

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>22-1</i>	
	SURVEYOR(S): <i>NC</i>	DATE: <i>NOV 3, 2011</i>	UTME:	
	START: <i>11:00</i>	END: <i>11:30</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		☐ 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		FRAXEN
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	5-7	4	PHAILUN >> SYMLANC = Grass 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:
VEGETATION TYPE: <i>reed Canary grass</i>		CODE: <i>MAM2-2</i>
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

- water is 90% of area up to 1-2ft deepest
- Associated with creek

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	
*FRADENN	A					
*ACEFREE	R					
*CAROVAT	R					
*HLMAMER	O					
*QUE SPP	O					
H LILAC						
H CRATAEGUS						
H LONTART						
H RUBIDAE						
H CORNUS (grey)						

Page ____ of ____

Signature:

Signature: W. J. O'Connell
(Field Personnel)

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

Signature:

(Project Manager)

* ~~inclusion species~~ → inclusion was mapped into its own polygon



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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 3, 2011

Field Personnel: N. Charbon

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>none</u>	<u>none</u>

ELC Polygon: #22-1 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
<u>622249 4763269</u>	<u>piece of old bridge foundation</u>		<u>NONE</u>

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>entire feature</u>	<u>pooled water</u>		<u>>60 cm</u>		<u>reed canary</u>	<u>few/no logs</u>

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

leopard frog
noisy birds in hedgerow (starlings?)

11:20

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara		POLYGON: 22-A	
	SURVEYOR(S): NC	DATE: NOV 3, 2011	UTME:	
	START: 5:00	END: 5:30	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	3	4	CRATAEGUS > FRAX SP
2	SUB-CANOPY	4	4	CRATAEGUS >> CORNUS
3	UNDERSTOREY			
4	GRD. LAYER	5-7	3	SOLIDAGO > GEUM > ALLPETI

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	R	25 - 50	N	>50		
STANDING SNAGS:		R	<10	R	10 - 24	N	25 - 50	N	>50		
DEADFALL/LOGS:		A	<10	R	10 - 24	N	25 - 50	N	>50		
ABUNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT			
COMM. AGE:		PIONEER	X	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>Hardhorn mineral cultural thicket</i>		CODE: <i>CUT1-7*</i>
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

- very dense
- some young 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)



Woodland & Wildlife Habitat Assessment Form

Project Name: NRWL

Field Personnel: N. Charlan

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>		POLYGON: <u>22-2</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>Nov 3, 2011</u>	UTME:	
	START: <u>11:30</u>	END: <u>12:00</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

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	FRAPENN >> ULMAMER = QUERCUS > CAROVAT
2	SUB-CANOPY	3	2	ULMAMER > FRAPENN
3	UNDERSTOREY	4	2	ACEFREE > FRAPENN
4	GRD. LAYER	5-7	4	PHAARUN >> SYMLAN C

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:		O	<10	A	10 - 24	O	25 - 50	R	>50		
STANDING SNAGS:		R	<10	O	10 - 24	OR	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	

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:	green ash mineral deciduous swamp	CODE: SWD 2-2
	INCLUSION	CODE:
	COMPLEX	CODE:

Evidence of Disturbance / Notes:

- water 70% of area ~ 0.5 - 2 ft deep
- associated with creek

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: Nina Christ
(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: NRWCDate: Nov 3, 2011Field 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>none</u>	<u>none</u>

ELC Polygon: #22-2 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>entire polygon</u>	<u>pooled water</u>		<u>at least 60cm</u>		<u>yes (reed canary)</u>	<u>few</u>

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

noisy birds in hedgerow (starlings?)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 3, 2011

Field Personnel: _____

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>2</u>	<u>100</u>	<u>none</u>	<u>none</u>

ELC Polygon: #22-3 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)

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

ELC COMMUNITY DESCRIPTION AND CLASSIFICATION	SITE: <i>Niagara</i>		POLYGON: <i>22-4</i>	
	SURVEYOR(S): <i>NC</i>		DATE: <i>Nov 3, 2011</i>	UTME:
	START: <i>1:30</i>	END: <i>5:30</i>	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE ☒ RIVERINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL SOIL	☒ BOTTOMLAND ☐ TERRACE	☐ CULTURAL	☐ SUBMERGED ☐ FLOATING-LVD.	☐ POND ☐ RIVER
☐ AQUATIC	☐ PARENT MIN.	☐ VALLEY SLOPE ☐ TABLELAND		☐ GRAMINOID ☐ FORB	☐ STREAM ☐ MARSH
	☐ ACIDIC BEDRK.	☐ ROLL. UPLAND ☐ CLIFF		☐ LICHEN ☐ BRYOPHYTE	☒ SWMAP ☐ FEN
	☐ BASIC BEDRK.	☐ TALUS ☐ CREVICE / CAVE		☒ DECIDUOUS ☐ CONIFEROUS	☐ BOG ☐ BAREN
SITE	☐ CARB. BEDRK.	☐ ALVAR ☐ ROCKLAND	COVER	☐ MIXED	☐ MEADOW
☐ OPEN WATER		☐ BEACH / BAR	☐ OPEN		☐ PRAIRIE
☐ SHALLOW WATER		☐ SAND DUNE	☐ SHRUB		☐ THICKET
☐ SURFICIAL DEP.		☐ BLUFF	☒ TREED		☐ SAVANNAH
☐ BEDROCK					☐ 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	FRAPENN > QUERCUS spp > ACEFREE > CARYA
2	SUB-CANOPY	3	1	FRAPENN > ULMAMER
3	UNDERSTOREY	4	2	CORNUS > SPIALBA > CEDOCCI
4	GRD. LAYER	5-7	4	CAREX = PHALARIS > SYMLANC = POLYGONUM

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	R	>50
STANDING SNAGS:		0	<10	0	10 - 24	R	25 - 50	N	>50
DEADFALL/LOGS:		0	<10	0	10 - 24	R	25 - 50	A	>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: 0		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: green ash mineral deciduous swamp	CODE: SWD 2-2
INCLUSION buttonbush mineral swamp thicket	CODE: SWT 2-4
COMPLEX reed canary grass mineral meadow marsh	CODE: MAM 2-2

Evidence of Disturbance / Notes: *↳ with lots of water + pockets of shallow marsh species*

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:

Wendy Chen
(Field Personnel)

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

Signature: _____

form is complete ☒ & legible
Carol M
(Project Manager)

C-complex

* inclusion

★ see back of map for note



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: Nov 3, 2011

Field Personnel: N. Char Hon

Weather Conditions:	TEMP (°C): <u>10</u>	WIND: <u>2</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>none</u>
---------------------	-------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: #22-4 Assessment Type: ☐ Visual; roadside, no access / ☒ Physical; walk through feature

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

but could not access southern side due to deep water

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>entire polygon</u>	<u>Pools/surface H₂O</u>		<u>760 cm</u>		<u>yes</u>	<u>yes</u>

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

- woodpeckers (look like either downy or hairy) in swamp margin at western property boundary (w)
- other interesting birds here too - unknown sp.
- Chickadees, nuthatch (?)
- lots of scat (mammal) throughout on deadfall
- greenfrog

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: <u>Niagara</u>		POLYGON: <u>22-5</u>	
	SURVEYOR(S): <u>NC</u>	DATE: <u>Nov 3, 2011</u>	UTME:	
	START: <u>2:30</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
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☒ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
SITE			COVER		☐ PRAIRIE
☐ OPEN WATER		☐ ALVAR	☐ OPEN		☐ THICKET
☐ SHALLOW WATER		☐ ROCKLAND	☐ SHRUB		☐ SAVANNAH
☐ SURFICIAL DEP.		☐ BEACH / BAR	☒ TREED		☐ WOODLAND
☐ BEDROCK		☐ SAND DUNE			☐ FOREST
		☐ BLUFF			☐ PLANTATION

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	ACEFREE > FRAPENN > ACERUBR > ULMAMER
2	SUB-CANOPY	3	2	ACER SPP > FRAPENN > OSTVIRG
3	UNDERSTOREY	4	1	CORNUS = SPIALBA > ILEVERT
4	GRD. LAYER	5-7	2	CAREX > FERN > BIDENS

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	O	25 - 50	R	>50		
STANDING SNAGS:		R	<10	R	10 - 24	R	25 - 50	N	>50		
DEADFALL/LOGS:		D	<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	

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>Swamp made mineral rich/brackish swamp</i>		CODE: <i>SWD3-3</i>
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

of Disturbance / Notes:
- some open water areas (darkest blotches on map) some of the SWD opens into pockets of ledge MAS

