

October 30, 2015

Mr. Colin Edwards and Mr. Lee Jeong Tack
North Kent Wind 1 LP, by its general partner
North Kent Wind 1 GP Inc.
2050 Derry Road West 2nd Floor
Mississauga, ON L5N 0B9

RE: NHA Confirmation for North Kent Wind 1 Project

Dear: Mr. Colin Edwards and Mr. Lee Jeong Tack

In accordance with the Ministry of the Environment and Climate Change's (MOECC's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources and Forestry (MNRF) has reviewed the North Kent Wind 1 Project Natural Heritage Assessment and Environmental Impact Study for the North Kent Wind 1 Project located north of the City of Chatham, Municipality of Chatham-Kent, Ontario, submitted by Mr. Colin Edwards and Mr. Lee Jeong Tack on October 26, 2015.

In accordance with Section 28(2) and 38(2)(b) of the REA regulation, MNRF provides the following confirmations following review of the natural heritage assessment:

1. The MNRF confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNRF.
2. The MNRF confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNRF, if no natural features were identified.
3. The MNRF confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNRF.
4. The MNRF confirms that the project location is not in a provincial park or conservation reserve.

5. The MNRF confirms that the environmental impact study report has been prepared in accordance with procedures established by the MNRF.

In accordance with Section 28(3)(c) and 38(2)(c), MNRF also offers the following comments in respect of the project.

Pre-construction Monitoring

In accordance with Appendix D of MNRF's NHA Guide, a commitment has been made to complete pre-construction assessment(s) of habitat use for the candidate significant wildlife habitats listed in Table 1 (enclosed).

MNRF has reviewed and confirmed the assessment methods and the range of mitigative options. Pending completion of the assessments and determination of significance, the appropriate mitigation is expected to be implemented, as committed to in the environmental impact study.

Post-Construction Monitoring

In addition to the NHA, Environmental Effects Monitoring Plans (EEMP) that address post-construction mortality monitoring and mitigation for birds and bats must be prepared and implemented. Environmental Effects Monitoring Plans for birds and bats must be prepared in accordance with MNRF Guidelines and should be reviewed by MNRF in advance of submitting a REA application to MOECC in order to minimize potential delays in determining if the application is complete. Comments provided by the MNRF with respect to the EEMP must be submitted as part of the application for a REA.

A commitment has been made in the Environmental Impact Study and will be included in the Environmental Effects Monitoring Plan, part of the Design and Operations Report, to conduct post-construction monitoring should the pre-construction monitoring (as outlined above) deem the wildlife habitat to be significant. For the North Kent Wind 1 Project this includes surveys outlined in Table 2 (enclosed).

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter the NHA, MNRF may need to undertake additional review of the NHA.

Where specific commitments have been made by the applicant in the NHA/EIS with respect to project design, construction, rehabilitation, operation, mitigation, or monitoring, MNRF expects that these commitments will be considered in MOECC's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

In accordance with S.12 (1) of the Renewable Energy Approvals Regulation, this letter must be included as part of your application submitted to the MOECC for a Renewable Energy Approval.

Please be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements*

If you wish to discuss any part of this confirmation or additional comments provided, please contact Jim Beal, Renewable Energy Coordinator at jim.beal@ontario.ca or 705-755-1362.

Sincerely,



Kazja Milian
Supervisor, Land Use Planning Unit
Southern Region Resources Section
Ministry of Natural Resources and Forestry

cc Jim Beal, Renewable Energy Coordinator, MNRF
Mohsen, Keyvani, Environmental Approvals Branch, MOECC

Table 1. Summary of Pre-Construction Monitoring Commitments for the North Kent Wind 1 Project

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
Bat Maternity Colony	<p>Two candidate bat maternity colony habitats were identified through the site investigation. The presence of suitable cavity trees within one candidate bat maternity colony habitat (BMA-001) could not be verified during the site investigation phase of the Project as site access was denied. As such, no further surveys will be conducted at BMA-001, and the habitat will be treated as significant; however, in the event that site access is granted prior to June 2016, a site investigation will be conducted to verify the presence of ≥ 10 wildlife trees per hectare, measured at ≥ 25cm dbh. If candidate significant habitat is determined to be absent, the habitat will be confirmed not significant. If candidate significant habitat is determined to be present, proposed evaluation methods are identified below.</p> <p>If candidate significant habitat is determined to be present within BMA-001, a total of 12 suitable cavity trees will be selected since it is 11.91ha in size. Up to 10 suitable cavity trees (less if 10 suitable trees aren't present) will be selected within BMA-002 since it is less than 10ha in size. Monitoring sites within the 2 candidate bat maternity colony habitats will be selected using the criteria outlined in the Bats and Bat Habitats guidelines (OMNR 2011a).</p> <p>Following the Bats and Bat Habitats guidelines (OMNR 2011a), exit surveys will be conducted during the month of June. Observers will choose a viewing station with a clear aspect of cavity opening or crevice, which will be monitored from 30 minutes before dusk until 60 minutes after dusk for evidence of bats exiting. An acoustic bat detector paired with a digital recorder will be used in conjunction with visual surveys to determine species. Each candidate tree will only be monitored once. Night-vision or infrared video equipment may be substituted for observers. Once an evening's monitoring is completed (60 minutes after sunset), the cameras will be collected by the staff members conducting visual surveys in the same candidate significant habitat and the visual recordings for each video recorder will be reviewed for evidence of significant bat roosting activity.</p> <p>The locations of the candidate significant habitat can be seen on Maps 4-1 to 4-9.</p>	BMA-001 BMA-002
Colonially-Nesting Breeding Bird Habitat (Trees/Shrubs)	<p>The presence of nest bowls within the candidate colonially-nesting bird breeding habitat could not be identified during the site investigation phase of the Project as site access was denied within a portion of WOD-002. As such, no further surveys will be conducted, and the habitat will be treated as significant; however in the event that site access is granted prior to April 2016, a site investigation will be conducted to verify the presence of nest bowls within the candidate habitat. If candidate significant habitat is determined to be present, proposed evaluation methods are identified below. If candidate significant habitat is determined to be absent, the habitat will be confirmed not significant.</p> <p>Surveys will consist of a 15 minute point count during the breeding season from a suitable vantage point located in close</p>	CBT-001

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
	<p>proximity to where nest bowls are located, and will occur once in each of April, June, and August.</p> <p>The objective of this survey is to determine if active heron nests are present within the candidate colonially-nesting bird breeding habitat.</p> <p>All individuals will be recorded along with information on species, behaviour, movement and time observed.</p> <p>The locations of monitoring sites within the candidate significant habitat will be determined based on conditions of the site.</p> <p>The location of the candidate significant habitat can be seen on Maps 4-1 to 4-9.</p>	
Old Growth Forest	<p>The presence of an old growth forest within one woodland could not be confirmed during the site investigation phase of the Project, as site access was denied. As such, no further surveys will be conducted and the habitat will be treated as significant; however, in the event that site access status changes prior to July 2016, a site investigation will be conducted to confirm the age estimate of tree species being >140 year old within the forest ecosite. If candidate significant habitat is determined to be present (i.e. dominant tree species estimated to be greater than 140 years old), the habitat will be confirmed significant. If candidate significant habitat is determined to be absent, the habitat will be confirmed not significant.</p> <p>The location of the candidate significant habitat can be seen on Maps 5-1 to 5-9.</p>	OGF-001
Waterfowl Nesting Area	<p>The presence of a waterfowl nesting area within one woodland could not be verified during the site investigation phase of the Project as site access was denied. As such, no further surveys will be conducted and the habitat will be treated as significant; however, in the event that site access changes prior to April 2016, a site investigation will be conducted to verify the presence of suitable permanent open water, in addition to shrubland/grassland or suitable cavity trees for nesting in upland areas >40cm dbh. If candidate significant habitat is deemed to be absent, the habitat will be confirmed not significant. If candidate significant habitat is determined to be present, area searches will be conducted within the candidate waterfowl nesting area. This method will involve walking the perimeter of the wetland and counting all observable waterfowl using the wetlands.</p> <p>Surveys will be conducted on 3 separate visits, once in each of April, May, and June 2016, to capture both early and late nesting species.</p> <p>Surveys will be carried out during the early morning (sunrise to 4 hours after sunrise). All individuals will be recorded along with information on species, behaviour, movement and time observed. Optimal weather conditions for these surveys are clear, sunny days with little to no precipitation. Surveys will be postponed and re-scheduled if poor weather conditions are encountered, specifically if high winds or heavy precipitation is noted.</p>	WFN-001

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
<p>Amphibian Breeding Habitat (Woodland)</p>	<p>The location of the candidate significant habitat can be seen on Maps 5-1 to 5-9.</p> <p>Three evening amphibian call surveys will be conducted at the one candidate habitat, once in each of April, May and June 2016. Each survey will last 3 minutes, following the accepted Marsh Monitoring Program protocol, and will begin no earlier than one half hour after sunset and end before midnight. Semi-circular point counts will be conducted at each habitat to monitor calling amphibians. Several point counts may be required at a single habitat in order to adequately survey the area. Point counts will be located at least 500m apart to prevent counting duplicate amphibian calls. These surveys will be conducted within habitats where site access has been granted. Where site access has not been granted, point counts may be conducted along the roadside or adjacent property.</p> <p>During each survey, biologists will record species and calling abundance codes, along with other appropriate information (date, time, weather, etc.). A UTM will be taken for each call location to ensure consistency between survey visits.</p> <p>Where site access has been granted, 2 amphibian egg mass searches will also be conducted within each habitat during daylight hours. The exact timing of the surveys will be dependent on 2016 spring conditions and when amphibians are expected to be breeding within the general vicinity of the Project Area, but are expected to occur once in April and again in either May or June. A minimum search effort of 30 minutes will be used on each visit, in each habitat. These area searches will include walking within the wetland or vernal pool along the perimeter, looking for egg masses. Due to the composition and attributes of the candidate amphibian breeding habitats, special equipment will not be required to identify egg masses; however, visual surveys conducted in breeding ponds with high water levels will require the use of chest waders. This approach is expected to effectively identify egg masses, while minimizing any disturbance effects caused by sampling.</p> <p>If candidate significant habitat (vernal pools) is determined to be not present during the first site visit, no specific studies will be conducted and the habitat will be confirmed not significant.</p> <p>The locations of the candidate significant habitat can be seen on Maps 5-1 to 5-9.</p>	<p>AWO-001</p>
<p>Marsh Bird Breeding Habitat</p>	<p>Surveys will consist of 15 minute point counts within the candidate significant habitat during the breeding season, occurring twice between mid-May and early July 2016, no less than 10 days apart, following the accepted Marsh Monitoring Program protocol (Bird Studies Canada 2009). Each survey will be conducted in the morning (beginning 30 minutes before sunrise and ending no later than 1000hrs) or evening (occurring no earlier than 4 hours before sunset and ending before dark), when marsh birds are actively nesting in wetland habitats.</p> <p>Each survey will be conducted under near optimal weather conditions, on clear, warm (at least 16°C) evenings, with no precipitation and little or no wind.</p> <p>Point counts will be conducted within the habitat where site</p>	<p>MBB-001</p>

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
	<p>access has been granted, or from the property adjacent to the habitat, where site access has not been granted. Each point count will last for 15 minutes, and will be sub-divided into three 5 minute components: a 5 minute passive (silent) observation period, a 5 minute call playback period, and a second 5 minute passive observation period.</p> <p>If candidate significant habitat (shallow water with emergent aquatic vegetation) is determined to be not present on the first site visit, no specific studies will be conducted and the habitat will be confirmed not significant.</p> <p>The locations of monitoring sites within the candidate significant habitat will be determined based on conditions of the site.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	
<p>Eastern Wood-Pewee (<i>Contopus virens</i>)</p>	<p>Ten-minute point count surveys will be conducted within each of the 3 habitats for eastern wood-pewee in June and early July 2016. Each point count station will be surveyed 3 times during early, mid and late season (spring and early summer) no less than 10 days apart.</p> <p>The number of point counts required depends on the size and habitat diversity at each site. Following the Birds and Bird Habitat Guidelines for Wind Power Projects (OMNR 2011b), point counts will be spaced at least 250m apart, ideally with the centre point at least 100m from the habitat edge. Where more than one point count will be conducted within each candidate habitat, a standardized transect will also be conducted between point count sites.</p> <p>Surveys will be conducted between dawn (one half hour before sunrise) and 3 hours after sunrise. These surveys will occur during a time period when males are expected to be actively singing and defending territories.</p> <p>Days with high wind speeds and rain will be avoided. During each visit, the highest observed breeding evidence will be recorded for each species.</p> <p>The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.</p>	<p>EWP-001 (SCC-A) EWP-002 (SCC-M) EWP-003 (SCC-G)</p>
<p>Wood Thrush (<i>Hylocichla mustelina</i>)</p>	<p>Ten-minute point count surveys will be conducted within the habitat for wood thrush in June and early July 2016. Each point count station will be surveyed 3 times during early, mid and late season (spring and early summer) no less than 10 days apart.</p> <p>The number of point counts required depends on the size and habitat diversity at the site. Following the Birds and Bird Habitat Guidelines for Wind Power Projects (OMNR 2011b), point counts will be spaced at least 250m apart, ideally with the centre point at least 100m from the habitat edge. Where more than one point count will be conducted within the candidate habitat, a standardized transect will also be conducted between point count sites.</p> <p>Surveys will be conducted between dawn (one half hour before sunrise) and 3 hours after sunrise. These surveys will occur</p>	<p>WTH-001 (SCC-C)</p>

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
	<p>during a time period when males are expected to be actively singing and defending territories.</p> <p>Days with high wind speeds and rain will be avoided. During each visit, the highest observed breeding evidence will be recorded for each species.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	
Prairie Milkweed <i>(Asclepias sullivantii)</i>	<p>One standardized area search will be conducted within the candidate significant prairie milkweed habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of June to July.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	PMI-001 (SCC-P)
Pawpaw <i>(Asimina triloba)</i>	<p>One standardized area search will be conducted within the one candidate significant pawpaw habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering or leaf-on period of April to September.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	PAW-001 (SCC-B)
Muskingum Sedge <i>(Carex muskingumensis)</i>	<p>One standardized area search will be conducted within each of the 5 candidate significant Muskingum sedge habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably after the plant has flowered in June or July.</p> <p>The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.</p>	MSE-001 (SCC-A) MSE-005 (SCC-N) MSE-006 (SCC-L) MSE-007 (SCC-K) MSE-008 (SCC-G)
Rigid Sedge <i>(Carex tetanica)</i>	<p>One standardized area search will be conducted within the candidate significant rigid sedge habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the fruiting period of June to July.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	RSE-001 (SCC-P)
Blue Ash <i>(Fraxinus quadrangulata)</i>	<p>One standardized area search will be conducted within the one candidate significant blue ash habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys can be made year-round based on the presence of distinctively shaped branches and twigs.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	BAS-001 (SCC-B)
Swamp Rose-	One standardized area search will be conducted within each of	SRM-001 (SCC-E)

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
mallow (<i>Hibiscus moscheutos</i>)	<p>the 2 candidate significant swamp rose-mallow habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys can be made year-round (in absence of heavy snow cover) based on the robust, distinctive, and persistent nature of the plant and dead stems.</p> <p>The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.</p>	SRM-002 (SCC-K)
Black Gum (<i>Nyssa sylvatica</i>)	<p>One standardized area search will be conducted within each of the 2 candidate significant black gum habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the leaf-on period of April to September.</p> <p>The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.</p>	BGU-001 (SCC-A) BGU-003 (SCC-K)
Northern Fogfruit (<i>Phyla lanceolata</i>)	<p>One standardized area search will be conducted within each of the 5 candidate significant northern fogfruit habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of July to August.</p> <p>The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.</p>	NFO-001 (SCC-A) NFO-005 (SCC-L) NFO-006 (SCC-N) NFO-007 (SCC-P) NFO-008 (SCC-K)
Shumard Oak (<i>Quercus shumardii</i>)	<p>One standardized area search will be conducted within the one candidate significant Shumard oak habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the period of October to December when leaves and fully-developed acorns are available. The absence of the species can also be confirmed year-round if no other similar oak species are present in a given habitat.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	SHU-002 (SCC-D)
Climbing Prairie Rose (<i>Rosa setigera</i>)	<p>One standardized area search will be conducted within the candidate significant climbing prairie rose habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the leaf-on period of late June to September.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	CPR-001 (SCC-P)
Lizard's Tail (<i>Saururus cernuus</i>)	<p>One standardized area search will be conducted within each of the 5 candidate significant lizard's tail habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of June to August.</p>	LTA-001 (SCC-A) LTA-005 (SCC-N) LTA-006 (SCC-L) LTA-007 (SCC-K) LTA-008 (SCC-G)

