Schedule 2 given the variety of waterbodies included in the available data layer. Additional policy text is recommended, using the language of sensitive surface water features from the ROP 2010, to ensure appropriate studies to determine the importance of waterbodies to the NHN based on an assessment</p>	

Item	Submission	Issue	Comments	Recommendation
			<p>of ecological function.</p> <p><u>Two Specific Waterbodies</u> The small waterbody at the northeast of the Block is identified as a wetland (not Provincially significant) and is functioning as significant wildlife habitat (SWH) for amphibian breeding (woodlands) according to data derived and assessed by the City’s consulting team. The amphibian habitat is connected to the nearby woodland. Waterbodies are no longer included as Core Features in the revised Schedule 2, as noted above.</p> <p><u>Two Specific Woodlands</u> The two woodlands 0.2 hectares in size or greater and, hence, meet the size criterion provided in the definition for woodlands. Policies provide for the verification of the features according to the woodland definition and subsequent tests of significance, with the possibility for modification of the woodlands that are not significant, subject to compensation.</p>	
8	<p>DATE: June 17, 2014</p> <p>RESPONDENT: K. Sliwa, Davies Howe Partners LLP</p> <p>LOCATION: Block 66</p>	<p><u>30 Metre Area of Interest to Watercourses</u> It is noted that the 30 metre buffer to watercourses is “arduous and unreasonable”. Consequently, Block 66 cannot support the City’s “precautionary approach”.</p> <p><u>Request for Interactive Mapping</u> Recommend making interactive mapping available.</p> <p><u>Notation on Schedules</u> Request a notation be included in the schedules that “feature boundaries are subject to a further review through a more detailed process”.</p>	<p><u>30 Metre Area of Interest to Watercourses</u> More explanation is provided in the revised consulting team report to distinguish the mapping of watercourses, for watercourses not in a well-defined valley, and the pertinent policies to determine the feature extent and appropriate vegetation protection zone. The use of the term “VPZ” in the consulting team report is not correct. The 30-metre area of interest to watercourses, for mapping purposes, reflects the summary of the best available science in the Environment Canada report, “How Much Habitat is Enough?” (see excerpt below) and is not intended as a buffer or vegetation protection zone.</p> <p>“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.”</p> <p>The 30-metre area of interest, for mapping purposes, approximates the active floodplain and floodplain-upland transition, while the policies direct that appropriate studies be undertaken to determine the feature extent and application of an appropriate VPZ, or a minimum VPZ of 10 metres for</p>	<p>Mapping changes regarding waterbodies and Enhancement Areas are noted elsewhere in this table. Proposed policy amendments are intended to address issues relating to the mapping of watercourses.</p>

Item	Submission	Issue	Comments	Recommendation
			<p>watercourses outside of the Provincial Plan areas.</p> <p>Note that drainage feature extent in the revised Schedule 2, which was made available to the public as part of the staff report to the June 17, 2014 meeting of the Committee of the Whole (Public Hearing), does not differ from the existing Schedule 2. The main difference is the application of a 30 metre area of interest to drainage features.</p> <p><u>Request for Interactive Mapping</u> The request is being considered by the City.</p> <p><u>Notation on Schedules</u> The following notations are provided on the proposed revised Schedules as they appear in the consulting team report made available for the June 17, 2014 meeting of the Committee of the Whole (Public Hearing):</p> <ul style="list-style-type: none"> - Schedule 2 includes a notation that the “policy text prevails over the mapping” as also noted in VOP 2010 policy 3.2.3.2; - Schedule 2A includes a notation for watercourses and waterbodies that reads, “To be confirmed through the application of policies of this plan”. 	
9	<p>DATE: June 16, 2014</p> <p>RESPONDENT: Rosemary Humphries, Humphries Planning Group</p> <p>LOCATION: 10951 Kipling Avenue 1539253 Ontario Ltd.</p>	<p>Request that the natural heritage delineation as part of OP.09.003 and Z.09.026 be reflected in the NHN study.</p>	<p>A staff report of June 18, 2013 to Committee of the Whole recommended approval of the development application (Official Plan Amendment File OP.09.003). Council, at its meeting of June 25, 2013, adopted the following recommendation, in part (Item 9, CW Report No. 32):</p> <p>Committee of the Whole recommendation of June 18, 2013: The Committee of the Whole recommends:</p> <ol style="list-style-type: none"> 1) That consideration of this matter be deferred to September 2013, to allow further consultation between the applicant, staff, and the local residents; <p>The matter was again deferred by Council on October 8, 2013.</p>	<p>No changes will be made to the NHN mapping at this time given that the development application is not approved.</p> <p>The respondent is an appellant to VOP 2010 (Appeal # 68) and the matter will be addressed through the approvals process at the Ontario Municipal Board.</p>
10	<p>DATE: June 16, 2014</p>	<p>Request formal notice of any amendments to the VOP 2010</p>	<p>The depiction of the stream corridor on Schedule 2 is consistent with the schedules in the Vaughan Mills Centre Secondary Plan.</p>	<p>The respondent is an appellant to VOP 2010</p>

Item	Submission	Issue	Comments	Recommendation
	<p>RESPONDENT: Rosemary Humphries, Humphries Planning Group,</p> <p>LOCATION: 281187 Ontario Ltd. and Anland Developments Inc.</p>	<p>pursuant to Section 17(23) of the Planning Act.</p> <p>A letter of August 1, 2014 from Beacon objects to proposed Schedule 2 amendments and Schedule 2A depicting the drainage feature west of Hwy 400 and south of Rutherford Rd. The justification provided is that current feature is not in that location.</p>		<p>(Appeal #75 and Appeal # 83) and the matter will be addressed through the approvals process of the Vaughan Mills Centre Secondary Plan at the Ontario Municipal Board.</p>
11	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Mark McConville, Humphries Planning Group Inc.</p> <p>LOCATION: Hwy 400 North Employment Lands (Blocks 35 and 34 West), Highway 400 Landowners Group</p>	<p><u>30 Metre Area of Interest to Watercourses</u> Concerned that NHN creates inflexible regime through imposition of a 30-metre wide VPZ on either side of the high water mark of all watercourses.</p> <p><u>Inclusion of Watercourses</u> Landowners take issue with the precautionary approach that all watercourses are identified as Core Features.</p> <p><u>OPA 637 Approval at the OMB</u> Letter refers to Section 2.3.2.10 of OPA 637 and claim that the OPA 637 lands are not subject to the outcome of the NHN Study.</p>	<p>City staff and the City’s consultants met with the respondent on October 17th, 2014. Meeting notes were delivered to meeting attendees on November 3rd, 2014.</p> <p><u>30 Metre Area of Interest to Watercourses</u> More explanation is provided in the revised consulting team report to distinguish the mapping of watercourses, for watercourses not in a well-defined valley, and the pertinent policies to determine the feature extent and appropriate vegetation protection zone. The 30-metre area of interest to watercourses for mapping purposes reflects the summary of the best available science in the Environment Canada report, “How Much Habitat is Enough?” (see the excerpt below) and is not intended as a buffer or vegetation protection zone.</p> <p>“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.”</p> <p>The 30-metre area of interest, for mapping purposes, approximates the active floodplain and floodplain-upland transition. The policies of VOP 2010 direct that appropriate studies be undertaken to determine the feature extent and application of an appropriate VPZ, or a minimum VPZ of 10 metres for watercourses outside of the Provincial Plan areas.</p> <p><u>Inclusion of Watercourses</u></p>	<p>There are no further recommendations at this time.</p>