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)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Nov 3, 2011

Field Personnel: N. Charlton

Weather Conditions:	TEMP (°C): <u>10</u>	WIND: <u>2</u>	CLOUD: <u>100</u>	PPT: <u>none</u>	PPT (in last 24 hrs): <u>none</u>
---------------------	-------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: #22-5 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)

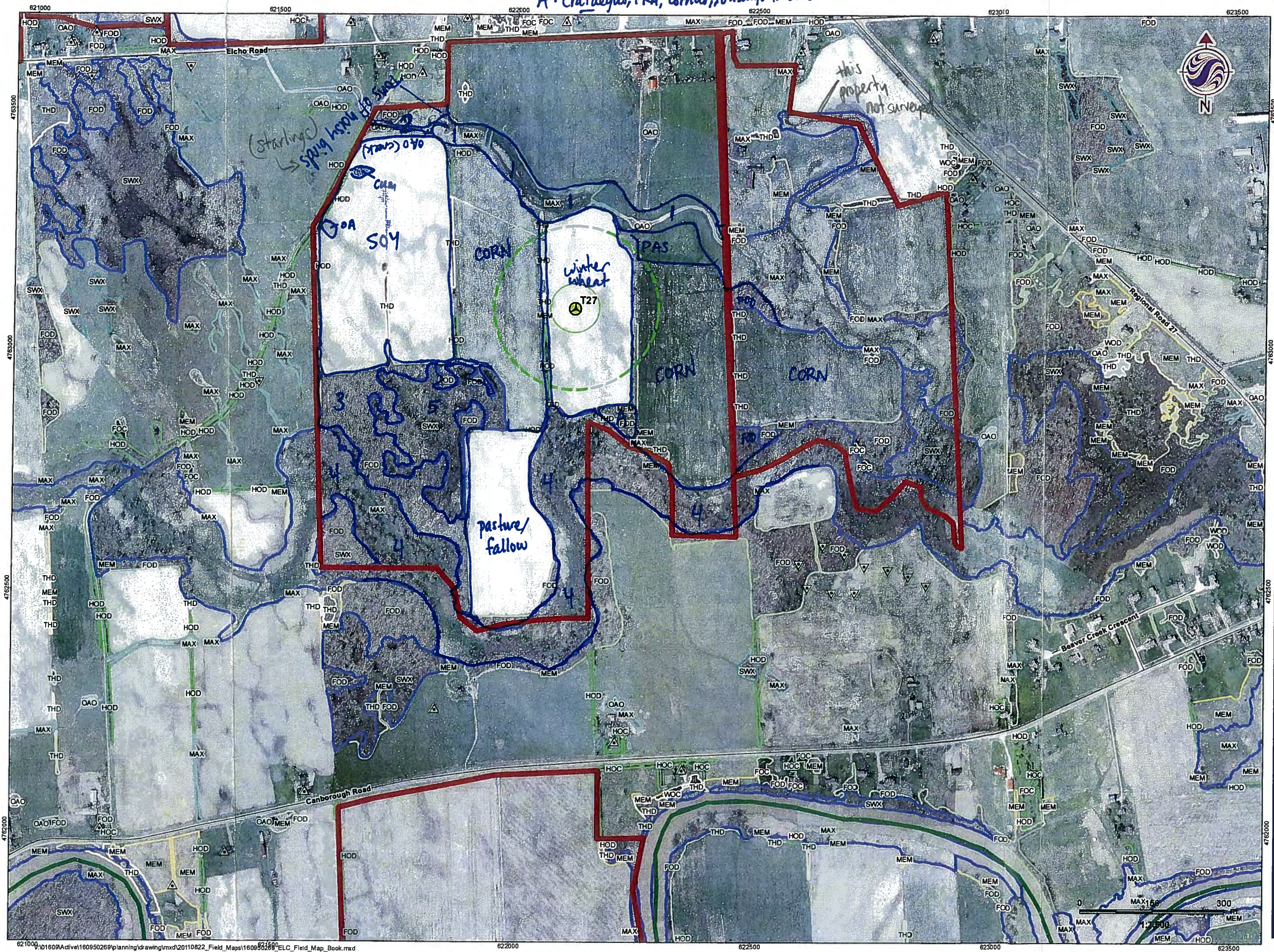
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
<u>entire community</u>	<u>pools</u>	<u>largest: 100 x 15 m</u>	<u>60 cm</u>		<u>yes</u>	<u>yes</u>

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

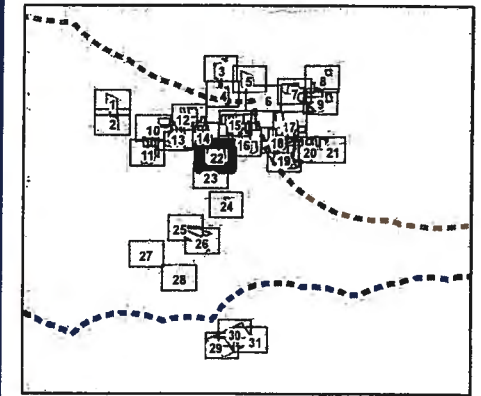
CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scent; SI=other sign; TK=track; VO=vocalization

A: Crataegus, FRA, cornus, solidago thicket



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 |  | Turbines on Developable Land and 101m Diameter |
|  | Bluff |  | 170.5m Buffer of Turbine |
|  | Swamp |  | Turbines W/ 120m S/B PSW and 101m Diameter |
|  | Marsh |  | 170.5m Buffer of Turbine |
|  | Bog |  | Turbines W/ 120m S/B Woodland and 101m Diameter |
|  | Wetland |  | 170.5m Buffer of Turbine |
|  | Meadow |  | Turbines W/ 120m S/B Woodland and 101m Diameter |
|  | Thicket |  | 170.5m Buffer of Turbine |
|  | Savanna |  | Turbines W/ 120m S/B Wood/ Wetland and 101m Diameter |
|  | Woodland |  | 170.5m Buffer of Turbine |
|  | Forest | | |
|  | Hedgerow | | |
|  | Treed Agriculture | | |
|  | Open Water | | |



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.



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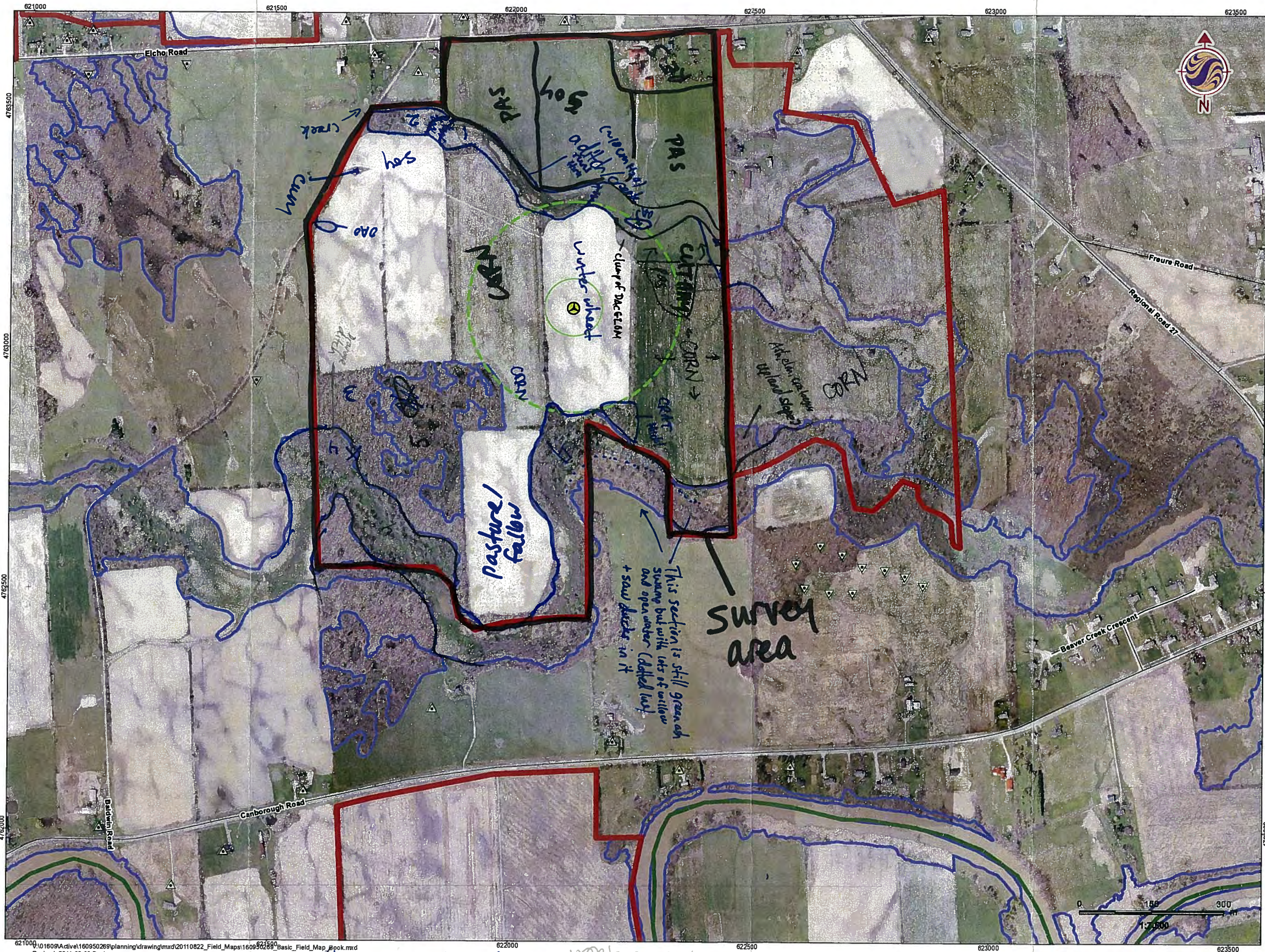
September, 2011
160950269

