Natural Heritage Evaluation
(Last update: March 2025)

The purpose of the Natural Heritage Evaluation (NHE) is to ensure the development application complies with the City policies and Provincial and Federal legislation related to the identification, protection and enhancement of key natural heritage features and key hydrologic features and their associated minimum vegetation protection zones.

The NHE must demonstrate compliance with the applicable policy and legislation, including but not limited to the following:

- Richmond Hill Official Plan
- Provincial Policy Statement (PPS)
- Oak Ridges Moraine Conservation Plan (ORMCP)
- Greenbelt Plan
- Migratory Birds Convention Act
- Federal and Provincial Acts related to species at risk

The NHE must include the following to be considered complete:

- A constraint map showing
  - Key natural heritage features (KNHFs) and key hydrologic features (KHFs)
  - Minimum Vegetation Protection Zones (MVPZs) for KNHFs and KHFs
  - Natural hazards and their associated buffers
  - The limit of development including on-site and off-site grading and servicing
  - Location of stormwater management facilities and outlets
- An Ecological Land Classification Vegetation Communities Map
- An assessment and identification of potential impacts associated with the proposed development on KNHFs, KHFs, and natural hazards
- Recommended mitigation measures and/or enhancements
- The municipal sign-off letter confirming the staked limits of the KNHFs and KHFs

Recommendations in the NHE should identify the impacts to KNHFs and KHFs within the City's Greenway System and ensure these impacts are appropriately avoided and/or minimized.

Where an NHE is required, the proponent is responsible for preparing a Terms of Reference (ToR) that meets City staff's expectations, to ensure the study addresses all relevant matters. The proponent is also responsible for coordinating feature staking with the City and Conservation Authorities. City staff should review and approve the ToR prior to commencement of work. Furthermore, the ecological data collected as part of the NHE should be provided to the City as outlined in Appendix A of this document.

Who should prepare this?

A NHE should be prepared by a qualified professional(s) with expertise in species identification, biological, ecological and/or environmental functions and processes, and environmental policy review,

with appropriate coordination amongst the other experts retained for the proposed development (i.e. specifically coordinating with hazard lands, servicing, grading, hydrogeological, geotechnical, landscape, and arborist plans/reports, etc.).

When is this required?

An application for development or site alteration proposed within the Minimum Area of Influence for KNHFs and KHF or located on or adjacent to the Greenway System as per the City's Official Plan that is reasonably expected to have impacts on the KNHFs and/or KHFs shall be accompanied by a NHE consistent with Section 5.24 of the Official Plan and the relevant sections of the ORMCP and/or Greenbelt Plan.

The requirement to complete an NHE shall be identified at the early stage of the proposed development or site alteration. A Scoped NHE may be permitted as deemed appropriate by the City through the ToR review to assess the potential impacts of smaller development or site alteration proposals, such as single lot severances where impacts may be minor.

A NHE may be required as part of the following applications:

- Official Plan Amendment
- Zoning By-law Amendment
- Draft Plan of Subdivision
- Draft Plan of Condominium
- Site Plan Control
- Consent Applications
- Minor Variances
- Site Alteration Permits

Why do we need this?

The NHE is part of a complete application that assists staff with streamlining their analysis and report preparation. It is required to demonstrate:

- Conformity with the Official Plan policies related to the City's Greenway System
- Outline potential impacts on KNHFs and KHFs (e.g. significant habitat of endangered and threatened species, fish habitat, wetlands, areas of natural and scientific interest, environmentally significant areas, valleylands, woodlands, sand barrens, savannahs and tallgrass prairies, permanent and intermittent streams, seepage areas and springs, kettle lakes, and significant wildlife habitat), along with other functions and/or systems
- Determine limits of development, i.e. directing development away from the feature(s) and their associated MVPZ
- Propose mitigation and enhancement measures to offset impacts
- Determine compliance with relevant sustainability and land use policies
- Integrate with the proposed site servicing and grading plans

How should this be prepared?