Item	Submission	Issue	Comments	Recommendation
			<p>There is a lack of feature-specific information accompanying the digital mapping data to characterize watercourses, such as flow regime and thermal regime. As a result, all mapped features are included as Core Features.</p> <p>The Core Feature policies (policy 3.2.3.4) regarding valley and stream corridors, wetlands and woodlands are precautionary as the policy text refers to: “valley and stream corridors, including Provincially significant valleylands”; “<i>wetlands</i>, including those identified as provincially <i>significant</i>”; and “<i>woodlands</i> including those identified as <i>significant</i>”. That is, policies 3.2.3.4(a), 3.2.3.4(b) and 3.2.3.4(c) are inclusive at the outset. Feature-based policies in Section 3.3 allow for assessment to determine whether a feature, for those features not assessed as significant, should remain on the landscape with an appropriate vegetation protection zone or can be modified subject to compensation.</p> <p><u>OPA 637 Approval at the OMB</u> In particular, applicants claim that OPA 637 lands are not subject to the outcome of the NHN Study. However, the City provided the interpretation below in the June 17, 2014 staff report.</p> <p style="padding-left: 40px;">The City notes that the lands are part of the Highway 400 North Employment Lands and policies are provided in Section 11.4 of the VOP 2010. It is noted on page 11-116 of the VOP 2010 that, “... the environmental designations in the Employment Area will be examined in detail during the Block Plan process, which provides the flexibility to finalize the actual extent of the designations”.</p> <p>Hence, results of the NHN Study can inform the Block Plan process for the Highway 400 North Employment Lands</p> <p>The City provided the following comment in the meeting notes delivered on November 3rd, 2014:</p> <p style="padding-left: 40px;">OPA 637 now forms Section 11.4 (Highway 400 North Employment Lands Secondary Plan) to Volume 2 of VOP 2010. It is noted in Section 11.4 that the Secondary Plan is “APPROVED BY THE ONTARIO MUNICIPAL BOARD ON NOVEMBER 21, 2011”. Although OPA 637 has been</p>	

Item	Submission	Issue	Comments	Recommendation
			renumbered to follow the formatting of VOP 2010, the text has been copied verbatim and reads as an amendment to OPA 450, followed by an amendment to OPA 600. All schedules from OPA 637 have also been included in Section 11.4.	
12	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Aidan Farriss, IBI Group</p> <p>Contact now Amy Shepherd, ashepherd@IBIGroup.com</p> <p>LOCATION: Lands east of Hwy 400 and north of Hwy 407, Bentall Kennedy</p>	Request a meeting to discuss the results of landowner's studies pertaining to lands east of Hwy 400 and north of Hwy 407 in the VMC.	Mediation meetings with Smart Centres and Bentall Kennedy are underway as part of the approval process for the Vaughan Metropolitan Centre Secondary Plan. Landowners are providing technical reports to the TRCA regarding stormwater management and drainage features, such that these reports and the TRCA review can be used to confirm any changes to the NHN.	The respondent is an appellant to VOP 2010 (Appeal # 111) and the matter will be addressed through the approvals process at the Ontario Municipal Board and subject to mediation for the Vaughan Metropolitan Centre Secondary Plan.

13	<p>DATE: June 24, 2014</p> <p>RESPONDENT: Ryan Mino-Leahan KLM Planning Partners</p> <p>LOCATION: Block 21 Developers Group</p>	<p>Requests that more detailed mapping should be made available by the City to review results of NHN Study.</p>	<p>The City is considering this option.</p>	
14	<p>DATE: June 24, 2014</p> <p>RESPONDENT: Ryan Virtanen, KLM Planning Partners</p> <p>LOCATION: Millwood Development Inc. Block 40 (South)</p>	<p>Request more detailed mapping with property limits.</p> <p>Reserve right to provide further comments.</p>	<p>The area is the subject of a development application (19T-08V01).</p>	<p>There are no recommendations at this time.</p>
15	<p>DATE: June 16, 2014</p> <p>RESPONDENT: Michael Larkin, Larkin Land Use Planners</p> <p>LOCATION: 7541 Regional Road 50, Glenview Memorial Gardens (Arbor Memorial Inc.)</p>	<p>Request removal of natural features given approved Site Plan.</p> <p>“Glenview was approved by the Ontario Municipal Board (OMB) in a decision issued on September 14th, 2000. The following year the City of Vaughan approved the Master Site Plan for the then proposed cemetery. Construction of the first burial gardens and portions of the internal road network commenced in 2002 following the design pattern of the approved Site Plan.”</p>	<p>OPA 539 was approved at the OMB for cemetery use. Development application file Z.97.067/DA.06.091 includes a Master Site Plan consistent with the information provided by the respondent and Schedule E-1257 to Exception 9(1139) regarding Zoning By-Law 104-2002.</p>	<p>Drainage features oriented east-west are removed from the Core Features consistent with the development approval. Drainage features oriented north-south at the eastern part of the parcel are included in the Core Features as agreed with the TRCA.</p>

16	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Quinto M. Annibale, Loopstra Nixon LLP,</p> <p>LOCATION: 9500 Dufferin Street, Block 18</p> <p>Part of the East Half of Lot 17, Concession 3</p>	<p>Requests that the City rely on field investigations rather than “previous approvals, misinformation and misinterpretation of the law”.</p> <p>Formal request for a meeting “to discuss the errors in the current NHN Study documentation”.</p>	<p>The rationale for the Core Features delineation and designation is described in Item I-556 from Attachment 6 in the staff report to Council from April 3, 2012 regarding modifications to the VOP 2010. It is based on the approved block plan, which can be found in the staff report to the meeting of the April 7, 2003 Committee of the Whole in which Attachments 3 and 4 depict the lands as ‘Tableland Woodlot’ and ‘Valley/Open Space Lands’.</p>	<p>The respondent is an appellant to VOP 2010 (Appeal # 21) and the matter will be addressed through the approvals process at the Ontario Municipal Board.</p>
17	<p>DATE: April 28, 2014</p> <p>RESPONDENT: Quinto M. Annibale, Loopstra Nixon LLP,</p> <p>LOCATION: 12011 Pine Valley Road, MCN (Pine Valley Inc.)</p>	<p>Formal request for notice.</p>	<p>In the materials made available to the public for the June 17, 2014 meeting of the Committee of the Whole (Public Hearing), the subject lands include an Enhancement Area connecting part of upper Purpleville Creek to the Greenbelt Plan in the Town of King.</p> <p><u>Enhancement Areas</u> Enhancement Area criteria have been revised to be more targeted as a result of the findings and consultation of the NHN Study. Categories of Enhancement Areas that are depicted on Schedule 2 include open country habitat for grassland/open country species and select private lands based on previously approved open space designations. Categories of Enhancement Areas that are not specifically depicted on Schedule 2 include: areas to create viable north-south corridors, including along West Robinson Creek and in the upper Purpleville Creek subwatershed; the critical function zone of wetlands; and woodland enhancements.</p>	<p><u>Enhancement Areas</u> Enhancement Areas are no longer depicted along Robinson Creek and in the Purpleville Creek watershed. A new policy is proposed that identifies Enhancement Areas not depicted on Schedule 2.</p> <p>The respondent is an appellant to VOP 2010 (Appeal # 57) and the matter will be addressed through the approvals process at the Ontario Municipal Board. Recommended amendments to the policies of Chapter 3 and modifications to Schedule 2 through the NHN Study may partially or fully address the issues.</p>
18	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Quinto M. Annibale,</p>	<p>Hopeful that concerns can be resolved.</p>	<p>The lands in question are immediately south of Kirby Road and extending west from Weston Road. The only Core Features on the property includes a permanent stream and wetland (part of the East Humber River Provincially Significant Wetland Complex, Wetland #56).</p>	<p>The lands are in Block 41 in the New Community Areas. They are the subject of a Subwatershed Study and</p>