Client/Project	Niagara Region Wind Corporation
----------------	---------------------------------

Figure No.
E-22

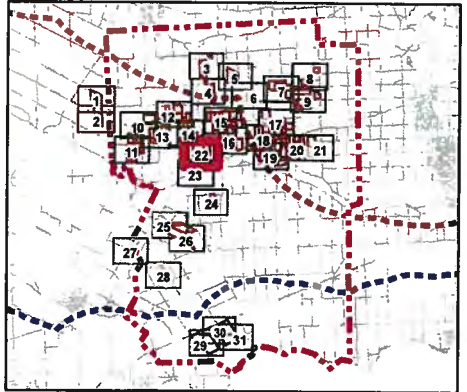
Title

ELC Field Map 22



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-22

Title

Field Map 22

01110
WITU (~12)

COGR
RAVH

MAWD

SE47; Tile 24; Poly 24-1

Photos #799 + 800

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind Tile 24</u>		POLYGON: <u>24-1</u>	
	SURVEYOR(S): <u>CKK</u>		DATE: <u>6 Oct 2011</u>	
	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
		☐ 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			C. Cattail >> Can Goldenrod > NE Aster
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<50% 4=CVR>50%

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/BLEY	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>Open Aquatic + Cattail Mineral Shallow Marsh OAO + MAS 2-1</u>	
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Swm pond = OAO surrounded by berm w/ mainly NL Cattail

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind</u>		POLYGON: <u>24-1</u>	
	DATE: <u>6 Oct 2011</u>		SURVEYOR(S): <u>Caulack</u>	

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>Cattail</u>		R			<u>Planted</u>	<u>Common</u>					
						<u>NE Aster</u>					D
						<u>Goldenrod</u>					O
						<u>Chicory</u>					R
						<u>Tall Goldenrod</u>					O
						<u>Bird's foot Trefoil</u>					O
						<u>Can Goldenrod</u>					O

Page ___ of ___

Signature:

[Signature]
(Field Personnel)

Quality Control: This form is complete & legible.

Signature:

[Signature]
(Project Manager)



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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: 6 Oct 201

Project Name: Niagara Wind
Field Personnel: C. Black

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>20°C</u>	<u>1-2m</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>

ELC Polygon: # 21 Assessment Type: ☐ Visual; roadside, no access ☒ Physical; walk through feature

Extent of Physical Investigation of Feature: ☐ Entire ☒ Partial, walk through polygon (indicate on map) in study boundaries only

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)

AmRO SOSP → Potential frog breeding within swamp.
AmCR
BLJA
TMVH
WITM
GBHE

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

#1609502609.

SE47; Poly TIR 24; Poly 24-2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind Tile 24</u>	POLYGON: <u>24-2</u>
	SURVEYOR(S): <u>Caula K</u>	DATE: <u>6 Oct 201</u>
	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

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1 CANOPY	1		Red maple > Silv maple = Red Oak > Am Beech = Bl Birch
2 SUB-CANOPY	2		Red maple = Silv maple > Red Oak
3 UNDERSTOREY	3-4		Gl Dogwood
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<50% 4=CVR>50%

STAND COMPOSITION:				BA:
SIZE CLASS ANALYSIS:	A <10	A 10-24	R 25-50	D >50
STANDING SNAGS:	O <10	O 10-24	R 25-50	D >50
DEADFALL/LOGS:	A <10	O 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: <u>S&F SCL</u>	DEPTH TO MOTTLES/GLEY: <u>20cm</u>	B: <u>20cm</u>	G: <u>20cm</u>
MOISTURE: <u>5-10</u>	DEPTH OF ORGANIC: <u>4cm</u>		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK: <u>> 20cm</u>		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODES: <u>SWD 3-1</u>
INCLUSION	CODE:
COMPLEX	CODE: <u>SAF13/MAS2-9</u>

Evidence of Disturbance / Notes: water @ ~40 cm in soil sample in adjacent SWD (across neighbouring fence)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind</u>
	POLYGON: <u>24-2</u>
	DATE: <u>6 Oct 201</u>
	SURVEYOR(S): <u>Caula K</u>

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	
Red maple				R		Sw. Fern				O	
Silv maple				R		Sw. Begonias				O	
Am Beech						Begonias				O	
Red Oak				R		Royal Fern				O	
Wh. Birch						Wd Spin Fern				O	
Blue Birch											
Free maple											
Silv. maple											
Red maple											
Wh. Birch											
E. Cottonwood											
Prem. Ash											
Black Ash											

MAS2-9 + SAF13
Sub mineral shallow marsh
associated with downward
floating-leaved shallow
aquatic type.

↓
These found throughout and
delineated on aerial photo.
Community is completed

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 Wld

Date: 6 Oct 2011

Field Personnel: Paul K.

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>20°C</u>	<u>1</u>	<u>Φ</u>	<u>Φ</u>	<u>Φ</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) w/in study boundaries

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)
Deciduous swamp converted with small ponds associated with very small shallow marshes. The latter usually containing primarily swamp beggartick, along with sparse numbers of sedges/rushes, and various other species (i.e. sensitive fern). Adjacent tree cover usually offering some canopy along pond edges, as these are not very wide. Vernal pooling throughout site highly likely in spring.

CA = carcass; DP = distinctive parts; FE = feeding evidence; FY = eggs/nest; HO = house/den; OB = observed; SC = scat; ST = other sign; TK = track; VO = vocalization
 TUHU Chorus Frogs (occasional)
 AMER Gr. Squirrel
 BLJA Chipmunk
 SOSP
 HAWO
 Ag fields have wet pockets which are highly disturbed. These look plowed but can vegetate w/ wetland species if left undisturbed.
 Disturbed area
 REV: 2011-07-18

Figure No.
F-24

0 75 150
m



SE18, F-26, No Polygon

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:	SE18		POLYGON:	1
	SURVEYOR(S):	NKC		DATE:	July 27
	START:	3:30	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
		☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
SITE		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR	☐ OPEN		☐ PRAIRIE
SHALLOW		☐ ROCKLAND	☐ SHRUB		☐ THICKET
WATER		☐ BEACH / BAR	☐ TREED		☐ SAVANNAH
SURFICIAL DEP.		☐ SAND DUNE			☐ WOODLAND
BEDROCK		☐ BLUFF			☐ FOREST
					☐ PLANTATION

TAND DESCRIPTION:

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

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
R CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<50% 4=CVR>50%

TAND COMPOSITION:	BA:
-------------------	-----

ZE CLASS ANALYSIS:	<10	10-24	25-50	>50
ANDING SNAGS:	<10	10-24	25-50	>50
AD FALL LOGS:	<10	10-24	25-50	>50

UNDANCE CODES:	N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT
MM. AGE:	PIONEER	YOUNG	MID-AGE	MATURE
				OLD GROWTH

XL ANALYSIS:	
XTURE: Sandy clay	DEPTH TO MOTTLES/GLEY
XTURE:	DEPTH OF ORGANICS:
MOGENEOUS / VARIABLE	DEPTH TO BEDROCK:

MMUNITY CLASSIFICATION:	
MMUNITY CLASS:	CODE:
MMUNITY SERIES:	CODE:
OSITE:	CODE:
GETATION TYPE:	CODE:
	11A
INCLUSION	CODE:
COMPLEX	CODE:

idence of Disturbance / Notes:

- Area recently cleared
- was a wetland pocket, now a disturbed area

ELC	SITE:
COMMUNITY DESCRIPTION & CLASSIFICATION	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	
FRAX						ARTURIA					O
PRODE T						SOLIDAGO					A
						SYMLANC					R
						PARINIE					A
						CRABGRASS					O
						ATRAPATU					O
						AMARETRO					O
						URTICGR					O
						MUSTARD					
						ALPETI					R
						VITRIPA					R
						PHRAUST					R
						VERHAST					R

Page ____ of ____

Signature:

Will Chat
(Field Personnel)

Quality Control: This form is complete & legible ☐.

