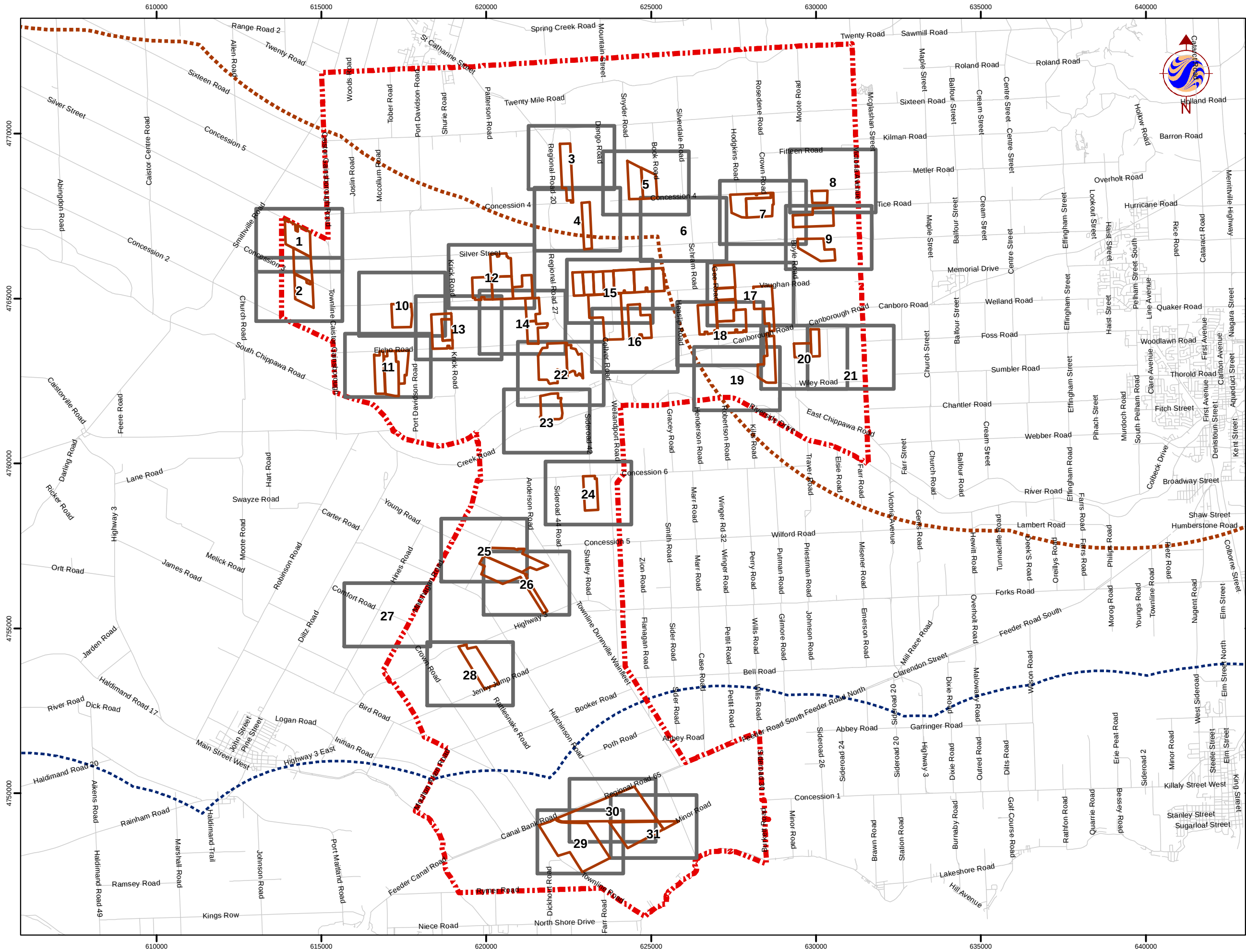




Legend

- Signed Properties
- Map Book Index
- Preliminary Study Area
- Great Lakes 5 km Buffer
- Niagara Escarpment 5 km Buffer
- Road

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

Client/Project
Niagara Region Wind Corporation

Figure No.
F-0

Title

Field Map

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>1-1</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>Nov 17</u>	UTME:
	START: <u>1:30</u>	END: <u>2:00</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	OPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☒ MINERAL SOIL	☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB	☐ RIVER ☐ STREAM ☐ MARSH
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK.	☒ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE		☐ LICHEN ☐ BRYOPHYTE ☒ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ SWMAP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	COVER		☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☒ FOREST ☐ PLANTATION
☐ OPEN WATER ☐ SHALLOW WATER ☒ SURFICIAL DEP. ☐ BEDROCK			☐ OPEN ☐ SHRUB ☒ TREED		

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUEALBA = ACESABA > QUERUBA
2	SUB-CANOPY	3	3	ACESABA > QUERUBA > QUEALBA = OSTVIRG
3	UNDERSTOREY	4	3	ACESABA > OSTVIRG = unknown
4	GRD. LAYER	5-7	2	ARPENN > RUBUS spp > GEFUM

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	A	<10	A	10 - 24	OA	25 - 50	R	>50
----------------------	---	-----	---	---------	----	---------	---	-----

STANDING SNAGS:	0	<10	0	10 - 24	0	25 - 50	N	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	A	<10	A	10 - 24	A	25 - 50	N	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE: <u>Forest - Hardwood</u>	CODE: <u>EOD 6-5</u>
---	----------------------

F = 10	Ugar Map	1/2/2020	1/2/20
--------	----------	----------	--------

INCLUSION	CODE:

	COMPLEX		CODE:
--	---------	--	-------

Evidence of Disturbance / Notes:

— logging ongoing — lots of red oaks marked with paint and some ~~AKERS~~

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: Niagara Region Wind ProjectDate: Nov 17Field Personnel: Nicole Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	3°	3	40%	some rain/snow in pm	none

ELC Polygon: #1-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings. DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>1-2</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>Nov 17</u>	
	START: <u>2:00</u>	END: <u>2:30</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☒ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☒ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION
SITE			COVER		
☐ OPEN WATER			☐ OPEN		
☒ SHALLOW WATER			☐ SHRUB		
☒ SURFICIAL DEP.			☒ TREED		
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	ACEFREE > FRAX SPP > ULM > AMETR > QUERICO
2	SUB-CANOPY	3	2	ACER > ULM = FRAX
3	UNDERSTOREY	4	2	ILEVERT > VAECORN > SPIALBA
4	GRD. LAYER	5-7	3	CAREX SPP > FRAMES > FERNS

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	0	<10	A	10 - 24	0	25 - 50	R	>50
----------------------	---	-----	---	---------	---	---------	---	-----

STANDING SNAGS:	0	<10	0	10 - 24	0	25 - 50	1	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	0	<10	0	10 - 24	2	25 - 50	N	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE:	CODE: SWD2-2
------------------	--------------

INCLUSION	CODE:
-----------	-------

	COMPLEX		CODE:
--	---------	--	-------

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: Niagara Region Wind ProjectDate: Nov 17, 2011Field Personnel: Nicole Charlton

Weather Conditions:	TEMP (°C): <u>3</u>	WIND: <u>3</u>	CLOUD: <u>40%</u>	PPT: <u>some rain/snow in pm</u>	PPT (in last 24 hrs): <u>none</u>
---------------------	------------------------	-------------------	----------------------	-------------------------------------	--------------------------------------

ELC Polygon: #12 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains/potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains/potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains/potential large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

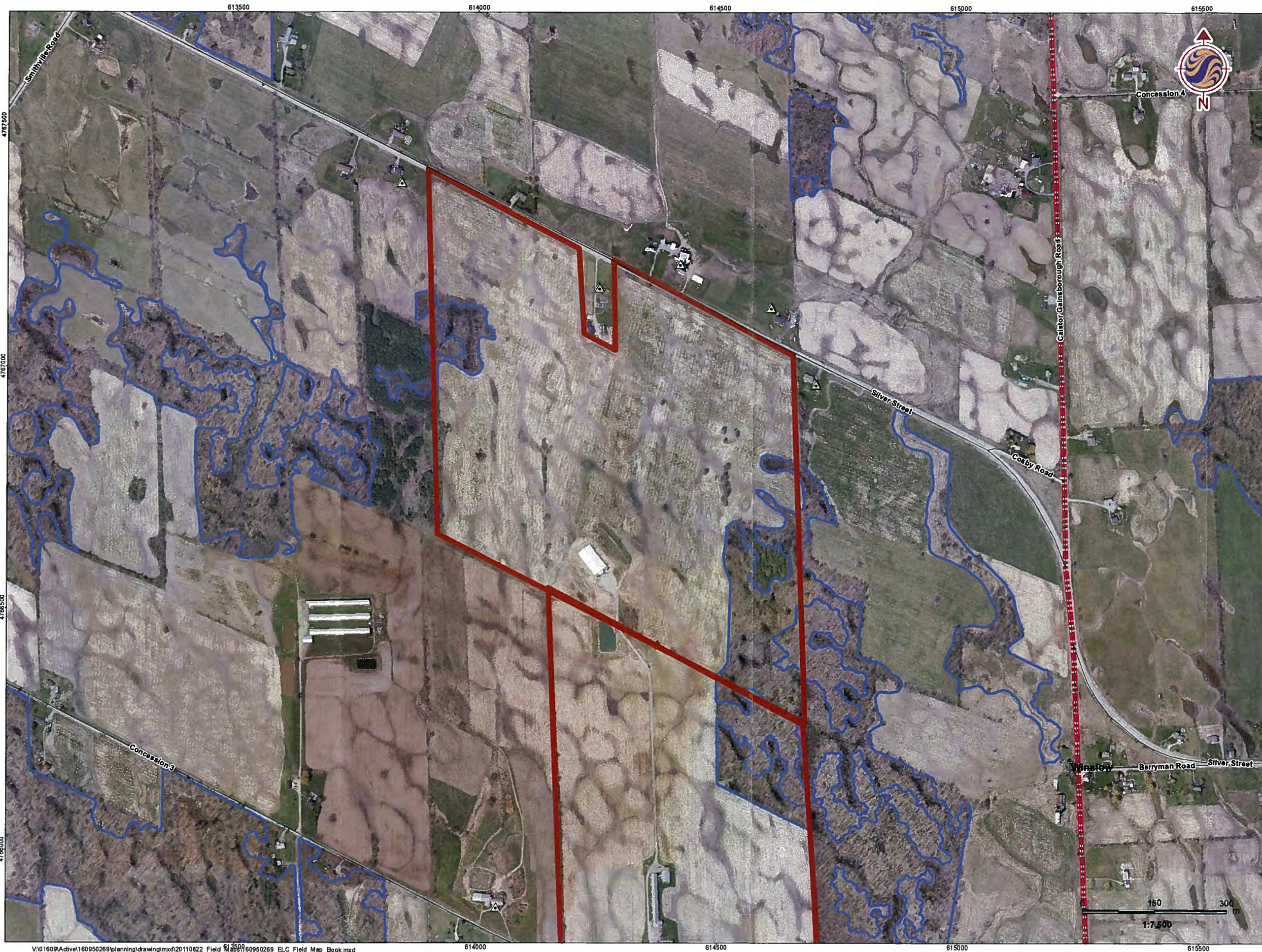
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>whole polygon with several shallow pool areas</u>				<u>framinoids + forbs</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

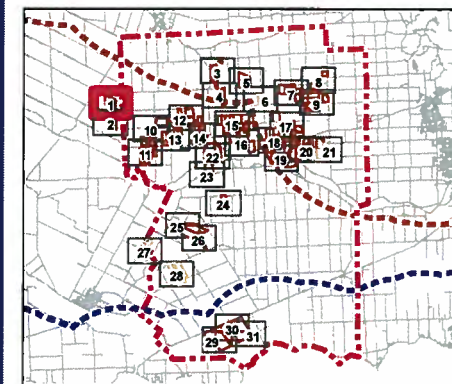
--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HU=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland



Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

November, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-1

Title
ELC Field Map 1

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>2-1</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Nov 17, 2011</i>	UTME:	
	START: <i>9:30</i>	END: <i>10:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK.	☐ VALLEY SLOPE ☐ TABLELAND ☒ ROLL. UPLAND ☐ CLIFF		☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☒ DECIDUOUS ☐ CONIFEROUS	☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG
SITE	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE	COVER	☐ MIXED	☐ BARREN ☐ MEADOW
☐ OPEN WATER ☐ SHALLOW WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ OPEN ☐ SHRUB ☒ TREED		☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☒ FOREST ☐ PLANTATION
☒ SURFICIAL DEP.					
☐ BEDROCK					

STAND DESCRIPTION:

STAND STRUCTURE FOR:			
LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	3	QUERUBR > QUEALBA = ACESASA
2 SUB-CANOPY	3	4	ACESASA > OSTVIRG > FAGG-RAN = TILAMER
3 UNDERSTOREY	4	4	ACESASA > OSTVIRG > FAGG-RAN = CARCARO
4 GRD. LAYER	547	2	RUBIDAE > RUBICANA > LONTART > CAREX80

HT CODES: 1= ≥ 25 m 2= $10 < HT \leq 25$ m 3= $2 < HT \leq 10$ m 4= $1 < HT \leq 2$ m 5= $0.5 < HT \leq 1$ m 6= $0.2 < HT \leq 0.5$ m 7= $HT < 0.2$ m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	A	<10	0-1	10-24	0	25-50	R	>50
----------------------	---	-----	-----	-------	---	-------	---	-----

STANDING SNAGS:	0	<10	0	10 - 24	R	25 - 50	N	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	A	<10	0	10 - 24	R	25 - 50	N	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 20 cm	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>Fresh-moist sugar maple-hardwood deciduous forest</i>	CODE: <i>FOD6-5</i>
INCLUSION	CODE:
COMPLEX	CODE: <i>SWD2-2/MAC2-4</i>

Evidence of Disturbance / Notes:

- logging
- bisected by drainage ditches at eastern edge
- not a lot of large trees

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____ * = complex sp. B = present in both

Quality Control: This form is complete ☒ & legible ☒

Signature: Ned Green
(Field Personnel)

Signature: Walt
(Project Manager)

- thin ring of ACER Ash Swamp surrounding Spiraea SWT and MAS
- mainly ash and maple swamp but with some oak emerging



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Name: Niagara Region Wind project

Field Personnel: *Nicole Charbon*

Weather Conditions:	TEMP (°C): 3	WIND: 3	CLOUD: 40%	PPT: some rain/snow in pm	PPT (in last 24 hrs): none
---------------------	-----------------	------------	---------------	------------------------------	-------------------------------

ELC Polygon: #2-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (*indicate on map*)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains/potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
Swamp complex may contain potential habitat						

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FF=feeding evidence; FY=cups/nest; HQ=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>2-2</i>	
	SURVEYOR(S): <i>MC</i>		DATE: <i>Nov 17</i>	UTME:
	START: <i>10:30</i>	END: <i>11:00</i>	UTMZ:	UTMN:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	ISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD.	☐ LAKE ☐ POND ☐ RIVER
☐ WETLAND	☒ MINERAL SOIL	☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND	☐ CULTURAL	☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☒ DECIDUOUS ☐ CONIFEROUS	☐ STREAM ☐ MARSH ☐ SWMAP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK.	☒ ROLL, UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE	COVER	☐ MIXED	☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☒ FOREST ☐ PLANTATION
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ OPEN ☐ SHRUB ☒ TREED		
☐ OPEN WATER ☐ SHALLOW WATER ☒ SURFICIAL DEP. ☐ BEDROCK					

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	QUERUBR > QUEALBA > ACESASA > ERAX
2	SUB-CANOPY	3	4	ACESASA >> OSTVIRG > FAGGRAN
3	UNDERSTOREY	4	3	ACESASA
4	GRD. LAYER	5-7	1	RUBIDAE > GEUM

STAND COMPOSITION:	BA:
--------------------	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 25cm	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M oak - sugar maple deciduous forest		CODE: F0B9-1
INCLUSION		CODE: MAS2-4
COMPLEX		CODE: SWD2-2

Evidence of Disturbance / Notes:

- logging - past + present

Greenash + maple swamp with MAS (sedge) ground veg.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

Niagara Region Wind Project

Date:

Nov 17

Field Personnel:

Nicole Charlton

Weather Conditions:

TEMP (°C):

3

WIND:

3

CLOUD:

40%

PPT:

some rain/snow in pm

PPT (in last 24 hrs):

none

ELC Polygon: #2-3 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)**Reptile / Bat Hibernacula Features:**

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)**SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED**

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
Swamp complex may contain potential amphibian habitat						

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SF=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA		POLYGON: 2-A	
	SURVEYOR(S): NC	DATE: NOV 17	UTME:	
	START: 11:00	END: 11:30	UTMZ:	UTMN:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE	COVER	☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB ☐ TREED		☐ PRAIRIE ☐ THICKET
☐ OPEN WATER		☐ BEACH / BAR			☐ SAVANNAH
☐ SHALLOW WATER		☐ SAND DUNE			☐ WOODLAND
☒ SURFICIAL DEP.		☐ BLUFF			☐ FOREST
☒ BEDROCK					☐ PLANTATION

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SIZE CLASS ANALYSIS:										<10	10 - 24	25 - 50	>50	
STANDING SNAGS:										<10	10 - 24	25 - 50	>50	
DEADFALL/LOGS:										<10	10 - 24	25 - 50	>50	
ABUNDANCE CODES:										N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT	
COMM. AGE:										PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
	INCLUSION	CODE:
	COMPLEX	CODE:

FREEDOGWOOD THICKET: Hedgerow
w/ CWM

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

[illegible]

Signature: Nancy Clark
(Field Personnel)

Signature: ten 4
(Project Manager)

**Stantec**

Stantec Consulting Ltd.
 1 – 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
---------------------	------------	-------	--------	------	-----------------------