The applicant's consultants will provide the City with a Natural Heritage Evaluation, as a PDF, that is consistent with the approved ToR and follows the following format, subject to scoping as deemed appropriate by staff:

1. Introduction and Purpose
    - Address of the property
    - General site location of the subject property
    - Project Name (if applicable)
    - Applicant and owner's contact information
    - Author name, title, qualifications, company name and appropriate stamp
    - Brief description of the proposed development
    - Overview of the study area
    - Purpose of the study
    - Location map/site plan
2. Existing Conditions Mapping
    - Constraints Map
    - Ecological Land Classification Vegetation Communities Map
    - Official Plan land use and zoning map for the subject property and for the adjacent lands
3. Methodology
    - Background
    - Field Investigation
4. Existing Natural Heritage, Physical Geography and Ecology Conditions
    - Natural Heritage Features
    - Topography
    - Hydrology
    - Physiography
    - Flora and Vegetation Communities
    - Fauna and Wildlife Habitat
    - Threatened and Endangered Species
5. Policy Review and Conformity
    - Applicable Federal Legislation
    - PPS
    - ORMCP
    - Regional Municipality of York Region Official Plan
    - City of Richmond Hill Official Plan
    - Applicable Secondary Plans
    - Toronto and Region Conservation Authority Regulations and Guidelines
6. Impact Assessment and Mitigation
    - Invasive Species Management
    - Restoration and Enhancement
    - Mitigation measures

7. Recommendations
    - Summary and mapping of proposed mitigation and enhancements

8. Appendices
    - Field Survey Dates and Notes
    - TOR
    - The municipal sign-off letter confirming in writing the staked limits of the key natural heritage features
    - Relevant Correspondence
    - Completed Table Identifying the Minimum Areas of Influence and Minimum Vegetation Protection Zones for KNHFs and KHFs, and other features (see below)

OP Policy 3.2.1.1 Lands On The Oak Ridges Moraine Conservation Plan Area			
Feature	**Is the Property within 120 metres**	**MVPZ** (subject to Section 21 of the ORMCP where lands were within the Settlement Area on April 22, 2002)	**Site specific MVPZ (in metres) including rationale**
Wetland - is it a PSW, if so identify	Yes/no	All land within 30 metres of any part of feature	
Fish habitat	Yes/no	All land within 30 metres of any part of feature	
Significant valleyland	Yes/no	All land within 30 metres of stable top of bank	
Significant woodland	Yes/no	All land within 30 metres of the base of outermost tree trunks within the woodland	
Permanent and intermittent streams	Yes/no	All land within 30 metres of meander belt	
Seepage areas and springs	Yes/no	All land within 30 metres of meander belt	
Kettle lake	Yes/no	All land within the surface catchment area or within 30 metres of any part of feature, whichever is greater	
Significant portions of habitat of endangered, rare and threatened species	Yes/no	As determined by a natural heritage evaluation	
ANSI Life Science and Earth Science	Yes/no	As determined by a natural heritage evaluation or earth science heritage evaluation	

Feature	Is the Property within 120 metres	MVPZ (subject to Section 21 of the ORMCP where lands were within the Settlement Area on April 22, 2002)	Site specific MVPZ (in metres) including rationale
Environmentally Significant Area	Yes/no	As determined by a natural heritage evaluation	
Significant wildlife habitat	Yes/no	As determined by a natural heritage evaluation	
OP Policy 3.2.1.2 Lands South The Oak Ridges Moraine Conservation Plan Area			
A minimum vegetation protection zone of **30 metres** shall be provided and enhanced from the outer limits of all key natural heritage features, other than Significant woodlands and significant habitat of endangered and threatened species, unless it is demonstrated through a Natural Heritage Evaluation that the development or site alteration will not result in a negative impact on the feature or its functions to the satisfaction of the City.			
Feature	**Is there a feature on or abutting the property?**	**MVPZ**	**Recommended MVPZ (in metres) including rationale**
Wetland	Yes/no	30 Metres	
Fish habitat	Yes/no	30 Metres	
Significant valleyland	Yes/no	30 Metres	
ANSI Life Science and Earth Science	Yes/no	30 Metres	
Environmentally Significant Area	Yes/no	30 Metres	
Permanent and intermittent streams	Yes/no	30 Metres	
Seepage areas and springs	Yes/no	30 Metres	
Kettle lake	Yes/no	30 Metres	
Significant woodland	Yes/no	As determined by a Natural Heritage Evaluation but shall not be less than 10	
Significant habitat of endangered and threatened species *Development or site alteration shall not be permitted within significant habitat of endangered and threatened species where such habitat has been identified by the Province or through a Natural Heritage Evaluation, as required by policy 3.2.1.2.10 of this Plan.*	Yes/no	As determined by a Natural Heritage Evaluation	