Signature:

Cliff the River
(Project Manager)

- species all recent re-growth, mainly <50cm
W:\resources\forms\Info and Terms\FIELD FORMS\Vegetation\ELC\elo-woodland-wetland-habitat-form.docx / (DERIVED FROM LEE ET AL., 1998)

ELC	SITE: Niagara whd 160950269		POLYGON: 26-1a	
	SURVEYOR(S): OKK		DATE: 13 Oct 201	
COMMUNITY DESCRIPTION & CLASSIFICATION	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	☐ 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	1		S. maple > Rd oak > Am Bass > Cotton > Am Elm
2	SUB-CANOPY	2		S. maple > Rd Oak = Am Bass
3	UNDERSTOREY	3-4		S. maple > Rd Oak
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:

SIZE CLASS ANALYSIS:		<u>1</u>	<10	<u>0</u>	10 - 24	<u>0</u>	25 - 50	<u>0</u>	>50		
STANDING SNAGS:		<u>0</u>	<10	<u>0</u>	10 - 24	<u>0</u>	25 - 50	<u>0</u>	>50		
DEADFALL/LOGS:		<u>0</u>	<10	<u>0</u>	10 - 24	<u>0</u>	25 - 50	<u>0</u>	>50		
ABUNDANCE CODES:		N=NONE R=RARE O=OCCASIONAL A=ABUNDANT									
COMM. AGE:		☐	PIONEER	☐	YOUNG	☒	MID-AGE	☒	MATURE	☐	OLD GROWTH

SOIL ANALYSIS:

TEXTURE: <u>PSCL</u>	DEPTH TO MOTTLES/GLEY	<u>g=</u>	<u>G=</u>
MOISTURE: <u>2</u>	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
Dry - Fresh Sugar maple - oak Deciduous Forest		FOD 5-3
INCLUSION		CODE:
COMPLEX		CODE:

Evidence of Disturbance / Notes: Vernal pool x 2 → obvious deep depressions

ELC
COMMUNITY
DESCRIPTION &
CLASSIFICATION

SITE: Niagara wind ~~to~~ Tile 26
POLYGON: 26-1a
DATE: 13 Oct 2011
SURVEYOR(S): [Signature]

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 Wild

Date:

13 Oct 2011

Field Personnel:

Oulack

Weather Conditions:

TEMP (°C):

10°C

WIND:

1

CLOUD:

90%

PPT:

nil

PPT (in last 24 hrs):

Trace

ELC Polygon: #26-1a 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)

Potential vernal pools sparsely scattered throughout
- Backs onto SWD
- Not really bordered on north by MAM - this is highly disturbed edge due to ag.
AMRO
2d squirrel
Chorus frog
Sp Peeper.

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

SE18; Tile F-26; Poly 26-2a

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind</u>	POLYGON: <u>26-2a</u>
	SURVEYOR(S):	DATE: <u>13 Oct 2011</u>
	START:	UTM2:
	END:	UTM1:

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
					☐ PRAIRIE
					☐ 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	1		<u>Sugar Maple > Red Maple > Red Oak > White Birch > Red Pine</u>
2 SUB-CANOPY	3		<u>Sugar Maple > Red Maple > Shag Hick > White Red Oak > Shag</u>
3 UNDERSTOREY	3-4		<u>White Birch > Am Elm</u>
4 GRD. LAYER	5-7		<u>Su Maple - Red Maple - Shag Hick</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<50% 4=CVR>50%

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

SOIL ANALYSIS:

TEXTURE: <u>LoCL</u>	DEPTH TO MOTTLES/GLEY	<u>g=</u>	<u>G=</u>
MOISTURE: <u>3</u>	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-F Sugar Maple Red Maple Decid Forst</u>	<u>FOD 5-9</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind Tile 26</u>	POLYGON: <u>26-2a</u>
	SURVEYOR(S):	DATE: <u>13 Oct 2011</u>

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>Ash</u>	<u>R</u>	<u>R</u>	<u>R</u>								
<u>Blue Oak</u>											
<u>Shag Hickory</u>	<u>0</u>	<u>0</u>		<u>0</u>							
<u>Sugar Maple</u>	<u>0</u>	<u>0</u>		<u>0</u>							
<u>Red Maple</u>	<u>0</u>	<u>0</u>		<u>0</u>							
<u>Red Oak</u>	<u>0</u>	<u>0</u>		<u>0</u>							
<u>Red Pine</u>	<u>0</u>	<u>0</u>		<u>0</u>							
<u>White Birch</u>	<u>0</u>	<u>0</u>		<u>0</u>							
<u>Am Elm</u>	<u>0</u>	<u>0</u>		<u>0</u>							

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: Nagana Wild

Field Personnel: W. J. Baker

Weather Conditions:	TEMP (°C): 20°C	WIND: 1	CLOUD: 90	PPT: n/a	PPT (in last 24 hrs): 1.2 cm
---------------------	--------------------	------------	--------------	-------------	---------------------------------

ELC Polygon: # 26 - 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; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NRWC</u>		POLYGON: <u>26-4</u>	
	SURVEYOR(S): <u>NAL</u>		DATE: <u>Oct 13, 2011</u>	
	START: <u>1:00</u>	END: <u>1:30</u>	UTMZ:	UTMN:

OLYGON 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
		☐ VALLEY SLOPE		☐ FORB	☐ MARSH
		☒ TABLELAND		☐ LICHEN	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
	☐ BASIC BEDRK.	☐ TALUS		☐ CONIFEROUS	☐ BARREN
SITE		☐ CREVICE / CAVE	COVER	☐ MIXED	☐ MEADOW
OPEN WATER	☐ CARB. BEDRK.	☐ ALVAR	☐ OPEN		☐ PRAIRIE
SHALLOW		☐ ROCKLAND	☐ SHRUB		☐ THICKET
WATER		☐ BEACH / BAR	☒ TREED		☐ SAVANNAH
SURFICIAL DEP.		☐ SAND DUNE			☐ WOODLAND
BEDROCK		☐ BLUFF			☒ FOREST
					☐ PLANTATION

TAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
CANOPY	2	4	Cottonwood > ACESASA > BASIN BOD > R Oak
SUB-CANOPY	3	3	ACESASA > POPTREM > COTTONWOOD
UNDERSTOREY	4	3	SPICEBUSH > ACESASA > POPTREM
GRD. LAYER	5-7	3	Current = T. Golden = SDCANA = SP CB

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

^AND COMPOSITION:

ZE CLASS ANALYSIS:		0	<10	A	10 - 24	0	25 - 50	R	>50
HANDING SNAGS:		R	<10	R	10 - 24	N	25 - 50	N	>50
ADFALL/LOGS:		0	<10	0	10 - 24	R	25 - 50	N	>50

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

DOM. AGE:	☐ PIONEER	☒ YOUNG	☐ MID-AGE	☐ MATURE	☐ OLD GROWTH
-----------	----------------------------------	---	----------------------------------	---------------------------------	-------------------------------------

DIL ANALYSIS:

TEXTURE: <i>Sandy Clay</i>	DEPTH TO MOTTLES/GLEY	g= <i>> 40 cm</i>	G= <i>> 40</i>
DISTURBANCE: <i>2</i>	DEPTH OF ORGANICS: <i>Ø</i>		(cm)
HOMOGENEOUS / <i>VARIABLE</i>	DEPTH TO BEDROCK: <i>> 120 cm</i>		(cm)

COMMUNITY CLASSIFICATION:

IMMUNITY CLASS:	Forest	CODE:	FO
IMMUNITY SERIES:	Deciduous Forest	CODE:	FOD
OSITE:	D-E Poplar white Birch Dec f. Ecosite	CODE:	FOD3
GETATION TYPE:	D-E Poplar deciduous Forest Type	CODE:	FOD 3-1

INCLUSION		CODE:
COMPLEX		CODE:

idence of Disturbance / Notes:

extends off woodland, ditches running in & along, dense shrub
large amounts of brush. Pic #1162 1163 → ~~off~~ transit

Downloaded from https://academic.oup.com/ajph/advance-article/doi/10.1136/aphopublicpharms-2021-004202 by University of Cambridge user on 01 May 2022

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

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Page ____ of ____

Signature:

(Field Personnel)

Quality Control: This form is complete & legal.