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>2-B</i>	
	SURVEYOR(S): <i>NC.</i>		DATE: <i>Nov 17</i>	
	START: <i>11:30</i>		END: <i>12:00</i>	
			UTMZ:	
			UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE	COVER	☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE					☐ PRAIRIE ☐ THICKET
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB ☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE			☐ FOREST
☐ SURFICIAL DEP.		☐ BLUFF			☐ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:				
SIZE CLASS ANALYSIS:														
		<10			10 - 24			25 - 50			>50			
STANDING SNAGS:														
		<10			10 - 24			25 - 50			>50			
DEADFALL/LOGS:														
	0	<10		A	10 - 24		A	25 - 50			>50			
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT														
COMM. AGE:														
		PIONEER			YOUNG			MID-AGE			MATURE			OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:	(cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)	

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

Spiraea + raspberry thicket in cwm
- many large dead fallen oaks - looks like they were purposely uprooted → chain marks on trunks

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & Jealbe ☒

Signature: _____

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
---------------------	------------	-------	--------	------	-----------------------

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through featureExtent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (**if yes, describe in table below*)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (**if yes, describe in table below*)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☐-N / ☐-Unknown, no access (**if yes, describe in table below*)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☐-N / ☐-Unknown, no access (**if yes, describe in table below*)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☐-N / ☐-Unknown, no access (**if yes, describe in table below*)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

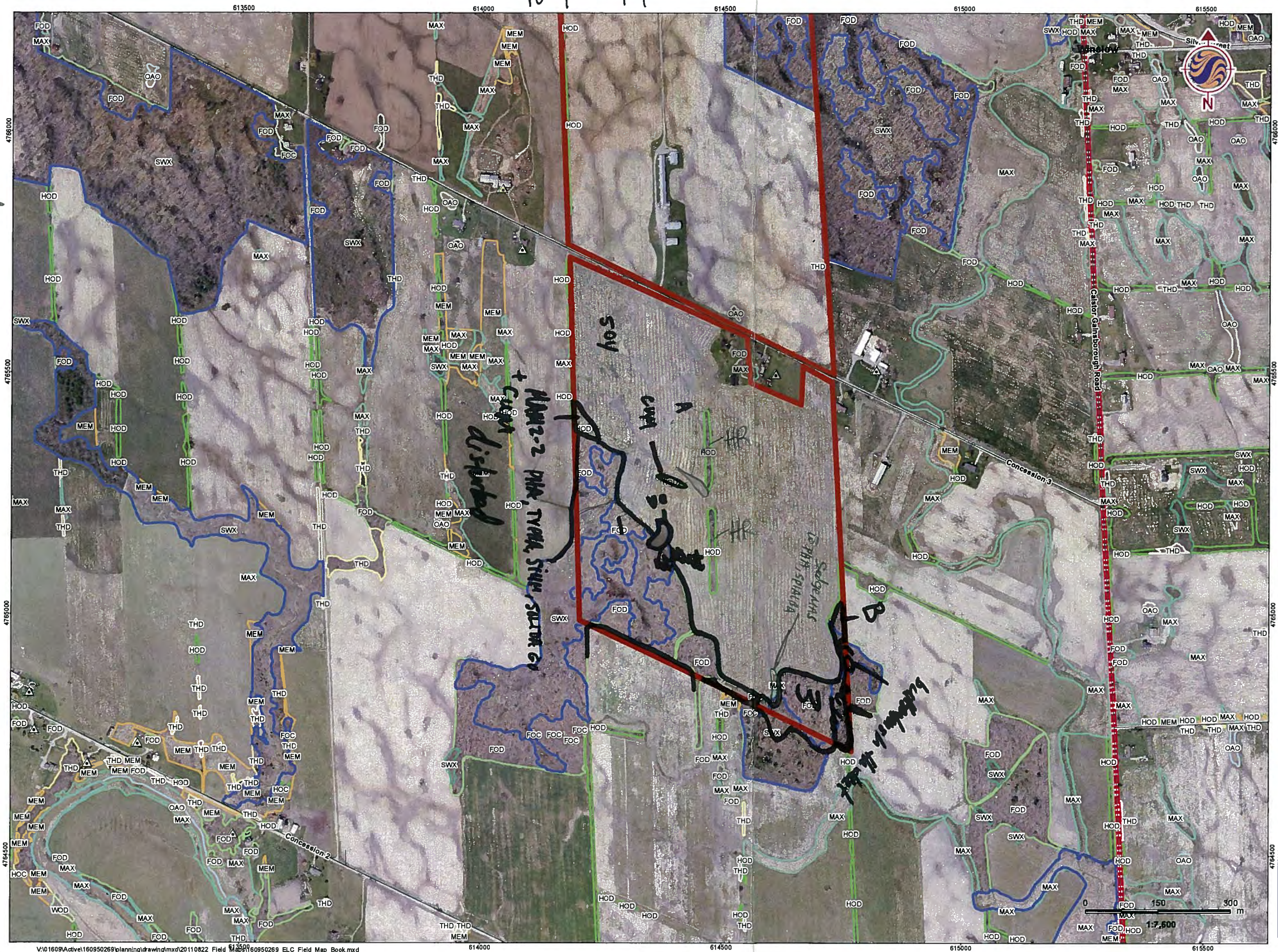
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

Observation notes area

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

rough copy

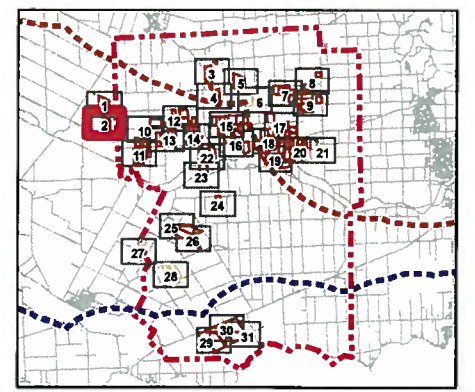
A: THD, LATI, SUSUW, SCICUP, GRNSES, GRNABIO



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Shrub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Treed Agriculture
- Open Water

(part of complex polygon #2 - got rid of in #1)



- Notes**
- Coordinate System: NAD 1983 UTM Zone 17N.
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

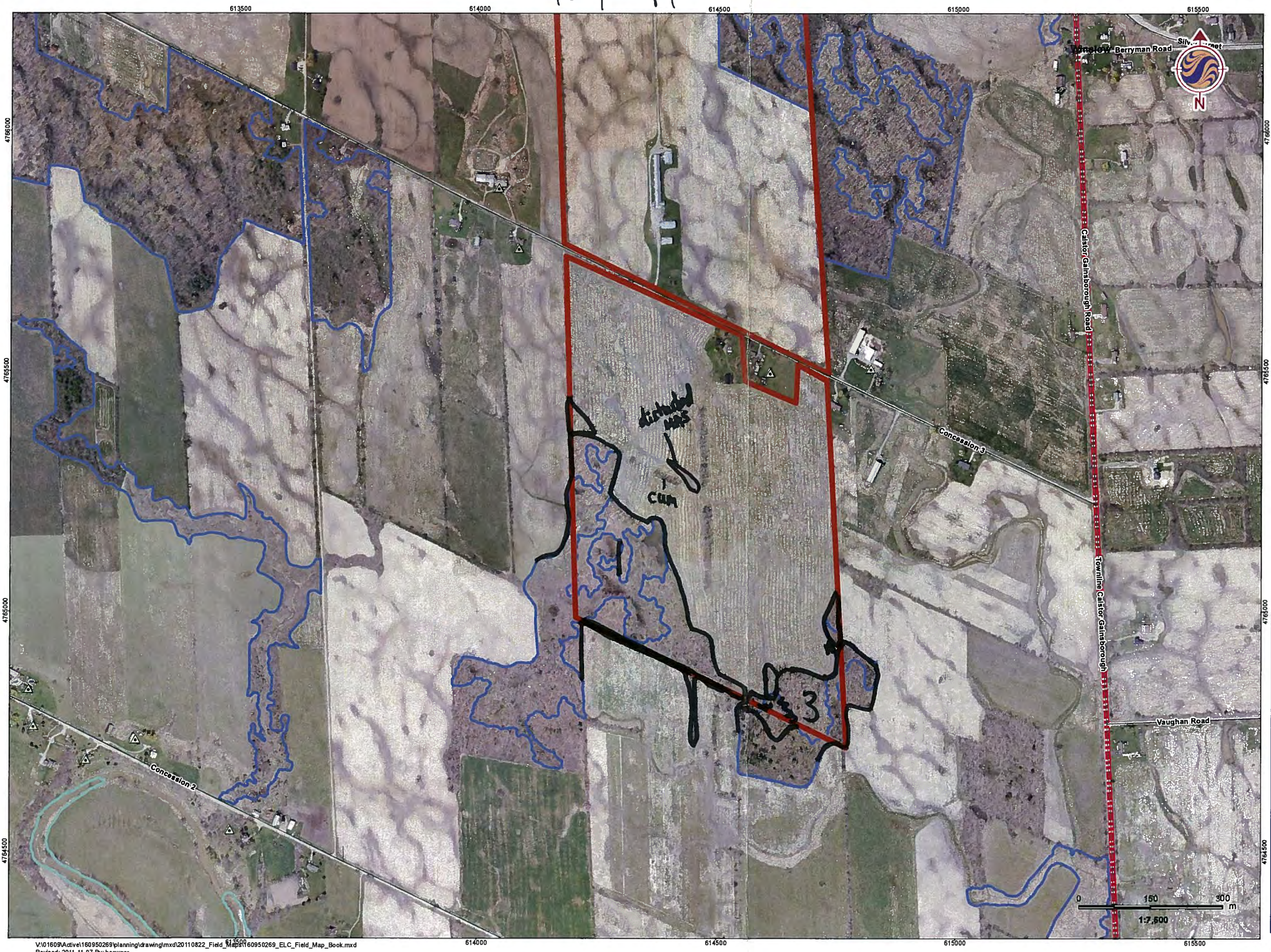

Stantec
November, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-2

Title
ELC Field Map 2

Rough Copy



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland

Notes

- Coordinate System: NAD 1983 UTM Zone 17N)
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

November, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
E-2

Title
ELC Field Map 2



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: Niagara Region Wind Project

Date: _____

Field Personnel: Nicole Chariton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>9</u>	<u>1-2</u>	<u>10%</u>	<u>none</u>	<u>none</u>

ELC Polygon: #3-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

- Woodpecker (red-bellied) UTM: 0622404 4768440 - OB
- mammal den - border of SWD and FOD UTM 0622390 4768549
↳ opening approximately 40cm x 20cm

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>3-A</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Nov 4, 2011</i>	UTME:	
	START: <i>8:30</i>	END: <i>9:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☒ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWAMP
	☐ ACIDIC BEDRK.	☒ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☒ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS	☐ BARREN ☐ MEADOW
SITE			COVER	☐ MIXED	☐ PRAIRIE ☒ THICKET
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB ☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE			☐ FOREST ☐ PLANTATION
☒ SURFICIAL DEP.		☐ BLUFF			
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	RHUTYPH > QUERUBR > ULMAMER = POP TREM
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	CORFORA > RUBIDAE
4	GRD. LAYER	5-7	4	SOLIDAGO > DIPEUL = PHAARUN

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	O	10 - 24	R	25 - 50	N	>50		
STANDING SNAGS:		R	<10	R	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:		O	<10	R	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:			N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT		
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>Sumac Cultural Thicket</i>	CODE: <i>SUT-1</i>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)



Woodland & Wildlife Habitat Assessment Form

Project Name: Niagara Region Wind Project

Field Personnel: Nicole Charlton

PPT (in last 24 hrs):

none

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (*indicate on map*)

[i.e. karst topography, abandoned mines or caves]

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HU=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NAGARA</u>		POLYGON: <u>3-B</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>NOV 4, 2011</u>	UTME:	
	START: <u>8:30</u>	END: <u>9:00</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	C M U I T Y
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD.	☐ LAKE ☐ POND ☐ RIVER
☒ WETLAND	☒ MINERAL SOIL	☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND	☐ CULTURAL	☒ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS	☐ STREAM ☒ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK.	☒ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE	COVER	☐ MIXED	☒ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☒ OPEN ☐ SHRUB ☐ TREED		
☐ OPEN WATER ☐ SHALLOW WATER ☒ SURFICIAL DEP. ☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			<i>PHALARIS > TYPHA</i>

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10		10 - 24		25 - 50		>50		
STANDING SNAGS:			<10		10 - 24		25 - 50		>50		
DEADFALL/LOGS:			<10		10 - 24		25 - 50		>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>reed canary mineral meadow marsh</i>	CODE: <i>MAM2-2</i>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Field Person: (Field Person)
 Date of Disturbance / Notes: - Meadow marsh w small mixed tree border at either end (basically #R)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT P=DOMINANT

[illegible]

Page of

E: edge species

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: Niagara Region Wind Project

Date: Nov 4, 2011

Field Personnel: Nicole Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>9</u>	<u>1-2</u>	<u>10%</u>	<u>none</u>	<u>none</u>

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>MAM may contain amphibian habitat potential if it pools in spring</u>						

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>4-A</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Oct 28</i>	UTME:	
	START: <i>4:30</i>	END: <i>5:00</i>	UTMZ:	UTMN:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
SITE		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ OPEN WATER		☐ CLIFF	COVER	☐ DECIDUOUS	☐ BOG
☐ SHALLOW WATER		☐ TALUS	☐ OPEN	☐ CONIFEROUS	☐ BARREN
☐ SURFICIAL DEP.		☐ CREVICE / CAVE	☐ SHRUB	☐ MIXED	☐ MEADOW
☐ BEDROCK		☐ ALVAR	☐ TREED		☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	GRACS > DAUCARO > ABUTHEO

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		N	<10	N	10 - 24	N	25 - 50	N	>50		
STANDING SNAGS:		N	<10	N	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:		N	<10	N	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:	(cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)	

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
INCLUSION		CODE:
COMPLEX		CODE:

- cut hay field with weeds starting to grow in

ELC	SITE:
COMMUNITY DESCRIPTION & CLASSIFICATION	POLYGON:
	DATE:
	SURVEYOR(S):

[illegible]

Signature: Nick Chaff
(Field Personnel)

Signature: 
(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: Niagara Region Wind Project

Date: Oct 28, 2011

Field Personnel: Nicole Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>12</u>				

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FV=egg/s nest; HO=horn/antler; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

SE 39; T1P E-4; Poly B - associated with drainage duff 2A

POLYGON DESCRIPTION

STAND DESCRIPTION:**Evidence of Disturbance / Notes:**

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Project Number:

160950269

Date:

Oct 28, 2011

Project Name:

Niagara Region Wind Project

Field Personnel:

Nicole Charlton

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

ELC Polygon: #4-B Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Pooled water may represent potential amphibian habitat - throughout community					

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=household; OB=observed; SC=scan; SI=other sign; TK=track; VO=voice/vocalization



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Project Number:

160950269

Project Name:

Niagara Region Wind Project

Date:

Oct 28, 2011

Field Personnel:

Nicole Charlton

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

ELC Polygon: # 4-C Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=encase; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/loft; OB=observed; SC=scan; SI=other sign; TK=track; VO=vocalization

SE 39; Tile E-4; Poly 1

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NIAGARA</u>		POLYGON: <u>4-①</u>	
	SURVEYOR(S): <u>JTL</u>		DATE: <u>SEPT 29-11</u>	
	START: <u>10:00</u>	END: <u>10:20</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☒ MARSH
		☒ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER	<u>5-7</u>	<u>4</u>	<u>PHALARIS >> BID CORN = POLYGONUM</u>

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:				BA:
SIZE CLASS ANALYSIS:				
<u>1</u>	<u>N</u>	<u><10</u>	<u>10-24</u>	<u>25-50</u>
<u>2</u>	<u>N</u>	<u><10</u>	<u>10-24</u>	<u>25-50</u>
<u>3</u>	<u>N</u>	<u><10</u>	<u>10-24</u>	<u>25-50</u>
STANDING SNAGS:				
<u>1</u>	<u>N</u>	<u><10</u>	<u>10-24</u>	<u>25-50</u>
<u>2</u>	<u>N</u>	<u><10</u>	<u>10-24</u>	<u>25-50</u>
DEADFALL/LOGS:				
<u>1</u>	<u>N</u>	<u><10</u>	<u>10-24</u>	<u>25-50</u>
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT				
COMM. AGE: <u>1</u> PIONEER <u>2</u> YOUNG <u>3</u> MID-AGE <u>4</u> MATURE <u>5</u> OLD GROWTH				

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>KEEP CANARY GRASS MINERAL MEADOW</u>	<u>MAN2-2</u>
INCLUSION	CODE:
<u>MARSH</u>	
COMPLEX	CODE:

Evidence of Disturbance / Notes:

~18cm H₂O AT BASE

~ DUCKWEED ON NORTH END

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:		POLYGON:	
	DATE:		SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						<u>PHALARIS</u>					<u>D</u>
						<u>BID CORN</u>					<u>O</u>
						<u>POLYGONUM</u>					<u>O</u>
						<u>SC. CYF</u>					<u>R</u>
						<u>LEAMING</u>					<u>R</u>
						<u>TR. ANGUS</u>					<u>R</u>
						<u>LEE ORYZ</u>					<u>R</u>

Page ____ of ____

Signature: [Signature]

(Field Personnel)

Quality Control: This form is complete & legible ☒.Signature: [Signature]

(Project Manager)

Pic 12



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 50269

Project Name: NICARA

Date: SEPT 29 - 11

Field Personnel: JR

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18</u>	<u>2</u>	<u>70 %</u>	<u>0</u>	<u>Rain</u>

ELC Polygon: # 1 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH > 25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

AMCO - OB
 - MONARCH - OB
 - MOJO - OB
 - OPEN HABITAT (POTENTIAL AMPHIB BREEDING)

CA - carcass; DP - distinctive parts; FE - feeding evidence; FY - eggs/nest; HO - house/den; OB - observed; SC - scat; SI - other sign; TK - track; VO - vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA		POLYGON: 4-2	
	SURVEYOR(S): STC	DATE: SEPT 29-11	UTME:	
	START: 10:30	END: 10:46	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☒ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☒ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☒ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE			COVER		
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☒ SHRUB		☐ PRAIRIE ☒ THICKET
☒ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST ☐ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY	4-5	3	BUTTON BUSH
4	GRD. LAYER	6-7	4	POLYCARPUM > PHALARIS FURCATA

HT CODES: 1=≥25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10		10 – 24		25 – 50		>50		
STANDING SNAGS:			<10		10 – 24		25 – 50		>50		
DEADFALL/LOGS:			<10		10 – 24		25 – 50		>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:			PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
BUTON BUSH MINERAL THICKET SWAMP		SWT 2-4
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

- MOST OF THE SHRUBS ARE DEAD BUT THERE IS REGER.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible

Signature:

(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 50269
Date: SEPT 29 - 11

Project Name: Niagara
Field Personnel: JR

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18</u>	<u>2</u>	<u>70%</u>	<u>0</u>	<u>Rain</u>

ELC Polygon: # 2 Assessment Type: ☐ Visual; roadside, no access ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED						
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature	

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)
<u>- H2O IN THIS SMALL COMMUNITY</u>

CA: carcass; DP: distinctive pair; FE: feeding evidence; FY: eggs/nest; HO: house/roost; OB: observed; SC: scat; SI: other sign; TK: track; VO: vocalization

SE 39; Tile E-4; Poly 3

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☒ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☒ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☒ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE			COVER		
☐ OPEN WATER		☐ ALVAR	☐ OPEN		☐ PRAIRIE
☒ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ THICKET
☐ SURFICIAL DEP.		☐ BEACH / BAR	☒ TREED		☐ SAVANNAH
☐ BEDROCK		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACE SACH >>> QUESACH > FLAPERR
2	SUB-CANOPY	3	4	ACESACH > FLAPERR = CAR CARO
3	UNDERSTOREY	4	3	ILE VERT > ACESACH > ROSA SP.
4	GRD. LAYER	5	4	CAR SE > GLY STRI > IMPIAPE

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SOIL ANALYSIS:

COMMUNITY CLASSIFICATION:

Evidence of Disturbance / Notes: FOREST.