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
	The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.	
Wild Senna (<i>Senna hebecarpa</i>)	One standardized area search will be conducted within each of the 6 candidate significant wild senna habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of July to August. The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.	WSE-001 (SCC-G) WSE-003 (SCC-D) WSE-006 (SCC-K) WSE-007 (SCC-L) WSE-008 (SCC-N) WSE-009 (SCC-P)
Cup-plant (<i>Silphium perfoliatum</i>)	One standardized area search will be conducted within each of the 4 candidate significant cup-plant habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of July to August. The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.	CUP-001 (SCC-D) CUP-002 (SCC-K) CUP-003 (SCC-N) CUP-004 (SCC-P)
Riddell's Goldenrod (<i>Solidago riddellii</i>)	One standardized area search will be conducted within the candidate significant Riddell's goldenrod habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of August to September. The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.	RGL-001 (SCC-P)
Southern Slender Ladies' Tresses (<i>Spiranthes lacera</i> var. <i>gracilis</i>)	One standardized area search will be conducted within the candidate significant southern slender ladies' tresses habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of August to September. The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.	SLT-001 (SCC-P)
Wing-stem (<i>Verbesina alternifolia</i>)	One standardized area search will be conducted within each of the 5 candidate significant wing-stem habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of August to September. The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.	WIS-001 (SCC-A) WIS-005 (SCC-K) WIS-006 (SCC-L) WIS-007 (SCC-N) WIS-008 (SCC-G)
Giant Ironweed (<i>Vernonia gigantea</i>)	One standardized area search will be conducted within each of the 5 candidate significant giant ironweed habitats within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits	GIW-003 (SCC-N) GIW-004 (SCC-A) GIW-005 (SCC-L) GIW-006 (SCC-K) GIW-008 (SCC-P)

Wildlife Habitat Type	Generalized Methods*	Location/ Feature(s)
	<p>characteristics that allow for confident identification, preferably during the flowering period of July to October.</p> <p>The locations of each of the candidate significant habitats can be seen on Maps 6-1 to 6-9.</p>	
Virginia Culver's-root (<i>Veronicastrum virginicum</i>)	<p>One standardized area search will be conducted within the 1 candidate significant Virginia culver's-root habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of June to September.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	VCR-001 (SCC-P)
Cream Violet (<i>Viola striata</i>)	<p>One standardized area search will be conducted within the 1 candidate significant cream violet habitat within the Project Area. The UTM location of any individuals or clusters will be recorded and a stem count will be conducted. Surveys will be conducted during a time period when this species exhibits characteristics that allow for confident identification, preferably during the flowering period of April to May.</p> <p>The location of the candidate significant habitat can be seen on Maps 6-1 to 6-9.</p>	CVI-001 (SCC-B)

Table 2. Summary of Post-Construction Monitoring Commitments for the North Kent Wind 1 Project

Survey Type	Location(s)	Generalized Methods*	Purpose
Mortality Monitoring	Entire Project	<p>Post-construction mortality monitoring will be conducted following both the <i>Birds and Bird Habitats</i> (OMNR 2011b) and <i>Bats and Bat Habitats</i> (OMNR 2011a) provincial guidelines for 3 years after the Project has become operational.</p> <p>A subset of 30% of the turbines will be selected in accordance with the <i>Birds and Bird Habitats</i> (OMNR 2011b) and <i>Bats and Bat Habitats</i> (OMNR 2011a) provincial guidelines, and will be searched approximately every 3-4 days (twice weekly) for bird and bat mortalities from May 1st to October 31st, and approximately every 7 days (weekly) throughout November for raptors.</p> <p>If bat maternity colony habitats BMA-001 or 002 are confirmed significant, the turbine(s) closest to the habitat(s) will be included with the subsample of turbines to be monitored.</p> <p>In addition to the above monitoring, if waterfowl nesting area habitat WFN-001 is determined to be significant, the one wind turbine located within 120m of this habitat (T28) will be searched at a minimum frequency of once monthly in April, May, and June. All</p>	<p>To assess the direct impact of this facility on bird and bat populations.</p> <p>If mortality rates surpass provincially determined thresholds, mitigation measures will be discussed with the MNRF.</p>

Survey Type	Location(s)	Generalized Methods*	Purpose
		<p>turbines not part of the chosen sub-set will be searched once during each month from May to November, specifically targeting raptors.</p> <p>Searcher efficiency and carcass removal trials will be conducted in accordance with provincial guidelines.</p> <p>Bird and Bat mortality methods will be addressed in detail in the Bird and Bat EEMP, which will be prepared under separate cover and submitted to MNR for approval.</p>	
Bat Maternity Colony Surveys	BMA-001* BMA-002*	Post-construction exit surveys will be repeated at any of these significant habitats within 120m of wind turbines for 3 years following the same methods utilized during pre-construction surveys.	To assess the potential disturbance impact of operational turbines on nearby significant bat maternity roosts.
Colonially-Nesting Breeding Bird Habitat (Trees/Shrubs) Surveys	CBT-001*	Post-construction colonially-nesting breeding bird monitoring will be repeated at the significant habitat located within 120m of a wind turbine for 3 years following the same methods utilized during pre-construction surveys	To assess the potential disturbance impact of operational turbines on colonially-nesting breeding bird habitat.
Amphibian Breeding Habitat (Woodland) Surveys	AWO-001*	Post-construction amphibian call surveys will be repeated at this habitat that is overlapping the Project Location (through directional drilling) for 1 year following the same methods utilized during pre-construction surveys. After presenting results to the MNR, the need for additional surveys will be addressed.	To assess the potential disturbance impact of access roads on significant amphibian breeding habitats (woodland).
Marsh Bird Breeding Habitat Surveys	MBB-001*	Post-construction marsh bird breeding monitoring will be repeated at the significant habitat located within 120m of a wind turbine for 3 years following the same methods utilized during pre-construction surveys.	To assess the potential disturbance impact of operational turbines on marsh bird breeding habitat.
Waterfowl Nesting Area Surveys	WFN-001*	Post-construction waterfowl nesting area surveys will be repeated at the significant habitat located within 120m of a wind turbine for 3 years following the same methods utilized during pre-construction surveys.	To assess the potential disturbance impact of operational turbines on waterfowl nesting habitat.
Bird Species of Conservation Concern Surveys: <ul style="list-style-type: none"> • Eastern Wood-Pewee Habitat • Wood Thrush Habitat 	EWP-001* EWP-002* EWP-003* WTH-001*	Post-construction breeding bird monitoring for bird species of conservation concern will be repeated at all significant habitats within 120m of wind turbines for 3 years following the same methods utilized during pre-construction surveys.	To assess the potential disturbance impact of wind turbines on significant habitat for bird species of conservation concern.
Plant Species of Conservation Concern Surveys: <ul style="list-style-type: none"> • Prairie milkweed Habitat • Pawpaw 	PMI-001* PAW-001* MSE-001* MSE-005* MSE-006* MSE-007* MSE-008* RSE-001* BAS-001* SRM-001*	Post-construction monitoring for plant species of conservation concern will be repeated at all of the significant habitats in years 1, 3, and 5 of operation at a time of year when the species can be identified (refer to Table 1 for specific survey timing). Following pre-construction survey methods, one standardized area search will be conducted throughout each significant habitat. The UTM location of any individuals or clusters will be recorded and a stem count will	To assess the potential disturbance impact of access roads on significant habitat for plant species of conservation concern.

Survey Type	Location(s)	Generalized Methods*	Purpose
<ul style="list-style-type: none"> Habitat • Muskingum Sedge Habitat • Rigid Sedge Habitat • Round-Fruited Panic Grass Habitat • Blue Ash Habitat • Swamp Rose-mallow Habitat • Black Gum Habitat • Northern Fogfruit Habitat • Shumard Oak Habitat • Climbing Prairie Rose Habitat • Lizard's Tail Habitat • Wild Senna Habitat • Cup-plant Habitat • Riddell's Goldenrod Habitat • Southern Slender Ladies' Tresses Habitat • Wing-stem Habitat • Giant Ironweed Habitat • Virginia Culver's-root Habitat • Cream Violet Habitat 	<ul style="list-style-type: none"> SRM-002* BGU-001* BGU-003* NFO-001* NFO-005* NFO-006* NFO-007* NFO-008* SHU-002* CPR-001* LTA-001* LTA-005* LTA-006* LTA-007* LTA-008* WSE-001* WSE-003* WSE-006* WSE-007* WSE-008* WSE-009* CUP-001* CUP-002* CUP-003* CUP-004* RGL-001* SLT-001* WIS-001* WIS-005* WIS-006* WIS-007* WIS-008* GIW-003* GIW-004* GIW-005* GIW-006* GIW-008* VCR-001* CVI-001* 	<p>be conducted. Specific locations of plant species of conservation identified during pre-construction surveys will also be monitored post-construction.</p>	

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It covers both qualitative and quantitative research approaches, highlighting their strengths and limitations.

3. The third part of the document focuses on the ethical considerations surrounding data collection and analysis. It discusses the importance of informed consent, confidentiality, and the responsible use of research findings.

4. The fourth part of the document addresses the challenges and limitations of data analysis. It explores issues such as data quality, missing data, and the potential for bias in statistical inference.

5. The fifth part of the document concludes by summarizing the key findings and implications of the research. It emphasizes the need for ongoing research and collaboration in the field of data analysis.

**Ministry of Natural
Resources and Forestry**
Southern Region
Regional Operations Division
300 Water Street
Peterborough, ON K9J 3C7

**Ministère des ressources naturelles
et des forêts**
Région du Sud
Division des opérations régionales
300, rue Water
Peterborough (Ontario) K9J 3C7



October 30, 2015

Mr. Colin Edwards and Mr. Lee Jeong Tack
North Kent Wind 1 LP, by its general partner
North Kent Wind 1 GP Inc.
2050 Derry Road West 2nd Floor
Mississauga, ON L5N 0B9

RE: North Kent Wind 1 Project Bird and Bat Environmental Effects Monitoring Plan

Dear: Mr. Colin Edwards and Mr. Lee Jeong Tack

The Ministry of Natural Resources and Forestry (MNRF) has reviewed the bird and bat section of the Environmental Effects Monitoring Plan (EEMP) for the North Kent Wind 1 Project located north of the city of Chatham in the Municipality of Chatham Kent, Ontario, submitted October 21st, 2015 and makes the following comments with respect to the EEMP. The final document is titled North Kent Wind 1 Project Bird and Bat Environmental Effects Monitoring Plan and dated October 2015.

This letter confirms that the EEMP was prepared in respect of birds and bats in accordance with the Ministry of Natural Resources and Forestry:

- *Birds and Bird Habitats: Guidelines for Wind Power Projects(2011)*
- *Bats and Bat Habitats: Guidelines for Wind Power Projects (2011)*

In addition, as noted in the Environmental Impact Study and MNRF's confirmation letter, commitments have been made to conduct post-construction monitoring should any pre-construction monitoring (outlined in the NHA and MNRF's confirmation letter) deem the identified wildlife habitat to be significant. These commitments will be included in the natural heritage section of the EEMP, part of the Design and Operations Report.

MNRF expects the information contained in the natural heritage section of the EEMP to be considered in the Ministry of Environment and Climate Change (MOECC) Renewable Energy Approval (REA) decision, and if approved, be implemented by the applicant.

If you have any questions please contact Jim Beal at jim.beal@ontario.ca or 705-755-1362.

Sincerely,

A handwritten signature in blue ink that reads "Kazia Milián".

Kazia Milián
Supervisor, Land Use Planning Unit
Southern Region Resources Section
Ministry of Natural Resources and Forestry

cc. Jim Beal, Renewable Energy Coordinator, Southern Region, MNRF
Mohsen, Keyvani, Environmental Approvals Branch, MOECC

Grieve, Becky

From: Lindenburger, Ruth (MNRF) <Ruth.Lindenburger@ontario.ca>
Sent: November-09-15 1:17 PM
To: Pamela Hammer
Cc: Milian, Kazia (MNRF); Beal, Jim (MNRF)
Subject: RE: North Kent Wind 1 Project; NHA Addendum
Attachments: North Kent Wind 1 Project_Project_Location_Mods_20151027-1.pdf; NRSI_1612_North Kent Wind 1 Project_NHA Addendum I_2015_11_02.docx

Hi Pamela,

Based on the map you have provided (attached), we agree with your assessment that the proposed change to remove small portions of the construction disturbance area from the project layout will result in no changes to the information presented in the approved NHA.

Upon review of the modifications, MNRF is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this email as an addendum to the confirmation letter issued October 30, 2015 for the North Kent Wind 1 Project.

Thank you,

Ruth Lindenburger

Ruth Lindenburger
Regional Planner
Regional Resources Section | Southern Region
Ontario Ministry of Natural Resources & Forestry
705-755-1363

From: Pamela Hammer [<mailto:phammer@nrsi.on.ca>]
Sent: November 2, 2015 4:31 PM
To: Lindenburger, Ruth (MNRF)
Cc: Beal, Jim (MNRF); Andrew Ryckman; Becky.Grieve@aecom.com; Van der Woerd, Mark; Jody Law; Beatrice Ashby; Ariel Bautista; 'Hi Byun'
Subject: North Kent Wind 1 Project; NHA Addendum

Good afternoon Ruth,

Thank you for providing MNRF's confirmation letter for the North Kent Wind 1 Project on Friday. As part of this confirmation, a commitment was identified for the Proponent to inform the MNRF of any changes made to the Project that would alter the NHA.

As a result of archaeological findings within the Project Area, small portions of the construction disturbance area (CDA) have been removed from the Project layout, none of which require adjustments to the content of the NHA. The attached memorandum has been prepared to present and discuss the proposed changes to the Project layout, which involve the removal (i.e. reduction) of the Project Area from the already approved CDA. No new or expanded CDAs are being proposed, nor do any of the proposed changes reflect new infrastructure within the already approved CDA, or any other change that might affect the information already presented in the

approved NHA. A map showing the proposed removals from the Project layout is also attached for reference.

Given that the proposed minor changes have negligible impacts on the content of the NHA, it is expected that the current confirmation letter remains relevant and adequate to cover these proposed changes to the Project layout. As the Proponent will need to include any MNRF responses/approval with respect to these changes with their REA submission, it is requested that MNRF provide comments and/or approval by November 9th.

Please do not hesitate to contact me if you have any questions or concerns.

Thank you,

Pam

--



Pamela Hammer, B.Sc.
Terrestrial & Wetland Biologist
Certified Arborist
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Waterloo, ON, N2K 4M8
(p) 519.725.2227
(f) 519.725.2575
(e) phammer@nr.si.on.ca
www.nr.si.on.ca



Memo

Project No. 1612

To: Ruth Lindenburger

From: Pamela Hammer

Date: November 2, 2015

**Re: North Kent Wind 1 Project
Natural Heritage Assessment Addendum I**

Natural Resource Solutions Inc. (NRSI) was retained in March 2015 by AECOM, on behalf of North Kent Wind 1 LP, by its general partner, North Kent Wind 1 GP Inc. (North Kent Wind 1), to conduct a Natural Heritage Assessment (NHA) in accordance with the Renewable Energy Approval (REA) Regulation, Ontario Regulation 359/09. This assessment included a records review, site investigation, evaluation of significance, and environmental impact study (EIS) of any potentially significant natural features or wildlife habitats at a proposed wind energy generating facility of up to 50 permitted wind turbines, with a nameplate capacity of up to 100 megawatts (MW).

The North Kent Wind 1 Project (Project) is being proposed by North Kent Wind 1. North Kent Wind 1 is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada ULC (Pattern Development) and Samsung Renewable Energy Inc. (Samsung Renewable Energy). North Kent Wind 1 is proposing to develop the Project north of the City of Chatham in the Municipality of Chatham-Kent, Ontario. The Project Study Area is generally bounded by Oldfield Line to the north, Bear Line Road to the west, Pioneer Line and Pine Line / Darrell Line to the south, and Centre Sideroad and Caledonia Road to the east. As identified in the REA Regulation, the proposed layout of the turbines, supporting infrastructure, and development activities is collectively referred to as the 'Project Location'. For the purposes of this memo, NRSI will refer to the areas within 120m of the Project Location as the 'Project Area'.

The records review, site investigation, evaluation of significance, and EIS for the North Kent Wind 1 Project were completed by NRSI as part of the NHA. The North Kent Wind 1 Project NHA (NRSI 2015) confirmation was granted on October 30, 2015 by the Ministry of Natural Resources and Forestry's (MNRF) Southern Region. As part of this confirmation, a commitment was identified for the proponent to inform the MNRF of any changes made to the Project that would alter the NHA.

This memorandum has been prepared to present and discuss minor changes to the North Kent Wind 1 Project layout that are being proposed since receiving the NHA

confirmation from the MNRF, but before the final REA Application submission to the Ministry of the Environment and Climate Change (MOECC).