Signature: _____

(Project Manager)



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

Stantec

Windfarm Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

NRWC

Date:

Oct 13, 2011

Field Personnel:

N. Leawa

Weather Conditions:

TEMP (°C):

18°C

WIND:

0 - 1

CLOUD:

100%

PPT:

☐

PPT (in last 24 hrs):

Rain

ELC Polygon: #26-4 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
17T 0621009 4756357	open wood piles, boards	1163	

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?

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

CHORUS FROG (AUD)
MONARCH
RACCOON (TRACKS)

C=carcass; D=disturbance marks; F=feeding evidence; FV=eggs/nest; HO=home site; OB=observed; SC=scent; SE=scent; I K=track; VO=vocalization

Pg. ___ of ___

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

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)



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Guelph, ON
Canada N1G 4P5
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Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: 160950269

Project Name: NRWC

Date: Oct 13, 2011

Field Personnel: N. Leung

Weather Conditions: TEMP (°C): 17° WIND: 0-1 CLOUD: 100% PPT: 0 PPT (in last 24 hrs): Rain

ELC Polygon: # 26 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?

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

C=carcass; D=disturbance; F=feeding evidence; FY=egg/young; H=habitat; OB=observed; S=sat; M=other; P=prob; V=vernalization

Pg. ____ of ____

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

Signature: _____

(Field Personnel)

Signature: _____

(Project Manager)

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

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Page ____ of ____

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Signature:

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RESEARCH AND ANALYSIS



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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: 160930269

Project Name: NRWC

Date: Oct 13, 2011

Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C): <u>18°</u>	WIND: <u>0-1</u>	CLOUD: <u>100%</u>	PPT: <u>0</u>	PPT (in last 24 hrs): <u>Rain</u>
---------------------	--------------------------	---------------------	-----------------------	------------------	--------------------------------------

ELC Polygon: #266 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
<u>17T 06211364756636</u>		<u>ACESASA</u>	<u>>30</u>	<u>1169</u>	<u>Cavities lower ~ 2.5m, cavities</u>
<u>6</u>	<u>"</u>	<u>"</u>	<u>>50</u>	<u>1170</u>	<u>open into tree trunk</u>
<u>17T 00211504150577</u>		<u>"</u>	<u>>40</u>	<u>1173</u>	<u>~ 10-15m high</u>

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?

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

<u>BLJA</u>
<u>AMCR</u>

CA=circus; DP=distraction point; FE=feeding evidence; FY=egg/nest; HQ=house/den; OB=observed; SC=scat; SI=other sign; LK=mark; VO=vocalization

Pg. ___ of ___

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

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind</u>		POLYGON: <u>26-7</u>	
	SURVEYOR(S): <u>NAL</u>		DATE: <u>Oct 3, 2011</u>	
	START: <u>4:20</u>	END: <u>4:45</u>	UTMZ:	UTMN:

POLYGON DESCRIPTION

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

LAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
CANOPY	2	4	ACESACC = FRAAMER > Ironwood > JUNGLE
SUB-CANOPY	3	4	ACESACC >> Ironwood = FRAAMER = ACESACC
UNDERSTOREY	4	4	DOGWOODS > SPICEBUSH > Ironwoods
GRD. LAYER	5-7	3	Current >> Goldenrods > VETIVER > ASTER sp

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

'AND COMPOSITION:

ZE CLASS ANALYSIS:		O	<10	A	10 - 24	R	25 - 50	N	>50
ENDING SNAGS:		N	<10	N	10 - 24	N	25 - 50	N	>50
ADFALL/LOGS:		R	<10	R	10 - 24	N	25 - 50	N	>50
UNDANCE CODES:		N=NONE		R=RARE		O=OCCASIONAL		A=ABUNDANT	
MM. AGE:		PIONEER	☒ YOUNG	MID-AGE		MATURE		OLD GROWTH	

MAIL ANALYSIS:

XTURE: Sandy clay	DEPTH TO MOTTLES/GLEY	g= >40	G= >40
ISTURE: 3	DEPTH OF ORGANICS: $\emptyset$		(cm)
MOGENEOUS? VARIABLE	DEPTH TO BEDROCK: $\emptyset$	>120	(cm)

COMMUNITY CLASSIFICATION:

IMMUNITY CLASS:		CODE:
IMMUNITY SERIES:		CODE:
OSITE:		CODE:
VEGETATION TYPE:		CODE:
--M White Ash Silver Maple Lowland		FDD7-6*
INCLUSION		CODE:
COMPLEX		CODE:

idence of Disturbance / Notes:

Presence of Disturbance / Notes: Pic 1776-1777; disturbed, trees thrown in, no interior habitat

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON: 36-7
	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)



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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 13, 2011

Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>14</u>	<u>1</u>	<u>100%</u>	<u>Ø</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
<u>17T 06 21804 4755530</u>	<u>Trees - Basking Feature</u>	<u>1174-5</u>	<u>/</u>

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?

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

* - Potential Badger Den @ 17T 06 21804 4755921 along a deciduous hedgerow North of this community (EOD 7-6*)

C=carcass; D=disturbance point; F=feeding evidence; FV=egg/vest; HD=habitat; OB=observed; SC=active observation; T=territory; VO=vocalization

Pg. ___ of ___

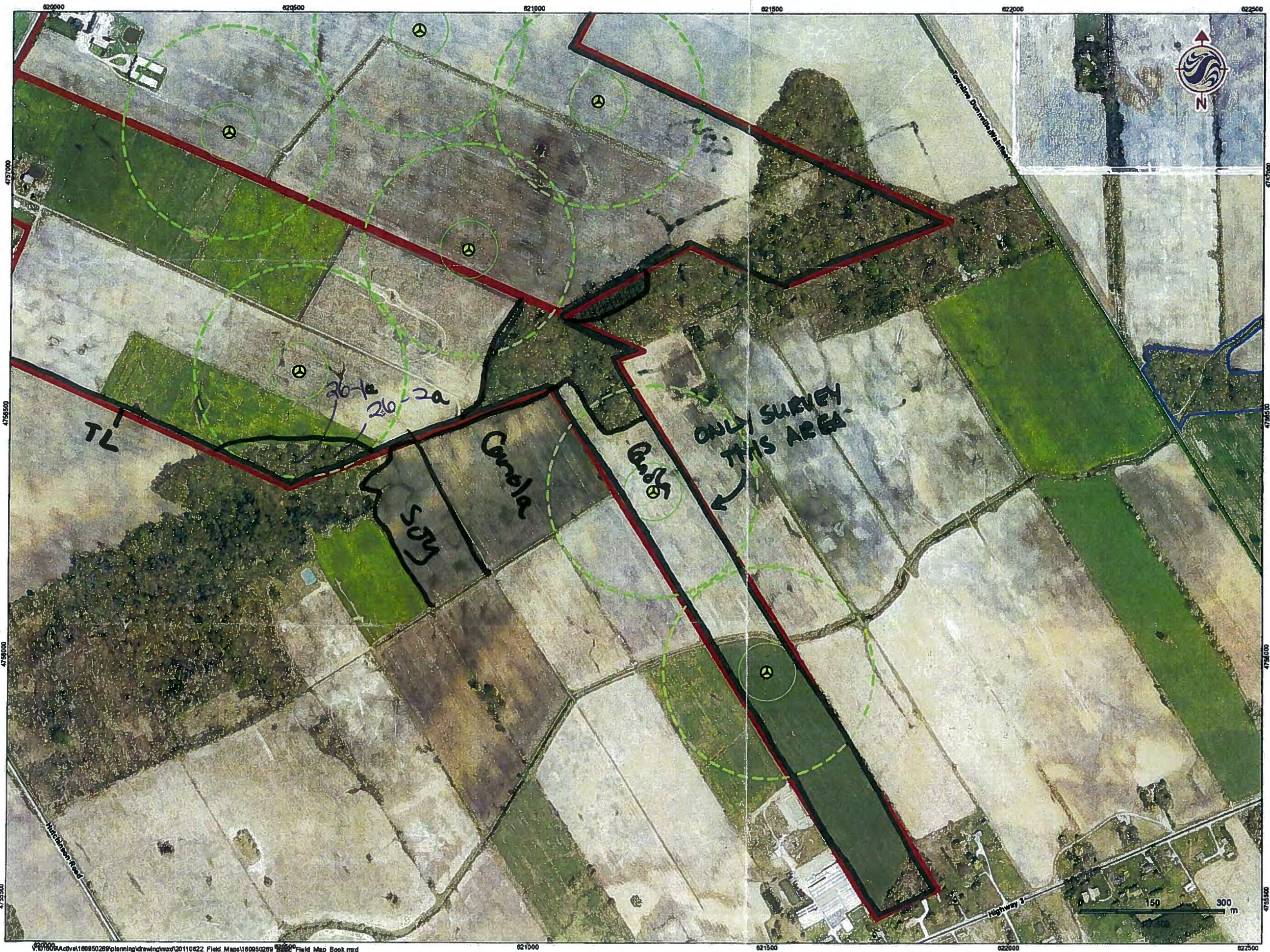
Quality Control: This form is complete ☐ & legible ☐.