- SOME POOLS OF DUCKWEED, SURFACE H₂O up TO 20cm deep

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

of

Quality Control: This form is complete ☒ & legible ☒.

Signature: 
(Project Manager)

complex of ^{very} small pockets of
W:\resource\Internal Info and Teams\FIELD FORMS\Vegetation\ELC\etc-woodland-wildlife-habitat-for
BUT OAK/HICKORY LOWLAND



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 50269

Project Name: NIAGARA

Date: SEPT 29-11

Field Personnel: JR

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18</u>	<u>2</u>	<u>70%</u>	<u>0</u>	<u>RAIN</u>

ELC Polygon: # 3 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☒-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

- GAFR - 28
 - WOFFR - 28
 - TREE-FRAG-SOUNDING DIED

CA = carcass; DP = distinctive parts; FE = feeding evidence; FY = eggs/nest; HO = house/den; OB = observed; SC = scat; SI = other sign; TK = track; VO = vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA WIND		POLYGON: 4-(4)	
	SURVEYOR(S): STL		DATE: SEPT 29-11	
	START: 11:00	END: 11:50	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☒ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALLUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE	☒ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACE SAKA >> FAG GRAN > GUSMUR
2	SUB-CANOPY	3	4	ACE SAKA >> FAG GRAN
3	UNDERSTOREY	4	3	ACE SAKA >> FAG GRAN > HAZEL
4	GRD. LAYER	5-2	3	ASR CORO > SOL. SAN = BEECH ORAO

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	B	10 - 24	A	25 - 50	N	>50		
STANDING SNAGS:		R	<10	R	10 - 24	R	25 - 50	N	>50		
DEADFALL/LOGS:		B	<10	O	10 - 24	R	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER	YOUNG	MID-AGE	X	MATURE		OLD GROWTH			

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:	(cm)	
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)	

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: D-F SUGAR MAPLE - BEECH DECIDUOUS		CODE: FOD 5-2
INCLUSION		FOREST CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

PIC 21

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 50269

Project Name: NIAGARA

Date: SEPT 29-11

Field Personnel: JR

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18</u>	<u>2</u>	<u>70%</u>	<u>0</u>	<u>Rain</u>

ELC Polygon: # 4 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☒-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

- WOFB - OB

CA = carcass; DP = distinctive parts; FE = feeding evidence; FY = eggs/nest; HO = house/den; OB = observed; SC = scat; SI = other sign; TK = track; VO = vocalization

W:\resource\Internal Info and Teams\FIELD FORMS\Vegetation\ELC\elc-woodland-wildlife-habitat-form.docx / (DERIVED FROM LEE ET AL., 1998)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 6950269

Project Name: NIAGARA

Date: SEP 29-11

Field Personnel: STL

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18</u>	<u>2</u>	<u>75%</u>	<u>✓</u>	<u>RAIN</u>

ELC Polygon: # 5 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

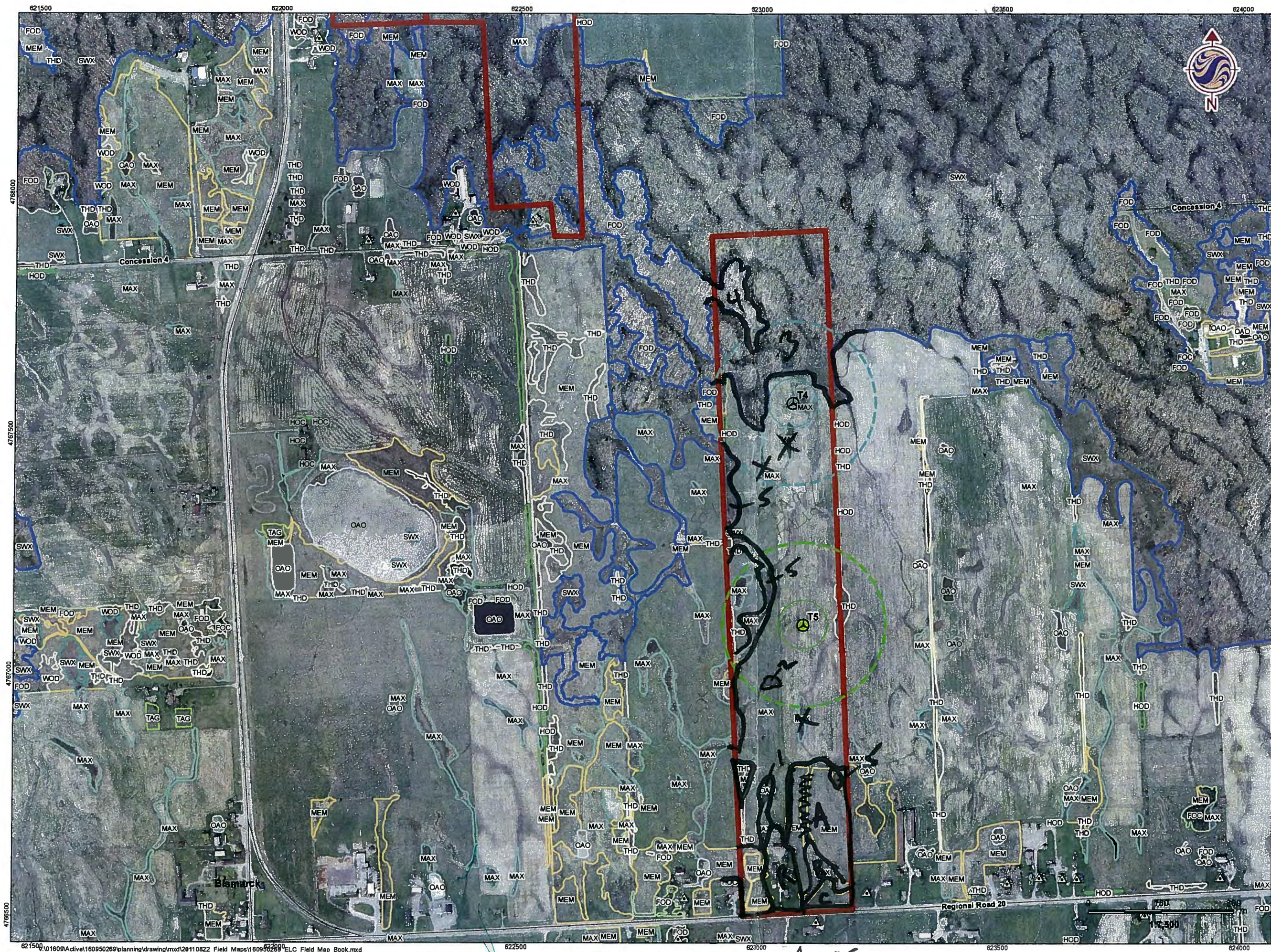
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

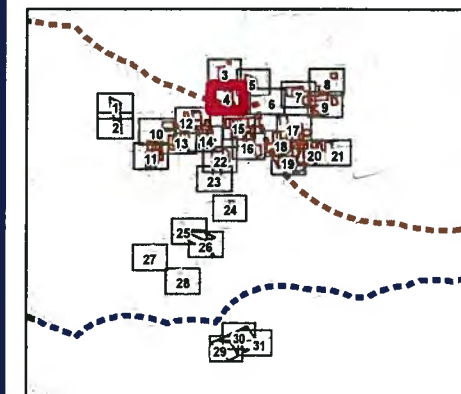
- FOLLOWS UNPLOWED DRAINAGE AREAS WITHIN FIELDS

CA = carcass; DP = distinctive pair; FE = feeding evidence; FY = egg/nest; HO = house/iden; OB = observed; SC = scat; SL = other sign; TK = track; VO = vocalization



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- To Be Determined
- Open Rock/Strub Rock Barren
- Shoreline
- Bluff
- Swamp
- Marsh
- Bog
- Wetland
- Meadow
- Thicket
- Savanna
- Woodland
- Forest
- Hedgerow
- Treed Agriculture
- Open Water
- Turbines on Developable Land and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B PSW and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Woodland and 101m Diameter
- 170.5m Buffer of Turbine
- Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter
- 170.5m Buffer of Turbine



Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



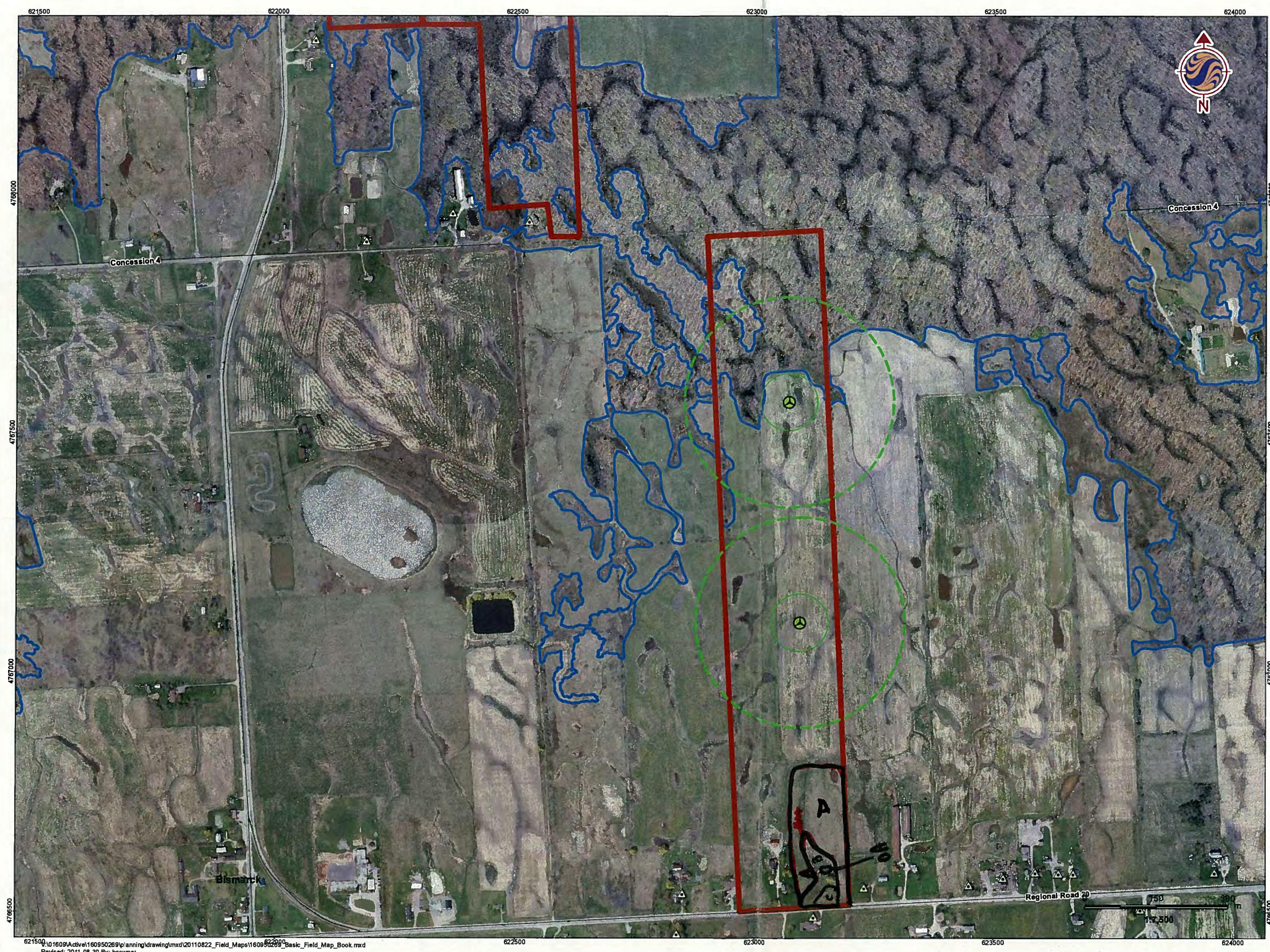
Stantec

September, 2011
150950269

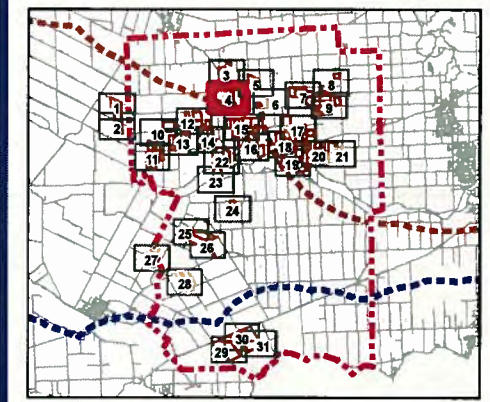
Client/Project
Niagara Region Wind Corporation

Figure No.
E-4

Title
ELC Field Map 4



- Legend**
- Preliminary Study Area
 - Signed Project Sites
 - Potential Signed Property
 - Road
 - Railway
 - Municipality Lower Tier
 - Provincially Significant Wetland
 - Other/Locally Significant Wetland
 - Turbines on Developable Land and 120m Diameter
 - 160m Buffer of Turbine



- Notes**
- Coordinate System: NAD 1983 UTM Zone 17N).
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



August 2011
160950269
Client/Project
Niagara Region Wind Corporation

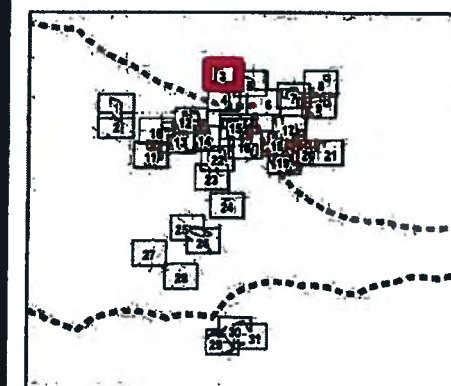
Figure No.
F-4

Title
Field Map 4



Legend

- | | | | |
|--|----------------------------------|--|-----------------------------------|
| | Preliminary Study Area | | Signed Project Sites |
| | Potential Signed Property | | Road |
| | Railway | | Municipality Lower Tier |
| | Provincially Significant Wetland | | Other/Locally Significant Wetland |
| | To Be Determined | | Open Rock/Shrub Rock Barren |
| | Shoreline | | Bluff |
| | Swamp | | Marsh |
| | Bog | | Wetland |
| | Meadow | | Thicket |
| | Savanna | | Woodland |
| | Forest | | Hedgerow |
| | Treed Agriculture | | Open Water |
-
- | | |
|--|--|
| | Turbines on Developable Land and 101m Diameter |
| | 170.5m Buffer of Turbine |
| | Turbines W/ 120m S/B PSW and 101m Diameter |
| | 170.5m Buffer of Turbine |
| | Turbines W/ 120m S/B Woodland and 101m Diameter |
| | 170.5m Buffer of Turbine |
| | Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter |
| | 170.5m Buffer of Turbine |



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

September, 2011
100950289

Client/Project
Niagara Region Wind Corporation

Figure No.
E-3

Title

ELC Field Map 3

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>5-1</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Oct 28</i>	UTME:	
	START: <i>2:30</i>	END: <i>4:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

[illegible]**STAND DESCRIPTION:**

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACE SA SA > QUE BR > QUE Q LB A
2	SUB-CANOPY	3	3	ACE SA SA > FRAX
3	UNDERSTOREY	4	3	ACE SA SA > FRAX
4	GRD. LAYER	5-7		EUR MACR > CAREX > SOLIDA GV

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:

	H	10-24	25-30	>30
--	---	-------	-------	-----

STANDING SNAGS:

DEADFALL/LOGS:	A	≤10	A	10 - 24	B	25 - 50	B	50
----------------	---	-----	---	---------	---	---------	---	----

ABUNDANCE CODES:

N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:

	YOUNG	MID AGE	MATURE	OLD GROWTH
1. <i>Pinus strobus</i>				
2. <i>Pinus resinosa</i>				
3. <i>Pinus rigida</i>				
4. <i>Pinus taeda</i>				
5. <i>Pinus milleriana</i>				
6. <i>Pinus strobus</i>				
7. <i>Pinus strobus</i>				
8. <i>Pinus strobus</i>				
9. <i>Pinus strobus</i>				
10. <i>Pinus strobus</i>				
11. <i>Pinus strobus</i>				
12. <i>Pinus strobus</i>				
13. <i>Pinus strobus</i>				
14. <i>Pinus strobus</i>				
15. <i>Pinus strobus</i>				
16. <i>Pinus strobus</i>				
17. <i>Pinus strobus</i>				
18. <i>Pinus strobus</i>				
19. <i>Pinus strobus</i>				
20. <i>Pinus strobus</i>				
21. <i>Pinus strobus</i>				
22. <i>Pinus strobus</i>				
23. <i>Pinus strobus</i>				
24. <i>Pinus strobus</i>				
25. <i>Pinus strobus</i>				
26. <i>Pinus strobus</i>				
27. <i>Pinus strobus</i>				
28. <i>Pinus strobus</i>				
29. <i>Pinus strobus</i>				
30. <i>Pinus strobus</i>				
31. <i>Pinus strobus</i>				
32. <i>Pinus strobus</i>				
33. <i>Pinus strobus</i>				
34. <i>Pinus strobus</i>				
35. <i>Pinus strobus</i>				
36. <i>Pinus strobus</i>				
37. <i>Pinus strobus</i>				
38. <i>Pinus strobus</i>				
39. <i>Pinus strobus</i>				
40. <i>Pinus strobus</i>				
41. <i>Pinus strobus</i>				
42. <i>Pinus strobus</i>				
43. <i>Pinus strobus</i>				
44. <i>Pinus strobus</i>				
45. <i>Pinus strobus</i>				
46. <i>Pinus strobus</i>				
47. <i>Pinus strobus</i>				
48. <i>Pinus strobus</i>				
49. <i>Pinus strobus</i>				
50. <i>Pinus strobus</i>				
51. <i>Pinus strobus</i>				
52. <i>Pinus strobus</i>				
53. <i>Pinus strobus</i>				
54. <i>Pinus strobus</i>				
55. <i>Pinus strobus</i>				
56. <i>Pinus strobus</i>				
57. <i>Pinus strobus</i>				
58. <i>Pinus strobus</i>				
59. <i>Pinus strobus</i>				
60. <i>Pinus strobus</i>				
61. <i>Pinus strobus</i>				
62. <i>Pinus strobus</i>				
63. <i>Pinus strobus</i>				
64. <i>Pinus strobus</i>				
65. <i>Pinus strobus</i>				
66. <i>Pinus strobus</i>				
67. <i>Pinus strobus</i>				
68. <i>Pinus strobus</i>				
69. <i>Pinus strobus</i>				
70. <i>Pinus strobus</i>				
71. <i>Pinus strobus</i>				
72. <i>Pinus strobus</i>				
73. <i>Pinus strobus</i>				
74. <i>Pinus strobus</i>				
75. <i>Pinus strobus</i>				
76. <i>Pinus strobus</i>				
77. <i>Pinus strobus</i>				
78. <i>Pinus strobus</i>				
79. <i>Pinus strobus</i>				
80. <i>Pinus strobus</i>				
81. <i>Pinus strobus</i>				
82. <i>Pinus strobus</i>				
83. <i>Pinus strobus</i>				
84. <i>Pinus strobus</i>				
85. <i>Pinus strobus</i>				
86. <i>Pinus strobus</i>				
87. <i>Pinus strobus</i>				
88. <i>Pinus strobus</i>				
89. <i>Pinus strobus</i>				
90. <i>Pinus strobus</i>				

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/CLAY	76	5
----------	-----------------------	----	---

TEXTURE:	DEPTH TO MOTTLES/GLEY	$\sigma = 10$	$G =$
MOISTURE			

MOISTURE: 6	DEPTH OF ORGANICS:	(cm)
-------------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	6005
------------------	------

COMMUNITY SERIES:

COMMUNITY SERIES: _____ CODE: _____

ECOSITE: _____

VEGETATION TYPE: Grassland CODE: 5100

FM 04

INCLUSION	CODE
-----------	------

INCLUSION

COMPLEX		CODE: SW D2 = 3
---------	--	-----------------

Evidence of Disturbance / Notes:

old roads, logging, garbage

Small swimming hole? (Pic)

*wetland consist. of SWD2

Personnel) are more maple dominant

M - 2 1 11

- Maple-beech community in East half
- pine of "of" of "Savanna"

ELC  COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature: *David Chast*

(Field Personnel

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

Niagara Region Wind Project

Date:

Oct 29

Field Personnel:

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

20

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #-1

Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Wetland complex throughout polygon with some pools</u>					

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=egg/feet; HO=household; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

SEST; Tile F-5; Poly 2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>5-2</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>Oct 28</u>	UTME:
	START: <u>3:00</u>	END: <u>3:30</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☒ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☒ FORB	☐ MARSH
		☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☒ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☒ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER	<u>5-7</u>	<u>4</u>	<u>GRASS > SYMNOVA > SOLIDAGO</u>

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:				BA:
SIZE CLASS ANALYSIS:		<10	10 - 24	25 - 50
STANDING SNAGS:		<10	10 - 24	25 - 50
DEADFALL/LOGS:		<10	10 - 24	25 - 50
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT				
COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE
				OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>D-M old field cultural meadow</u>	<u>CAMI-1</u>
INCLUSION <u>reed canary grass mineral meadow marsh</u>	CODE: <u>HAMZ-2</u>
COMPLEX	CODE:

Evidence of Disturbance / Notes:

(Wet) CAMI-1 with HAMZ-2 border (drainage)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						GRASS					A
						SYMNOVA					A
						DAUCARIS					O
						SOLIDAGO					A
						Juncus					R
						VICCRAC					O
						AREX					O
						VERHAST					R
						GENM					R
						HELIOTUS					O

Page ____ of ____

Signature: Nierbach

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒Signature: Cherry

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

Niagara Region Wind Project

Date:

Oct 28, 2011

Field Personnel:

Nicole Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

20

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #5-2 Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains/potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains/potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains/potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains/potential stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
The MAN may act as a vernal pool and may provide potential amphibian habitat						

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA		POLYGON: 5-3	
	SURVEYOR(S): NC		DATE: October 28	
	START: 4:00	END: 5:00	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☒ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☒ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	COVER		☐ PRAIRIE ☐ THICKET
☐ OPEN WATER		☐ BEACH / BAR	☐ OPEN ☐ SHRUB		☐ SAVANNAH ☐ WOODLAND
☐ SHALLOW WATER		☐ SAND DUNE ☐ BLUFF	☒ TREED		☒ FOREST ☐ PLANTATION
☒ SURFICIAL DEP.					
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESASA > FAGGRAN > QUERUPR = TILAMER
2	SUB-CANOPY	3	3	FAGGRAN > ACESASA > OSTVIRG
3	UNDERSTOREY	4	3	FAGGRAN > ACESASA > OSTVIRG
4	GRD. LAYER	5-7	2	PAREX > GELMA > XMASKEW

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	A	10 - 24	0	25 - 50	R	>50		
STANDING SNAGS:		0	<10	0	10 - 24	0	25 - 50	N	>50		
DEADFALL/LOGS:		A	<10	A	10 - 24	A	25 - 50	R	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 41	G=
MOISTURE: 4	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: DRY-FRESH SUGAR MAPLE-BEECH DECIDUOUS FOREST		CODE: FOD 5-2
INCLUSION		CODE:
COMPLEX Green ash mineral deciduous swamp		CODE: SWD 2-2

Evidence of Disturbance / Notes:

~~some swamps have more~~ made than ash

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: Niagara Region Wind Project

Date: Oct 28, 2011

Field Personnel: Nicole Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>20</u>	<u>none</u>	<u>rain</u>

ELC Polygon: #5-3 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains potential bat hibernacula features?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐ -Y* / ☒ -N / ☐ -Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED						
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature	

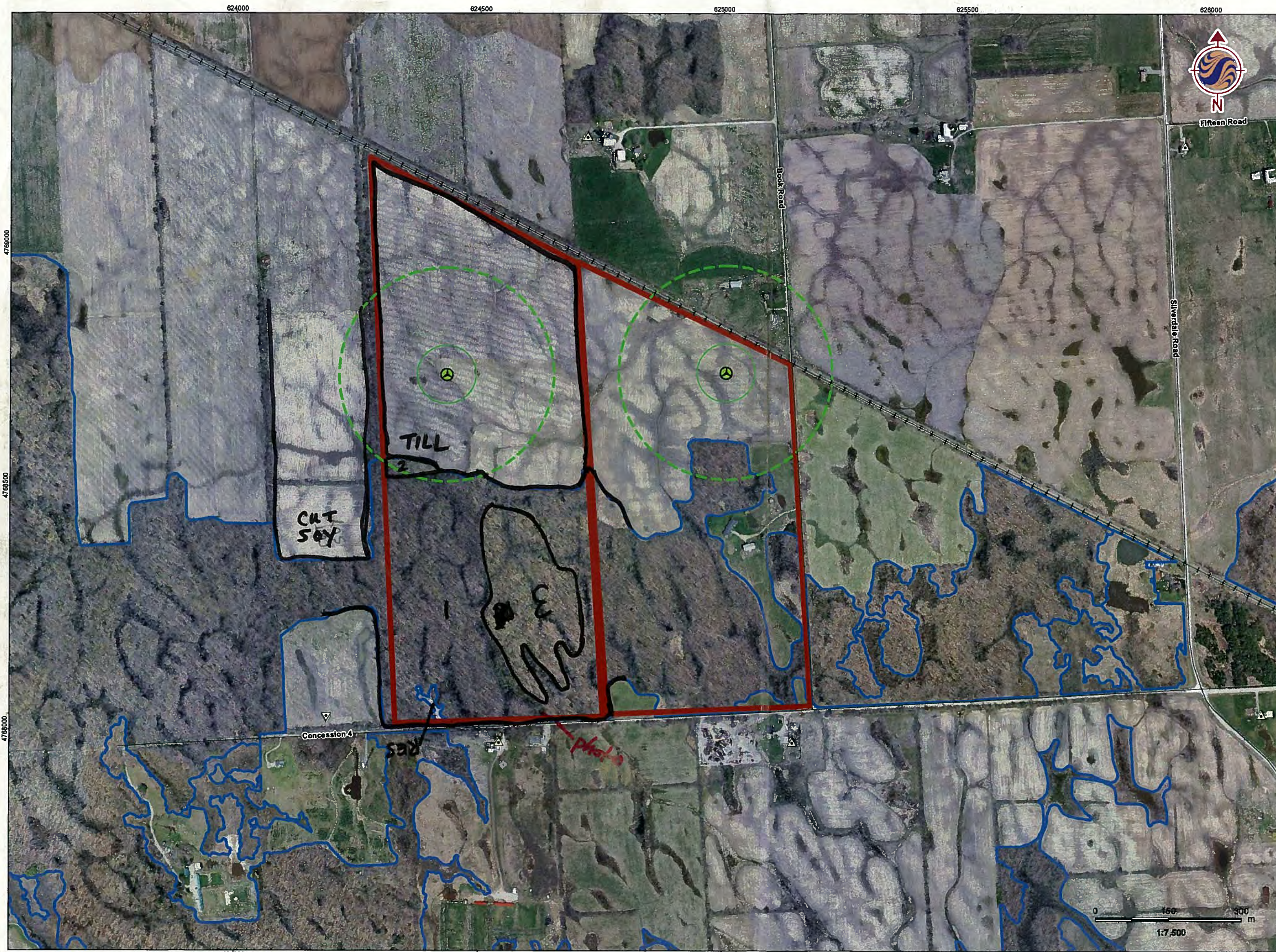
Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒ -Y* / ☐ -N / ☐ -Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Wetland complex throughout with some pools</u>					

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

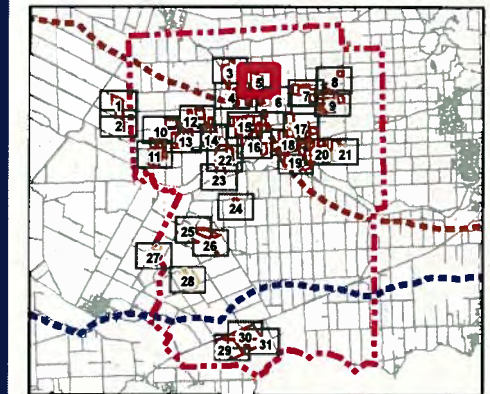
--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 180m Buffer of Turbine



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N).
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

August, 2011
160950269

Client/Project

Niagara Region Wind Corporation

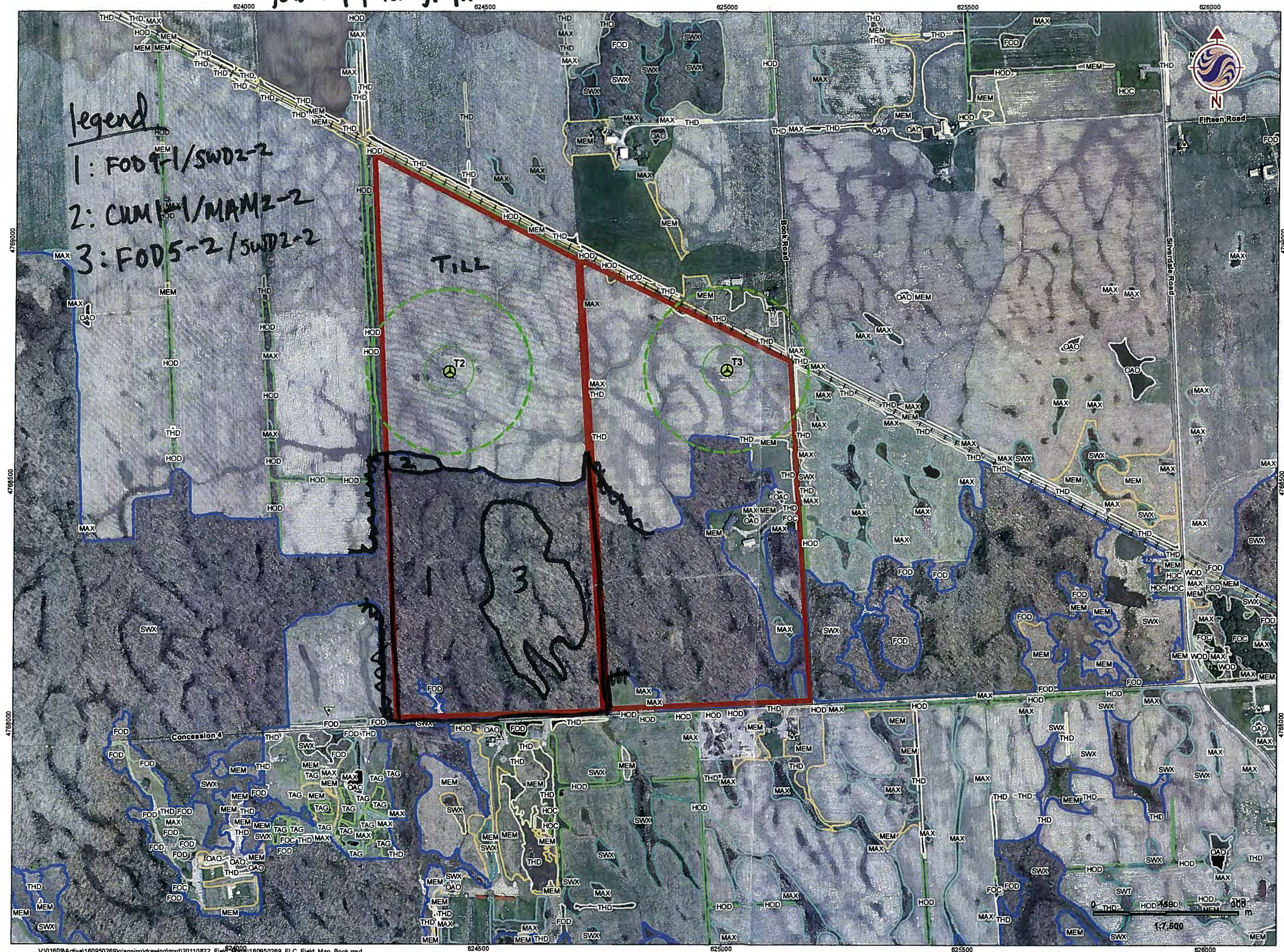
Figure No.