Floodplain and erosion hazard *Development and site alteration shall be prohibited within the floodplain subject to Conservation Authority regulations and the natural hazard policies of the Provincial Policy Statement.*	Yes/no	A minimum protection zone (or buffer) of 10 metres shall be provided from the outer limits of hazardous lands and hazardous sites, or such greater distance as may be determined through a Natural Heritage Evaluation, a Geotechnical Study, a floodplain assessment, or to conform to Provincial regulations.	
Floodplain and erosion hazard **within Bernard Key Development Area** *Development and site alteration shall be prohibited within the floodplain subject to Conservation Authority regulations and the natural hazard policies of the Provincial Policy Statement.*	Yes/no	Notwithstanding Policy 3.2.2.3(7) of the Part 1 Plan (i.e. a minimum protection zone or buffer of 10 metres), reductions may be permitted to the minimum protection zone (buffer) from the outer limits of hazardous lands and hazardous sites to the satisfaction of the City and the Conservation Authority to facilitate development or site alteration. However, no such reduction shall be permitted unless it is demonstrated through a Geotechnical Study, Natural Heritage Evaluation and/or Floodplain Assessment, prepared to the satisfaction of the City and the Conservation Authority, that the development or site alteration will not pose a risk to human health and safety or property, will not adversely impact upon adjacent properties or infrastructure, and will not have a negative impact on the adjacent key natural heritage features or key hydrological features and/or their functions.	

What else should we know?

City staff will determine the requirement for an NHE as early in the application process as possible. For Planning Act applications, staff will identify the requirement for an NHE through the Pre-Consultation Meeting process and letter. For Site Alteration and other Permits, staff will identify the need for an NHE through the Oak Ridges Moraine Pre-Consultation Meeting and letter or at the first submission. The NHE should be undertaken early in the development process to identify any constraints that will impact the limits of development. **Submission of an NHE to the City's satisfaction along with all other supporting materials (i.e. municipal sign-off letter described above) will be required prior to an application being deemed complete.**

Consultation with the local municipality and local Conservation Authority should occur early in the process (pre-consultation) as the results of this study will determine the opportunities and constraints for the site, including the development limit. Also, guidance can be given with respect to the number of seasons in which inventories must be taken.

Where a site visit with the municipality and commenting agencies is required to identify and delineate the limit of the KNHFs, KHFs, and/or natural hazards and their appropriate MVPZs/buffers located within the Minimum Area of Influence, municipal sign-off on the staked limits of key natural features/function is required prior to commencement of the Planning process.

Park and Natural Heritage Planning staff will review the NHE and provide comments to the applicant via Development Planning staff that may require modifications to the development proposal or to the proposed mitigation/restoration measures. Once the NHE is to the City's satisfaction, the recommendations of the NHE will be incorporated as conditions of approval and secured in the relevant agreements.

The completion of an NHE does not ensure that the application will be approved. The NHE provides the mechanism for assessing impacts and must be consistent with other relevant reports/plans (i.e. hazard related studies, servicing studies, grading plans, erosion and sediment control plans, slope stability study). During the review of an NHE, additional modifications to the proposed development may be required.

What other resources are there?