Signature: _____

Signature: _____

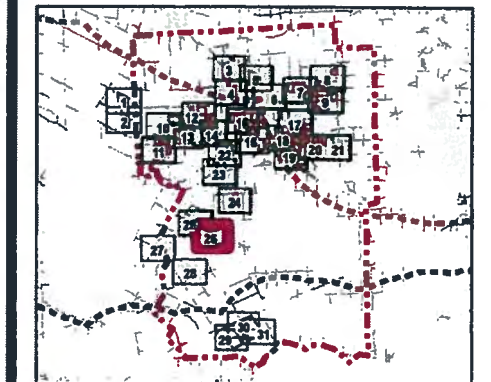
(Field Personnel)

(Project Manager)



Legend

- Preliminary Study Area
- Signed Project Sites
- Potential Signed Property
- Road
- Railway
- Municipally 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.



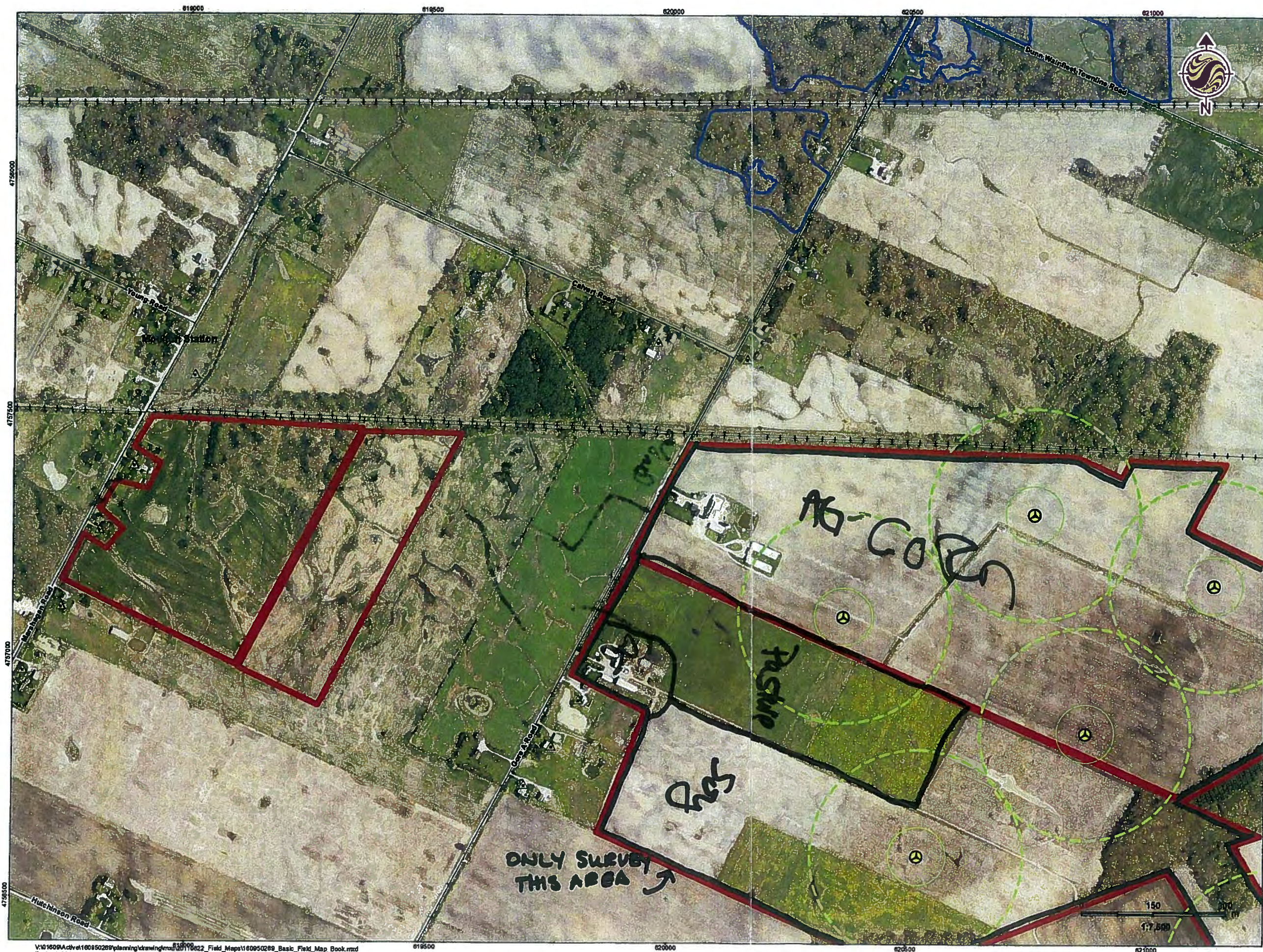
Stantec

August 2011
160950269

Client/Project
Niagara Region Wind Corporation

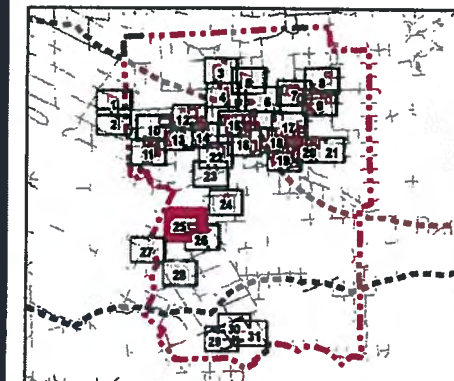
Figure No.
F-26

Title
Field Map 26



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

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.



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August, 2011
160950269

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Niagara Region Wind Corporation

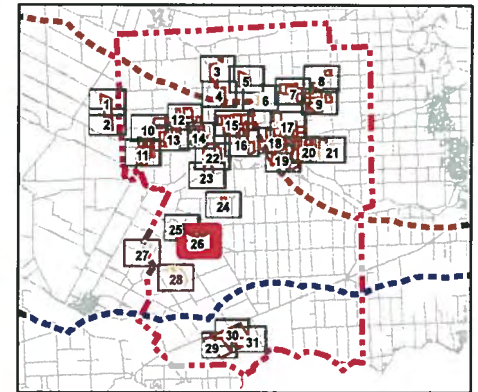
Figure No.
F-25

Title
Field Map 25



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.



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August, 2011
160950269

Client/Project
Niagara Region Wind Corporation

Figure No.
F-26

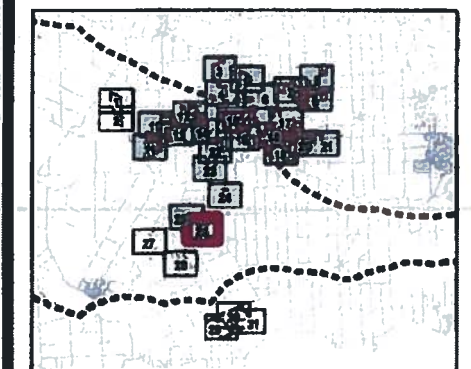
Title

Field Map 26



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 P&W 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 |
| | Probably 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/Strath Rock Barren | | |
| | Shoreline | | |
| | Shrub | | |
| | Swamp | | |
| | Marsh | | |
| | Bay | | |
| | Wetland | | |
| | Meadow | | |
| | Thicket | | |
| | Savanna | | |
| | Woodland | | |
| | Forest | | |
| | Hedge/row | | |
| | 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.