Description of Proposed Project Changes

As a result of archaeological findings within the North Kent Wind 1 Project Area, small portions of the construction disturbance area (CDA) have been removed from the Project layout, none of which require adjustments to the content of the NHA. The changes proposed for this Project include:

- removal of a portion of the CDA associated with T15,
- removal of a portion of the CDA associated with T23,
- removal of a portion of the CDA associated with T50, and
- removal of a portion of the CDA associated with T72/T73.

All of the proposed changes to the North Kent Wind 1 Project layout involve removal (i.e. reduction) of the Project Area from the already approved CDA. No new or expanded CDAs are being proposed, nor do any of the proposed changes reflect new infrastructure within the already approved CDA, or any other change that might affect the information already presented in the approved NHA.

Assessment of Impacts to Natural Features and Wildlife Habitats

In accordance with the REA Regulation, NRSI biologists have completed a comprehensive records review, site investigation, evaluation of significance, and EIS of the North Kent Wind 1 Project Area (NRSI 2015). Following the review of proposed changes to the Project Location (as discussed above), NRSI has re-considered all aspects of the NHA to determine if there are new natural features, changes in distances to Project Location, or new mitigation measures or monitoring commitments required to ensure that potential permanent or adverse environmental impacts are mitigated or studied appropriately.

The proposed changes to the Project layout, as described above, are minor, with minimal changes to the overall Project Area. NRSI has not identified any additional significant natural features or wildlife habitats within the Project Area, and no previously identified significant natural features have been removed from the Project Area. The distances from the Project Location to candidate and significant natural features and wildlife habitats have not changed due to the proposed changes. All mitigation measures, as outlined in the Natural Heritage EIS (NRSI 2015), will provide the appropriate protection to significant natural features to ensure any potential permanent and adverse impacts are mitigated. NRSI has identified, based on the minor modifications to the Project Location, that the monitoring commitments outlined in the Natural Heritage EIS (NRSI 2015) are still appropriate to monitor any potentially adverse impacts of this Project.

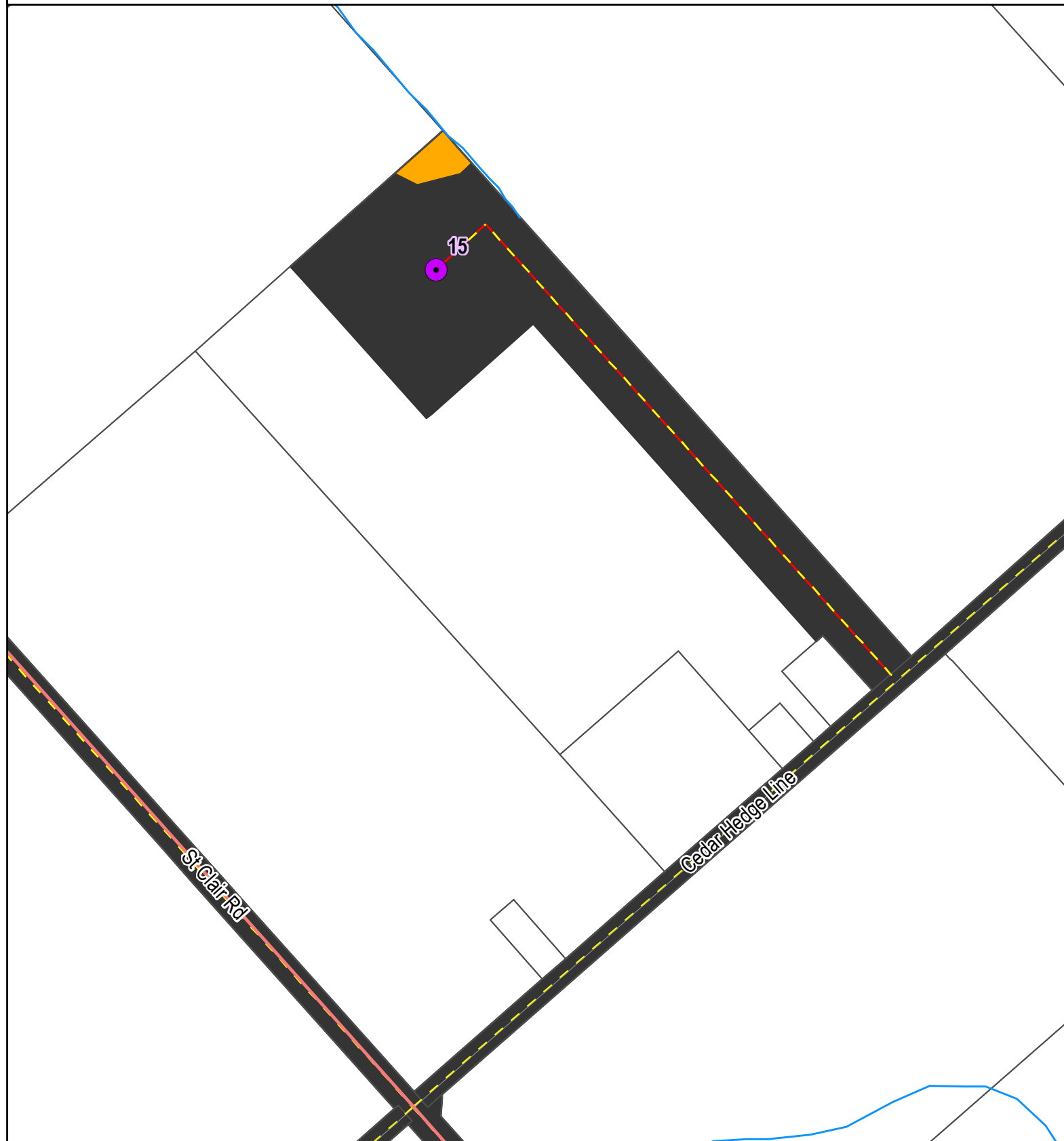
It is maintained that with the implementation of the planned mitigation measures, monitoring programs, and contingency plans as presented in the North Kent Wind 1 Project: Natural Heritage EIS (NRSI 2015), there is unlikely to be any significant impacts to natural heritage features, including woodlands, wetlands, or significant wildlife habitats.

Given that these proposed minor changes have negligible impacts on the content of the NHA, it is expected that the current confirmation letter remains relevant and adequate to cover these proposed changes to the Project layout. It is requested that MNRF provide a written response to confirm agreement with this approach.

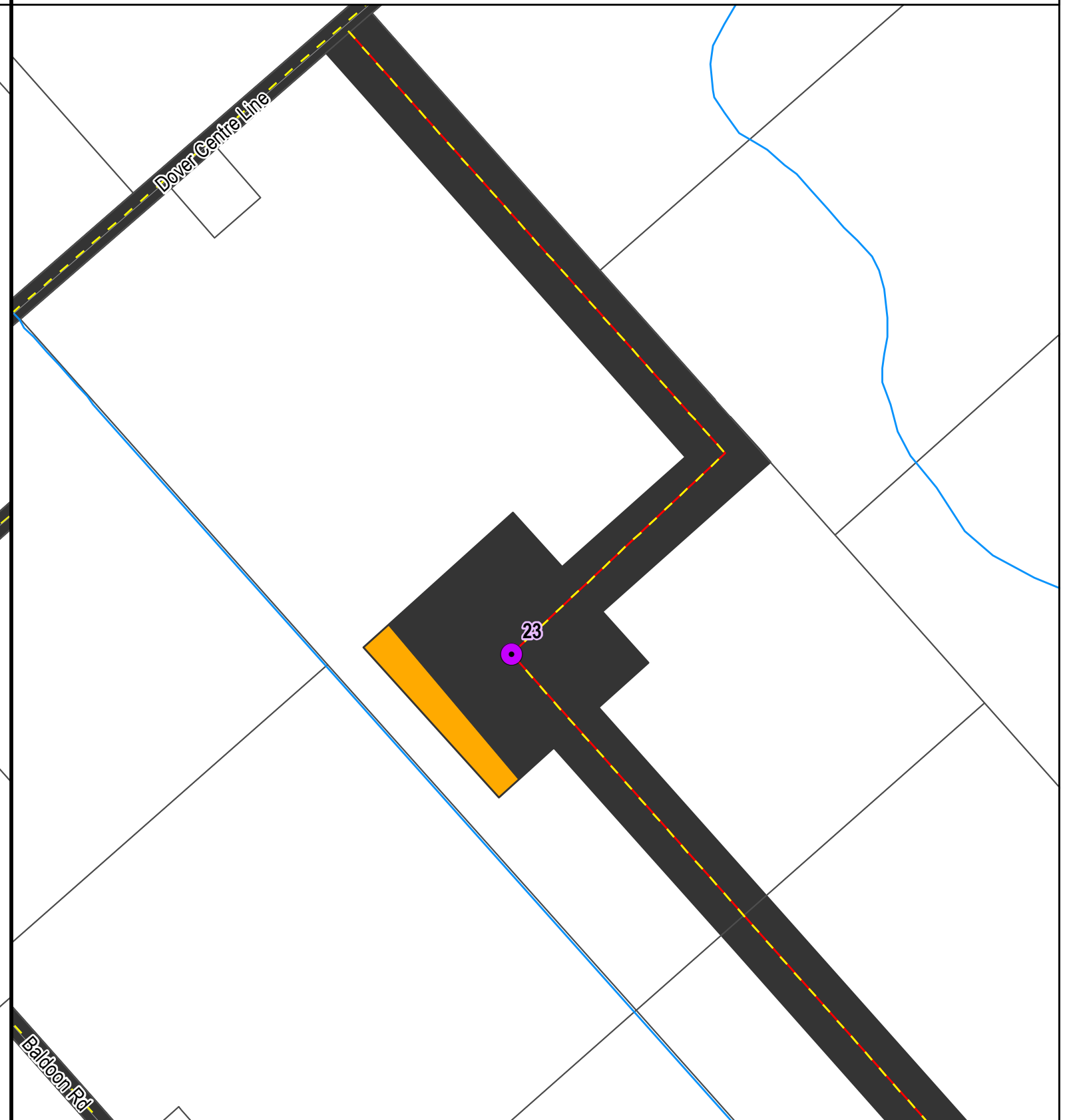
References

Natural Resource Solutions Inc. (NRSI). 2015. North Kent Wind 1 Project Natural Heritage Assessment. October 2015.

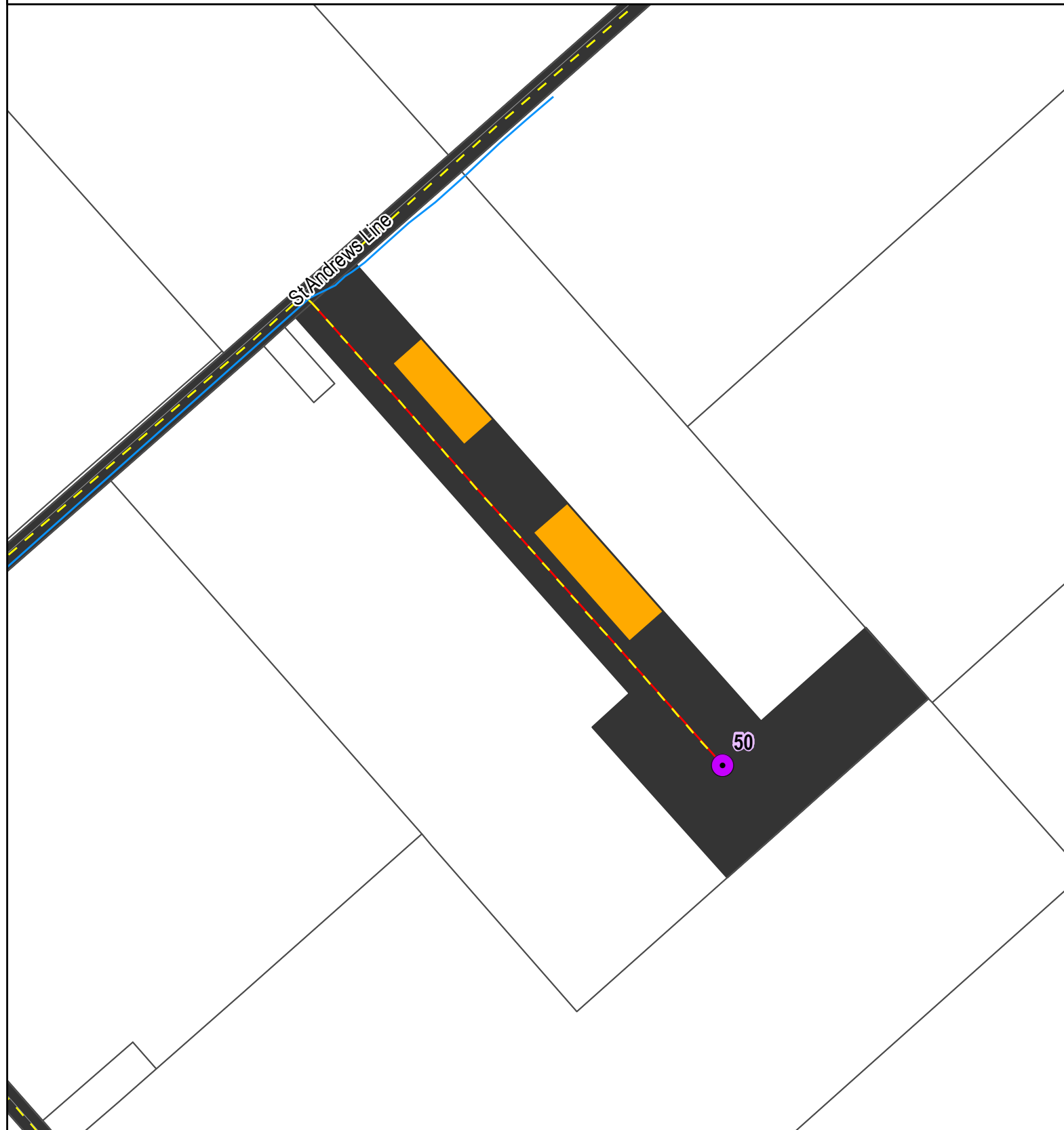
Turbine 15



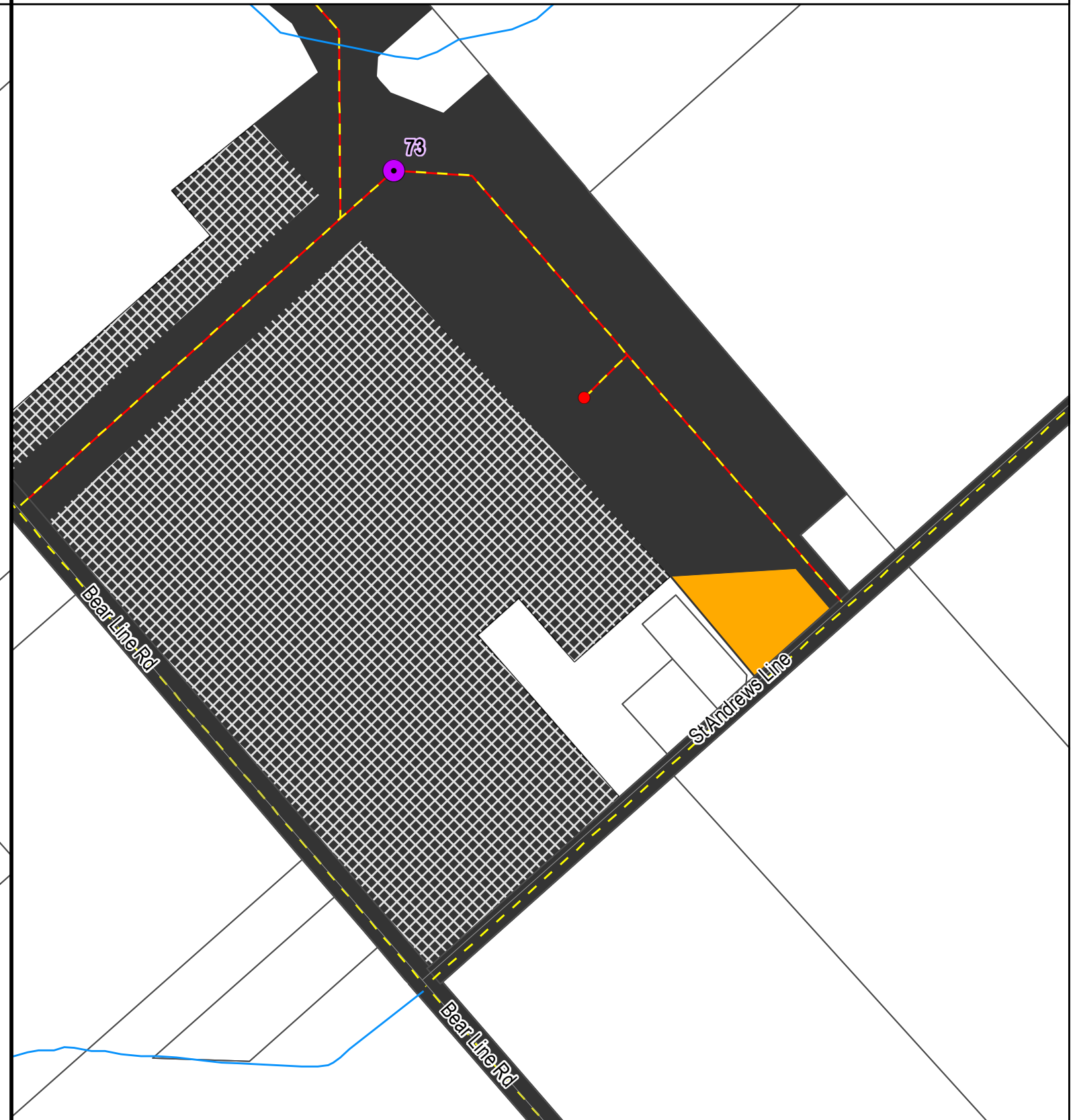
Turbine 23



Turbine 50



Turbine 73



Project Layout

- Turbines
- Meteorological Tower
- Collector Lines
- Access Roads
- Removed Project Location / Investigation
- Construction Staging
- Project Location / Investigation
- Potential Interconnection Station/ Substation/ Construction Staging Area/ O&M Building/ Point of Interconnection

Base Layers

- Highway
- Road
- Watercourse
- Railway
- Waterbody
- Property Boundary

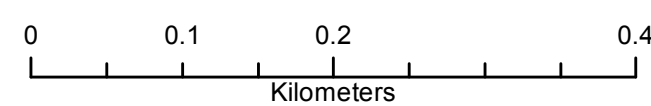
Draft REA Project Location Changes

Removed Project Location / Investigation Area

November 2015	1:5,000	Datum: NAD83, Zone 17 Source: LIO, First Base 2015, NRSI 2015
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P#: 60343599	V#: Final
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Figure 1



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Date Saved: 10/27/2016 9:17:01 AM



North Kent Wind 1 Project **Natural Heritage Records Review** **Report**

Prepared for:

AECOM

105 Commerce Valley Drive West, 7th Floor

Markham, ON

L3T 7W3

Project No. 1612 | October 2015



NATURAL RESOURCE SOLUTIONS INC.