City of Richmond Hill Official Plan
Official Plan - City of Richmond Hill

Ontario Professional Planners Institute (OPPI) – Hire an RPP
https://ontarioplanners.ca/hire-an-rpp

Professional Engineers of Ontario
https://www.peo.on.ca/

Ministry of Natural Resources – Natural Heritage Reference Manual
https://www.ontario.ca/document/natural-heritage-reference-manual

Ministry of Natural Resources – Significant Wildlife Habitat Guide
https://www.ontario.ca/document/guide-significant-wildlife-habitat

Toronto and Region Conservation Authority– Environmental Impact Statement Guidelines
https://trca.ca/app/uploads/2016/02/EIS_Guideline_-_Jan232015bp.pdf

Greenbelt Plan
https://www.ontario.ca/document/greenbelt-plan-2017

Oak Ridges Moraine Conservation Plan
https://www.ontario.ca/page/oak-ridges-moraine-conservation-plan-2017

Parks Planning and Natural Heritage Staff

Notes

If the proposed development is revised, the NHE shall reflect the revisions in an updated plan, report and letter from the author indicating the changes and whether or not the recommendations and conclusions are the same.

A peer review may be required. The cost of the peer review will be borne by the applicant per the City's Tariff of Fees By-law.

The study requirements may vary depending on the nature of the proposal. This will be pre-determined through the pre-consultation process and in consultation with any applicable external agencies.

Additional studies and/or information may be required to be submitted as identified by the City and/or external agencies through the planning or site alteration review process.

If the submitted study is incomplete, is authored by an unqualified individual or does not contain adequate analysis, the application(s) will be considered incomplete and returned to the applicant.

Geospatial environmental data (i.e., Geographic Information Systems shapefiles.shp) may be required for the purposes of supporting the City's natural areas inventory.

Appendix A – Ecological Data Collection Requirements

The data collected as part of an ecological assessment (Natural Heritage Evaluation, Environmental Assessment, Master Environmental Servicing Plan, etc.) should be delivered to the City of Richmond Hill in a zipped file, and emailed to: NHdata@richmondhill.ca **and** the designated City Project Manager or City Planner.

The minimum data requirements, associated attributes and table names for each study area are identified below. Any supplementary ecological information can be provided as part of the data package as additional fields.

1. Flora & Plant Communities

a) Vascular Plant Surveys

Geo-referenced digital data using UTM Zone 17 NAD83 ESRI geodatabase format, should be provided, including the following attributes:

• Names of surveyors

• Date of survey

• The global, national, provincial, regional and local priority ranks for each species (if available)

• Species observed by scientific name or NHIC code. Reporting should cross-reference each plant species back to the appropriate vegetation communities as through ELC data collection (as outlined below)

• Population size

• Whether the species was planted

Attributes must use the names described in the data dictionary below:

Column Name	Column Description	Properties
DATE	Date of observations month/day/year	Date
OBSERVER	Name of observer	String – Length 50
COMPANY NAME	Name of company providing data	String – Length 255
PROJECT TYPE	i.e. Feasibility, EA, Development Application, etc	String – Length 255
SPCODE	NHIC seven-letter code	String – Length 254
SCIENTIFICNAME	Scientific name of species	String – Length 255

COMMONNAME	Common name of species	String – Length 255
FLORALOCALRANK	TRCA L-Rank. Rank of L1 to L5 for native species. Rank of L+ for non-native species and L+? Indicates that the origin is not clear. Rank of LX for species believed to be extirpated	String – Length 255
NOINDV	Indication of population size. Number of individuals using categories of 1-2, 3-5, 6-20, 21-50, 51-100, or over 100	String – Length 8

b) Vegetation Communities

Geo-referenced digital data using UTM Zone 17 NAD83 ESRI geodatabase format, should be provided, including the following attributes:

• Names of surveyors

• Date of survey

• Soil type(s), drainage regime and moisture regime

• Identification of the Ecological Land Classification vegetation unit, using the 1998 Approximation

• Stand description for the ELC vegetation type, including layer, height, cover and species in order of decreasing dominance (see Figure 1)

• The element ranking (Provincial S-Rank) for each ELC community type identified.

• Other attributes of the community including condition, disturbance, diversity, function and presence of wildlife habitat features (e.g. snags, downed logs, cavity trees, hibernacula, nests, etc.)