Stantec

September, 2011
100810299

Client/Project
Niagara Region Wind Corporation

Figure No.
E-26

Title
ELC Field Map 26

① 29-1 → Drainage ditch

Photo 731

- NE Aster
- W. Carrot
- Bushy Foxtail
- Tall wh. Aster
- "Tiny Burrs"
- C. Goldenrod
- T. Goldenrod
- NL Cattail
- Water ~ 2m wide.
~ 0.5m depth

② Drainage ditch → assoc. → 29-3

- BL Cattail
- Stag Sumac.
- Tall Goldenrod
- Can Goldenrod.
- T.W. Aster.
- Calico Aster
- Raspberry
- Burdock
- Joe Pie weed
- Phrag.
- Salix sp.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NRWC		POLYGON: 29-2	
	SURVEYOR(S): NAL		DATE: Oct 12, 2011	
	START: 8:05		UTME:	
	END: 8:46		UTMZ:	
			UTMN:	

[illegible]

STAND DESCRIPTION:				
LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	QUERUBR > ACERUBR > FRAPENS
2	SUB-CANOPY	2	3	QUERUBR > ACERUBR > FRAPENS > PRUSPERO
3	UNDERSTOREY	3-4	3	SPICEBUSH >> AM BEECH > CURRENT SP.
4	GRD. LAYER	5-7	3	ASTOR > SUCIANA > PHAABUN

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

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

TEXTURE: <i>Clay loam</i>	DEPTH TO MOTTLES/GLEY	<i>g = > 80 cm</i>	<i>G = > 80 cm</i>
MOISTURE: <i>5-6</i>	DEPTH OF ORGANICS: <i>Ø</i>		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK: <i>> 120 cm</i>		(cm)

COMMUNITY CLASSIFICATION:		CODE:
COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE:		CODE:
F-M oak-Maple Deciduous Forest		FOD 9-2
INCLUSION	Comm. Reed Mineral Meadow	CODE: MAM 2-11*
COMPLEX		CODE:

Evidence of Disturbance / Notes:
Inc-Borneset, SOLCANA, Dogwood, Phragmites, Aster (Pic 747)

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON: 29-2
	DATE:
	SURVEYOR(S):

[illegible]

Signature:

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

Signature:

(Field Personnel)

(Project Manager)

Incidentals → (Project Manager)
Deer, red Squirrel, RWBL, Ch Frog.

Sp. pupae, AMRO, AMCR
Hatcher Sp.



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Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Windfarm Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 12, 2011

Field Personnel: N. Leaver

Weather Conditions: TEMP (°C): 14 WIND: 1 CLOUD: 90-100% PPT: Ø PPT (in last 24 hrs): Rain

ELC Polygon: # 29-2 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?
<u>GPS not working "See Map"</u>		<u>10-15m</u>	<u>/</u>		<u>unknown</u>	<u>YES</u>

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

CA=carcass; DP=distinctive pattern; FE=feeding evidence; FY=egg/nest; HO=house/roost; OB=observed; SC=scatter; SI=silver sign; TK=track; VO=vocalization

Pg. of

Signature:

(Field Personnel)

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

Signature:

(Project Manager)

REV: 2011.06.00

SE49-4; tile 29; Poly 29-3

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind</u>	POLYGON: <u>29-3</u>
	SURVEYOR(S): <u>NALICKA</u>	DATE: <u>Oct 12, 2011</u>
	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
☐ OPEN WATER		☐ ROCKLAND			☐ THICKET
☐ SHALLOW WATER		☐ BEACH / BAR			☐ SAVANNAH
☒ SURFICIAL DEP.		☐ SAND DUNE			☐ 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			<u>R. Osier Dogwood = Rhus Typha = Am Elm > Bitternut</u>
3 UNDERSTOREY			
4 GRD. LAYER			<u>Rasp = Tall Goldenrod = Can. Goldenrod = T.W. Aster</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≤50% 4=CVR>50%

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

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	G=	G=
MOISTURE:	DEPTH OF ORGANICS:	<u>N/A</u>	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>Red Osier Dogwood Mineral Cultural Thicket</u>	<u>CUT 1-7*</u>
INCLUSION	CODE:
COMPLEX	CODE:

Evidence of Disturbance / Notes:

JUNU
STANOW SP
Muyatner SP
Cabbage whiff.

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>Am Elm</u>		<u>O</u>				<u>T.W. Aster</u>					<u>O</u>
Rhus Typha						<u>Can Goldenrod</u>					<u>O</u>
<u>Rhus Typha</u>		<u>O</u>				<u>Tall Goldenrod</u>					<u>O</u>
<u>R.O. Dogwood</u>		<u>O</u>				<u>Joe Pie Wd</u>					<u>R</u>
<u>Bit. Hickory</u>		<u>R</u>				<u>Vit Ripe</u>					<u>O</u>
						Rhus Typha					
						R.O. Dogwood					
						Can Goldenrod					
						<u>Raspberry</u>					<u>O</u>
						<u>SAIF-Head</u>					<u>R</u>
						<u>Calico Aster</u>					<u>R</u>
						<u>Wood Sorrel</u>					<u>R</u>

Page ___ of ___

Signature: Nataheara

(Field Personnel)

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

(Project Manager)



Stantec Consulting Ltd.
1 – 70 Southgate Drive
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Canada N1G 4P5
Tel: (519) 836-6050
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Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 12 2011

Field Personnel: N. Leava

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	14	1	90-100%	Ø	Rain

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) *→ around thicket, not through*

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; F-Y=eggs/nest; HO=house/den; OB=observed; SC=seal; SI=other sign; TK=track; VO=vocalization

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NWRC		POLYGON: 29-4	
	SURVEYOR(S): NAL & CK		DATE: Oct 4, 2011	
	START: 12:00	END:	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 DEPOSIT		☐ 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	1	4	FRAPENS > ACERUBR > ULMAMR
2	SUB-CANOPY	2-3	3	FRAPENS > ULMAMR > ACERUBR > POPTIKR
3	UNDERSTOREY	4	3	FRAPENS > ULMAMR > NANNY
4	GRD. LAYER	5-7	3	SENS PERN > GOLDENRODS > RUBUS 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	☐ A	10 - 24	☐ O	25 - 50	☐ R	>50		
STANDING SNAGS:		☐ R	<10	☐ R	10 - 24	☐ R	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

SOIL ANALYSIS:

TEXTURE: <u>S.W. CLAY</u>	DEPTH TO MOTTLES/GLEY	g= <u>18 in.</u>	G=
MOISTURE: <u>6</u>	DEPTH OF ORGANICS:	<u>0</u>	(cm)
HOMOGENEOUS/ <u>VARIABLE</u>	DEPTH TO BEDROCK:	<u>>120</u>	(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M Ash Lowland Deciduous Forest		CODE: FOD 7-2
INCLUSION	Cathart Min Shallow Marsh	CODE: F-MAS 2-1
COMPLEX		CODE:

Evidence of Disturbance / Notes:

Soil very moist → Inclusion in center of community in standing water, dominated by Cattail/Bullrush
ground cover variable, a patchy herb cover; pathway plowed by farmer to drainages ditch

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON: 29-4
	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:

Natchez
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

Carol M.
(Project Manager)

**Stantec**

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

Woodland & Wildlife Habitat Assessment Form

Project Number: 1609SD267Project Name: NRWCDate: Oct 12, 2011Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C): <u>18°</u>	WIND: <u>2</u>	CLOUD: <u>40%</u>	PPT: <u>None</u>	PPT (in last 24 hrs): <u>Rain</u>
---------------------	--------------------------	-------------------	----------------------	---------------------	--------------------------------------

ELC Polygon: # 29-4 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)(Visual) deer.