Aquatic, Terrestrial and Wetland Biologists

**North Kent Wind 1 Project
Natural Heritage Records Review Report**

Project Team:

Staff	Role
Andrew G. Ryckman	Project Advisor
Pamela Hammer	Project Manager/Biologist
Christy Humphrey	Terrestrial and Wetland Biologist
Kaitlin Boddaert	GIS Technician

Report submitted on October 26, 2015



Andrew Ryckman
Senior Terrestrial & Wetland Biologist

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Map 1. Project Area and Natural Features

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Appendix I: Ministry of Natural Resources and Forestry Records Review

Appendix II: Natural Heritage Information Centre Query Results

Appendix III: Summary of Habitat Descriptions for Species of Conservation Concern

1.0 Project Description

Natural Resource Solutions Inc. (NRSI) was retained in March 2015 by AECOM, on behalf of North Kent Wind 1 LP, by its general partner, North Kent Wind 1 GP Inc. (North Kent Wind 1), to conduct a Natural Heritage Assessment (NHA) in accordance with the Renewable Energy Approval (REA) Regulation, Ontario Regulation 359/09. This assessment includes a records review, site investigation, evaluation of significance, and environmental impact study of any potentially significant natural features or wildlife habitats at a proposed wind energy generating facility of up to 50 operational wind turbines, with a nameplate capacity of up to 100 megawatts (MW).

The North Kent Wind 1 Project (Project) is being proposed by North Kent Wind 1. North Kent Wind 1 is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada ULC (Pattern Development) and Samsung Renewable Energy Inc. (Samsung Renewable Energy). North Kent Wind 1 is proposing to develop the Project north of the City of Chatham in the Municipality of Chatham-Kent, Ontario. The Project Study Area is generally bounded by Oldfield Line to the north, Bear Line Road to the west, Pioneer Line and Pine Line / Darrell Line to the south, and Centre Sideroad and Caledonia Road to the east. The Project will be located primarily on privately owned land with some components (e.g., electrical collector lines) being placed along public right-of-ways, none of which are proposed on provincial Crown land.

According to Ontario Regulation (O. Reg.) 359/09, as amended, and as per the Natural Heritage Assessment Guide for Renewable Energy Projects (OMNR 2012), the Project Location is defined as “...*a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project*”. As described therein, the Project Location boundary is the outer limit of where site preparation and construction activities will occur (i.e., disturbance areas described below) and where permanent infrastructure will be located, including the air space occupied by turbine blades.

In accordance with Section 25 of the REA Regulation, O. Reg 359/09, NRSI has conducted a records review of available background resources to identify any potentially

significant natural features within 120m of the Project Location. This includes areas within 120m of proposed turbines, measured from blade tip, as well as within 120m of any areas that may be used as temporary lay-down areas, crane pads, access roads, operations and maintenance (O&M) building, collection, distribution, and transmission lines, as needed, and an interconnection station, defined as the point of interconnection (POI). For the purposes of this report, NRSI will refer to the areas within 120m of the Project Location as the 'Project Area'. See Map 1 for an illustration of the Project Area and natural features.

2.0 REA Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals* under *Part V.0.1 of the Act* (herein referred to as the REA Regulation), made under the *Environmental Protection Act*, identifies the requirements for the development of renewable energy projects in Ontario. In accordance with the REA Regulation the North Kent Wind 1 Project is classified as a Class 4 wind facility and is required to complete a REA.

Section 25 of the REA Regulation requires proponents of Class 4 wind projects to undertake a natural heritage records review to identify whether the Project Location is:

1. in a provincial park or conservation reserve or within 120m of a provincial park or conservation reserve,
2. in a natural feature,
3. within 50m of an area of natural and scientific interest (earth science), or
4. within 120m of a natural feature that is not an area of natural and scientific interest (earth science).

Natural Features are defined in Section 1.1 of the REA Regulation to be all or part of:

- an area of natural and scientific interest (ANSI; life science or earth science),
- a coastal, northern, or southern wetland,
- a wildlife habitat, or
- a woodland.

Subsection 3 of Section 25 of the REA Regulation requires the proponent to prepare a report “setting out a summary of the records searched and the results of the analysis” (O. Reg. 359/09). This Natural Heritage Records Review Report has been prepared to meet these requirements.

As part of this project, NRSI has considered all aspects relating to provincially Threatened and Endangered species; however, since these species are addressed through a separate permitting process under the *Endangered Species Act* (2007), they have not been discussed within any of the NHA reports. These species will be addressed in full detail, including a description and results of field assessments, potential impacts, and recommended mitigation measures, as part of a separate reporting process to be addressed with the Ministry of Natural Resources and Forestry (MNRF), as required.

3.0 Records Review Methods

In accordance with the REA Regulation, NRSI biologists consulted several information sources and agencies for the purposes of assessing natural features and wildlife habitat within the Project Area. In many instances, the records that were consulted provided information on areas well beyond the Project Area, and in some cases extending several kilometers from the boundaries of the proposed development. The results of this consultation process have been documented throughout the following report, and have been summarized in Table 1.

Table 1. Summary of Records Consulted for the North Kent Wind 1 Project

Information Source	Consultation Date	Consultation Type	Type of Records Reviewed/Received
Ministry of Natural Resources and Forestry (MNR)	April 17, 2015	Email Request	Provincial Parks Conservation Reserves Areas of Natural and Scientific Interest (Life Science) Areas of Natural and Scientific Interest (Earth Science) Wetlands Woodlands Significant Wildlife Habitat Refer to Appendix I for the MNR Records Review
Canadian Wildlife Service (CWS)	May 21, 2015	Email Request	Significant Wildlife Habitat (Seasonal Concentration Areas)
Bird Studies Canada (BSC)	May 21, 2015	Email Request	No records received as of the date of this report
Lower Thames Valley Conservation Authority (LTVCA)	April 17, 2015	Email Request	Regulated Flagging Area Areas of Natural and Scientific Interest (Life Science) Areas of Natural and Scientific Interest (Earth Science) Provincially Significant Wetlands
St. Clair Region Conservation Authority (SCRC)	April 17, 2015	Email Request	No records received as of the date of this report
Chatham-Kent Official Plan	March 26, 2015	Document Review	Significant Woodlands Provincially Significant Wetlands Significant Terrestrial Features Flood Prone Areas Open Space/Conservation Lands
Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (NHIC)	March 30, 2015	Online Review: Database	Significant Wildlife Habitat Species of Conservation Concern Records Refer to Appendix II for the NHIC Query Results

Information Source	Consultation Date	Consultation Type	Type of Records Reviewed/Received
Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (NHIC)	March 26, 2015	Online Review: Make-A-Map Application	Areas of Natural and Scientific Interest (Life Science) Areas of Natural and Scientific Interest (Earth Science) Wetlands Woodlands Conservation Reserves
Ministry of Natural Resources, Land Information Ontario (LIO)	May 2015	GIS Mapping Layer Review	Provincial Parks Conservation Reserves Areas of Natural and Scientific Interest (Life Science) Areas of Natural and Scientific Interest (Earth Science) Woodlands Wetlands Significant Wildlife Habitat
Ministry of Northern Development and Mines (MNDM)	March 26, 2015	GIS Mapping Layer Review	Significant Wildlife Habitat
Atlas of the Mammals of Ontario	March 27, 2015	Document Review	Significant Wildlife Habitat
Ontario Reptile and Amphibian Atlas	March 30, 2015	Document Review (Range Maps)	Significant Wildlife Habitat
Ontario Reptile and Amphibian Atlas	May 6, 2015	Online Interactive Mapping Review	Significant Wildlife Habitat
Ontario Breeding Bird Atlas (OBBA)	May 6, 2015	Online Database Review	Significant Wildlife Habitat
Christmas Bird Count (CBC), Lakeshore Count Circle	March 30, 2015	Online Database Review	Significant Wildlife Habitat
Important Bird Areas Canada (Bird Studies Canada)	March 27, 2015	Map Review	Significant Wildlife Habitat
Ontario Butterfly Atlas	May 6, 2015	Online Interactive Mapping Review	Significant Wildlife Habitat

4.0 Natural Areas

For the purposes of the NHA reporting, NRSI has used the term natural area to identify features that have already been given a provincial or federal designation, including provincial parks, conservation reserves, and ANSIs. Information obtained on each of these natural areas has been outlined below.

4.1 Provincial Parks and Conservation Reserves

There are no provincial parks or conservation reserves located within the Project Area (MNRF 2014b).

4.2 Areas of Natural and Scientific Interest – Life Science

The background information provided by the MNRF has identified the Lake St. Clair Marshes, a provincially significant Life Science ANSI, located within 10km of the Project Location (MNRF Staff pers. comm. 2015; Appendix I). This ANSI, however, is not located within the Project Area (MNRF 2014b). No other provincially significant Life Science ANSIs are located within the Project Area (MNRF 2014b).

Although only ANSIs confirmed by the MNRF as provincially significant are afforded protection through the REA Regulation (OMNR 2012), the background information provided by the MNRF has also identified four regionally significant Life Science ANSIs, including the Van Horne Sugar Maple Stand, Jeanette's Creek Woodlots, Chenal-Ecarte Prairie, and Louisville Sandplain Woods, within 10km of the Project Location (MNRF Staff pers. comm. 2015; Appendix I). None of these regionally significant ANSIs are located within the Project Area (May and Kanter 2006; Municipality of Chatham-Kent 2011).

4.3 Areas of Natural and Scientific Interest – Earth Science

The background information provided by the MNRF has identified Walpole Island, a provincially significant Earth Science ANSI, as located within 10km of the Project Location (MNRF Staff pers. comm. 2015; Appendix I). This ANSI, however, is not located within 50m of the Project Location (MNRF 2014b). No other provincially significant Earth Science ANSIs are located within 50m of the Project Location (MNRF 2014b).

5.0 Woodlands

Information collected from available background resources indicates that the Municipality of Chatham-Kent contained approximately 4.5% woodland cover in 2010 (Municipality of Chatham-Kent 2013), while the MNRF has indicated a woodland cover of approximately 4% or less for this planning area (MNRF Staff pers. comm. 2015; Appendix I). The Chatham-Kent Official Plan indicates that all woodlands 2 hectares (ha) in size or greater are considered significant (Municipality of Chatham-Kent 2014). The NHA Guide for Renewable Energy Projects (OMNR 2012) also indicates that for municipalities with less than 5% woodland cover, such as the Municipality of Chatham-Kent, woodlands 2ha in size or greater are considered significant under the woodland size criterion.

There are 14 woodlands, as identified through this records review, which may overlap the proposed Project Location (Map 1). Available basemapping indicates that these woodlands range in size from 0.7ha to 15.0ha. Most of these habitats are expected to be hedgerows or fencerows; however, mid-aged to mature deciduous woodlands are also expected to be present within the Project Area, as well as young woodlands, treed plantations, or occasional coniferous woodlands. The presence of these woodlands, as well as species associations and distances to the Project Location will be confirmed during the site investigation phase of this project. The intention of the proposed Project Layout is to avoid overlap with natural features, including woodlands, wherever possible.

NRSI has identified an additional 17 woodlands that are within 120m of, but not overlapping, the Project Location. Available basemapping indicates that these woodlands range in size from 0.4ha to 7.4ha. These habitats are scattered throughout the Project Area, and are found within 120m of all types of project components, including turbines, access roads, and collector lines (see Map 1). The presence of these woodlands, as well as species associations and distances to the Project Location will be confirmed during the site investigation phase of this NHA.

Available basemapping indicates that 9 woodlands within the Project Area are 2ha in size or greater, and are likely to meet the size criterion for woodland significance as identified in the NHA Guide for Renewable Energy Project (OMNR 2012). The

significance of all woodlands will be confirmed during the evaluation of significance phase of this NHA.

6.0 Wetlands

Information collected from the sources identified above suggests that neither the Project Location nor the larger Project Area overlap with any known wetlands.

Available mapping indicates that the closest known wetland is the St. Clair Marsh Complex Provincially Significant Wetland (PSW), which is located along the shore of Lake St. Clair, and approximately 5km southwest of the nearest portion of the Project Area (MNRF 2014b).

As discussed in Section 5.0 above, a number of woodlands have been identified within the North Kent 1 Project Area (Map 1). Each of these woodlands has the potential to contain wetland habitat. The background information provided by the MNRF has also identified these woodlands as containing potential unevaluated wetland habitat (MNRF Staff pers. comm. 2015). All of the potential wetland habitats within the Project Area will be examined in more detail during the site investigation phase of this NHA to delineate any existing wetland boundaries as they relate to the Project Area.

7.0 Wildlife Habitat

As part of the REA process, NRSI biologists have examined available records associated with the presence of wildlife habitat within the Project Area. For the purposes of this series of NHA reports, NRSI has separated the discussion on wildlife habitat into 4 categories, following the Significant Wildlife Habitat Technical Guide (MNR 2000).

These 4 categories include:

- seasonal concentration areas,
- rare vegetation communities and specialized wildlife habitat,
- habitats of species of conservation concern, and
- animal movement corridors.

Each of these wildlife habitat categories are described in the following sections.

7.1 Seasonal Concentration Areas

The records review process revealed the presence of the Eastern Lake St. Clair Important Bird Area (IBA) within the western portion of the Project Area (Map 1). This IBA is 135,458ha in size and encompasses the eastern shore, marshlands and agricultural fields from the Sydenham River starting at Wallaceburg to the mouth of the Thames River as well as the open waters of Lake St. Clair (IBA Canada 2015). This IBA includes Lake St. Clair, which is recognized as a significant staging area for waterfowl in southern Ontario, as well as the Lake St. Clair marshes, which are known to support significant populations of breeding birds (IBA Canada 2015). Both Lake St. Clair and the Lake St. Clair marshes are not located within the Project Area.

Information received from the Canadian Wildlife Service (CWS) indicates that areas associated with the Project Area have the potential to act as seasonal concentration areas, largely relating to waterfowl stopover habitat and shorebird migratory stopover habitat (CWS Staff pers. comm. 2015). The presence of potential seasonal concentration areas within the Project Area will be confirmed during the site investigation phase of this NHA.

Although no confirmed seasonal concentration areas have been identified within the Project Area, background information has indicated that several concentration areas have the potential to be present within the Project Area. Each of these habitats is

discussed in Table 2, including information on whether further consideration is required during the site investigation phase of this project.