F-5

Title

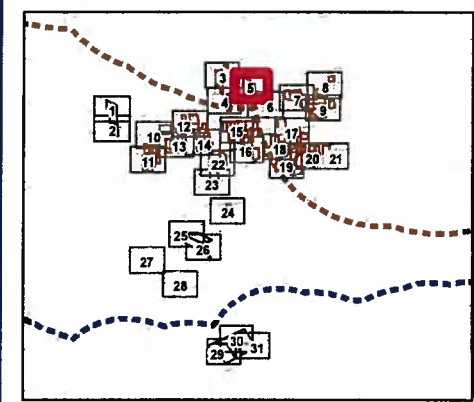
Field Map 5

good copy for graphics



Legend

	Preliminary Study Area		Turbines on Developable Land and 101m Diameter
	Signed Project Sites		170.5m Buffer of Turbine
	Potential Signed Property		Turbines W/ 120m S/B PSW and 101m Diameter
	Road		170.5m Buffer of Turbine
	Railway		Turbines W/ 120m S/B Woodland and 101m Diameter
	Municipality Lower Tier		170.5m Buffer of Turbine
	Provincially Significant Wetland		Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter
	Other/Locally Significant Wetland		170.5m Buffer of Turbine
	To Be Determined		
	Open Rock/Shrub Rock Barren		
	Shoreline		
	Bluff		
	Swamp		
	Marsh		
	Bog		
	Wetland		
	Meadow		
	Thicket		
	Savanna		
	Woodland		
	Forest		
	Hedgerow		
	Tree Agriculture		
	Open Water		



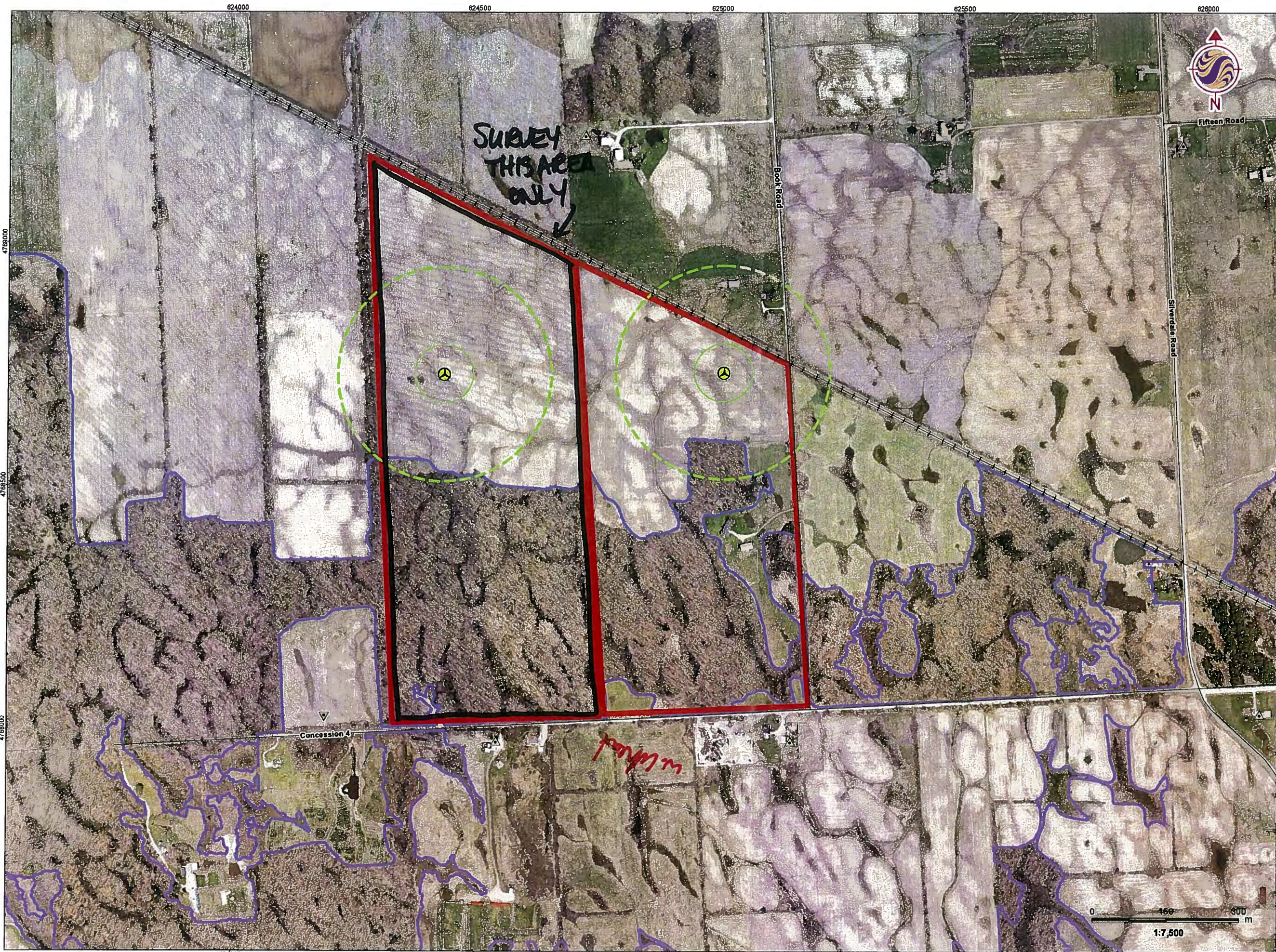
- ### Notes
- Coordinate System: NAD 1983 UTM Zone 17N.
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

September, 2011
160950269

Client/Project
Niagara Region Wind Corporation

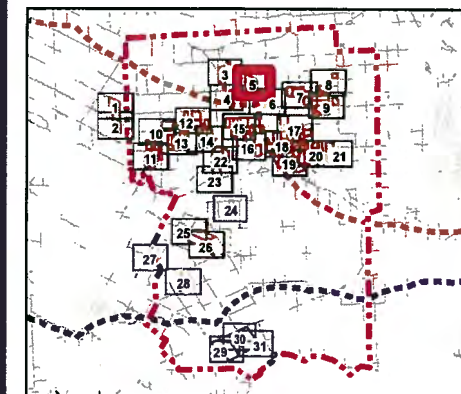
Figure No.
E-5

Title
ELC Field Map 5



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 160m Buffer of Turbine



Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.



Stantec

August 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
F-5

Title
Field Map 5

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7-A</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Oct 27, 2011</i>	
	START: <i>12</i>	END: <i>12:30</i>	UTMZ:	UTME:
			UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☒ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☒ OPEN		☐ THICKET
☒ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	<i>Phalaris</i> >> <i>Pennisetum</i> > <i>Panicum</i> s.d

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10			10 - 24			25 - 50		>50
STANDING SNAGS:			<10			10 - 24			25 - 50		>50
DEADFALL/LOGS:			<10			10 - 24			25 - 50		>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: Red-candy grass mineral meadow marsh		CODE: MAM2-2
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

Disturbance / Notes:
- associated with drainage ditch

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Project Number:

160950269

Date: Oct 27, 2011

Project Name: N/DWC

Field Personnel: N. Chachon

Weather Conditions:

TEMP (°C):

10

WIND:

(

CLOUD:

100

PPT:

have

PPT (in last 24 hrs):

radio

ELC Polygon: #7-A Assessment Type: ☐-Visual; no access / ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (*indicate on map*)

Reptile / Bat Hibernacula Features:

Contains/potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities
-----	---------	-----------	-----	-----------	-------------------	-----------------	-----------------------------

Stick Nests:

Contains ☒ large stick nests?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature
-----	---------	-----------	-----------	-----------	-----------------------------

Seeps/Springs/Vernal Pools:

~~C~~ontains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
Surface water throughout			5-10 cm		yes	no

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7-B</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Oct 27, 2011</i>	
	START: <i>12:30</i>		UTME:	
	END: <i>1:00</i>		UTMZ:	
			UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☒ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☒ SWAMP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☒ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS	☐ BARREN
	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND		☐ MIXED	☐ MEADOW
		☐ BEACH / BAR ☐ SAND DUNE			☐ PRAIRIE
		☐ BLUFF			☐ THICKET
					☐ SAVANNAH
					☐ WOODLAND
					☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	QUEMAYR >> POPTREM
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	SPIALBA >> CORFOPA
4	GRD. LAYER	5-7	4	PHAAPUN > SYMLANC = RUBAA

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	D	<10	A	10 - 24	A	25 - 50		>50
----------------------	---	-----	---	---------	---	---------	--	-----

STANDING SNAGS:	R	<10	R	10 - 24	R	25 - 50	W	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	<i>N</i>	<10	<i>0</i>	10 - 24	<i>R</i>	25 - 50	<i>N</i>	>50
----------------	----------	-----	----------	---------	----------	---------	----------	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH
-------------------	--	---------	--	-------	--	---------	--	--------	--	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE: <i>Shrubland</i>	CODE: <i>SLD1</i>
-----------------------------------	-------------------

Swamp white oak	Mineral deposits Swamp	SWB 1
-----------------	------------------------	-------

INCLUSION	CODE:
-----------	-------

	COMPLEX	CODE:
--	---------	-------

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☐

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NKWC

Date: Oct 27, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>100</u>	<u>none</u>	<u>rain</u>

ELC Polygon: # 7-B Assessment Type: ☐-Visual; no access / ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Vernal pool</u>	<u>20 x 5 m</u>		<u>TBD</u>	<u>Phalaris</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>7-C</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>Oct 27, 2011</u>	UTME:
	START: <u>1:00</u>	END: <u>1:30</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWAMP
	☐ ACIDIC BEDRK.	☐ ROLL' UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE			COVER		
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB ☐ TREED		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE			☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST
☐ BEDROCK					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	FRAX SP > SALIX
2	SUB-CANOPY			
3	UNDERSTOREY	3-4	4	SPIALBA > CORFORA
4	GRD. LAYER	5-7	3	PHARADUN

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	A	<10	0	10 - 24	2	25 - 50	N	>50
----------------------	---	-----	---	---------	---	---------	---	-----

STANDING SNAGS:	R	<10	R	10 - 24	N	25 - 50	N	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	0	<10	R	10 - 24	N	25 - 50	N	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE: SWT2-6
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

of Disturbance / Notes:

- patchy 5cm deep water throughout
- mound of soil at one end
- drainage ditch runs here

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Name: N/RWC

Field Personnel: N. Char Hon

Weather Conditions:	TEMP (°C): 10	WIND: 1	CLOUD: 100	PPT: none	PPT (in last 24 hrs): rain
---------------------	------------------	------------	---------------	--------------	-------------------------------

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

[i.e. karst topography, abandoned mines or caves]

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Some pooled H ₂ O		~5 cm		yes	yes

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7 D+E combine</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Oct 27</i>	UTME:	
	START: <i>1:30</i>	END: <i>2:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☒ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWAMP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☒ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS	☐ BARREN
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	COVER	☐ MIXED	☐ MEADOW ☐ PRAIRIE
☐ OPEN WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ OPEN ☒ SHRUB		☒ THICKET
☒ SHALLOW WATER		☐ BLUFF	☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.					☐ FOREST
☐ BEDROCK					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	SALIX
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	CEPOCKI >> WOLFURA
4	GRD. LAYER	5	4	CAREX > PHALARIS > PERSICARIA

HT CODES: 1= $>25m$ 2= $10 < HT \leq 25m$ 3= $2 < HT \leq 10m$ 4= $1 < HT \leq 2m$ 5= $0.5 < HT \leq 1m$ 6= $0.2 < HT \leq 0.5m$ 7= $HT < 0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:			<10		10 – 24		25 – 50		>50		
STANDING SNAGS:			<10		10 – 24		25 – 50		>50		
DEADFALL/LOGS:			<10		10 – 24		25 – 50		>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>Willow mineral deciduous swamp thicket</i>		CODE: <i>SWT 2-2</i>
☐	INCLUSION	CODE: <i>MA52-1</i>
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 27, 2011

Field Personnel: N. Chatham

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>100</u>	<u>none</u>	<u>rain</u>

ELC Polygon: #7-DIE Assessment Type: ☐ Visual; no access / ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>pooled water throughout</u>		<u>1-2 ft at least</u>		<u>forbs + graminoids</u>	<u>yes</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FF=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

F

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	2	SALIX
2	SUB-CANOPY	0	0	
3	UNDERSTOREY	4	2	CORPORA > SPIALBA
4	GRD. LAYER	5-7	4	PHALARIS > RUBIDAE

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		☐	<10	☐	10 - 24	☒	25 - 50	☒	>50		
STANDING SNAGS:		☐	<10	☐	10 - 24	☒	25 - 50	☒	>50		
DEADFALL/LOGS:		☐	<10	☒	10 - 24	☒	25 - 50	☒	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		☐	PIONEER	☐	YOUNG	☐	MID-AGE	☐	MATURE	☐	OLD GROWTH

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>Red Canary grass mineral meadow marsh</i>	CODE: <i>MAM2-2</i>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number:

Project Name:

Date:

Field Personnel:

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

ELC Polygon: #7-F Assessment Type: ☐-Visual; no access / ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (*indicate on map*)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains/potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)**STICK NEST(S) IDENTIFIED**

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains/seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA		POLYGON: 7-2	
	SURVEYOR(S): NC		DATE: Oct 28, 2011	
	START: 10:00	END: 10:20	UTMZ:	UTME:
			UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☒ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☒ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	SALIX
2	SUB-CANOPY			
3	UNDERSTOREY	3-4	4	CEPOCCI > SPIALBA > ILEVERT
4	GRD. LAYER	5-7	2	GRASS > SALIX CAREX > SOL DULC

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	O	10 - 24	R	25 - 50	N	>50		
STANDING SNAGS:		O	<10	O	10 - 24	R	25 - 50	N	>50		
DEADFALL/LOGS:		O	<10	R	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER	YOUNG	MID-AGE		MATURE		OLD GROWTH			

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>button bush mineral thick wet swamp</i>		CODE: <i>SWT 2-4</i>
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Project Number:

160950269

Date:

October 28, 2011

Project Name:

Niagara Region Wind Project

Field Personnel:

Nicole Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

20%

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #7-2 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Community is a shallow pool of water				☒	☒

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NIAGARA		POLYGON: 7-3	
	SURVEYOR(S): NC	DATE: OCT 27	UTME:	
	START: 3:00	END: 3:30	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☒ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☒ WETLAND	☒ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☒ BRYOPHYTE ☒ DECIDUOUS	☐ FEN ☐ BOG
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	COVER		☐ PRAIRIE ☒ THICKET
☐ OPEN WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ OPEN ☒ SHRUB		☐ SAVANNAH ☐ WOODLAND
☒ SHALLOW WATER		☐ BLUFF	☐ TREED		☐ FOREST ☐ PLANTATION
☐ SURFICIAL DEP.					
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	SALIX
2	SUB-CANOPY	3	3	SPIALBA = SALIX >> ROSA
3	UNDERSTOREY			
4	GRD. LAYER	4-7	4	SPIALBA = PHAARUN = CAREX

HT CODES: 1>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	O	10 - 24	N	25 - 50	N	>50		
STANDING SNAGS:		R	<10	R	10 - 24	A	25 - 50	N	>50		
DEADFALL/LOGS:		R	<10	R	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:			N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT		
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Salt Spiraea thicket swamp	CODE: SWT 2-6
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

low + spirals towards interior (thick)
leading out to canex/bidens area 50-

50- 10 in standing water over 50% area

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature

(Project Manager)

-mammal bed, trail



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWL

Date:

Oct 27, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

100

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #7-3 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (Indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	whole community contains pooling		10-50cm		✓	✓

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

- potential porcupine damage on trees
- mammal trails through grass

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=feces/eggs/nest; HD=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=voice/vocalization

~~_____~~ Poly 4

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
QUERUBR	A	O			
CARDAT	R				
OSTVIRG		A	O		
ACEFREE	OA			O	
ACESASA	R	R			
FRAKPENN	R-O				
QUEBICA	R-O				
POTSIIMP	R-O				
TILAMER	R	R			
QUEALBA	O				
PRUSERO			R		
ACERUBR			O		
VIBACORY			R	R	
DIELON				O-A	
ROSA				O	
VIBAFI				O	
RUBCAN				O-A	
VIBACER				O	

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR > ACEFREE > QUEALBA = FRAX
2	SUB-CANOPY	3	3	ACEFREE > OSTVIRG > CARCARO
3	UNDERSTOREY	4	2	VIBACER > OSTVIRG > ACERUBR
4	GRD. LAYER	5-7	4	SYMMACR > RUBCANA > SOLRUGO

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SOIL ANALYSIS: <i>clay dominated</i>			
TEXTURE:	DEPTH TO MOTTLES/GLEY	<i>g = 27 cm</i>	G =
MOISTURE: <i>6</i>	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK: <i>7/20</i>		(cm)

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: E-M oak-maple deciduous forest	CODE: FOD9-2
INCLUSION	CODE:
COMPLEX	CODE:

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

- old road runs
- logged in past and present
- 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 17th 18th 19th 20th 21st 22nd 23rd 24th 25th 26th 27th 28th 29th 30th 31st 32nd 33rd 34th 35th 36th 37th 38th 39th 40th 41st 42nd 43rd 44th 45th 46th 47th 48th 49th 50th 51st 52nd 53rd 54th 55th 56th 57th 58th 59th 60th 61st 62nd 63rd 64th 65th 66th 67th 68th 69th 70th 71st 72nd 73rd 74th 75th 76th 77th 78th 79th 80th 81st 82nd 83rd 84th 85th 86th 87th 88th 89th 90th 91st 92nd 93rd 94th 95th 96th 97th 98th 99th 100th 101st 102nd 103rd 104th 105th 106th 107th 108th 109th 110th 111th 112th 113th 114th 115th 116th 117th 118th 119th 120th 121st 122nd 123rd 124th 125th 126th 127th 128th 129th 130th 131st 132nd 133rd 134th 135th 136th 137th 138th 139th 140th 141st 142nd 143rd 144th 145th 146th 147th 148th 149th 150th 151st 152nd 153rd 154th 155th 156th 157th 158th 159th 160th 161st 162nd 163rd 164th 165th 166th 167th 168th 169th 170th 171st 172nd 173rd 174th 175th 176th 177th 178th 179th 180th 181st 182nd 183rd 184th 185th 186th 187th 188th 189th 190th 191st 192nd 193rd 194th 195th 196th 197th 198th 199th 200th 201st 202nd 203rd 204th 205th 206th 207th 208th 209th 210th 211th 212th 213th 214th 215th 216th 217th 218th 219th 220th 221st 222nd 223rd 224th 225th 226th 227th 228th 229th 230th 231st 232nd 233rd 234th 235th 236th 237th 238th 239th 240th 241st 242nd 243rd 244th 245th 246th 247th 248th 249th 250th 251st 252nd 253rd 254th 255th 256th 257th 258th 259th 260th 261st 262nd 263rd 264th 265th 266th 267th 268th 269th 270th 271st 272nd 273rd 274th 275th 276th 277th 278th 279th 280th 281st 282nd 283rd 284th 285th 286th 287th 288th 289th 290th 291st 292nd 293rd 294th 295th 296th 297th 298th 299th 300th 301st 302nd 303rd 304th 305th 306th 307th 308th 309th 310th 311th 312th 313th 314th 315th 316th 317th 318th 319th 320th 321st 322nd 323rd 324th 325th 326th 327th 328th 329th 330th 331st 332nd 333rd 334th 335th 336th 337th 338th 339th 340th 341st 342nd 343rd 344th 345th 346th 347th 348th 349th 350th 351st 352nd 353rd 354th 355th 356th 357th 358th 359th 360th 361st 362nd 363rd 364th 365th 366th 367th 368th 369th 370th 371st 372nd 373rd 374th 375th 376th 377th 378th 379th 380th 381st 382nd 383rd 384th 385th 386th 387th 388th 389th 390th 391st 392nd 393rd 394th 395th 396th 397th 398th 399th 400th 401st 402nd 403rd 404th 405th 406th 407th 408th 409th 410th 411th 412th 413th 414th 415th 416th 417th 418th 419th 420th 421st 422nd 423rd 424th 425th 426th 427th 428th 429th 430th 431st 432nd 433rd 434th 435th 436th 437th 438th 439th 440th 441st 442nd 443rd 444th 445th 446th 447th 448th 449th 450th 451st 452nd 453rd 454th 455th 456th 457th 458th 459th 460th 461st 462nd 463rd 464th 465th 466th 467th 468th 469th 470th 471st 472nd 473rd 474th 475th 476th 477th 478th 479th 480th 481st 482nd 483rd 484th 485th 486th 487th 488th 489th 490th 491st 492nd 493rd 494th 495th 496th 497th 498th 499th 500th 501st 502nd 503rd 504th 505th 506th 507th 508th 509th 510th 511th 512th 513th 514th 515th 516th 517th 518th 519th 520th 521st 522nd 523rd 524th 525th 526th 527th 528th 529th 530th 531st 532nd 533rd 534th 535th 536th 537th 538th 539th 540th 541st 542nd 543rd 544th 545th 546th 547th 548th 549th 550th 551st 552nd 553rd 554th 555th 556th 557th 558th 559th 560th 561st 562nd 563rd 564th 565th 566th 567th 568th 569th 570th 571st 572nd 573rd 574th 575th 576th 577th 578th 579th 580th 581st 582nd 583rd 584th 585th 586th 587th 588th 589th 590th 591st 592nd 593rd 594th 595th 596th 597th 598th 599th 600th 601st 602nd 603rd 604th 605th 606th 607th 608th 609th 610th 611th 612th 613th 614th 615th 616th 617th 618th 619th 620th 621st 622nd 623rd 624th 625th 626th 627th 628th 629th 630th 631st 632nd 633rd 634th 635th 636th 637th 638th 639th 640th 641st 642nd 643rd 644th 645th 646th 647th 648th 649th 650th 651st 652nd 653rd 654th 655th 656th 657th 658th 659th 660th 661st 662nd 663rd 664th 665th 666th 667th 668th 669th 670th 671st 672nd 673rd 674th 675th 676th 677th 678th 679th 680th 681st 682nd 683rd 684th 685th 686th 687th 688th 689th 690th 691st 692nd 693rd 694th 695th 696th 697th 698th 699th 700th 701st 702nd 703rd 704th 705th 706th 707th 708th 709th 710th 711th 712th 713th 714th 715th 716th 717th 718th 719th 720th 721st 722nd 723rd 724th 725th 726th 727th 728th 729th 730th 731st 732nd 733rd 734th 735th 736th 737th 738th 739th 740th 741st 742nd 743rd 744th 745th 746th 747th 748th 749th 750th 751st 752nd 753rd 754th 755th 756th 757th 758th 759th 760th 761st 762nd 763rd 764th 765th 766th 767th 768th 769th 770th 771st 772nd 773rd 774th 775th 776th 777th 778th 779th 780th 781st 782nd 783rd 784th 785th 786th 787th 788th 789th 790th 791st 792nd 793rd 794th 795th 796th 797th 798th 799th 800th 801st 802nd 803rd 804th 805th 806th 807th 808th 809th 810th 811th 812th 813th 814th 815th 816th 817th 818th 819th 820th 821st 822nd 823rd 824th 825th 826th 827th 828th 829th 830th 831st 832nd 833rd 834th 835th 836



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 27

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

100

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: # 74 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FN=feces; FO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7-5</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Oct 28, 2011</i>	
	START: <i>11:15</i>	END: <i>11:30</i>	UTMZ:	UTMN:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ SWMAP	☐ FEN
		☐ ROLL. UPLAND		☐ LICHEN	☐ BOG
		☐ CLIFF		☐ BRYOPHYTE	☐ BARREN
		☐ TALUS		☒ DECIDUOUS	☐ MEADOW
		☐ CREVICE / CAVE		☐ CONIFEROUS	☐ PRAIRIE
		☐ ALVAR		☐ MIXED	☒ THICKET
SITE		☐ ROCKLAND	COVER		☐ SAVANNAH
☐ OPEN WATER		☐ BEACH / BAR	☐ OPEN		☐ WOODLAND
☒ SHALLOW WATER		☐ SAND DUNE	☒ SHRUB		☐ FOREST
☐ SURFICIAL DEP.		☐ BLUFF	☐ TREED		☐ PLANTATION
☐ BEDROCK					

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	QUEBICO = SALIX
2	SUB-CANOPY			
3	UNDERSTOREY	3m	4	CEROC > ILEVERT > Unknown
4	GRD. LAYER	4-7	2	CAREX > THYPPALIS > BIDENS

STAND COMPOSITION:								BA:	
SIZE CLASS ANALYSIS:		A	<10	O	10 - 24	R	25 - 50	N	>50
STANDING SNAGS:		A	<10	O	10 - 24	N	25 - 50	N	>50
DEADFALL/LOGS:		O	<10	O	10 - 24	R	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE	
								OLD GROWTH	

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>Butterbrush thicket swamp</i>		CODE: <i>SWT2-4</i>
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

- ~100% open water
~1ft deep

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

[illegible]

Signature: Nicol Greeth
(Field Personnel)

Signature: 
(Project Manager)

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Oct 28, 2011Field Personnel: Nicole Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>20</u>	<u>none</u>	<u>rain</u>

ELC Polygon: # _____ Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through featureExtent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Swamp complex w pools throughout</u>					☒	☒

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

collex of Swamp white oak swamp and SWT2-2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	REFERENCE	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MTL.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ VALLEY FLOOR	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ ACIDIC BEDRK.	☐ STABLELAND		☐ FORB	☐ MARSH
	☐ BASIC BEDRK.	☐ SOIL UPLAND		☐ LICHEN	☐ SWMAP
SITE	☐ CARB. BEDRK.	☐ CLIFF	COVER	☐ BRYOPHYTE	☐ FEN
☐ OPEN WATER		☐ TALUS	☐ OPEN	☐ DECIDUOUS	☐ BOG
☐ SHALLOW WATER		☐ CREVICE / CAVE	☐ SHRUB	☐ CONIFEROUS	☐ BARREN
☐ SURFICIAL DEP.		☐ ALVAR	☐ TREED	☐ MIXED	☐ MEADOW
☐ BEDROCK		☐ ROCKLAND			☐ PRAIRIE
		☐ BEACH / BAR			☐ THICKET
		☐ SAND DUNE			☐ SAVANNAH
		☐ BLUFF			☐ WOODLAND
					☐ FOREST
					☐ PLANTATION

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACERUBR > QUEBICO = QUERUBR > QUEALBA
2	SUB-CANOPY	3	3	CARCARO > ACERUBR > OSTVIRG
3	UNDERSTOREY	4	3	CARCARO > ACERUBR > RUBUS SPP > VIBURNUM SPP
4	GRD. LAYER	5-7		BOLRUGO? SYMMACR > CAREX

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SIZE CLASS ANALYSIS:	A	<10	A	10 - 24	0	25 - 50	R	>50
STANDING SNAGS:	0	<10	0	10 - 24	0	25 - 50	N	>50
DEADFALL/LOGS:	A	<10	0	10 - 24	R	25 - 50	N	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 10 cm	G= 10 cm
MOISTURE: 6	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M Oak-maple Deciduous forest type		CODE: FOD9-2
INCLUSION		CODE:
COMPLEX	Buttonbush mineral thicket swamp	CODE: SWT2-4

- logging
- recent vehicle track (PHOTO)
- hunting platform

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)

* within obvious wetlands

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>7-G</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>Oct 28</u>	UTME:	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☒ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION
SITE			COVER		
☐ OPEN WATER			☐ OPEN		
☐ SHALLOW WATER			☐ SHRUB		
☒ SURFICIAL DEP.			☒ TREED		
☐ BEDROCK					

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (P>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	QUEBICO > ALERWAR > FRAPENN
2	SUB-CANOPY	0	0	
3	UNDERSTOREY	4	3	SPIALBA >> CEPDCCI > ILEVERT
4	GRD. LAYER	5-7	3	PHAARUN > SLDHUC

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:		<10		10 - 24		25 - 50		>50
----------------------	---	-----	---	---------	---	---------	---	-----

STANDING SNAGS:	0	<10	0	10 - 24	2	25 - 50	1	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	A	<10	A	10 - 24	D	25 - 50	R	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE: *White Sulphur Peak mineral deciduous swamp* CODE: *SWD1-1*

INCLUSION		CODE
-----------	--	------

INCLUSION	CODE:

COMPLEX	CODE:
Evidence of Disturbance / Notes:	

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

- dry
- logging into interior (road + stumps + 'dash') - pretty disturbed



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 28, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

20

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #7-6 Assessment Type: ☐-Visual; no access / ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains/potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains/potential bat hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains/potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Potentially pools in spring throughout				yes	yes

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>7-H</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>Oct. 28</u>	UTME:	
	START: <u>1:00</u>	END: <u>1:15</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☒ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☐ OPEN		☐ THICKET
☒ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ SAND DUNE	☒ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	QNEBICO > FRAPENN > ULMAMER = ACERUBR
2	SUB-CANOPY	3	3	QNEBICO = ACERUBR = ULMAMER
3	UNDERSTOREY	4	3	SPIALBA >> CEROC > I LEVER T
4	GRD. LAYER	5-7	3	PHAMRUB > SALDULC

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:									
SIZE CLASS ANALYSIS:										A	<10	A	10 - 24	0	25 - 50	R	>50		
STANDING SNAGS:										0	<10	0	10 - 24	R	25 - 50	W	>50		
DEADFALL/LOGS:										A	<10	A	10 - 24	OR	25 - 50	N	>50		
ABUNDANCE CODES:										N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:										PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>white swamp oak mineral deciduous swamp</i>		CODE: <i>SWD1-1</i>
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

Notes:
- pool 20 cm deep over 10% of polygon

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara		POLYGON: 7-I	
	SURVEYOR(S): JC	DATE: Oct 28, 2004	UTME:	
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☒ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR	☒ OPEN		☐ PRAIRIE
		☐ ROCKLAND	☐ SHRUB		☐ THICKET
		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	2	SPINX
2	SUB-CANOPY	—	—	
3	UNDERSTOREY	—	—	
4	GRD. LAYER	5-7	4	CAREX SPA > PHAERUN > BIDENS

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	N	<10	R	10 - 24	N	25 - 50	N	>50
----------------------	---	-----	---	---------	---	---------	---	-----

STANDING SNAGS:		<10		10 - 24		25 - 50		>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	N	<10	N	10 - 24	N	25 - 50	N	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
--------------------------	--------------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE: <i>Brackish sedge mineral meadow marsh</i>	CODE: <i>MAS2-4</i>
---	---------------------

INCLUSION			
-----------	--	--	--

[illegible]

COMPLEX	CODE:
----------------	--------------

Evidence of Disturbance / Notes:

pooled water ~30cm deep over 30% of area

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 28

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>20</u>	<u>none</u>	<u>rain</u>

ELC Polygon: # 7-1 Assessment Type: ☐-Visual; no access / ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains/potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains/potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains/potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains/large stick nests?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>throughout</u>	<u>D801</u>	<u>~15m</u>	<u>30cm</u>		<u>Carex, bidens, grass</u>	<u>some</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7-J</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Oct 28</i>	UTME:
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR	☐ OPEN		☐ PRAIRIE
		☐ ROCKLAND	☒ SHRUB		☒ THICKET
		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	SALIX > POPTREEM
2	SUB-CANOPY	—	—	
3	UNDERSTOREY	—	—	
4	GRD. LAYER	5-7	4	PHALARIS >> BIDENS > TYPLAT

HT CODES: 1= $>25m$ 2= $10<HT\leq 25m$ 3= $2<HT\leq 10m$ 4= $1<HT\leq 2m$ 5= $0.5<HT\leq 1m$ 6= $0.2<HT\leq 0.5m$ 7= $HT<0.2m$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
----------------------	-----	---------	---------	-----

STANDING SNAGS:		<10		10 - 24		25 - 50		>50
-----------------	--	-----	--	---------	--	---------	--	-----

DEADFALL/LOGS:	<10'	10 - 24	25 - 50	>50
----------------	------	---------	---------	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
-------------------------	--------------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
----------	-------

VEGETATION TYPE:	CODE:
willow mineral thicket swamp	SWT2-2

	INCLUSION	CODE:
--	-----------	-------

COMPLEX	CODE:
---------	-------

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Name: R/DWC

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): 10	WIND: 1	CLOUD: 20	PPT: none	PPT (in last 24 hrs): rain
---------------------	------------------	------------	--------------	--------------	-------------------------------

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

[i.e. karst topography, abandoned mines or caves]

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities
-----	---------	-----------	-----	-----------	-------------------	-----------------	-----------------------------

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	potential pool in spring throughout	20x10			reed-ranunc	yes

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

Niagara Region Wind Project

Date:

Oct 28, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

20

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #7-9 Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	Swamp community					

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=egg/fest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vernalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara		POLYGON: 7-6	
	SURVEYOR(S): NC	DATE: Oct 28	UTME:	
	START: 11:00	END: 11:15	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
☐ WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ FORB ☐ LICHEN	☐ MARSH ☐ SWMAP
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ BRYOPHYTE ☐ DECIDUOUS	☐ FEN ☐ BOG
SITE	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE	COVER	☐ CONIFEROUS ☐ MIXED	☐ BARREN ☐ MEADOW
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB		☐ PRAIRIE ☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR ☐ SAND DUNE	☐ TREED		☐ SAVANNAH ☐ WOODLAND
☐ SURFICIAL DEP.		☐ BLUFF			☐ FOREST ☐ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	QUEBICO > ACEFREE > FRA PENNY
2	SUB-CANOPY	3	2	ACEFREE > QUEBICO > FRA PENNY
3	UNDERSTOREY	4	3	SPI ALBA > ROSA
4	GRD. LAYER	5-7	3	SOLDULC > CAREX > RIDENI

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:								BA: 4	
SIZE CLASS ANALYSIS:		A	<10	A	10 - 24	A	25 - 50	R	>50
STANDING SNAGS:		0	<10	0	10 - 24	0	25 - 50	N	>50
DEADFALL/LOGS:		0	<10	A	10 - 24	R	25 - 50	N	>50
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
COMM. AGE:		PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH			

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

some water - 5% cover - 5 cm

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Keep for SWD reference in larger community, but eliminate this delineation

edge

Page ___ of ___

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature:

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Quebec, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269
Date: Oct 28

Project Name: NRWC
Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>10</u>	WIND: <u>1</u>	CLOUD: <u>20</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>rain</u>
---------------------	-------------------------	-------------------	---------------------	---------------------	--------------------------------------

ELC Polygon: # 7-6 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains/potential reptile hibernacula features?
☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains/potential bat hibernacula features?
☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains/potential bat roosting features?
☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains/potential stick nests?
☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

--

CA=encase; DP=distinctive parts; FE=feeding evidence; FY=egg/young; HO=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7-7</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Oct 28</i>	UTME:	
	START: <i>11:30</i>	END: <i>12:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☒ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	
2	SUB-CANOPY	3	2	CEPOCCI >> ILEVERT >> ACEFREE
3	UNDERSTOREY	4	4	CEPOCCI >> ILEVERT > SPIALBA
4	GRD. LAYER	5-7		

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:										BA:	
SIZE CLASS ANALYSIS:		A	<10	R	10 - 24	R	25 - 50	N	>50		
STANDING SNAGS:		0	<10	R	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:		0	<10	R	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:			N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT		
COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>buttonbush swamp thicket</i>		CODE: <i>SWT 2-4</i>
☐	INCLUSION	CODE: 
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON:	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>7-8</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>Oct 28</i>	UTME:	
	START: <i>12:00</i>	END: <i>12:30</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☒ POND
☒ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☒ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE		☐ ALVAR	COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ROCKLAND	☒ OPEN		☐ THICKET
☒ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ SAND DUNE	☐ TREED		☐ WOODLAND
☐ BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION:

SIZE CLASS ANALYSIS:		<10	10 - 24	25 - 50	>50
STANDING SNAGS:		<10	10 - 24	25 - 50	>50
DEADFALL/LOGS:		<10	10 - 24	25 - 50	>50
ABUNDANCE CODES:		N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT
COMM. AGE:		PIONEER	YOUNG	MID-AGE	MATURE
					OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>Duckweed floating leaved shallow aquatic</i>		CODE: <i>SAT 1-3</i>
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