	<p>Loopstra Nixon LLP</p> <p>LOCATION: Part of East Half of Lot 30, Conc. 6, Kirbywest Ltd Block 41</p>			<p>Secondary Plan, which will provide the basis for a future Block Plan process.</p> <p>The respondent is an appellant to VOP 2010 (Appeal # 66) and the matter will be addressed through the approvals process at the Ontario Municipal Board.</p>
<p>19</p>	<p>DATE: October 10, 2014</p> <p>RESPONDENT: Don Given, Malone Givens Parsons</p> <p>LOCATION: Block 41 Landowners Group</p>	<p>Number codes below follow the structure in the submission provided by the respondent.</p> <p><u>Scope of NHN Study</u> “The determination of any enhancement beyond the NHN should await the Subwatershed Study and MESP stage where it would benefit from additional detailed study.”</p> <p>Statement of understanding that “the intent of this NHN Study has always been to examine the features within the existing NHN and that any proposed enhancements would be dealt with at the MESP stage with the benefit of additional detailed studies”.</p> <p>1.a) - <u>Headwater Drainage Features (HDFs) – South-Central part of Block</u> “Based on the proposed wording of Policy 3.2.3.11 of the Vaughan Official Plan that allows for minor modifications to Core Features, we understand</p>	<p><u>Scope of NHN Study</u> The NHN Study is intended to update Core Features and Enhancement Areas mapping with criteria and decision-rules that can be applied consistently across Vaughan. Hence, there have been removal and additions to Core Features as decision-rules have been applied in this consistent manner. Furthermore, a new Enhancement Area in Block 41, for example, could be a recommendation of the NHN study for review as part of the Secondary Plan. At this time, there has not been an ecological rationale for new Enhancement Areas in Block 41. The scope of work for the NHN Study was detailed in staff reports to the December 6th, 2011 meeting of the Committee of the Whole for Phase 1 and the September 4th, 2012 meeting of the Committee of the Whole for Phases 2 to 4.</p> <p><u>1.a) Headwater Drainage Features (HDFs) – South-Central part of Block</u> Policy 3.2.3.11 is recommended to be amended to refer to precise delineation of Core Features. References to modification of Core Features remain in Section 3.3.3 of the VOP 2010 for valley and stream corridors, wetlands, and woodlands. HDFs will be assessed and managed in accordance with standards and procedures of the TRCA.</p> <p><u>1.b) Inclusion of Watercourses and Drainage Features</u> All watercourses in the digital information received from MNR and TRCA are included as Core Features. The City agreed to a protocol to remove a watercourse from the Core Features if the assessment of the City’s consultants and the landowner’s environmental consultants agreed that the management</p>	<p>The following recommendations are provided in the staff report:</p> <ul style="list-style-type: none"> - Not requiring a definition for watercourses in VOP 2010; - Adding to the definition for waterbodies to emphasize the assessment of ecological function and that the policy is not intended to protect waterbodies of limited ecological function (see Attachment 4); - Several proposed policy amendments are intended to address issues raised by the respondent. <p>The following recommendations are incorporated into the consulting team report:</p> <ul style="list-style-type: none"> - Readable image of HDF sample sites;