Table 2. Summary of Seasonal Concentration Areas Identified Near the North Kent Wind 1 Project Area

Seasonal Concentration Areas	Present Within the Project Area	Details	Site Investigation Required (Y/N)
Waterfowl Stopover and Staging Areas (Terrestrial)	Possible	Information from IBA Canada and CWS indicates possible concentrations of waterfowl within the Project Area, which will be further examined during the site investigation.	Yes
Waterfowl Stopover and Staging Areas (Aquatic)	Possible	Information from IBA Canada and CWS indicates possible concentrations of waterfowl within the Project Area, which will be further examined during the site investigation.	Yes
Shorebird Migratory Stopover Area	Possible	Information from IBA Canada and CWS indicates possible concentrations of migratory shorebirds within the Project Area, which will be further examined during the site investigation.	Yes
Raptor Wintering Area	Unknown	Unknown	Yes
Bat Hibernacula	Unknown	Unknown	Yes
Bat Maternity Colonies	Unknown	There are 31 woodlands within the Project Area that will be further examined during the site investigation.	Yes
Bat Migratory Stopover Area	N/A	The location and characteristics of bat migratory stopover habitats are currently unknown. The confirmation criteria and habitat areas for bat migratory stopover areas are still being determined by the MNRF.	No
Turtle Wintering Areas	Unknown	Unknown	Yes
Snake Hibernaculum	Unknown	Unknown	Yes
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	Unknown	Unknown	Yes

Seasonal Concentration Areas	Present Within the Project Area	Details	Site Investigation Required (Y/N)
Colonially – Nesting Bird Breeding Habitat (Tree/Shrubs)	Unknown	Unknown	Yes
Colonially – Nesting Bird Breeding Habitat (Ground)	Unknown	Unknown	Yes
Migratory Butterfly Stopover Areas	N/A	The Project Area is not located within 5km of Lake Ontario or Lake Erie.	No
Landbird Migratory Stopover Areas	N/A	Woodlands within the Project Area are not located within 5km of Lake Ontario or Lake Erie.	No
Deer Winter Congregation Areas	No	No deer winter congregation areas have been identified within the Project Area by the MNRF.	No

7.2 Rare Vegetation Communities and Specialized Wildlife Habitat

The records review process did not reveal any known rare vegetation communities and/or specialized wildlife habitat; however, their presence within the Project Area will be confirmed during the site investigation phase of the Project.

Although it is unknown whether any rare vegetation communities or specialized wildlife habitats are present within the Project Area, background information has indicated that many of these natural features have the potential to be present. Each of these rare vegetation communities and specialized wildlife habitats is discussed in Table 3, including information on whether further consideration is required during the site investigation phase of this project.

Table 3. Summary of Rare Vegetation Communities and Specialized Wildlife Habitat Identified Near the North Kent Wind 1 Project Area

Rare Vegetation Communities and Specialized Wildlife Habitats	Present Within the Project Area	Details	Site Investigation Required (Y/N)
Rare Vegetation Communities			
Cliffs and Talus Slopes	Unknown	Unknown	Yes
Sand Barrens	Unknown	Unknown	Yes
Alvar	Unknown	Unknown	Yes
Old Growth Forest	Unknown	There are 31 woodlands within the Project Area that will be further examined during the site investigation.	Yes
Savannah	Unknown	Unknown	Yes
Tallgrass Prairie	Unknown	Unknown	Yes
Other Rare Vegetation Communities	Unknown	Unknown	Yes
Specialized Wildlife Habitats			
Waterfowl Nesting Area	Unknown	Unknown	Yes
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Unknown	Unknown	Yes
Woodland Raptor Nesting Habitat	Unknown	There are 31 woodlands within the Project Area that will be further examined during the site investigation.	Yes
Turtle Nesting Areas	Unknown	Unknown	Yes
Seeps and Springs	Unknown	Unknown	Yes
Amphibian Breeding Habitat (Woodland)	Unknown	There are 31 woodlands within the Project Area that will be further examined for suitable habitat during the site investigation.	Yes
Amphibian Breeding Habitat (Wetlands)	Unknown	Unknown	Yes

7.3 Habitats of Species of Conservation Concern

Species of conservation concern include all species that have been designated as a species of Special Concern according to the Species at Risk in Ontario (SARO) list or have been given a provincial S-Rank of S1-S3, but have not been designated as either Endangered or Threatened within Ontario. Species at Risk (provincially Threatened or

Endangered) will be addressed separately with the MNRF when considering any permitting requirements relating to the *Endangered Species Act* (2007).

A summary of habitats of species of conservation concern that are located near the North Kent Wind 1 Project can be found in Table 4.

Table 4. Summary of Habitats of Species of Conservation Concern Identified Near the North Kent Wind 1 Project Area

Habitats of Species of Conservation Concern	Present Within the Project Area	Details	Site Investigation Required (Y/N)
Marsh Bird Breeding Habitat	Possible	Information from IBA Canada indicates that the Lake St. Clair marshes, located in close proximity to the Project Area, supports significant populations of marsh breeding birds. Potential for marsh habitats within the Project Area will be further examined during the site investigation.	Yes
Woodland Area-Sensitive Bird Breeding Habitat	Unknown	There are 31 woodlands within the Project Area that will be further examined during the site investigation.	Yes
Open Country Bird Breeding Habitat	Unknown	Unknown	Yes
Shrub/Early Successional Bird Breeding Habitat	Unknown	Unknown	Yes
Terrestrial Crayfish	Unknown	Unknown	Yes
Special Concern and Rare Wildlife Species	Possible	Several special concern and rare wildlife species could be found within the Project Area. These are discussed later in this report.	Yes

A query of the above information sources has identified a total of 64 species of conservation concern that have been identified within the vicinity of the Project Area.

These records include 15 historic sightings, prior to 1990, which are expected to represent historic populations that are unlikely to be currently present within the Project Area. The remaining 49 current (1990-2015) species records represent a variety of species groups, including 20 birds, 2 herpetofauna, 23 vegetation species, and 4 insect species, including 2 damselfly, 1 dragonfly, and 1 butterfly species. Each of these species is discussed in more detail in the following sections.

7.3.1 Birds

NRSI has identified a total of 20 bird species of conservation concern that have the potential to occur within the vicinity of the Project Area. Each of these 20 species is identified in Table 5.

Table 5. Bird Species of Conservation Concern Identified Near the North Kent Wind 1 Project Area

Scientific Name	Common Name	S-Rank	SARO Status	COSEWIC Status
<i>Ammodramus savannarum</i>	Grasshopper Sparrow ^{1,2}	S4B	SC	SC
<i>Asio flammeus</i>	Short-eared Owl ³	S2N, S4B	SC	SC
<i>Aythya americana</i>	Redhead ³	S2B, S4N		
<i>Aythya valisneria</i>	Canvasback ³	S1B, S4N		
<i>Buteo lagopus</i>	Rough-legged Hawk ³	S1B, S4N	NAR	NAR
<i>Calcarius lapponicus</i>	Lapland Longspur ³	S3B		
<i>Chordeiles minor</i>	Common Nighthawk ¹	S4B	SC	T
<i>Clangula hyemalis</i>	Long-tailed Duck ³	S3B		
<i>Contopus virens</i>	Eastern Wood-Pewee ^{1,2}	S4B	SC	SC
<i>Falco peregrinus anatum/tundrius</i>	Peregrine Falcon ³	S3B	SC	SC
<i>Gavia stellata</i>	Red-throated Loon ³	S1N, S3B		
<i>Haliaeetus leucocephalus</i>	Bald Eagle ³	S2N, S4B	SC	NAR
<i>Hylocichla mustelina</i>	Wood Thrush ^{1,2}	S4B	SC	T
<i>Larus marinus</i>	Great Black-backed Gull ³	S2B		
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker ^{1,3}	S4B	SC	T
<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron ³	S3B, S3N		
<i>Podiceps auritus</i>	Horned Grebe ³	S1B, S4N	SC	SC
<i>Podiceps grisegena</i>	Red-necked Grebe ³	S3B, S4N	NAR	NAR
<i>Sterna forsteri</i>	Forster's Tern ²	S2B	DD	DD
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird ³	S2B		

¹ Ontario Breeding Bird Atlas (Cadman *et al.* 2007)

² MNRF Staff pers. comm. 2015

³ Christmas Bird Count (National Audubon Society 2013)

Provincial Rank (S-Rank)

S1: Critically Imperiled

S2: Imperiled

S3: Vulnerable

S4: Apparently Secure

COSEWIC and SARO Status

END/E: Endangered

THR/T: Threatened

SC: Special Concern

NAR: Not at Risk

SH: Historic

DD: Data Deficient

Habitats for these species may be considered significant wildlife habitat, and will be reviewed in more detail during the site investigation and evaluation of significance phases of this NHA. Habitat descriptions for each species have been provided in Appendix III.

As a result of the review of species of conservation concern that may be present within the Project Area and preferred habitats of each species, NRSI biologists have determined that several of these species have the potential to be present within, or near, the Project Area. Most of these species, if present, are most likely to be breeding within the nearby woodlands, hedgerows, pastures, or hay fields, and are unlikely to use the active agricultural fields and row crops, including soybeans, corn, and wheat. A description of whether or not each of these species will be carried forward to the site investigation has been provided in Appendix III.

7.3.2 Herpetofauna

A total of 2 herpetofauna species of conservation concern, both reptile species, have been documented within the vicinity of the Project Area. Each of these species, including provincial and federal status, has been identified in Table 6.

Table 6. Herpetofauna Species of Conservation Concern Identified Near the North Kent Wind 1 Project Area

Scientific Name	Common Name	S-Rank	SARO Status	COSEWIC Status
<i>Chelydra serpentina</i>	Snapping Turtle ^{1,2,3}	S3	SC	SC
<i>Graptemys geographica</i>	Northern Map Turtle ^{1,2,3}	S3	SC	SC

¹ Reptiles and Amphibians of Ontario (Ontario Nature 2013)

² Ontario Reptile and Amphibian Atlas: Interactive Maps (Ontario Nature 2015)

³ MNRF Staff pers. comm. 2015

Provincial Rank (S-Rank)

S1: Critically Imperiled
S2: Imperiled
S3: Vulnerable

COSEWIC and SARO Status

END/E: Endangered
THR/T: Threatened
SC: Special Concern

Habitats of these species are considered candidate significant wildlife habitat, and will be reviewed in more detail during the site investigation and evaluation of significance phases of this NHA. Habitat descriptions for each species, as well as descriptions of

whether or not each of these species will be carried forward to the site investigation, have been provided in Appendix III.

7.3.3 Mammals

No mammal species of conservation concern have been identified within the vicinity of the North Kent Wind 1 Project through the records review.

7.3.4 Vegetation

A total of 23 vegetation species of conservation concern have been documented since 1990 within the vicinity of the Project Area. Each of these species, including provincial and federal status, has been identified in Table 7.

Table 7. Vegetation Species of Conservation Concern Identified Near the North Kent Wind 1 Project Area

Scientific Name	Common Name	S-Rank	SARO Status	COSEWIC Status
<i>Asclepias sullivantii</i>	Prairie Milkweed ¹	S3		
<i>Asimina triloba</i>	Paw Paw ^{1,2}	S3		
<i>Carex muskingumensis</i>	Muskingum Sedge ¹	S3		
<i>Carex tetanica</i>	Rigid Sedge ¹	S3		
<i>Desmodium canescens</i>	Hoary Tick-trefoil ¹	S2		
<i>Dichanthelium sphaerocarpon</i>	Round-Fruited Panic Grass ¹	S3		
<i>Fraxinus quadrangulata</i>	Blue Ash ¹	S3	SC	SC
<i>Hibiscus moscheutos</i>	Swamp Rose-mallow ¹	S3	SC	SC
<i>Nelumbo lutea</i>	American Lotus ¹	S2		
<i>Nyssa sylvatica</i>	Black Gum ¹	S3		
<i>Phyla lanceolata</i>	Northern Fogfruit ¹	S2		
<i>Quercus shumardii</i>	Shumard Oak ¹	S3	SC	SC
<i>Ratibida pinnata</i>	Gray-headed Prairie Coneflower ¹	S3		
<i>Rosa setigera</i>	Climbing Prairie Rose ¹	S3	SC	SC
<i>Saururus cernuus</i>	Lizard's Tail ¹	S3		
<i>Senna hebecarpa</i>	Wild Senna ¹	S1		
<i>Silphium perfoliatum</i> var. <i>perfoliatum</i>	Cup-Plant ¹	S2		
<i>Solidago riddellii</i>	Riddell's Goldenrod ¹	S3	SC	SC
<i>Spiranthes lacera</i> var. <i>gracilis</i>	Southern Slender Ladies' Tresses ¹	S1		
<i>Verbesina alternifolia</i>	Wing-stem ^{1,2}	S3		
<i>Vernonia gigantea</i>	Giant Ironweed ¹	S1?		
<i>Veronicastrum virginicum</i>	Virginia Culver's-root ²	S2		
<i>Viola striata</i>	Cream Violet ²	S3		

¹ MNRF Staff pers. comm. 2015

² Natural Heritage Information Center, 2015

Provincial Rank (S-Rank)	COSEWIC and SARO Status
S1: Critically Imperiled	END/E: Endangered
S2: Imperiled	THR/T: Threatened
S3: Vulnerable	SC: Special Concern

Habitats of these species are considered candidate significant wildlife habitat, and will be reviewed in more detail during the site investigation and evaluation of significance phases of this NHA. Habitat descriptions for each species, as well as descriptions of whether or not each of these species will be carried forward to the site investigation, have been provided in Appendix III.

7.3.5 Insects

A total of 4 insect species of conservation concern, including 2 damselfly, 1 dragonfly, and 1 butterfly species, have been documented within the vicinity of the Project Area. Each of these species, including provincial and federal status, has been identified in Table 8.

Table 8. Insect Species of Conservation Concern Identified Near the North Kent Wind 1 Project Area

Scientific Name	Common Name	S-Rank	SARO Status	COSEWIC Status
<i>Argia sedula</i>	Blue-ringed Dancer ¹	S2		
<i>Argia tibialis</i>	Blue-tipped Dancer ¹	S3		
<i>Danaus plexippus</i>	Monarch ²	S2N, S4B	SC	SC
<i>Sympetrum corruptum</i>	Variegated Meadowhawk ¹	S3		

¹ MNRF Staff pers. comm. 2015

² Ontario Butterfly Atlas (Jones 2013)

Provincial Rank (S-Rank)	COSEWIC and SARO Status
S1: Critically Imperiled	END/E: Endangered
S2: Imperiled	THR/T: Threatened
S3: Vulnerable	SC: Special Concern

Habitats of these species are considered candidate significant wildlife habitat, and will be reviewed in more detail during the site investigation and evaluation of significance phases of this NHA. Habitat descriptions for each species, as well as descriptions of whether or not each of these species will be carried forward to the site investigation, have been provided in Appendix III below.

The records review has identified no other wildlife species of conservation concern that may occur within the vicinity of the Project Area. NRSI biologists will continue to

examine potential habitats and document all wildlife species encountered during the site investigation and evaluation of significance phases of this NHA, including species that may not have already been identified as part of this records review.

7.4 Animal Movement Corridors

The records review process did not reveal any known animal movement corridors within the Project Area. Available basemapping indicated that there are several linear features, including treed fencerows and naturalized drains, within the Project Area. The suitability of these features as amphibian animal movement corridors will be examined during the site investigation phase of this NHA.

8.0 Summary of Records Review

In accordance with the REA Regulation, NRSI biologists have completed a comprehensive review of available background information pertaining to the North Kent Wind 1 Project Area. This complete review has been provided in the preceding sections, and has been summarized in Tables 9 to 11 below.

The results of the records review of natural features, including provincial parks, conservation reserves, ANSIs, wetlands, and woodlands are provided in Table 9 below. This table identifies which natural features will be carried forward to the site investigation phase of the Project based on information collected during this review.

Table 9. Summary of Natural Feature Records Review for the North Kent Wind 1 Project

Natural Feature	Present Within the Project Area	Present Within Project Location	Carried Forward to Site Investigation (Y/N)
Provincial Park	No	No	No
Conservation Reserve	No	No	No
Provincially Significant Earth Science ANSI	No	No	No
Provincially Significant Life Science ANSI	No	No	No
Wetland	Yes	Yes	Yes
Woodland	Yes	Yes	Yes

The results of the records review of wildlife habitat are provided in Table 10 below. This table summarizes the presence of the full range of potential wildlife habitats within the Project Area. The purpose of this table is to guide the site investigation to further refine what types of wildlife habitats are within the Project Area. Any wildlife habitats that have already been confirmed to be not applicable to the Project Area or are known to be absent from the Project Area will not be discussed in subsequent NHA reports for the North Kent Wind 1 Project.