Riparian border of QUEBEC, SPIALBA, ILEVERT ^(Field Personnel) surrounds it

SE37; Tile F-7; Poly 8

ELC  COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature: Wan Chen
(Field Personnel)

Quality Control: This form is complete ☒ by title ☒

Signature: 
(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Stantec

Project Number:

1160950269

Project Name:

NRWC

Date:

Oct 28, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

1

CLOUD:

20

PPT:

none

PPT (in last 24 hrs):

rain

ELC Polygon: #7-8 Assessment Type: ☐-Visual; roadside, no access / ☐-Physical; walk through feature

Extent of Physical Investigation of Feature: ☐-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	shallow aquatic pool with riparian border	> 2ft				☒

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

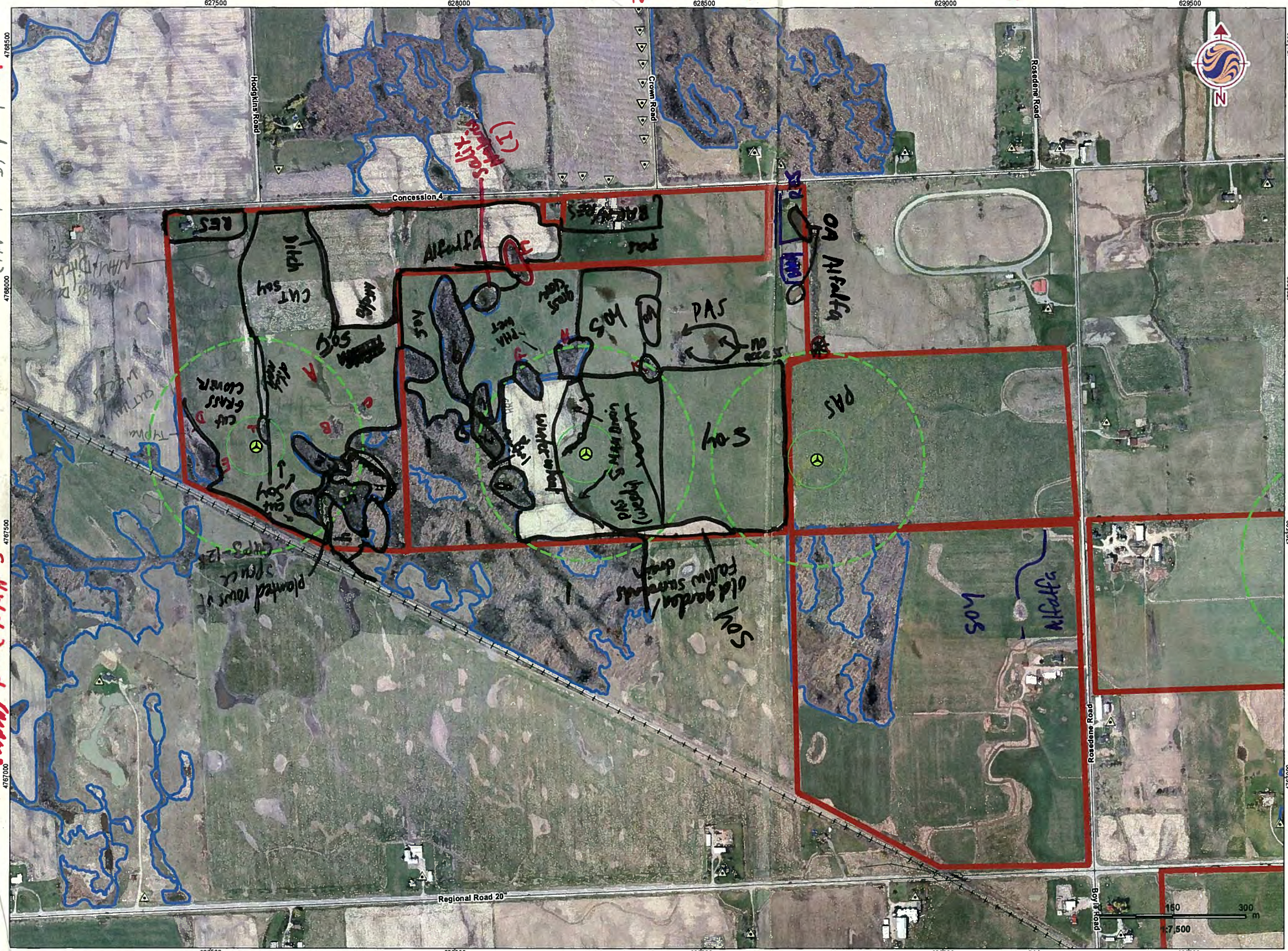
(A=arcade; DP=distinctive parts; FE=feeding evidence; FY=eggs/feet; HO=house/den; OB=observed; SC=scar; SI=silver sign; TK=track; VO=vocalization)

K - Dry green ash swamp w/ SOLDIER, Phalaris, Cepocul - logged

W

A - wet meadow (Sca water + ditch) Phalaris, Desmodium, Urtica, Rumex

F - thick wet in marsh (Mamm 2-2)



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 160m Buffer of Turbine

- #6+7 get included in the complex for #1 instead

Notes

- Coordinate System: NAD 1983 UTM Zone 17N).
- Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.

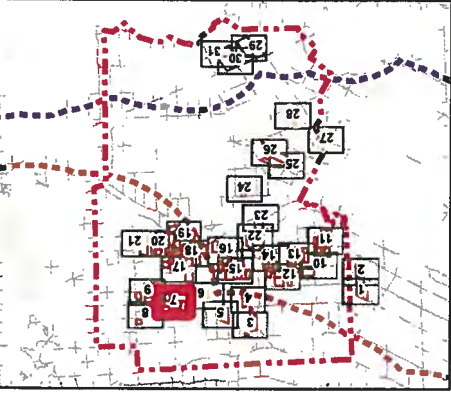
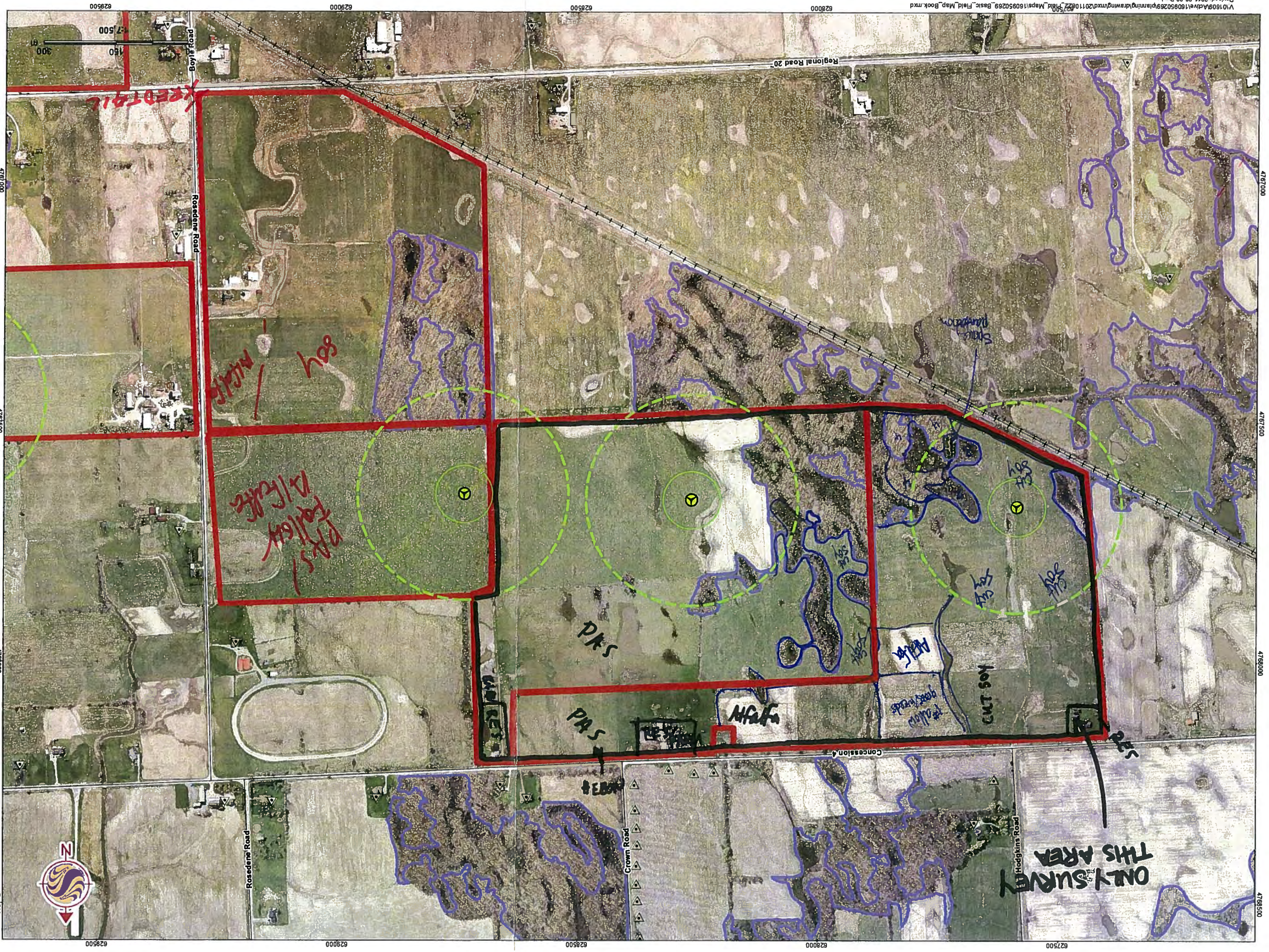
Stantec

August, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
F-7

Title
Field Map 7



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipality Lower Tier
- Provincially Significant Wetland
- Other/Locally Significant Wetland
- Turbines on Developable Land and 120m Diameter
- 150m Buffer of Turbine

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N)
2. Base features produced under license with the Ontario Ministry of Natural Resources @ Queen's Printer for Ontario, 2011.



Client/Project

Niagara Region Wind Corporation

Figure No.

F-7

Title

Field Map 7

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>9-1</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 17</i>	UTME:
	START:	END:	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD.	☐ LAKE ☐ POND ☐ RIVER
☐ WETLAND	☒ MINERAL SOIL	☒ TERRACE ☒ VALLEY SLOPE	☒ CULTURAL	☐ GRAMINOID ☒ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS	☐ STREAM ☐ MARSH ☐ SWMAP ☐ FEN ☐ BOG ☐ BARREN
☐ AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK.	☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE	COVER	☐ MIXED	☒ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE		☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ OPEN ☐ SHRUB ☐ TREED		
☐ OPEN WATER ☐ SHALLOW WATER ☒ SURFICIAL DEP. ☐ BEDROCK	☐ CARB. BEDRK.				

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	SOLIDAGO > SYMPLANC > GRASS SP

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
----------------------	-----	---------	---------	-----

STANDING SNAGS:	<10	10 - 24	25 - 50	>50
-----------------	-----	---------	---------	-----

DEADFALL/LOGS:	<10	10 - 24	25 - 50	>50
----------------	-----	---------	---------	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH
------------	--	---------	--	-------	--	---------	--	--------	--	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: D-11 old field meadow		CODE: CMM1-1
INCLUSION Graminoid mineral meadow marsh		CODE: MAM1-5*
COMPLEX		CODE:

Evidence of Disturbance / Notes:

- mixed grasses in NAM

5-20 cm H₂O in ditch

SES; Tile E-9; Poly I

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page of

Signature:

By: Nick Chaff
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

and n
(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269
Date: Nov 17, 2011

Project Name: NRWC
Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>5</u>	<u>3</u>	<u>90%</u>	<u>None</u>	<u>some rain</u>

ELC Polygon: #9-1 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
Contains potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>Contains water</u>	<u>- is a drainage feature</u>		<u>5-20 cm</u>		☒	<u>NO</u>

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>9-2</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 17</i>	UTME:
	START:	END: <i>5:00</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ SWMAP	
		☐ ROLL. UPLAND		☐ LICHEN	☐ FEN
		☐ CLIFF		☒ BRYOPHYTE	☐ BOG
		☐ TALUS		☒ DECIDUOUS	☐ CONIFEROUS
		☐ CREVICE / CAVE		☐ MIXED	☐ BARREN
SITE		☐ ALVAR	COVER		☐ MEADOW
☐ OPEN WATER	☐ CARB. BEDRK.	☐ ROCKLAND	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ BEACH / BAR	☐ SHRUB		☐ THICKET
☒ SURFICIAL DEP.		☐ SAND DUNE	☒ TREED		☐ SAVANNAH
☐ BEDROCK		☐ BLUFF			☐ WOODLAND
					☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	QUERUBR > QUEALBA > ACESASA > ACERUBR
2	SUB-CANOPY	3	3	QUERUBR > ACESASA = FAGGRAN > QUEALBA
3	UNDERSTOREY	4	3	CARCARO > FAGGRAN = ACESASA > NSTVLRG
4	GRD. LAYER	5-7	3	CAREX spp > SOLIDAGO > EURNACR > GEUM

HT CODES: 1= $\geq 25\text{m}$ 2= $10 < \text{HT} \leq 25\text{m}$ 3= $2 < \text{HT} \leq 10\text{m}$ 4= $1 < \text{HT} \leq 2\text{m}$ 5= $0.5 < \text{HT} \leq 1\text{m}$ 6= $0.2 < \text{HT} \leq 0.5\text{m}$ 7= $\text{HT} < 0.2\text{m}$

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS: **A** <10 **A** 10 – 24 **A** 25 – 50 **R** >50

STANDING SNAGS:	0	<10	0	10 - 24	0	25 - 50	N	>50
-----------------	---	-----	---	---------	---	---------	---	-----

DEADFALL/LOGS:	A	<10	A	10 - 24	O	25 - 50	R	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH
------------	--	---------	--	-------	--	---------	--	--------	--	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g= 40 / 20	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: F-M oak-maple deciduous forest	CODE: FOD9-2
INCLUSION	CODE:
COMPLEX Bur oak mineral deciduous swamp	CODE: SWD1-2

Evidence of Disturbance / Notes:

ance / Notes: - very dense understory
- paintball course - covers huge area
- logging

mixed deciduous swamp - more ACERNR → bur oak and swamp oak are becoming

SE 51 Tile E-9; Poly 2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

	SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
		1	2	3	4			1	2	3	4	
B	BETPAPY	R	R	R			CAREX				A	
	QUERIBR	A	O	O			SOLIDAGO				A	
*	FRAPEAN	O	O				* RUBHISP				A	
*	MIE BCO/MACR	O	O				* ROYAL FERN				O-A	
B	CARCARD		O	A			B GRASS				O	
	CAROVAT	O-R	R				EURMACR				O	
	QUEALBA	A	O			✓	FRAVIRG				O	
	ACESASA	O-A	O	O			GELM				O	
	FAGGRAN	R	O	O			MITREPE				R	
	ULMAHER	R	R				* BOECYLI				R-O	
	TILAMER	R	R				* CHEGLAB				R	
B	ACERUBR	A-O					B DRYCART				O	
	PALUSERO	R	R		R		* BIDENS				O	
	POPGRAN	R					WINTERGREEN				R-O	
*	ACEFREE	R-O	R-O				ground cedar				R	
*	PINSTKO	R										
	TSUCANA	R	R									
	OSTVIRG	R	O	O								
	VIBSP				A							
*	speckled alder		O	O								
*	CEPOCCI			O								
*	VACCORY			O								
*	South- arrowwood				R							
*	I LEVERT			A								
*	SPI ALBA			O								
B	RUBCANA				A							
B	VIBRAPI				O							

Page of

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)

* wet
B-boon

- larger swamps have higher thick component

**Stantec**

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Nov.Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>5</u>	<u>3</u>	<u>90%</u>	<u>none</u>	<u>some rain</u>

ELC Polygon: #9-2 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through featureExtent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains potential bat hibernacula features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains potential bat roosting features?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings. DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☒ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
	<u>Swamp complex throughout</u>		<u>at least 0.5ft</u>		☒	☒

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

— Red tailed Hawk seen + heard flying overhead throughout the day across the polygon (OB, VO)
 — woodpecker OB

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

COMMUNITY
DESCRIPTION &
CLASSIFICATION

SITE: NIAGARA
SURVEYOR(S): NC
START: 5:00 END: 5:30

POLYGON:	9-1
6,2011	UTME:
UTMZ:	UTMN:

POLYGON DESCRIPTION

VEGETATION DESCRIPTION					
SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
1 TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☐ RIVERINE	☐ NATURAL	☐ PLANKTON ☐ SUBMERGED	☐ LAKE ☐ POND
1 WETLAND	☐ MINERAL SOIL	☐ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ FLOATING-LVD. ☐ GRAMINOID	☐ RIVER ☐ STREAM
1 AQUATIC	☐ PARENT MIN. ☐ ACIDIC BEDRK.	☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF		☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS	☐ MARSH ☐ SWMAP ☐ FEN ☐ BOG ☐ BARREN
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW ☐ PRAIRIE
SITE		☐ ALVAR ☐ ROCKLAND	☐ OPEN ☐ SHRUB ☐ TREED		☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
1 OPEN WATER	☐ CARB. BEDRK.	☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF			
1 SHALLOW WATER					
1 SURFICIAL DEP.					
1 BEDROCK					

STAND DESCRIPTION:

STAND DESCRIPTION:				
LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	ACEFREE > SALIX
2	SUB-CANOPY	3	3	CEPOCCI >> CARCARO
3	UNDERSTOREY	4	4	CEPOCCI > ILEVERT > HAKVIRG
4	GRD. LAYER	5-7	2	ON OSENS > CHEGLAB > Cinnamon fern

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	A	<10	R	10-24	N	25-50	N	>50
----------------------	---	-----	---	-------	---	-------	---	-----