Attributes must use the names described in the data dictionary below:

Column Name	Column Description	Properties
DATE	Date of observations month/day/year	Date
OBSERVER	Name of observer	String – Length 20
COMPANY NAME	Name of company providing data	String – Length 255
PROJECT TYPE	i.e. Feasibility, EA, Development Application, etc	String – Length 255
ELCCODE	Vegetation type based on ELC	String – Length 255
ELCNAME	Vegetation type name associated with ELC code	String – Length 255

2. *Fauna*

a) Amphibian surveys

Geo-referenced digital data using UTM Zone 17 NAD83 ESRI geodatabase format, should be provided, including the following attributes:

- Name of surveyors
- Date and time of survey
- Species observed by scientific name or NHIC code
- List of all species recorded, including the call codes, abundance codes and breeding codes
- The global, national, provincial, regional and local priority ranks for each species

Attributes must use the names described in the data dictionary below:

Column Name	Column Description	Properties
DATE	Date of observations month/day/year	Date
OBSERVER	Name of observer	String – Length 50
COMPANY NAME	Name of company providing data	String – Length 255

PROJECT TYPE	i.e. Feasibility, EA, Development Application, etc	String – Length 255
CODE	Species four-letter code	String – Length 254
SCIENTIFICNAME	Scientific name	String – Length 255
COMMONNAME	Common name	String – Length 255
FAUNALOCALRANK	TRCA local rank ranging from L1 to L5 for native species. Non-native species represented as L+	String – Length 255
CALLCODE	Call code according to MMP survey protocol	String – Length 20
COUNT	Number of individuals heard	
BREEDSTATUS	Breeding status. Categories of possible (PO), probable (PR), and confirmed (CO)	String

b) Breeding bird surveys

Geo-referenced digital data using UTM Zone 17 NAD83 ESRI geodatabase format, should be provided, including the following attributes:

- Name of surveyors
- Date, time and weather conditions during surveys
- Species observed by scientific name or NHIC code
- The global, national, provincial, regional and local priority ranks for each species
- An annotated assessment of confirmed, probably, or possible breeding

Attributes must use the names described in the data dictionary below:

Column Name	**Column Description**	**Properties**
DATE	Date of observations month/day/year	Date
OBSERVER	Name of observer	String – Length 50
COMPANY NAME	Name of company providing data	String – Length 255

PROJECT TYPE	i.e. Feasibility, EA, Development Application, etc	String – Length 255
CODE	Species four-letter code	String – Length 254
SCIENTIFICNAME	Scientific name	String – Length 255
COMMONNAME	Common name	String – Length 255
FAUNA_LOCALRANK	TRCA local rank ranging from L1 to L5 for native species. Non-native species represented as L+	String – Length 255
BREEDSTATUS	Breeding status. Categories of possible (PO), probable (PR), and confirmed (CO)	String – Length 20

c) Incidental Observations

Geo-referenced digital data using UTM Zone 17 NAD83 ESRI geodatabase format, should be provided, including the following attributes:

- Name of surveyors
- Date and time of survey
- Species observed by scientific name or NHIC code
- Evidence of use of habitat
- The global, national, provincial, regional and local priority ranks for each species

Attributes must use the names described in the data dictionary below:

Column Name	**Column Description**	**Properties**
DATE	Date of observations month/day/year	Date
OBSERVER	Name of observer	String – Length 50
COMPANY NAME	Name of company providing data	String – Length 255

PROJECT TYPE	i.e. Feasibility, EA, Development Application, etc	String – Length 255
SCIENTIFICNAME	Scientific name	String – Length 255
COMMONNAME	Common name	String – Length 255

3. Aquatic communities and habitat survey

a) Fish Community

Geo-referenced digital data using UTM Zone 17 NAD83 ESRI geodatabase format, should be provided, including the following attributes:

- Date and time of each survey
- Name of surveyors
- List and abundance of all species recorded
- Status of any species of conservation concern
- Locations and abundance of any observed spawning redds and relevant species
- Length of surveyed site and indication of the catch per unit effort
- Survey methodology employed