Table 10. Summary of Wildlife Habitat Records Review for the North Kent Wind 1 Project

Wildlife Habitat	Present Within the Project Area	Present Within Project Location	Carried Forward to Site Investigation (Y/N)
Seasonal Concentration Areas			
Waterfowl Stopover and Staging Areas (Terrestrial)	Possible	Possible	Yes
Waterfowl Stopover and Staging Areas (Aquatic)	Possible	Possible	Yes
Shorebird Migratory Stopover Area	Possible	Possible	Yes
Raptor Wintering Area	Unknown	Unknown	Yes
Bat Hibernacula	Unknown	Unknown	Yes
Bat Maternity Colonies	Unknown	Unknown	Yes
Bat Migratory Stopover Area	N/A	N/A	No
Turtle Wintering Areas	Unknown	Unknown	Yes
Snake Hibernaculum	Unknown	Unknown	Yes
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	Unknown	Unknown	Yes
Colonially – Nesting Bird Breeding Habitat (Tree/Shrubs)	Unknown	Unknown	Yes
Colonially – Nesting Bird Breeding Habitat (Ground)	Unknown	Unknown	Yes
Migratory Butterfly Stopover Areas	N/A	N/A	No
Landbird Migratory Stopover Areas	N/A	N/A	No
Deer Winter Congregation Areas	No	No	No
Rare Vegetation Communities			
Cliffs and Talus Slopes	Unknown	Unknown	Yes
Sand Barrens	Unknown	Unknown	Yes
Alvar	Unknown	Unknown	Yes
Old Growth Forest	Unknown	Unknown	Yes
Savannah	Unknown	Unknown	Yes
Tallgrass Prairie	Unknown	Unknown	Yes
Other Rare Vegetation Communities	Unknown	Unknown	Yes
Specialized Wildlife Habitats			
Waterfowl Nesting Area	Unknown	Unknown	Yes
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Unknown	Unknown	Yes
Woodland Raptor Nesting Habitat	Unknown	Unknown	Yes
Turtle Nesting Areas	Unknown	Unknown	Yes
Seeps and Springs	Unknown	Unknown	Yes
Amphibian Breeding Habitat (Woodland)	Unknown	Unknown	Yes
Amphibian Breeding Habitat (Wetlands)	Unknown	Unknown	Yes
Habitats for Species of Conservation Concern			
Marsh Bird Breeding Habitat	Possible	Possible	Yes
Woodland Area-Sensitive Bird Breeding Habitat	Unknown	Unknown	Yes
Open Country Bird Breeding Habitat	Unknown	Unknown	Yes
Shrub/Early Successional Bird Breeding Habitat	Unknown	Unknown	Yes
Terrestrial Crayfish	Unknown	Unknown	Yes

Wildlife Habitat	Present Within the Project Area	Present Within Project Location	Carried Forward to Site Investigation (Y/N)
Special Concern and Rare Wildlife Species (Refer to Appendix III)	Possible	Possible	Yes
Animal Movement Corridors			
Amphibian Movement Corridors	Unknown	Unknown	Yes

Following a full review of available records applicable to the North Kent Wind 1 Project, Table 11 has been prepared to outline the results of the records review as it specifically relates to the REA Regulation. This table outlines the presence of natural features and wildlife habitats that have the potential to overlap with, or occur within, the Project Area.

Table 11. Summary of Records Review for the North Kent Wind 1 Project

Criteria	Result
1. In or within 120m of a Provincial Park or Conservation Reserve	The Project is not located in or within 120m of a Provincial Park or Conservation Reserve.
2. In a Natural Feature	The results of this records review indicate the Project Location (i.e. disturbance area, collector lines, access roads, etc.) overlaps with 14 woodlands. Species associations and distances of these habitats to the Project Location will be confirmed during the site investigation phase of this NHA. The intention of the proposed Project Location is to avoid overlap with natural features, including woodlands, wherever possible.
3. Within 50m of a Provincially Significant ANSI-Earth Science (ES)	No Provincially Significant ANSI-ES is located within 50m of the Project Location.
4. Within 120m of a Natural Feature	
Provincially Significant ANSI-Life Science (LS)	No Provincially Significant ANSI-LS is located within the Project Area.
Coastal Wetland	No coastal wetlands are located within the Project Area.
Northern Wetland	No northern wetlands are located within the Project Area.
Southern Wetland	No known southern wetlands are located within the Project Area. There are 31 woodlands within the Project Area, each of which has the potential to contain unevaluated wetland habitat. All of the potential wetland habitats within the Project Area will be further examined during the site investigation phase of this NHA.
Wildlife Habitat	A total of 31 woodlands are located within the Project Area and could provide several types of Significant Wildlife Habitat (SWH). Other natural features such as naturalized drainage ditches and hedgerows have been identified within the Project Area and could also provide SWH. These features will be surveyed to determine if they are used for animal movement corridors or provide habitat for species of conservation concern.

Criteria	Result
	All of these wildlife habitats will be examined during the site investigation phase and, if applicable, the evaluation of significance phase of this project to confirm presence of candidate significant wildlife habitat and determine the significance of each candidate significant wildlife habitat.
Woodland	A total of 31 woodlands are located within the Project Area. Basemapping indicates these habitats range in size from 0.4 to 15.0ha. These woodlands are expected to be primarily dominated by mid-aged to mature deciduous tree species; however, young woodlands, treed plantations, or occasional coniferous woodlands may also be present within the Project Area.

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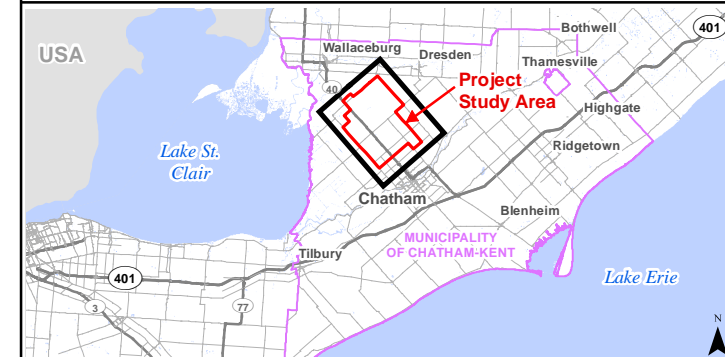
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Maps

North Kent Wind 1 Project Project Area and Natural Features



Legend

- Utility Line
- Highway
- Primary Road
- Secondary Road
- Project Location**
- Project Area (120m Buffer)
- Construction Disturbance Area
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed POI/ Substation/ Laydown/ O&M Building
- Proposed Laydown Area
- Natural Features**
- Permanent Watercourse
- Intermittent Watercourse
- Open Water
- Woodland
- Important Bird Area (IBA)

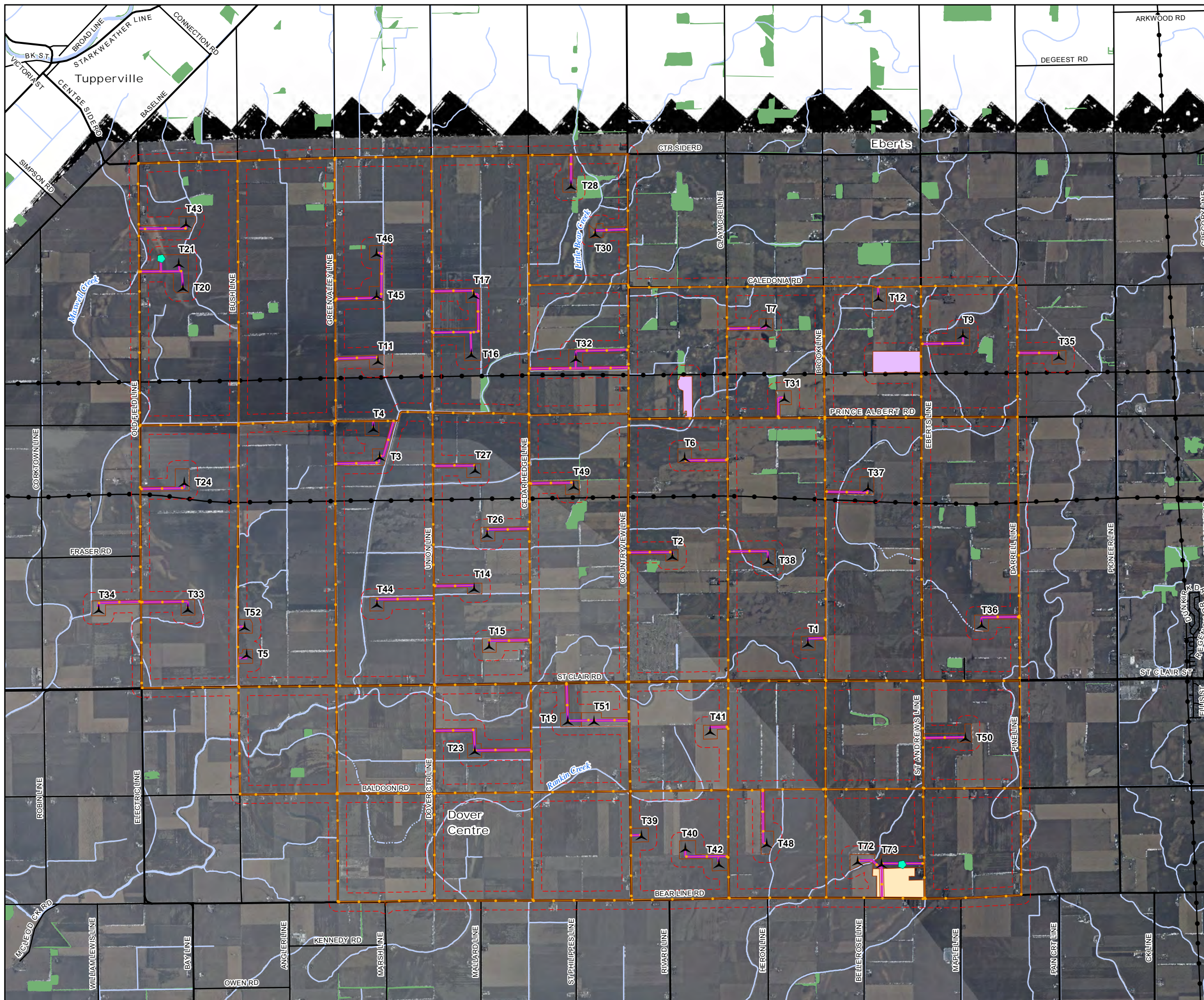


Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Data provided by MNRFO Copyright: Queen's Printer Ontario. Imagery: AECOM (March 2015)

Project: 1612
Date: July 21, 2015

NAD83 - UTM Zone 17
Size: 11x17"
1:55,000

0 1 2 3 Kilometers



Appendix I
Ministry of Natural Resources and Forestry Records Review

District NHA Records Review Template for Renewable Energy Projects

ECOREGION 7E

This template has been aligned with the
draft Ecoregion 7E Criterion Schedule

NHA Records Review

Project Name:	North Kent Wind Project			
Project Location:	MNR District Aylmer	Municipality Chatham-Kent	Geo.Twp, Lot(s) & Con(s)	Geographic Townships of Dover and Chatham
Applicant:	North Kent Wind 1 GP Inc. (Pattern Development and Samsung Renewable Energy)		Phone #:	
Consultant:	Pamela Hammer – Natural Resource Solutions Inc.		Phone #: 519-725-2227	
Generation type:	<input checked="" type="checkbox"/> wind onshore	<input type="checkbox"/> wind offshore	<input type="checkbox"/> solar	<input type="checkbox"/> biomass/biogas
Nameplate Capacity:	100 MW			
Name of MNR Records Reviewer:	Kristen Diemer			
Date Records Compiled:	26 May 2015			
What Ecodistrict is the project located in?	7E-1 and 7E-2			
% Woodland cover in planning area	~ 4% or less in the Municipality of Chatham-Kent			

Please note the following definitions:

No = MNR has verified that there is no such natural feature present in or within 120 m of the proposed site.

YES = MNR has verified that this natural feature is present in or within 120 m of the proposed site. Site investigation is required to delineate the boundary of the natural feature.

UNKNOWN = MNR does not have any data to indicate presence/absence of this type of natural feature. Site investigation is required. Where the natural feature is deemed present, the boundary of the feature must be delineated.

% Woodland cover in planning area = based on a percentage of woodland cover in the lower-tier or single-tier municipality where the project has been proposed.

Although this data represents the MNR's best current available information, it is important to note that a lack of occurrence (ie: unknown response) at a site does not mean that natural feature type is not present at the location. The Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, 2001) and the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (MNR, 2012) provide guidance with respect to identifying those features requiring Site Investigations. MNR continues to encourage Renewable Energy Approval Applicants to maintain communication and seek technical advice throughout the approval process. Information on Threatened and Endangered species is provided in a separate table.

Feature Type	Present within 120m of project location (yes, no, unknown, N/A)	Present within project location (yes, no, unknown, N/A)	MNR Comments (comments may expand on information provided and/or may include relevant records within the vicinity that were not within project location or 120m of project	Information Source (NHIC, district staff, etc. Include the data layer name where possible)

			area)		
Provincial Park	No	No	No provincial parks within 10 km	LIO	
Conservation Reserve	No	No	No conservation reserves within 10 km	LIO	
Earth Science ANSI*	No	No	Within 10 km Provincial ANSI - Walpole Island	LIO	
Life Science ANSI	Yes	Yes	Within 10 km Provincial ANSI – Lake St. Clair Marshes Regional ANSI – Van Horne Sugar Maple Stand Regional ANSI – Jeanette’s Creek Woodlots Regional ANSI – Chenal-Ecarte Prairie Regional ANSI – Louisville Sandplain Woods	LIO	
Wetland	Yes	Yes	There are no evaluated wetlands within the project boundary or the 120 m adjacent lands. Unevaluated wetlands appear to be present within woodlands in the project area. Confirm through site investigation.	LIO/District Biologist	
Woodland	Yes	Yes	Several woodlots throughout project area ranging in size from < 1 ha to ~ 14 ha. Confirm significance through site investigation.	LIO/2006 SWOOP photography	
Valleyland	N/A	N/A			
Significant Wildlife Habitat	Habitats of Seasonal Concentrations of Animals	Waterfowl stopover and staging areas (terrestrial)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation
		Waterfowl stopover and staging areas (aquatic)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation

		Shorebird migratory stopover areas	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Raptor Wintering Area	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Bat hibernacula	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Bat Maternity Colonies	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Bat Migratory Stopover Areas	Applies to Long-point only	N/A	No criteria	7E - Ecoregion Criterion Schedule
		Turtle Wintering Area	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Snake Hibernaculum	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Colonial-Nesting bird breeding habitat (bank and cliff swallows)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Colonial-Nesting bird breeding habitat (tree/shrub)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Colonial-Nesting bird breeding habitat (ground)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	NHIC Database
		Migratory butterfly stopover areas	Only include if within 5km of Lake Erie	N/A	Not within 5km of Lake Erie or Ontario	7E - Ecoregion Criterion Schedule
		Landbird (songbird)	Only include if	N/A	Not within 5km of Lake	7E - Ecoregion

		migratory stopover areas	within 5km of Lake Erie		Erie or Ontario	Criterion Schedule
		Deer Winter Congregation Areas	Must be identified by MNRF	No	Not present within project area	MNRF Biologist
Rare Vegetation Communities or Specialized Habitats for Wildlife		Cliffs and Talus Slopes	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Sand Barren	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Alvar	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Old Growth Forest	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Savannah	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Tallgrass Prairie	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Other Rare Vegetation Communities	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Waterfowl Nesting Area	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Bald Eagle and Osprey Nesting, Foraging and Perching habitat	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Woodland Raptor Nesting habitat	Unknown	Unknown	No records available – information lacking	

					Include this information in records review and carry forward to site investigation	
		Turtle Nesting Areas	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Seeps and Springs	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Amphibian Breeding Habitat (Woodland)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Amphibian Breeding Habitat (Wetlands)	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
	Animal Movement Corridors (list all that apply)	Amphibians	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
	Species of Conservation Concern (list all that apply)	Marsh Bird Breeding Habitat	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Woodland Area-Sensitive Breeding Bird Habitat	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Open Country Breeding Bird Habitat	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Shrub/Early Successional Bird Breeding Habitat	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	
		Special Concern Species	Yes	Yes	Wood Thrush Eastern Wood-pewee	NHIC Database/District Biologist

					Grasshopper Sparrow Snapping Turtle Blue Ash Northern Map Turtle Shumard Oak Riddell's Goldenrod Climbing Prairie Rose Swamp Rose-mallow CONSULT DFO AND NHIC DATABASE FOR ADDITIONAL RECORDS	
		S1-S3, SH species and communities	Yes	Yes	Pawpaw – S3 Muskingum Sedge – S3 Cup-Plant – S2 Rigid Sedge – S3 Round-fruited Panicgrass – S3 Black Gum – S3 Wingstem – S3 Northern Fogfruit – S2 Hoary Tick-trefoil – S2 Wild Senna – S1 American Lotus – S2 Southern Slender Ladies'-tresses – S1 Gray-headed Prairie Coneflower – S3 Forster's Tern – S2B Giant Ironweed - S1? Prairie Milkweed – S3 Lizard's-tail – S3	NHIC Database/District Biologist

					Ghost Shiner – S2 Blue-tipped Dancer – S3 Blue-ringed Dancer – S2 Variegated Meadowhawk – S3 CONSULT DFO AND NHIC DATABASE FOR ADDITIONAL RECORDS	
		Terrestrial Crayfish	Unknown	Unknown	No records available – information lacking Include this information in records review and carry forward to site investigation	

Is any portion of the project located within the Oak Ridges Moraine Plan Area? Yes No

If yes, are any of the following features known to be present on or within 120m of the project location?