STANDING SNAGS:	N	<10	R	10-24	A	25-50	N	>50
-----------------	---	-----	---	-------	---	-------	---	-----

DEADFALL/LOGS:	0	<10	0	10 - 24	N	25 - 50	W	>50
----------------	---	-----	---	---------	---	---------	---	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>buttonbush mineral thickets swamp</i>		CODE: <i>SWT2-4</i>
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes:

ELC

COMMUNITY DESCRIPTION & CLASSIFICATION

SITE:
POLYGON:
DATE: SE 62, T. 1 R F-9; Poly 1
SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete = ☒ & legible ☒

Signature: _____

iProject Manager



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: 160950269
Date: Oct 26, 2011

Project Name: NRWC
Field Personnel: N. Chariton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>some rain</u>	<u>rain</u>

ELC Polygon: # Visual Assessment: ☐-Roadside, no access

Physical Assessment: ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (Indicate on map)

Reptile Hibernacula Features: Contains/potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains/potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH > 25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains/large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>entire polygon</u>	<u>pool in spring?</u>	<u>20x40 m</u>	<u>unknown</u>		<u>yes</u>	<u>yes</u>

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: DP=distant noise; FE=feeding evidence; FY=signs/noise; HQ=long-term; OB=observed; SC=scan; SH=shelter sign; TR=tracks; VO=voice/communication

Page 1 of 1

Signature: _____

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

(Project Manager)

REV: 2011.06.00

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE: SE 62; T1R F-9; Poly 2 SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page 1 of 1
 Signature: Nand Chakraborty
 (Field Personnel)
 Some
 ny llex and buttonbush as well as ferns interspersed with high hummocks of
 W:\resource\internal info and Teams\FIELD FORMS\Vegetation\ELC\elc-field-form-excerpt_w_wildlife-habitat-form_v2.docx / (DERIVED FROM LEE ET AL., 17)
 unknown short ~~and~~ ~~of~~ ~~at~~ ~~the~~
~~the~~ ~~the~~ ~~the~~
~~the~~ ~~the~~ ~~the~~



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 26

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

100

PPT:

some rain

PPT (in last 24 hrs):

rain

ELC Polygon: #9-2 Visual Assessment: ☐-Roadside, no access

Physical Assessment: ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
entire polygon	pooled H ₂ O		at least 60cm		yes - some	yes

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Abbreviations: DP=disturbance point; FE=feeding evidence; FV=egg/snest; HQ=household; OB=observed; SC=scat; S=small; L=large; Y=young; A=adult; V=very

3. of 3

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

RFV-2011-06-00

ELC SITE: NIAG SURVEYOR(S): NC DATE: Oct 26, 2011 POLYGON: 9-13

COMMUNITY DESCRIPTION & CLASSIFICATION START: 3.00 END: 6.00 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
1 TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
2 WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
3 AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	4	ACE-SASA > QUER-ALBA > QUER-ALBA
2 SUB-CANOPY	3	3	QUER-ALBA > OST-VIRG > CAR-ARO
3 UNDERSTOREY	4	3	QUER-ALBA > OST-VIRG
4 GRD. LAYER	5-7	3	EUR-MACR > FERN > CAREX SPP

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: A <10 A 10-24 B 25-50 R >50

STANDING SNAGS: OA <10 O 10-24 R 25-50 N >50

DEADFALL/LOGS: A <10 A 10-24 O 25-50 N >50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE: (prev. value)
VEGETATION TYPE:	CODE:
F.M. super maple - hardwood deciduous forest	
INCLUSION	CODE:
swampy maple in several deciduous swamp	
COMPLEX	CODE:
swampy 3-32	

Evidence of Disturbance / Notes:

- some swamps have 100% component
- logging
- dead birch, few live
- forest component sugar maple, oak, beech
- some swamps have 100% component
- Hemlock component
- dark blotches are standing water
- lots of ACESASA saplings; SYNHAIR

ELC SITE: SE62; Tile F-9; Poly 3 SURVEYOR(S):

COMMUNITY DESCRIPTION & CLASSIFICATION

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
ACESASA	2A			A		EUR-MACR				A	
* ACEFREE	0A					SIL-RUGO				A	
OST-VIRG		0	0			* CAREX				A	
* IL-MAMER		0	0			ERA-VIRG				0	
QUE (white)	0					* Royal Fern				A(1)	
QUE RUBR	A-1					* THE DALY				0(1)	
A-GGRV	R	0A				* EO-SETUM				0(1)	
CAR-ARO	R	0				* HAW-VER					
* TS-A	R	0	0			* N-SENS				A	
* AL-X-SP						RYCART				0	
* RANIER	R					Bracken Fern				0	
* OPT-EM	R					N. h. h. b. glass.				R	
* BETRAPP	R					SOLDULC				0	
* RETAILL	R					* POL-REX					
						* BIDENT				0	
						* RUB-HL-SP				0-A	
						* R-RIMONY				R	
						EUO-BV				0	
* P-A-B			0			* SYMA				0	
RUBID				0		* CHE-LONE				0-R	
RUBOCH				0		* SYLANC				0	
* ILEVER			A			* IRVERS				R	
* CEP-CCI			A			* BIDENS				R(1)	
* LUN-BENZ			0			* LYCWIF				R	
* VIB-RAL			R			* PH-ARUN					
VIB-LENT			R								
SAM (W.P.H.)			R								
* BES-SP				R							
* AM-IRG			R-0								
* VBA-CER			0								

Page 1 of 1

Signature:

Nail Chalk
(Field Personnel)

Quality Control: This form is complete & legible. ☒

Signature:

Crash
(Project Manager)

* WETLAND SPECIES (SWAMP)

W Resource/ Internal Info and Teams/ FIELD FORMS/ Vegetation/ ELC-alc-field-form-excerpt w/ windfarm-wildlife-habitat-form v3 docx / (DERIVED FROM: LEE ET AL., 1999)

- old roads traverse site
- unknown shrub photographed today encountered occasionally, especially towards mixed swamps and patches of hemlock = LUN-BENZ



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 26, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

100

PPT:

Some rain

PPT (in last 24 hrs):

rain

ELC Polygon: #9-3 Visual Assessment: ☐-Roadside, no access

Physical Assessment: ☒-Walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (Indicate on map)

Reptile Hibernacula Features: Contains/potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock, (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains/potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains/large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
Wetland complex	Pools		~20 cm		some	yes

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

Redstart pin oak 0630359 476752

N=nest; DP=disturbance point; Fe=feeding evidence; EV=egg/nest; HQ=house/orn; OB=observed; SC=scat; SI=silver lining; TK=track; VC=vegetation

1. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV: 2011.06.00

ELC SITE: NHA G
 SURVEYOR(S): DATE: Oct 26, 2011
 COMMUNITY DESCRIPTION & CLASSIFICATION: START: 1:20 END: 2:00
 POLYGON: 9-14
 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
1 TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
2 WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
3 AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	2	4	ACESASA > QUERUBR > TILAMER = FRAX SP.
2 SUB-CANOPY	3	3	ACESASA > FAGGRAN > OSTVIRG
3 UNDERSTOREY	4	3	AC A > R > A
4 GRD. LAYER	5-7	3	RUBDA > CORN > ACESASA > RUBDAE > SYMLANC

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	A	<10	A	10-24	A	25-50	>50
STANDING SNAGS:	R	<10	R	10-24	R	25-50	>50
DEADFALL/LOGS:	R	<10	R	10-24	R	25-50	>50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE: FOD 6-5
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

- past logging
 - vernal pool potential (see reversal)
 - past fire
 - bee boxes

ELC SITE: SE62; Tie F-9; Poly 4
 SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
ACESASA	A	A	A	A-0	
TILAMER	R		O	O	
QUERUBR	A		O	O	
FAGGRAN	R		O	R	
OSTVIRG	N	O	R	O	
PRUSERO	N		O	R-0	
CARDORD					
FRAX P	R		R	R	
U MAHE	N	R	N	N	
ACEF E		R		N	
RUB DA				O	
CORN				R	

Page ____ of ____

Signature: [Signature]

(Field Personnel)

Quality Control: This form is complete & legible

Signature: [Signature]

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 26, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

100

PPT:

some rain

PPT (in last 24 hrs):

rain

ELC Polygon: #9-4 Visual Assessment: ☐ Roadside, no access

Physical Assessment: ☒ Walk through feature

Extent of Physical Investigation of Feature: ☒ Entire / ☐ Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Hibernacula Features: Contains potential bat hibernacula features?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

(i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Spp. Observed Using Feature

Presence of Stick Nests: Contains large stick nests?

☐ Y* / ☒ N / ☐ Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Photo No.	Height/ Placement	Nest Size	Spp. Observed Using Feature

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

☒ Y* / ☐ N / ☐ Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
1629811 / 4767492	Vernal pool	7m x 20m	0	TBD	Yes - GLYSTRI / IMPAR	Yes - few

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

A=arrived; DP=distribution point; F=feeding evidence; FY=eggs/nest; HQ=house/urn; OB=observed; SC=scatter; SF=surface sign; TR=track; YC=yellow caution

1. of

Signature:

(Field Personnel)

Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Project Manager)

REV- 2011.06.00

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NIAGARA</u>		POLYGON: <u>9-5</u>	
	SURVEYOR(S): <u>NC</u>		DATE: <u>OCT 27</u>	
	START: <u>12:00</u>	END: <u>1:00</u>	UTMZ:	UTME:
			UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY	3	100	ACEFREE > OSTVIRG > QUEPARR > CEPOCCI
3 UNDERSTOREY	4	4	CEPOCCI >> LEVERT > VACCORY
4 GRD. LAYER	5-7	3	FERNS > CAREX

HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

STAND COMPOSITION:		BA:
SIZE CLASS ANALYSIS:	A <10 R 10-24 N 25-50 N >50	
STANDING SNAGS:	0 <10 N 10-24 N 25-50 N >50	
DEADFALL/LOGS:	0 <10 0 10-24 N 25-50 N >50	
ABUNDANCE CODES:	N=NONE R=RARE O=OCCASIONAL A=ABUNDANT	
COMM. AGE:	PIONEER YOUNG MID-AGE MATURE OLD GROWTH	

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <u>Buttonbush swamp thicket</u>	CODE: <u>SWT2-4</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

- standing water 100% - 95% ~1-2ft deep
- little ground veg

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	
	POLYGON: <u>SE 62; Tile F-9; Poly 5</u>	
	DATE:	
	SURVEYOR(S):	

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
OSTVIRG		R				Imp rap					OR
ACEFREE		R				Therapu					0
QUEPARR		R				ONSEN'S					0
CARCORD			RR			SILSUAV					OR
						CAPEX					0
						Immanianor					0
						SOLDULC					OR
						PURHSP					OR
CEPOCCI			A								
LEVERT			0								
VACCORY			0								
LINBENZ			R-0								

Page ____ of ____

Signature: Nicole Ouellet

(Field Personnel)

Quality Control: This form is complete & legible ☒

Signature: andrea

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Project Number: 160950269

Project Name: NRWC

Date: Oct 27, 2011

Field Personnel: N. Chertkov

Weather Conditions:

TEMP (°C):

WIND:

CLOUD:

PPT:

PPT (in last 24 hrs):

10

1

100

none

rain

ELC Polygon: # 4-5 Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains/potential reptile hibernacula features?

☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
entire polygon	p031	10 x 200 m	up to 60 cm		some	yes

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FF=feeding evidence; FY=eggs/nest; HD=house/den; OB=observed; SC=scar; SI=other sign; TK=track; VO=vocalization

ELC SITE: Niagara POLYGON: 9-A
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): NC DATE: Oct 26, 2011 UTME:
 START: 8:00 END: 8:30 UTMZ: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY			
2 SUB-CANOPY			
3 UNDERSTOREY			
4 GRD. LAYER	<u>5-7</u>	<u>4</u>	<u>SOLIDAGO > EUTGRAM > LOTCORN</u>

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m

CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS: <10 10-24 25-50 >50

STANDING SNAGS: <10 10-24 25-50 >50

DEADFALL/LOGS: <10 10-24 25-50 >50

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

TEXTURE: DEPTH TO MOTTLES/GLEY g= G=
 MOISTURE: DEPTH OF ORGANICS: (cm)
 HOMOGENEOUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: CODE:
 COMMUNITY SERIES: CODE:
 ECOSITE: CODE:
 VEGETATION TYPE: Dry Moist Old Field Meadow CODE: CUM1-1
 INCLUSION CODE:
 COMPLEX CODE:

Evidence of Disturbance / Notes:

ELC SITE: POLYGON: NO SE #; Tile F-9; Poly A
 COMMUNITY DESCRIPTION & CLASSIFICATION DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

SPECIES CODE	LAYER				COLL.	SPECIES CODE	LAYER				COLL.
	1	2	3	4			1	2	3	4	
						<u>SYMBIOTA</u>					<u>A</u>
						<u>LOT CORN</u>					<u>A</u>
						<u>SOLIDAGO</u>					<u>A</u>
						<u>PHALARIS</u>					<u>O</u>
						<u>EUTGRAM</u>					<u>A</u>
						<u>FRAXINUS</u>					<u>O</u>
						<u>DAUCARUS</u>					<u>O</u>

Page ___ of ___

Signature: Nancy Chen

(Field Personnel)

Quality Control: This form is complete & legible ☒

Signature: Andrew

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 26, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>some rain</u>	<u>rain</u>

ELC Polygon: #9-A Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features: Contains/potential reptile hibernacula features?
☐-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]
 Contains/potential bat hibernacula features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED			
UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features: Contains/potential bat roosting features?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)
 [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests: Contains large stick nests?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED					
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED						
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA = carcass; DP = distinctive parts; FE = feeding evidence; FY = eggs/nest; HO = house/den; OB = observed; SC = scat; SI = other sign; TK = track; VO = vocalization

POLYGON DESCRIPTION

STAND DESCRIPTION:

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

SOIL ANALYSIS:

COMMUNITY CLASSIFICATION:

Evidence of Disturbance / Notes:

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

Page ____ of ____

Signature: [Signature]
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒.

Signature: Chris G.
(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWL

Date: Oct 26, 2011

Field Personnel: N. Chertan

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>18</u>	<u>2</u>	<u>100</u>	<u>some rain</u>	<u>rain</u>

ELC Polygon: #9-B Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seal; SF=other sign; TK=track; VO=vocalization

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☐ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ ROLL. UPLAND	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CLIFF	☐ TABLELAND		☐ LICHEN	☐ SWMAP
	☐ TALUS	☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
	☐ BASIC BEDRK.	☐ CLIFF		☐ DECIDUOUS	☐ BOG
SITE	☐ CARB. BEDRK.	☐ CREVICE / CAVE	COVER	☐ CONIFEROUS	☐ BARREN
☐ OPEN WATER		☐ ALVAR	☐ OPEN	☐ MIXED	☐ MEADOW
☐ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ PRAIRIE
☐ SURFICIAL DEP.		☐ BEACH / BAR	☐ TREED		☐ THICKET
☐ BEDROCK		☐ SAND DUNE			☐ SAVANNAH
		☐ BLUFF			☐ WOODLAND
					☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			PHAAKUN >> ASCLEPIAS = SYMPHYR. SP

HT CODES: 1=>25m 2=10<HT≤25m 3=2<HT≤10m 4=1<HT≤2m 5=0.5<HT≤1m 6=0.2<HT≤0.5m 7=HT<0.2m
CVR CODES: 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60%

STAND COMPOSITION:	BA:
--------------------	-----

SIZE CLASS ANALYSIS:	<10	10 - 24	25 - 50	>50
----------------------	-----	---------	---------	-----

STANDING SNAGS:	<10	10 - 24	25 - 50	>50
-----------------	-----	---------	---------	-----

DEADFALL/LOGS:		<10		10 - 24		25 - 50		>50
----------------	--	-----	--	---------	--	---------	--	-----

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
------------	---------	-------	---------	--------	------------

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
----------	-----------------------	----	----

MOISTURE:	DEPTH OF ORGANICS:	(cm)
-----------	--------------------	------

HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	(cm)
------------------------	-------------------	------

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
------------------	-------

COMMUNITY SERIES:	CODE:
-------------------	-------

ECOSITE:	CODE:
	CODE:

VEGETATION TYPE:	CODE:
	CODE:

Reed-canary grass ⁱⁿ meadow marsh	MM 2-2
--	--------

INCLUSION		CODE:
-----------	--	-------

[illegible]

Evidence of Disturbance / Notes:

- associated with drainage ditch
- 5-10 cm H₂O

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON:
	DATE: NO SE # ; Tile F-9 ; Poly C
	SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

[illegible]

Page ____ of ____

Signature

: Wendy Creek
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature

(Project Manager)



Stantec Consulting Ltd.
1 - 70 Southgate Drive
Guelph, ON
Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number:

1160950269

Project Name:

NRWL

Date:

Oct-26, 2011

Field Personnel:

N. Charlton

Weather Conditions:

TEMP (°C):

10

WIND:

2

CLOUD:

100

PPT:

some rain

PPT (in last 24 hrs):

rain

ELC Polygon: #9-C Assessment Type: ☐-Visual; roadside, no access / ☒-Physical; walk through feature

Extent of Physical Investigation of Feature: ☒-Entire / ☐-Partial, walk through polygon (indicate on map)

Reptile / Bat Hibernacula Features:

Contains potential reptile hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

UTM	Feature Description	Photo No.	Spp. Observed Using Feature

Bat Roosting Features:

Contains potential bat roosting features?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities

Stick Nests:

Contains large stick nests?

☐-Y* / ☒-N / ☐-Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

☒-Y* / ☐-N / ☐-Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
entire polygon	surface water	1 x 300 m	5-10 cm		Phalaris	no

SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

CA -carcass; DP -distinctive parts; FE -feeding evidence; FY-eggs/nest; HO -house/den; OB -observed; SC -scat; SI -other sign; TK -track; VO -vocalization