		<p>that the boundaries and management of this [headwater drainage] feature can be modified (i.e., added or eliminated) based on the conclusions of the headwater drainage feature assessment.”</p> <p><u>1.b) Inclusion of Watercourses and Drainage Features</u> “Please explain the basis for the inclusion of this drainage feature [in the south central part of the Block] as part of the NHN (i.e., a Core Feature) or remove it from the mapping and leave future studies to determine its status. Also, please confirm if there are one or two features added in this location.”</p> <p><u>1.c) Core Features in the Greenbelt Plan Area</u> “[The revised] Schedule 2 shows larger Core Features within the Greenbelt. Please explain the basis for the proposed changes to the boundaries of these features and provide detailed Core Features mapping of this area.”</p> <p><u>2.a) Sensitive Surface Water Features</u> Based on the notation on the Schedule, we understand that the accurate extent of sensitive surface water features will be confirmed through ongoing land use planning studies.</p> <p><u>2.b) Headwater Drainage Features (HDFs) – East-Central part of Block</u></p>	<p>recommendation is evaluated as “mitigation” according to the HDF assessment protocol established by the TRCA. The HDF in question was not examined in the field by the City’s consultants. Hence, it does not fall into the protocol established in the NHN Study. The watercourse will remain as a Core Feature for the purposes of the NHN Study and will be examined in later planning stages (e.g. Secondary Plan and Block Plan), considering also the Block Plan for Block 40 to the south.</p> <p><u>1.c) Core Features in the Greenbelt Plan Area</u> The GIS data has been shared with the consulting team for the Subwatershed Study and can be used to examine this issue in more detail. The data is provided in a way such that the feature boundaries and minimum VPZ can be examined in a GIS platform.</p> <p><u>2.a) Sensitive Surface Water Features</u> The interpretation of the respondent is correct. The recommended policy emphasizes the assessment of the ecological functions of the surface water feature to determine its extent and whether it is maintained on the landscape as a sensitive surface water feature.</p> <p><u>2.b) Headwater Drainage Features (HDFs) – East-Central part of Block</u> The City’s consulting team notes that the field investigation of the landowner’s consultants was in June and August and did not include the spring sampling, which is important to an evaluation according to the standards and procedures of the TRCA and may be one of the reasons that there is a discrepancy between the evaluation of the City’s consulting team and the evaluation by the landowner’s consultants.</p> <p><u>Significant Wildlife Habitat – Amphibian Breeding</u> The City’s data sharing agreement with the TRCA does not allow the City to redistribute the flora and fauna data of other parties.</p> <p><u>3.a) Policies for the Verification of Watercourses</u> The City recommends that the reference to a specific guideline document be removed and replaced with text such as, “HDFs identified and managed according to standards and procedures of the TRCA”. The City does not recommend the addition of the text “and other applicable planning and engineering constraints”. At issue with the proposed text, “and other applicable planning</p>	<p>- Remove the reference to a 100 metre critical function zone (CFZ) to wetlands and only refer to the CFZ as determined through appropriate studies.</p>
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		<p>Also, we note that the headwater drainage feature referred to in item 1.a) above is shown differently on Schedule 2 of the 2010 Vaughan Official Plan and the proposed Schedule 2 in the NHN Study (see the location of this feature, highlighted on the attached copies). We request that this feature not be shown and that the SWS and MESP address the need to protect the feature.</p> <p><u>Significant Wildlife Habitat – Amphibian Breeding</u> Schedule 2C shows Amphibian Significant Wildlife Habitat that includes two woodland areas within Block 41. The NHN notes that this designation was based upon 2005 and 2008 data from TRCA. We request the opportunity to review the TRCA data.</p> <p><u>3.a) Policies for the Verification of Watercourses</u> Recommend the following changes to a proposed policy for field verification of watercourses: <i>“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 consideration of the application of the TRCA’s “Evaluation, Classification and Management of Headwater Drainage Features Guideline”, as may be updated, and other</i></p>	<p>and engineering constraints”, are the process steps of confirming the baseline NHN through detailed studies, and then assessing impacts of potential development to the baseline NHN.</p> <p><u>3.b) Definition for Watercourse</u> The proposed watercourse definition is from the TRCA Living City Policies document. TRCA agrees with the respondent that the definition is not required in VOP 2010.</p> <p><u>3.c) Definition for Waterbodies</u> The proposed definition simply emphasizes the assessment of ecological function. The City does not agree with the statement, <i>“waterbody generally does not include small surface water features such as farm ponds, man-made ponds, or stormwater management ponds”</i>. There are examples in Vaughan of dug ponds that have naturalized over time and provide ecological functions. Hence, the focus in the proposed definition is the assessment of ecological function. The City agrees to revise the definition to specifically exclude stormwater management ponds and irrigation ponds on golf courses.</p> <p><u>Improved Figure of HDF Sample Locations</u> The figure illustrating HDF sample sites can be expanded to better identify the location.</p> <p><u>Modification of Headwater Drainage Features (HDFs)</u> The proposed policy requiring field verification of watercourses and HDFs may result in the precise delineation of the feature and an appropriate vegetation protection zone (VPZ), or the removal of the feature based on appropriate studies and evidence. The City is of the opinion that “planning and engineering constraints” be considered after the delineation of the baseline NHN based on environmental studies. Further modification of features may be permitted in accordance with the feature-based policies in Section 3.3 of VOP 2010.</p> <p><u>GIS Data Request</u> The GIS data request can be accommodated for the Block 41 Landowners Group as part of the Subwatershed Study and Secondary Plan.</p> <p><u>30 Metre Area of Interest to Watercourses</u> More explanation is provided in the revised consulting team report to distinguish the mapping of watercourses, for</p>	
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20	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Daniel Belli, MAM Group</p> <p>LOCATION: Blocks 34 West and 35 East, Western Point Builders Inc., Olana Estates Inc., Natanya Hills Builder Corp., Goldenrod Meadows Home Corp</p>	<p>Share concerns expressed in the letter of Humphries Planning Group dated June 17, 2014 on behalf of the Highway 400 Landowners Group.</p>	<p>See comments for Item # 11</p>	

<p>21</p>	<p>DATE: June 17, 2014</p> <p>RESPONDENT: C. Milani, Milani Group</p>	<p>Concern raised that the NHN provides vectors for disease.</p>	<p>Recent studies in New York State at the Cary Institute suggest that mice carrying ticks may cause an increase in Lyme disease, for example (see the link below).</p> <p>http://www.sustainablecitynetwork.com/topic_channels/environmental/article_f4b91554-2df7-11e4-9be5-0017a43b2370.html?utm_source=SCN+InBox+e-Newsletter&utm_campaign=ce968d4345-Newsletter_8-27-2014_Muni&utm_medium=email&utm_term=0_11e7ac761c-ce968d4345-188653421</p> <p>However, the authors note that the basis for any concern is not the natural heritage system. Rather, anthropogenic disturbance of natural systems may be a factor, as noted in the excerpt below:</p> <p style="padding-left: 40px;">"Mice and other small mammals are often particularly abundant in habitats that have been fragmented or degraded by human activity," said Ostfeld. "That means these patterns of co-infection might get worse through time as humans continue to impact forest ecosystems."</p> <p>The findings of the above-noted study, in fact, point to the need for an ecologically viable NHN by reducing the amount of edge habitat and fragmentation of natural systems.</p> <p>Furthermore, the ecosystem services benefits of natural heritage systems far outweigh any negative aspects. This is summarized on pages 10 and 11 in the ICLEI Canada report, "<i>biodiverCities: A Primer on Nature in Cities</i>", which notes benefits ranging from pollination and wildlife habitat to climate regulation and erosion control (http://www.icleicanada.org/component/k2/item/121-biodivercitiesprimer).</p> <p>There are numerous reports quantifying the ecosystem services benefits to people of natural heritage systems in southern Ontario, some of which are listed below.</p> <ul style="list-style-type: none"> - David Suzuki Foundation - "Ontario's Wealth, Canada's Future: Appreciating the Value of the Greenbelt's Eco-Services" (2008); - Ontario Ministry of Natural Resources – "Estimating ecosystem services in Southern Ontario" (2009); - Ontario Ministry of the Environment – "Assessing the 	<p>There are no recommendations at this time.</p>
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			<p>Economic Value of Protecting the Great Lakes: Rouge River Case Study for Nutrient Reduction and Nearshore Health Protection Final Report” (submitted by Marbek, 2010);</p> <ul style="list-style-type: none"> - Town of Aurora – “The Economic Value of Natural Capital Assets Associated with Ecosystem Protection” (2013). <p>There are also recent studies in the scientific literature quantifying the mental health benefits of proximity to nature in our cities:</p> <ul style="list-style-type: none"> - Kuo F.E., & Sullivan, W.C. 2001. “Environment and crime in the inner city: Does vegetation reduce crime?” <i>Environment and Behavior</i> 33(3): 343-367. - Kuo F., Taylor A.F. 2004. “A potential natural treatment for Attention-Deficit/Hyperactivity Disorder: Evidence from a national study”. <i>American Journal of Public Health</i> 94(9): 1580-1586, - Taylor A.F., Kuo F.E., Sullivan W.. 2001. “Title: Coping with ADD: The Surprising Connection to Green Play Settings”. <i>Environment and Behavior</i>. 33(1): 54-77 - Taylor A.F., Kuo F.E..2006. “Is contact with nature important for healthy child development? State of Evidence”. in C. Spencer & M Blades (Eds), <i>Children and their Environments</i>. Cambridge University Press (pp 124-140), - Taylor A.F., Kuo, F.E..2008. “Children with attention deficits concentrate better after walk in the park”. <i>Journal of Attention Disorders</i>. Prepublished August 25, 2008. 	
22	<p>DATE: September 4, 2014</p> <p>RESPONDENT: C. John-Baptiste, MMM Group</p> <p>LOCATION: Montesano Family, Part of Lot 34 Conc 4, Part 1 of of Plan 65R- 30560</p>	<p>“As the subject site is not in the Oak Ridges Moraine or Greenbelt, we understand that Section 3.2.3.4(a) of the Vaughan Official Plan will continue to apply specifically with respect to 10 m vegetation protection zone from a watercourse.”</p>	<p>The City provided a response by E-mail on September 5th, 2014 to G. Gilbert and C. John-Baptiste of MMM Group and Joseph Mirabella (Primont Homes), as follows:</p> <p>“Thank you for your correspondence regarding the NHN Study and the parcel located east of Jane Street and south of King Vaughan Road (Part of Lot 34, Concession 4, Part 1 of Plan 65R-30560). For our records, please confirm if this is the parcel with municipal address 12021 Jane Street, as shown on the image below. Note that the TRCA Regulated Area is depicted as a shaded area in the image below.</p> <p>The parcel is currently not in the urban area (‘Natural Areas & Countryside’ on Schedule 1 and ‘Non-Urban Area’ on Schedule 1A of the VOP 2010). Should the lands be the subject of a development application in the future to change</p>	<p>There are no recommendations at this time.</p>