- Sand Barrens
- Savannah
- Tallgrass Prairie
- Unknown
- ANSI (Life Science)
- Southern Wetlands that are not provincially significant

Is the project location within the Protected Countryside (Greenbelt)? Yes No

If yes, are any of the following features known to be present on or within 120m of the project location?

- Sand Barrens
- Savannah
- Tallgrass Prairie
- Alvar
- Unknown
- ANSI (Life Science)
- Southern Wetlands that are not provincially significant

* Earth Science ANSI only needs to be considered if it is located within 50m of the project location

Appendix II
Natural Heritage Information Centre Query Results

Appendix II. Natural Heritage Information Centre Query Results

Atlas Squares	EO ID	Scientific Name	Common Name	S-Rank	COSEWIC Status	SARO Status	Last Observed Date	Extirpated
Birds								
17LG9096; 17LG9097; 17LG9098; 17LG9099; 17LG9195; 17LG9196; 17LG9197; 17LG9198; 17LG9199; 17LG9296; 17LG9297; 17LG9298; 17LG9393; 17LG9394; 17LG9395; 17LG9396; 17LG9492; 17LG9493; 17LG9494; 17LG9294; 17LG9295; 17LH9000	32700	<i>Aythya valisineria</i>	Canvasback	S1B,S4N			1983	No
Vegetation								
17LH9408; 17LH9407; 17LH9409; 17LH8907; 17LH8909; 17LH8904; 17LH8905; 17LH9106; 17LH9110; 17LH9011; 17LH9105; 17LH9006; 17LH9108; 17LH9109; 17LH9111; 17LH9000; 17LH9010; 17LH9008; 17LH9104; 17LH9005; 17LH9007; 17LH9103; 17LH9100; 17LH9003; 17LH9102; 17LH9009; 17LH9107; 17LH9004; 17LH9312; 17LH9203; 17LH9308; 17LH9202; 17LH9309; 17LH9310; 17LH9311; 17LH9207; 17LH9209; 17LH9210; 17LH9211; 17LH9208; 17LH9304; 17LH9303; 17LH9206; 17LH9204; 17LH9307; 17LH9205; 17LH9305; 17LH9306; 17LH9800; 17LH9600; 17LH9401; 17LH9500; 17LH9400; 17LH9501; 17LH9700; 17LG9994; 17LG9993; 17LH9100; 17LH9000; 17LG9198; 17LG9195; 17LG9199; 17LG9097; 17LG9009; 17LG9196; 17LG9096; 17LG9197; 17LG9294; 17LG9098; 17LH9301; 17LH9300; 17LH9200; 17LH9201; 17LG9494; 17LG9492; 17LG9799; 17LG9493; 17LG9496; 17LG9497; 17LG9498; 17LG9495; 17LG9395; 17LG9698; 17LG9396; 17LG9697; 17LG9696; 17LG9399; 17LG9695; 17LG9694; 17LG9693; 17LG934; 17LG9398; 17LG9397; 17LG9699; 17LG9796; 17LG9795; 17LG9798; 17LG9393; 17LG9793; 17LG9692; 17LG9598; 17LG9297; 17LG9592; 17LG9499; 17LG9299; 17LG9596; 17LG9298; 17LG9597; 17LG9296; 17LG9296; 17LG9895; 17LG9894; 17LG9893; 17LG9594; 17LG9899; 17LG9295; 17LG9599; 17LG9595	1687	<i>Asclepias sullivantii</i>	Prairie Milkweed	S3			1943-07-21	No
17LH9712	67091	<i>Asimina triloba</i>	Pawpaw	S3			2001-08-17	No

Atlas Squares	EO ID	Scientific Name	Common Name	S-Rank	COSEWIC Status	SARO Status	Last Observed Date	Extirpated
17LG9096; 17LG9097; 17LG9098; 17LG9099; 17LG9195; 17LG9196; 17LG9197; 17LG9198; 17LG9199; 17LG9294; 17LG9295; 17LG9296; 17LG9297; 17LG9298; 17LG9299; 17LG9393; 17LG9394; 17LG9395; 17LG9396; 17LG9397; 17LG9398; 17LG9399; 17LG9492; 17LG9493; 17LG9494; 17LG9495; 17LG9496; 17LG9497; 17LG9498; 17LG9499; 17LG9592; 17LG9594; 17LG9595; 17LG9596; 17LG9597; 17LG9598; 17LG9599; 17LG9692; 17LG9693; 17LG9694; 17LG9695; 17LG9696; 17LG9697; 17LG9698; 17LG9699; 17LG9793; 17LG9795; 17LG9796; 17LG9798; 17LG9799; 17LG9893; 17LG9894; 17LG9895; 17LG9899; 17LG9993; 17LG9994; 17LH9000; 17LH9100; 17LH9200; 17LH9201; 17LH9300; 17LH9301; 17LH9400; 17LH9401; 17LH9500; 17LH9501; 17LH9600; 17LH9700; 17LH9800	2096	<i>Desmodium canescens</i>	Hoary Tick-trefoil	S2			1969-09-04	No
17LH9801; 17LH9800; 17LH9900; 17LH9902; 17LH9903; 17LH9804; 17LH9803; 17LH9901; 17LH9802; 17LH9904; 17LH9703; 17LH9602; 17LH9601; 17LH9401; 17LH9502; 17LH9700; 17LH9600; 17LH9400; 17LH9702; 17LH9501; 17LH9603; 17LH9500; 17LH9701; 17LH9994; 17LH9993; 17MH0102; 17MH0103; 17MH0105; 17MH0104; 17MH0204; 17MH0203; 17MH0202; 17MH0201; 17MH0000; 17MH0101; 17MH0004; 17MH0003; 17MH0002; 17MH0301; 17MH0303; 17MH0001; 17MH0302; 17LG9395; 17LG9497; 17LG9494; 17LG9496; 17LG9693; 17LG9499; 17LG9798; 17LG9396; 17LG9598; 17LG9592; 17LG9799; 17LG9692; 17LG9696; 17LG9697; 17LG9397; 17LG9795; 17LG9495; 17LG9595; 17LG9899; 17LG9694; 17LG9796; 17LG9695; 17LG9594; 17LG9599; 17LG9498; 17LG9894; 17LG9895; 17LG9492; 17LG9893; 17LG9493; 17LG9398; 17LG9698; 17LG9695; 17LG9793; 17LG9394; 17LG9393; 17LG9597; 17LG9699; 17LG9399	59132	<i>Dichanthelium sphaerocarpon</i>	Round-fruited Panicgrass	S3			1892-07-19	No

Atlas Squares	EO ID	Scientific Name	Common Name	S-Rank	COSEWIC Status	SARO Status	Last Observed Date	Extirpated
17LH9801; 17LH9802; 17LH9800; 17LH9500; 17LH9701; 17LH9402; 17LH9501; 17LH9405; 17LH9407; 17LH9401; 17LH9502; 17LH9403; 17LH9404; 17LH9704; 17LH9700; 17LH9506; 17LH9406; 17LH9400; 17LH9702; 17LH9703; 17LH9601; 17LH9602; 17LH9605; 17LH9604; 17LH9603; 17LH9606; 17LH9507; 17LH9600; 17LH9505; 17LH9504; 17LH9503; 17LH8904; 17LH8907; 17LH8907; 17LH8905; 17LH8909; 17LH8906; 17LH9108; 17LH9105; 17LH9006; 17LH9109; 17LH9005; 17LH9106; 17LH9104; 17LH9009; 17LH9103; 17LH9003; 17LH9004; 17LH9007; 17LH9107; 17LH9102; 17LH9100; 17LH9008; 17LH9000; 17LG9195; 17LG9295; 17LG9098; 17LG9099; 17LG9197; 17LG9096; 17LG9198; 17LG9196; 17LG9294; 17LG9199; 17LG9097; 17LH9200; 17LH9201; 17LH9202; 17LH9203; 17LH9302; 17LH9208; 17LH9305; 17LH9304; 17LH9306; 17LH9303; 17LH9207; 17LH9301; 17LH9300; 17LH9206; 17LH9204; 17LH9205; 17LH9308; 17LH9307; 17LG9297; 17LG9796; 17LG9899; 17LG9492; 17LG9595; 17LG9799; 17LG9394; 17LG9594; 17LG9698; 17LG9693; 17LG9395; 17LG9696; 17LG9592; 17LG9697; 17LG9396; 17LG9695; 17LG9699; 17LG9397; 17LG9399; 17LG9398; 17LG9795; 17LG9692; 17LG9393; 17LG9296; 17LG9694; 17LG9599; 17LG9598; 17LG9495; 17LG9497; 17LG9496; 17LG9298; 17LG9498; 17LG9597; 17LG9299; 17LG9499; 17LG9596; 17LG9494; 17LG9493	2337	<i>Hibiscus moscheutos</i>	Swamp Rose-mallow	S3	SC	SC	1950-08-26	No
17LH8904; 17LH8905; 17LH9103; 17LH9102; 17LH9004; 17LH9000; 17LH9100; 17LH9003; 17LG9097; 17LG9198; 17LG9096; 17LG9197; 17LG9196; 17LG9294; 17LG9195; 17LG9098; 17LG9099; 17LG9199; 17LH9300; 17LH9201; 17LH9200; 17LH9202; 17LG9395; 17LG9296; 17LG9399; 17LG9298; 17LG9396; 17LG9295; 17LG9398; 17LG9797; 17LG9297; 17LG9299; 17LG9393	2387	<i>Nelumbo lutea</i>	American Lotus	S2			1966-11-03	No

Atlas Squares	EO ID	Scientific Name	Common Name	S-Rank	COSEWIC Status	SARO Status	Last Observed Date	Extirpated
17LH9800; 17LH9903; 17LH9900; 17LH9902; 17LH9904; 17LH9803; 17LH9901; 17LH9802; 17LH9801; 17LH9804; 17LH9704; 17LH9703; 17LH9402; 17LH9501; 17LH9401; 17LH9602; 17LH9700; 17LH9601; 17LH9702; 17LH9502; 17LH9500; 17LH9400; 17LH9503; 17LH9600; 17LH9600; 17LH9603; 17LH9701; 17LG9993; 17LG9994; 17MH0102; 17MH0002; 17MH0005; 17MH0101; 17MH0103; 17MH0004; 17MH0001; 17MH0003; 17MH0000; 17MH0302; 17MH0301; 17MH0201; 17MH0203; 17MH0204; 17MH0303; 17MH0105; 17MH0104; 17LG9295; 17LG9294; 17LH9300; 17LH9301; 17LG9599; 17LG9592; 17LG9398; 17LG9592; 17LG9498; 17LG9399; 17LG9893; 17LG9494; 17LG9397; 17LG9598; 17LG9495; 17LG9396; 17LG99394; 17LG9499; 17LG9597; 17LG9298; 17LG9296; 17LG9493; 17LG9596; 17LG9695; 17LG9497; 17LG9798; 17LG9297; 17LG9696; 17LG9595; 17LG9393; 17LG9594; 17LG9699; 17LG9496; 17LG9895; 17LG9795; 17LG9698; 17LG9796; 17LG9594; 17LG9697; 17LG9894; 17LG9395; 17LG9299; 17LG9899; 17LG979; 17LG9492; 17LG9693; 17LG9793	60025	<i>Nyssa sylvatica</i>	Black Gum	S3			1922-10-06	No
17MH0009; 17MH0301; 17MH0104; 17MH0103; 17MH0008; 17MH0302; 17MH0105; 17MH0303; 17MH0006; 17MH0005; 17MH0204; 17MH0202; 17MH0203	23124	<i>Senna hebecarpa</i>	Wild Senna	S1			1966-08-13	No
17LH9614; 17LH9514	63614	<i>Verbesina alternifolia</i>	Wingstem	S3			1997-08-14	No
17LG9993; 17LG9893	63871	<i>Vernonia gigantea</i>	Giant Ironweed	S1?			1987-07-21	No
17LH9400; 17LH8904; 17LH8905; 17LH8906; 17LH9102; 17LH9003; 17LH9004; 17LH9100; 17LH9104; 17LH9000; 17LH9103; 17LH9005; 17LG9096; 17LG9199; 17LG9294; 17LG9196; 17LG9197; 17LG9099; 17LG8188; 17LG9098; 17LG9295; 17LG9097; 17LG9195; 17LH9300; 17LH9200; 17LH9301; 17LH9201; 17LH9202; 17LH9203; 17LH9395; 17LG9296; 17LG9495; 17LG9394; 17LG9393; 17LG9496; 17LG9299; 17LG9396; 17LG9297; 17LG9497; 17LG9494; 17LG9499; 17LG9398; 17LG9399; 17LG9498; 17LG9397; 17LG9298	2702	<i>Veronicastrum virginicum</i>	Culver's Root	S2				No

Atlas Squares	EO ID	Scientific Name	Common Name	S-Rank	COSEWIC Status	SARO Status	Last Observed Date	Extirpated
17LH9400; 17LH8906; 17LH8905; 17LH8904; 17LH9104; 17LH9000; 17LH9005; 17LH9004; 17LH9003; 17LH9103; 17LH9102; 17LH9100; 17LG9098; 17LG9195; 17LG9096; 17LG9096; 17LG9198; 17LG9197; 17LG9099; 17LG9097; 17LG9294; 17LG9199; 17LG9196; 17LG9295; 17LH9300; 17LH9203; 17LH9202; 17LG9398; 17LG9496; 17LG9499; 17LH9497; 17LG9395; 17LG9296; 17LG9498; 17LG9397; 17LG9394; 17LG9399; 17LG9297; 17LG9299; 17LG9393; 17LG9298; 17LG9495; 17LG9494	2762	<i>Viola striata</i>	Striped Cream Violet	S3				No

Appendix III

Summary of Habitat Descriptions for Species of Conservation Concern

Appendix III. Summary of Habitat Descriptions for Species of Conservation Concern (SCC) Identified Near the North Kent Project Area