			<p>the use, then you are correct that VOP 2010 policy 3.2.3.4.a applies in terms of specifying a minimum vegetation protection zone to the appropriate delineation of the feature. Please note that all pertinent policies of the VOP 2010 would apply in such a situation, including, but not limited to:</p> <ul style="list-style-type: none"> - the feature-based policies in section 3.3, such as regarding the “precise limits of valley and stream corridors” (policy 3.3.1.3) and the “required vegetation protection zone” (policy 3.3.1.1a); and - policies regarding an analysis of adjacent lands in accordance with the Provincial Policy Statement, such as policy 3.2.3.8 of the VOP 2010. <p>You correctly note that the watercourse was identified in the existing (Council adopted) Schedule 2 as an Enhancement Area. In fact, it should have been depicted as a Core Feature for the watercourse, as a result of the TRCA regulation area, with a larger Enhancement Area to identify the need for further studies (as per policies 3.2.3.13 to 3.2.3.15) to determine the effectiveness of the area as a wildlife corridor. It was determined through the NHN Study that this location is not a priority for consideration of a wildlife corridor. Hence, the Enhancement Area was removed from this location.</p> <p>Your correspondence has been recorded as part of preparing the Technical Report following the staff report to the Committee of the Whole (Public Hearing) on June 17, 2014. Feel free to contact me if you have further questions about the NHN Study.”</p>	
23	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Antony Niro, Maple resident</p> <p>LOCATION: Transportation Infrastructure</p>	<p>Comment that NHN should not interfere with transportation infrastructure.</p>	<p>Infrastructure projects are often approved through an Environmental Assessment process. Policy 3.2.3.7 addresses conflicts between the NHN and infrastructure projects.</p>	
24	<p>DATE: June 17, 2014</p>	<p>Disagree with Core Features designation for drainage features resulting from</p>	<p>Mediation meetings with Smart Centres and Bentall Kennedy are underway as part of the approval process for the Vaughan Metropolitan Centre Secondary Plan. Landowners are providing</p>	<p>The respondent is an appellant to VOP 2010 (Appeal # 72) and the</p>

	<p>RESPONDENT: Paula Bustard, SmartCentres</p> <p>LOCATION: NW Hwy 7 and Hwy 400</p>	<p>temporary stormwater management uses.</p>	<p>technical reports to the TRCA regarding stormwater management and drainage features, such that these reports and the TRCA review can be used to confirm any changes to the NHN.</p>	<p>matter will be addressed through the approvals process at the Ontario Municipal Board and subject to mediation for the Vaughan Metropolitan Centre Secondary Plan.</p>
25	<p>DATE: June 16, 2014</p> <p>RESPONDENT: Alan Young, Weston Consulting</p> <p>LOCATION: 21 Mill Street</p>	<p>Recommend to delete entire property from NHN.</p> <p>'Natural Area' designation in VOP 2010 appealed by former owner.</p> <p>Consent application considered by Committee of Adjustments.</p> <p>The respondent provided a letter from the TRCA dated May 9, 2013.</p>	<p>City staff confirmed with TRCA that the stable top of bank is on the north side of Mill Street at this location, as determined as part of the development application process.</p>	<p>The City recommends changing the Core Features mapping consistent with the comments provided by the respondent and confirmed by the Toronto and Region Conservation Authority.</p>
26	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Ryan Guetter, Weston Consulting</p> <p>LOCATION: 4650 Hwy 7, Pebble Creek Development</p>	<p>Request the owner's EIS be considered as part of the NHN Study in advance of a development application proceeding.</p> <p>Request to be notified concerning any further meetings or decisions (contact Jack Wong, Weston Consulting, 905-738-8080 ext. 244, or Gabriel DiMartino at gdimartino@graywoodgroup.com).</p>	<p>A development application was recently assigned (19T-14V006, related files OP.14.004, Z.14.025).</p>	<p>Any modifications to the NHN will be made following an approved development application.</p>
27	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Ryan Guetter, Weston Consulting</p> <p>LOCATION: 7553 Islington</p>	<p>Previously filed appeal (Briardown Estates).</p> <p>Submitted an EIS for the subject properties. Do not agree with findings of the NHN Study.</p> <p>Request opportunity to meet with Staff.</p>	<p>The parcel at 7553 Islington Avenue is designated "Open Space" in OPA No. 240 (Woodbridge Community Plan) and is split-zoned 'OS1' Open Space Conservation Zone and 'A' Agricultural by Zoning By-law 1-88). 150 Bruce Street is designated "Low Density Residential" in OPA No. 240 (Woodbridge Community Plan) and is zoned 'R1' Residential Zone by Zoning By-law 1-88.</p> <p>The lands in the floodplain are included in the "One Zone" floodplain policy (see VOP 2010 policy 3.6.4.1), such that</p>	<p>The respondent is an appellant to VOP 2010 (Appeal # 33) and the matter will be addressed through the approvals process at the Ontario Municipal Board.</p>

	<p>Avenue, 7553 Islington Holding Inc.</p>	<p>Request to be notified of any meetings, reports, modifications, decisions.</p>	<p>development is prohibited in the floodplain (see VOP 2010 policy 3.6.4.3).</p> <p>The lands in proximity to Bruce Street are wooded slopes. The woodlands are recognized on Map 5 of the York Region Official Plan (ROP 2010). It was confirmed through the NHN Study that the wooded slope constitutes significant woodland by its size, connection to the floodplain, location in the valley, and location in the Regional Greenlands System. Furthermore, the lands are below the crest of slope as determined by information provided by the Toronto and Region Conservation Authority.</p> <p>Information used for the purposes of the NHN study is consistent with previous information and designations in official plans.</p>	
28	<p>DATE: June 10, 2014</p> <p>RESPONDENT: Kurt Franklin, Weston Consulting</p> <p>LOCATION: 9000 Bathurst Street</p>	<p>Request that the woodland identified on proposed Schedule 2B be removed on the basis of a one-page letter prepared by Ontario Tree Experts that the woodland is a plantation dominated by white spruce.</p>	<p>The lands are the subject of development application OP.13.013.</p> <p>The woodland is identified as a “Mature Plantation” on Schedule ‘H’ to OPA 600. The woodland is identified on Map 5 in the York Region Official Plan as a woodland. The woodland was not designated as tableland woodland in the approved block plan. Hence, the woodland is not included in the Core Features mapping (Schedule 2 of VOP 2010), but is included in the woodland mapping (Schedule 2B).</p> <p>OPA 600 policies 5.11.1.8, 5.11.1.9 and 5.11.1.10 encourage development proponents to identify and examine opportunities for retention of woodlands of low functional significance.</p> <p>Policies 3.3.3.3 and 3.3.3.4 of VOP 2010 apply in this instance to determine the significance of the woodland and whether a woodland enhancement plan shall be completed, if processed under VOP 2010.</p>	<p>The matter will be addressed through the development review process, such as requiring the submission of an environmental impact study (EIS) and/or natural heritage evaluation (NHE).</p>
29	<p>DATE: June 17, 2014</p> <p>RESPONDENT: Jane McFarlane, Weston Consulting</p> <p>LOCATION: 11211 Weston Road</p>	<p>Object to features shown on proposed Schedules 2B and 2C.</p>	<p>The City revised the Core Features delineation to remove the Core Feature overlay for the portion of the feature located outside of the Greenbelt Plan. However, the features should still be shown on the pertinent Schedules depicting specific features, such as Schedule 2B regarding woodlands and Schedule 2C regarding significant wildlife habitat (SWH) for amphibian breeding. The information is suitable for consideration in the future Block Plan studies.</p> <p>Policies are provided in Section 11.4 of the VOP 2010, regarding the Hwy 400 North Employment Lands, and specifically on page</p>	<p>The matter will be addressed through the Block Plan process for the Hwy 400 North Employment Lands.</p>

			11-116 of the October 2014 Office Consolidation of VOP 2010, that, "... the environmental designations in the Employment Area will be examined in detail during the Block Plan process, which provides the flexibility to finalize the actual extent of the designations".	
30	<p>DATE: July 18, 2014</p> <p>RESPONDENT: Tim Jessop, Weston Consulting</p> <p>LOCATION: Woodbridge Park Ltd. NE Steeles Ave W and Gihon Spring Dr</p>	<p>Main concern is the significant wildlife habitat (SWH) determination and that most of lands are in Core Features.</p>	<p>The City notes the following aspects of the lands:</p> <ul style="list-style-type: none"> - Designated 'Community Commercial Mixed Use' on Schedule 13 of VOP 2010: - Removal of the parcel will not affect significant wildlife habitat (SWH) thresholds for lands to north of rail line; - As noted in the scoped EIS provided in the submission, the lands do not qualify as SWH for Shrub/Early Successional Breeding Bird habitat. 	<p>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.</p> <p>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.</p>

NHN Study – Attachment 4
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:

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.

Deleting in 3.2.3.2 the word “additions” and replacing it with “modifications”.

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**;

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**.

Amending 3.2.3.6 by adding the following:

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.

Amending 3.2.3.7 by deleting the second reference to “management” in subparagraph (a).

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 an Environmental Assessment, where such projects are necessary and deemed in the public interest after all 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).

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.

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.

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, 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.

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.

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.

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 in accordance with 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.

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 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.

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 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.

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 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.

Amending 3.3.5.1 by deleting the first sentence and replacing it with the following:

To protect aquatic biodiversity, outside of the Oak Ridges Moraine Conservation and **Greenbelt Plan Areas**, by:

Amending 3.3.5.1 by deleting in subparagraph (b) the words “maintains pre-development” and replacing it with “meets the Toronto and Region Conservation Authority stormwater management criteria regarding”.

Amending 3.3.5.1 by inserting a new subparagraph as subparagraph (c) 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*;

Amending 3.3.5.1 by renumbering subparagraph (c) to subparagraph (d).

Amending 3.3.5.1 by renumbering subparagraph (d) to subparagraph (e).

Amending 3.3.5.1 by renumbering subparagraph (e) to subparagraph (f).

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).

Amending 10.2.2.1 by deleting the definition for “early successional”.

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.

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.

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.

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;

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.










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.

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.

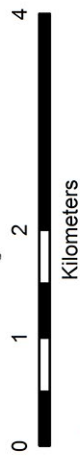
The policy text in Chapter 3 prevails over the mapping shown on Schedule 2 in determining the Natural Heritage Network.

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.

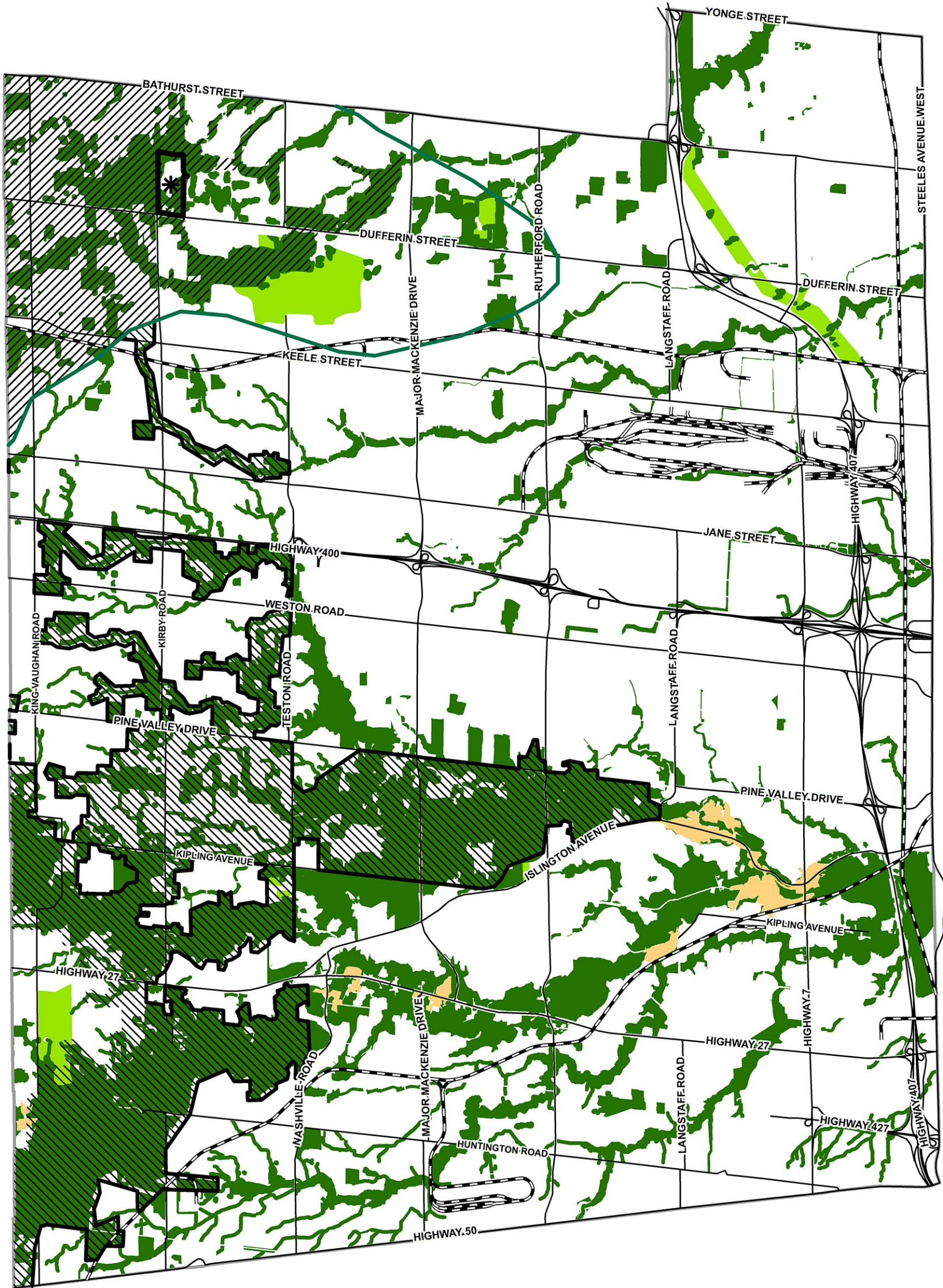
(1) Data provided by Urban Strategies.