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
Birds					
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	<ul style="list-style-type: none"> Breeds in large human-created grasslands (>5ha), such as pastures and hayfields, and natural prairies, such as alvars¹. These areas are characterized by well-drained, often poor soil, and dominated by relatively low sparse perennial herbaceous vegetation¹. The over-wintering range is generally similar to that used in the breeding range¹. Considered to be a SCC as it is listed as a species of Special Concern provincially and nationally¹. Potential habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes
<i>Asio flammeus</i>	Short-eared Owl	<ul style="list-style-type: none"> Prefers large open areas including grasslands, meadows that are grassy or bushy, marshes, bogs, and tundra^{2,3}. Requires 75-100 ha of contiguous open habitat³. Considered to be a SCC for its rarity during the non-breeding season and because it is listed as a species of Special Concern provincially and nationally. Potential habitat for this species may be found within the project area and project location. Overwintering habitat for this species is addressed under the consideration of Raptor Wintering Areas. Breeding habitat for this species is also addressed under the consideration of Open Country Bird Breeding Habitat. 	Yes	Yes	Yes
<i>Aythya americana</i>	Redhead	<ul style="list-style-type: none"> Prefers shallow cattail and bulrush marshes with good interspersions of vegetation with open areas, often near lakes, ponds, and fens^{3,4}. Typically nests close to shallow water (most within 2m)³. Considered to be a SCC for its rarity during the breeding season. Potential breeding habitat for this species may be found within the project area and project location. Migratory habitat for this species is addressed separately under the consideration of Waterfowl Stopover and Staging Areas (Aquatic). 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Aythya valisneria</i>	Canvasback	<ul style="list-style-type: none"> • Prefers large marshes for nesting, and deep, permanent water bodies for feeding and courtship³. • Considered to be a SCC for its rarity during the breeding season. • Potential breeding habitat for this species may be found within the project area and project location. • Migratory habitat for this species is addressed separately under the consideration of Waterfowl Stopover and Staging Areas (Aquatic). 	Yes	Yes	Yes
<i>Buteo lagopus</i>	Rough-legged Hawk	<ul style="list-style-type: none"> • Prefers open coniferous forests, tundra, and generally barren country⁵. • Breeds on cliffs or in trees, and overwinters in grasslands and open cultivated areas⁵. • Considered to be a SCC for its rarity during the breeding season. • Breeding habitat for this species is not known to occur within this area of the province. • Overwintering habitat for this species is addressed separately under the consideration of Raptor Wintering Areas. 	No	No	No
<i>Calcarius lapponicus</i>	Lapland Longspur	<ul style="list-style-type: none"> • Breeds in the Arctic tundra in wet meadows, grassy tussocks, and scrub⁵. • Migrates and overwinters in plowed fields, stubble, and open grasslands⁵. • Considered to be a SCC for its rarity during the breeding season. • Breeding habitat for this species is not known to occur within this area of the province. 	No	No	No
<i>Chordeiles minor</i>	Common Nighthawk	<ul style="list-style-type: none"> • Prefers open habitats, such as forest clearings, open woodlands, ploughed fields, or gravel beaches³. • Nests on open ground, in clearings in dense forests, ploughed fields, gravel beaches or barren areas with rocky soils, in open woodlands and on flat gravel roofs³. • Considered to be a SCC because it is listed as a species of Special Concern provincially and also a Threatened species nationally. • Potential breeding habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Clangula hyemalis</i>	Long-tailed Duck	<ul style="list-style-type: none"> Breeds in ponds, streams, and other arctic wetlands⁵. Winters on the open ocean, or on large freshwater lakes⁵. Considered to be a SCC for its rarity during the breeding season. Breeding habitat for this species is not known to occur within this area of the province. Migratory stopover habitat for this species is addressed separately under the consideration of Waterfowl Stopover and Staging Areas (Aquatic). 	No	No	No
<i>Contopus virens</i>	Eastern Wood-Pewee	<ul style="list-style-type: none"> Prefers open, deciduous, mixed or coniferous forests predominated by oak with little understory, forest clearings, edges, farm woodlots, and parks³. Considered to be a SCC because it is listed as a species of Special Concern provincially and nationally. Potential breeding habitat for this species may be found within the project area and project location. Migratory habitat for this species has been determined through the consideration of Landbird Migratory Stopover Areas, which is not applicable to this area of the province. 	Yes	Yes	Yes
<i>Falco peregrinus anatum/tundrius</i>	Peregrine Falcon	<ul style="list-style-type: none"> Nests on rock cliffs, crags, especially situated near water, and on tall buildings in urban centres³. Considered to be a SCC for its rarity during the breeding season and because it is listed as a species of Special Concern provincially and nationally. Potential habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Gavia stellata</i>	Red-throated Loon	<ul style="list-style-type: none"> • Prefers sheltered, shallow marine waters, and occasionally large freshwater lakes and rivers⁶. • Breeds primarily in coastal tundra habitats, largely on remote ponds⁶. • During migration, stages on large lakes, including several of the Great Lakes⁶. • Winters primarily on marine coastal waters, and occasionally on inland lakes and rivers near the coast⁶. Very rarely winters on the lower Great Lakes or other large interior lakes and rivers⁶. • Considered to be a SCC for its rarity during both the breeding and non-breeding seasons. • Breeding, wintering, and migratory habitat for this species is not known to occur within this area of the province. 	No	No	No
<i>Haliaeetus leucocephalus</i>	Bald Eagle	<ul style="list-style-type: none"> • Requires large continuous areas of deciduous or mixed woods near large lakes or rivers³. • Require an area of 255ha for nesting, shelter, feeding and roosting³. • Prefers open woods with 30 to 50% canopy cover and will nest in trees 50 to 200m from the shore of a water body. The bald eagle requires tall, dead or partially dead trees within 400m of a nest for perching³. • Considered to be a SCC for its rarity during the non-breeding season and because it is listed as a species of Special Concern provincially. • Potential habitat for this species may be found within the project area and project location. • Breeding habitat for this species is addressed under the consideration of Bald Eagle and Osprey Nesting, Foraging and Perching Habitat. 	Yes	Yes	Yes
<i>Hylocichla mustelina</i>	Wood Thrush	<ul style="list-style-type: none"> • Prefers undisturbed, moist, mature deciduous or mixed forest with deciduous sapling growth^{3, 5}. • Considered to be a SCC because it is listed as a species of Special Concern provincially and also a Threatened species nationally. • Potential breeding habitat for this species may be found within the project area and project location. • Migratory habitat for this species has been determined through the consideration of Landbird Migratory Stopover Areas, which is not applicable to this area of the province. 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Larus marinus</i>	Great Black-backed Gull	<ul style="list-style-type: none"> Requires flat, rocky, coastal islands, moorlands, rocky beaches or cliffs and nests in solitary or in small (rarely large) colonies³. Considered to be a SCC for its rarity during the breeding season. Potential breeding habitat for this species may be found within the project area and project location. Breeding habitat for this species is addressed under the consideration of Colonially-Nesting Bird Breeding Habitat (Ground). 	Yes	Yes	Yes
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	<ul style="list-style-type: none"> Lives in open woodlands and woodland edges, especially in oak savannahs and riparian forest³. They can also be found in fields or pastures, orchards and small woodlots³. These habitats contain a higher density of dead trees, which they commonly use for nesting and perching³. Requires trees with a diameter at breast height of at least 40cm for tree cavity nesting and require approximately 4ha for territory³. Considered to be a SCC because it is listed as a species of Special Concern provincially and also a Threatened species nationally. Potential breeding habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes
<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron	<ul style="list-style-type: none"> Breeds in a wide variety of wetland habitats, including deciduous woodland swamps, cattail marshes, islands, wooded river and lake banks, and coastal wetlands^{3,8}. Migratory habitat consists of wetlands associated with migratory routes, generally along coastal areas or the Mississippi River system⁸. Considered to be a SCC for its rarity during both the breeding and non-breeding seasons. Potential breeding and migratory habitat for this species may be found within the project area and project location. Breeding habitat for this species is addressed under the consideration of Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs). 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Podiceps auritus</i>	Horned Grebe	<ul style="list-style-type: none"> • Prefers deep water marshes, or sloughs with a mix of open water and emergent vegetation, such as small freshwater ponds or protected bays of larger lakes with emergent vegetation³. • Migratory stopover occurs regularly along coastlines and inland at larger bodies of water such as rivers (>1000ha), and somewhat irregularly at smaller inland lakes⁵. • Considered to be a SCC as a result of its rarity during the breeding season and because it is listed as a species of Special Concern provincially and nationally. • Based on the lack of breeding records in all of southern Ontario in the second Ontario Breeding Bird Atlas⁹, this species is not known to breed in this area of the province. • Potential migratory habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes
<i>Podiceps grisegena</i>	Red-necked Grebe	<ul style="list-style-type: none"> • Prefers freshwater lakes, marshes, impoundments, or sewage lagoons with >4 ha of open water, and sheltered marshy areas or bays of larger lakes³. • Considered to be a SCC for its rarity during the breeding season. • Potential breeding habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes
<i>Sterna forsteri</i>	Forster's Tern	<ul style="list-style-type: none"> • Breeds in marshes, generally with lots of open water and large stands of island-like vegetation⁵. Can be either coastal salt marsh or large marshy lakes in the interior¹⁰. • Nests are typically placed in clumps of marsh vegetation close to open water⁵. • During migration may visit any waters¹⁰. • Winters in marshes, coastal beaches, especially around estuaries, inlets, coastal lagoons and sheltered bays¹⁰, lakes and rivers⁵. • Considered to be a SCC for its rarity during the breeding season. • Potential breeding habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed Blackbird	<ul style="list-style-type: none"> • Prefers deep (0.6 to 1.2m) marshes or sloughs, lake edges with emergent vegetation, cattails, and reedy lakes³. • Forages on grain fields, freshly ploughed ground and barnyards³. • Considered to be a SCC for its rarity during the breeding season. • Potential breeding habitat for this species may be found within the project area and project location. 	Yes	Yes	Yes
Herpetofauna					
<i>Chelydra serpentina</i>	Snapping Turtle	<ul style="list-style-type: none"> • Resides in habitat that consists of permanent or semi-permanent fresh water, marshes, swamps or bogs or rivers and streams with soft muddy banks or bottoms³. • Uses soft soil or clean dry sand on south-facing slopes for nest sites, which can be some distance from water. They will also take advantage of man-made structures for nest sites, including roads (especially with gravel shoulders), dams and aggregate pits³. • Often hibernate together in groups in mud under water³. • Potential breeding and over-wintering habitat for this species may be found within the project area and project location. • Suitable habitat for this species is addressed under the consideration of Turtle Nesting Areas and Turtle Wintering Areas. 	Yes	Yes	Yes
<i>Graptemys geographica</i>	Northern Map Turtle	<ul style="list-style-type: none"> • Found in large bodies of water with soft bottoms and aquatic vegetation³. • Basks in groups on logs, rocks, beaches or sandy edges and uses soft soil or clean dry sand for nest sites that can be some distance from water³. • Home range size is larger for females (approximately 70ha) than males (approximately 30ha) and includes hibernation, basking, nesting and feeding areas, while aquatic corridors (e.g. streams) are required for movement³. • Potential breeding and over-wintering habitat for this species may be found within the project area and project location. • Suitable habitat for this species is addressed under the consideration of Turtle Nesting Areas and Turtle Wintering Areas. 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
Vegetation					
<i>Asclepias sullivantii</i>	Prairie Milkweed	<ul style="list-style-type: none"> • Prefers wet meadows and prairies and can be found along roadsides and railroads^{3, 11}. 	Yes	Yes	Yes
<i>Asimina triloba</i>	Pawpaw	<ul style="list-style-type: none"> • Found in moist forests and thickets and along stream banks^{3, 11}. 	Yes	Yes	Yes
<i>Carex muskingumensis</i>	Muskingum Sedge	<ul style="list-style-type: none"> • Prefers wet-mesic hardwood forests³. 	Yes	Yes	Yes
<i>Carex tetanica</i>	Rigid Sedge	<ul style="list-style-type: none"> • Calcareous fens, bogs and swales¹². 	Yes	Yes	Yes
<i>Desmodium canescens</i>	Hoary Tick-trefoil	<ul style="list-style-type: none"> • Dry, normal sandy soil found in woodlands, savannahs, prairie, meadows and fields. Needs sun or partial shade¹². 	Yes	Yes	Yes
<i>Dichanthelium sphaerocarpon</i>	Round-Fruited Panic Grass	<ul style="list-style-type: none"> • Dry, mixed-wood plains, woodlands, savannahs forests edge¹². 	Yes	Yes	Yes
<i>Fraxinus quadrangulata</i>	Blue Ash	<ul style="list-style-type: none"> • Deciduous floodplain forests, and along sandy beaches and on limestone outcrops associated with Lake Erie^{13, 14}. 	Yes	Yes	Yes
<i>Hibiscus moscheutos</i>	Swamp Rose-mallow	<ul style="list-style-type: none"> • Commonly found in deep-water cattail marshes and in meadow marshes¹⁴. • Also found in open wet woods, thickets, spoil banks, drainage ditches¹⁴, and open river bottoms¹¹. 	Yes	Yes	Yes
<i>Nelumbo lutea</i>	American Lotus	<ul style="list-style-type: none"> • Wet clay, sand, or loam soil. Ponds, lakes, rivers¹², lagoons, openings in marshes and other shallow waters¹⁵. 	Yes	Yes	Yes
<i>Nyssa sylvatica</i>	Black Gum	<ul style="list-style-type: none"> • Moist, shaded, humus enriched forests or riparian edges¹². 	Yes	Yes	Yes
<i>Phyla lanceolata</i>	Northern Fogfruit	<ul style="list-style-type: none"> • Wet black soil prairies, seeps, areas in or around ditches, power line clearances in floodplains forests, and moist depressions in yards¹⁶. 	Yes	Yes	Yes
<i>Quercus shumardii</i>	Shumard Oak	<ul style="list-style-type: none"> • Prefers moist, heavier soils, and full sun, but is adaptable to loamy soils and partial shade¹⁴, in swamps¹¹. 	Yes	Yes	Yes
<i>Ratibida oinnata</i>	Gray-headed Prairie Coneflower	<ul style="list-style-type: none"> • Dry to moist sandy loam savannas, forests edge, prairie, meadows or fields that are sunny to partially shade¹². 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Rosa setigera</i>	Climbing Prairie Rose	<ul style="list-style-type: none"> Typically found in open habitats with moist, heavy, clay to clay-loam soils such as old fields, abandoned agricultural land, as well as prairie remnants and shrub thickets¹⁴. 	Yes	Yes	Yes
<i>Saururus cernuus</i>	Lizard's Tail	<ul style="list-style-type: none"> Fresh water wetlands, including hardwood swamps and floodplains, stream margins, muddy pond shores, freshwater tidal wetlands and floating mats. Can also be found in forested swamps¹⁷. 	Yes	Yes	Yes
<i>Senna hebecarpa</i>	Wild Senna	<ul style="list-style-type: none"> Moist woodlands¹², moist meadows near rivers, savannas, fens, pastures and roadsides¹⁶. 	Yes	Yes	Yes
<i>Silphium perfoliatum</i> var. <i>perfoliatum</i>	Cup-Plant	<ul style="list-style-type: none"> Inhabits wet prairies or floodplains¹⁸. 	Yes	Yes	Yes
<i>Solidago riddellii</i>	Riddell's Goldenrod	<ul style="list-style-type: none"> Wet prairie-like sites, prairie-like flood plains and roadside ditches¹³. 	Yes	Yes	Yes
<i>Spiranthes lacera</i> var. <i>gracilis</i>	Southern Slender Ladies' Tresses	<ul style="list-style-type: none"> Moist to dry, typically sandy, acidic soils¹⁹. Meadows, prairies, barrens, open woods, dunes, old fields, roadsides, cemeteries, lawns²⁰. 	Yes	Yes	Yes
<i>Verbesina alternifolia</i>	Wing-stem	<ul style="list-style-type: none"> Typically found in sandy thickets, clay banks, and rich alluvial woods and along river banks³. 	Yes	Yes	Yes
<i>Vernonia gigantea</i>	Giant Ironweed	<ul style="list-style-type: none"> Prefers prairies and other grasslands, old fields, roadsides, savannas and woodlands growing on dry to moist soils²¹. Floodplain forests, marshy thickets, and meadows¹¹. Especially common in overgrazed pasture²¹. 	Yes	Yes	Yes
<i>Veronicastrum virginicum</i>	Virginia Culver's-root	<ul style="list-style-type: none"> Occurs in open, moist deciduous forests, prairies, and meadows³. 	Yes	Yes	Yes
<i>Viola striata</i>	Cream Violet	<ul style="list-style-type: none"> Found in low, wet woodlands and rich floodplain forests³. 	Yes	Yes	Yes
Insects					
<i>Argia sedula</i>	Blue-ringed Dancer	<ul style="list-style-type: none"> Lakes, ditches, streams and rivers with gentle current and dense vegetation²². 	Yes	Yes	Yes

Scientific Name	Common Name	Habitat Description	Potential Habitat Present Within the Project Area (Y/N)	Potential Habitat Present Within the Project Location (Y/N)	Carried Forward to Site Investigation (Y/N)
<i>Argia tibialis</i>	Blue-tipped Dancer	<ul style="list-style-type: none"> Streams and rivers of various flows, also sloughs²². 	Yes	Yes	Yes
<i>Danaus plexippus</i>	Monarch	<ul style="list-style-type: none"> Found in oak or oak-pine scrub, thickets, and barrens on well-drained sandy or shaly soils²³. Habitat for this species has been determined through the consideration of Migratory Butterfly Stopover Areas, which is not applicable to this area of the province. 	No	No	No
<i>Sympetrum corruptum</i>	Variiegated Meadowhawk	<ul style="list-style-type: none"> Ponds and slow streams, preferably with sandy or cobble bottoms²². 	Yes	Yes	Yes

¹. COSEWIC (2013)

². Wiggins et al. (2006)

³. MNR Significant Wildlife Habitat Technical Guide (2000)

⁴. Woodin & Michot (2002)

⁵. Cornell Lab of Ornithology (2014)

⁶. Barr et al. (2000)

⁷. Evans et al. (2011)

⁸. Hothem et al. (2010)

⁹. Cadman et al. (2007)

¹⁰. National Audubon Society (2015)

¹¹. Reznicek et al. (2011)

¹². Evergreen (2014)

¹³. Government of Canada (2015)

¹⁴. MNRF (2014)

¹⁵. Royal Botanical Gardens (2013)

¹⁶. Illinois Wildflowers (2015)

¹⁷. Batcher (2002)

¹⁸. Michigan Natural Features Inventory (2010)

¹⁹. University of Wisconsin-Madison (2002)

²⁰. Sheviak & Brown (2003)

²¹. United States Department of Agriculture (USDA) (2015)

²². Abbott (2015)

²³. Butterflies and Moths of North America (2014)