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



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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 Valleylands
-  City of Vaughan Boundary

¹ Other wetlands shall be assessed for their significance, in accordance with criteria provided by the Province, and to determine their importance, function and the means of protection and/or maintenance of function to the satisfaction of the City.

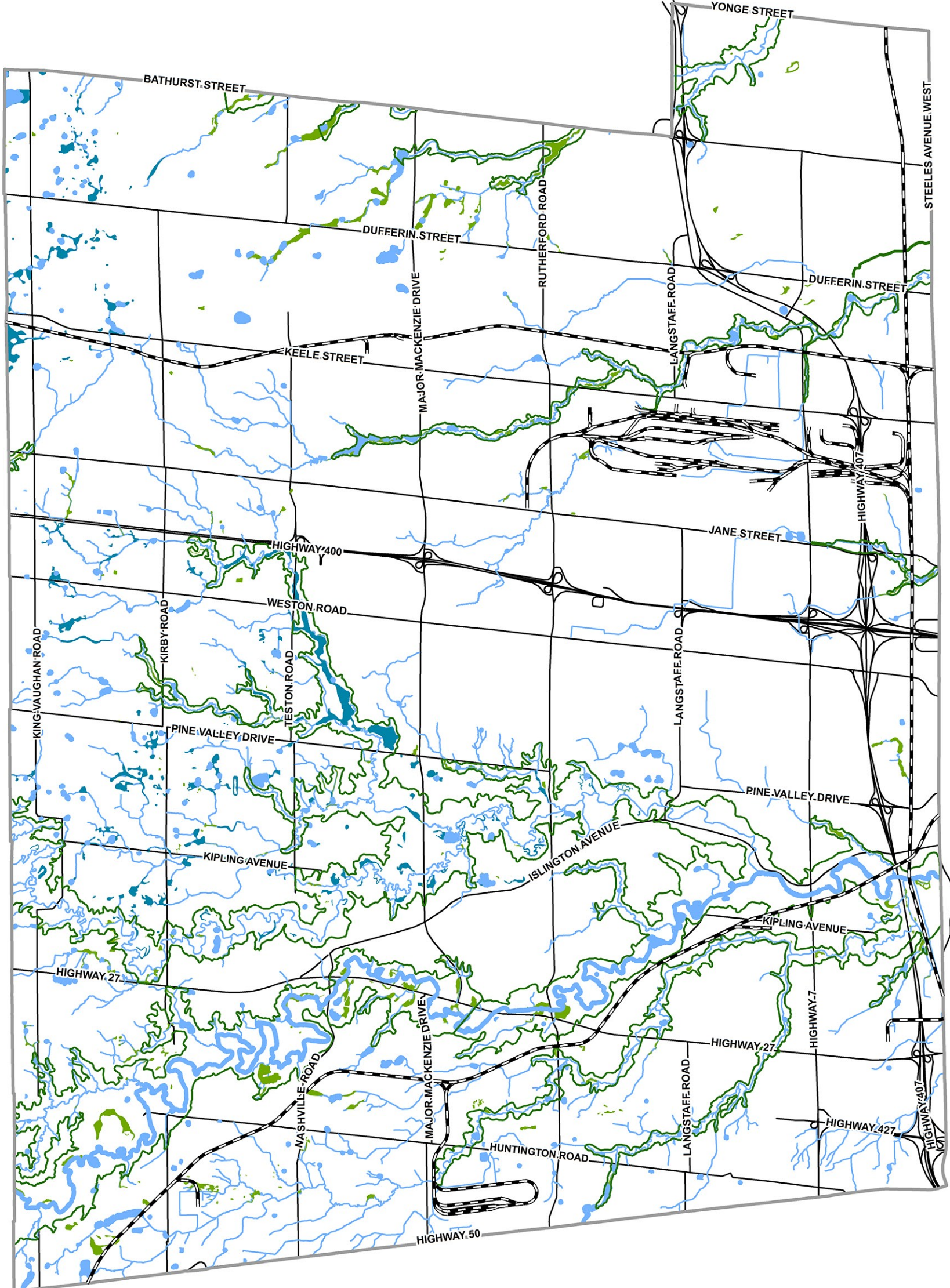
² To be confirmed through the application of policies of this plan.

³ To be confirmed on a site specific basis.



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SCHEDULE 2B

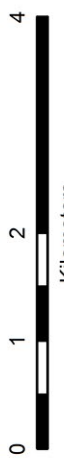
Natural Heritage Network

Woodlands Legend

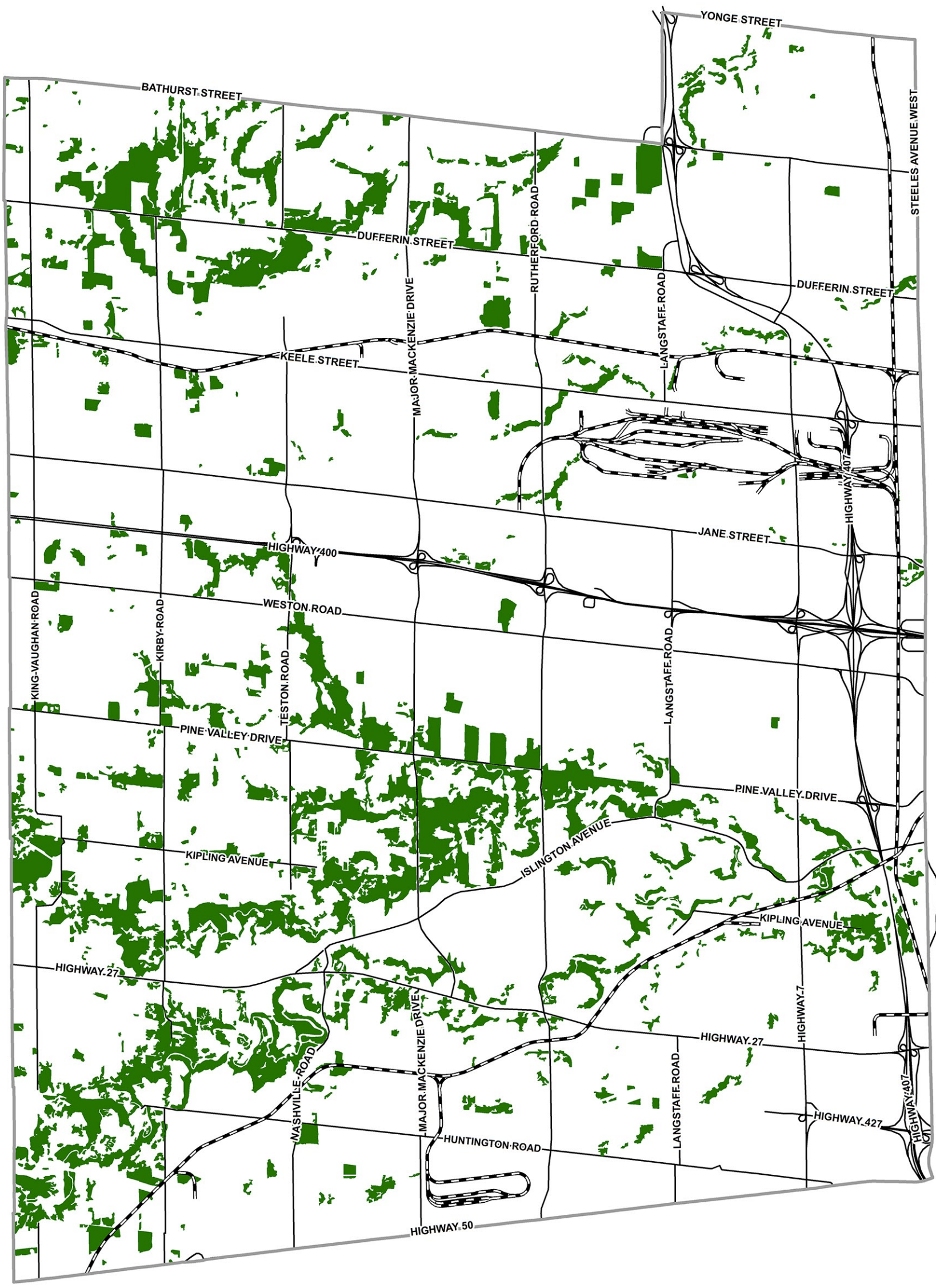
Woodland ¹

City of Vaughan Boundary

¹ Only woodlands 0.2 hectares in size and greater are depicted.











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SCHEDULE 2C

Natural Heritage Network

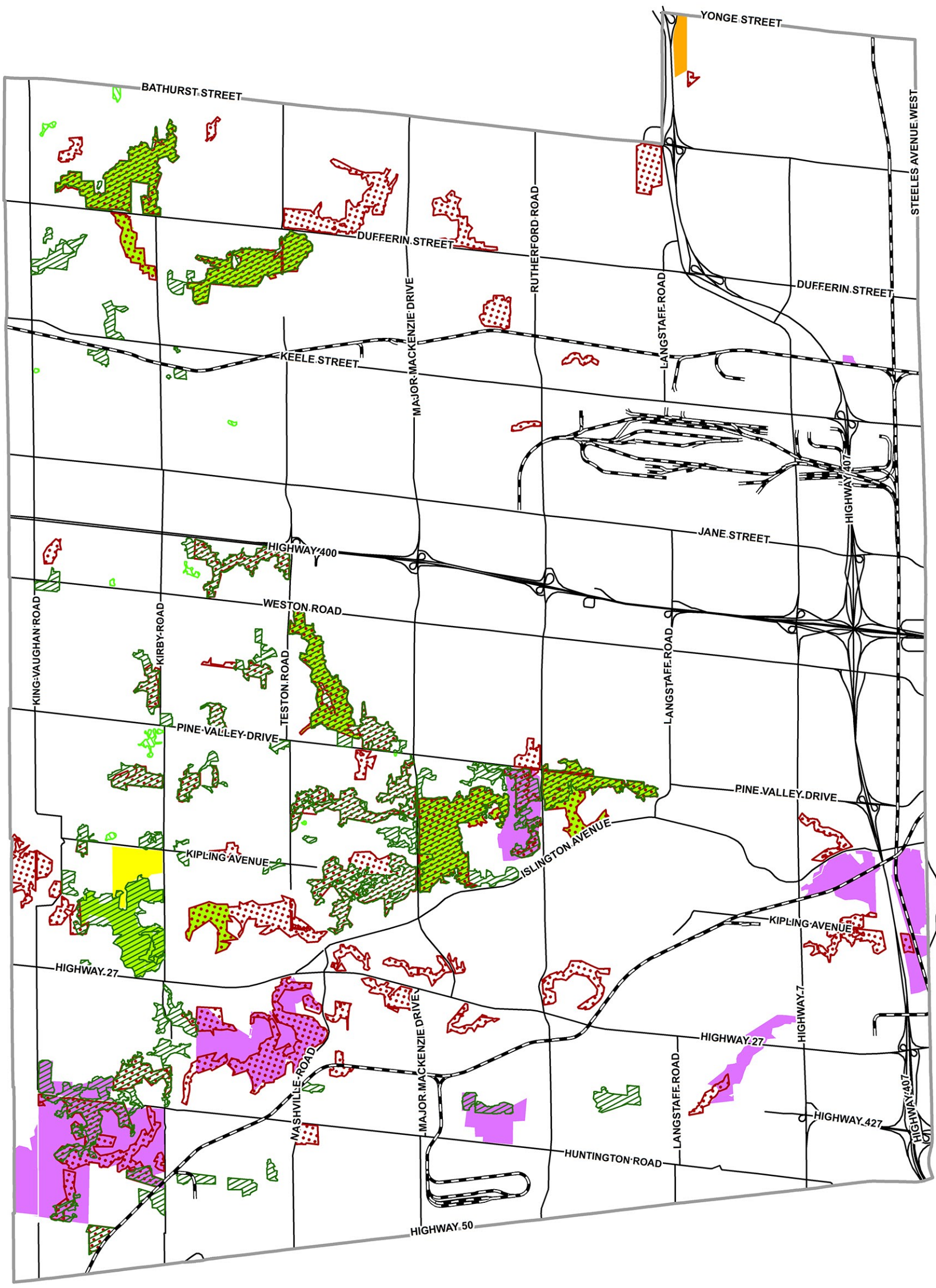
- Significant Wildlife Habitat^{1, 2}**
Legend
-  SWH Amphibian Breeding Habitat - Woodlands
 -  SWH Amphibian Breeding Habitat - Wetlands
 -  SWH Special Concern Open Country Breeding Birds
 -  SWH Special Concern Woodland Breeding Birds
 -  SWH Area Sensitive Open Country Breeding Birds
 -  SWH Shrub/Early Successional Breeding Birds
 -  SWH Area Sensitive Woodland Breeding Birds
 -  City of Vaughan Boundary

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.



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