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

SE494; Tile 29; Poly 29-5

photos 751 to

Am Road.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 29-5 Niagara wild	POLYGON:	
	SURVEYOR(S): NL + CK	DATE: 4 Oct 2011	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	☐ 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	1		BA Ash > Maple > Y. Birch
2 SUB-CANOPY	2		
3 UNDERSTOREY	3-4		
4 GRD. LAYER	5-7		Sep fern > mosses > Sp. wd 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<50% 4=CVR>50%

STAND COMPOSITION:		BA:
SIZE CLASS ANALYSIS:	10 <10 A 10-24 10 25-50 R >50	
STANDING SNAGS:	0 <10 0 10-24 0 25-50 N >50	
DEADFALL/LOGS:	0 <10 0 10-24 0 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: Clay loam	DEPTH TO MOTTLES/GLEY: 0' >20 6' >120
MOISTURE: 7	DEPTH OF ORGANICS: 32 inches (81cm)
HOMOGENEOUS/VARIABLE	DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: Back Ash Organic Deciduous Swamp	CODE: 29-5-1
INCLUSION:	CODE:
COMPLEX:	CODE:

Evidence of Disturbance / Notes:

- 90% leaf cover
- Small pooling areas throughout
- Primarily fern + moss ground cover

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Niagara	POLYGON: 29-5	
	SURVEYOR(S): Leana + Kospilack	DATE: 4 Oct 2011	UTME:
			UTMZ:
			UTMN:

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	
BA Ash	A					Sep fern					A
SW Maple	R					Sp. wd fern					R
Yel Birch	O					Mosses					O
R. maple	O					Vit Rzn					A
Am Elm	R					Vit Crap					R
Sp. shrub						Litsa					R
Sp. shrub						As. tivalis					O

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:

1160950269

Project Name:

Niagara

Date:

4 Oct 2011

Field Personnel:

Leah + Kristi Jack

Weather Conditions:

TEMP (°C):

18

WIND:

1

CLOUD:

50

PPT:

n/a

PPT (in last 24 hrs):

n/a

ELC Polygon: #29-5 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)

Am Toad.

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

SE 494; Tile 29; Poly 29-6

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara wind</u>	POLYGON: <u>29-6</u>
	SURVEYOR(S): <u>CL + NL</u>	DATE: <u>4 Oct 2011</u>
	START:	END:
	UTMZ:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FOR	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
☐ OPEN WATER			☐ COVER	☐ ALVAR	☐ PRAIRIE
☐ SHALLOW WATER			☐ OPEN	☐ ROCKLAND	☐ THICKET
☐ SURFICIAL DEP.			☐ SHRUB	☐ BEACH / BAR	☐ SAVANNAH
☐ BEDROCK			☒ TREED	☐ 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	1		R. maple > Yel Birch > Blk Ash
2 SUB-CANOPY	2		
3 UNDERSTOREY	3-4		
4 GRD. LAYER	5-7		Sens Feln > mosses > Sp. wtd Feln > 70% 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≤50% 4=CVR>50%

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: <u>loam</u>	DEPTH TO MOTTLES/GLEY: <u>g=</u>	G=
MOISTURE: <u>loam</u>	DEPTH OF ORGANICS: <u>10 inch</u>	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK: <u>>20cm</u>	(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE:	CODE:
<u>Yel Birch-Red Maple Min Dec. Spruce</u>	<u>SWD 4-5</u>
INCLUSION	CODE:
COMPLEX	CODE:
<u>B. Ash Min. Deciduous Spruce</u>	<u>SWD 2-1</u>

Evidence of Disturbance / Notes:

Water table ~ 75 inches
- Community reflects a series of poly 29-5 (SWD 2-1) throughout; dominant canopy cover changes to Black Ash dominant in small spread out complexes

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara</u>	POLYGON: <u>29-6</u>
	SURVEYOR(S): <u>LEWA + Kordijack</u>	DATE: <u>4 Oct 2011</u>
	START:	END:
	UTMZ:	UTMN:

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	
R. maple	A					Sens Feln					O
Yel. Birch	O/A					Sp. wtd Feln					R
Blk. Ash	O					Oct. Feln					R
Shag Hick	R					Mushrooms					O
Wh. Elm	R					Mosses					R
Red Oak											
Silv. Maple											

Page ____ of ____
Signature: _____

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature: _____

(Project Manager)



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Canada N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number:

160950269

Project Name:

Niagara Wild

Date:

4 Oct 2011

Field Personnel:

Leah + Kipjackson

Weather Conditions:

TEMP (°C):

18

WIND:

1

CLOUD:

50

PPT:

nil

PPT (in last 24 hrs):

nil

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)

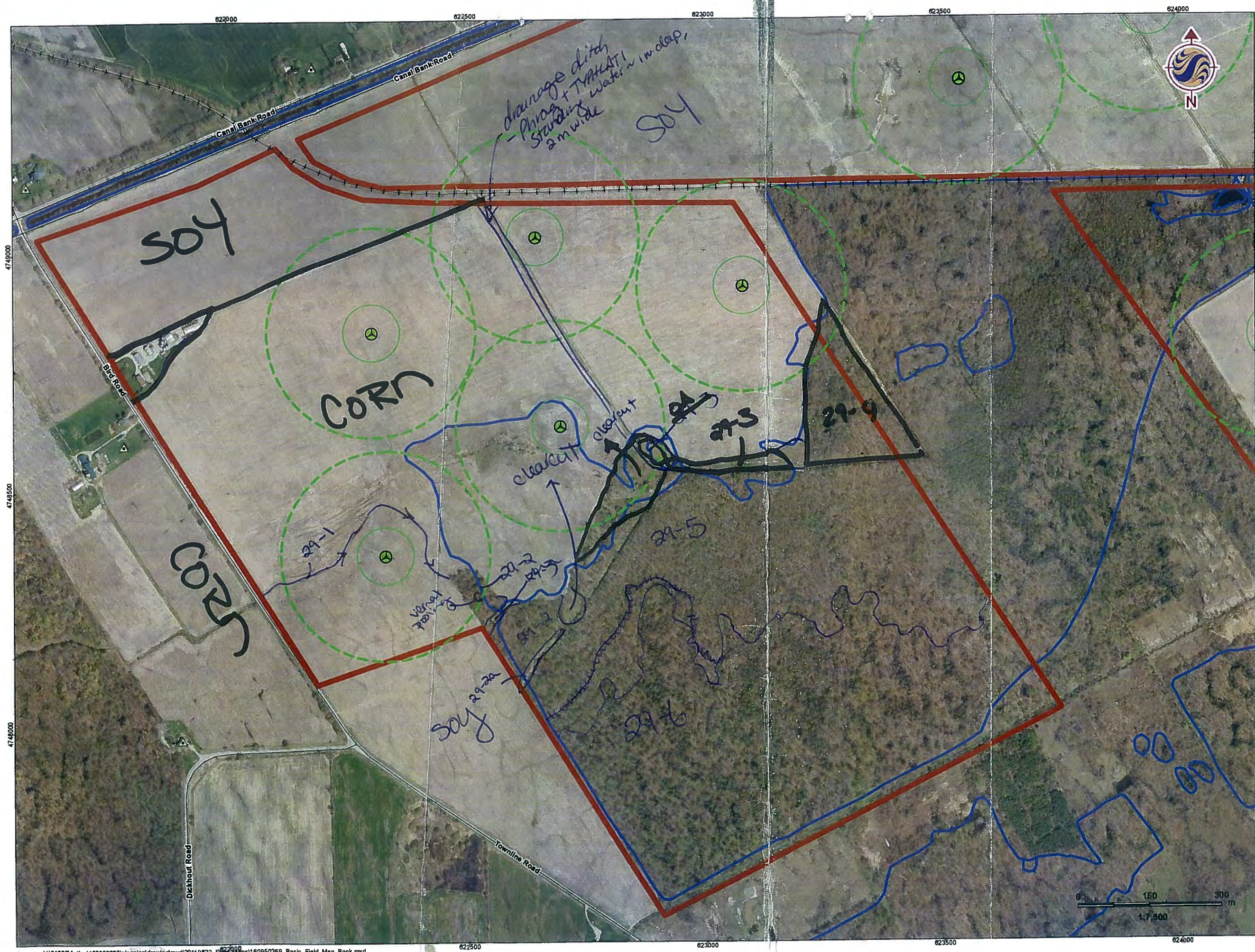
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

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

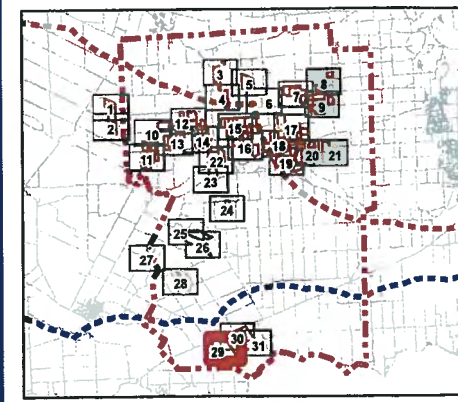
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)

- small areas of pocket pooling throughout community.
↓
vernal pooling (no GPS location due to GPS not working).

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



- ### 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
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-29

Title
Field Map 29

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: NNRC		POLYGON: 31-1	
	SURVEYOR(S): NAL & CLK		DATE: Oct 4, 2011	
	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	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND	☐ OPEN		☐ THICKET
		☐ BEACH / BAR	☐ SHRUB		☐ SAVANNAH
		☐ SAND DUNE	☒ TREED		☒ 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	1	2	Cottonwood
2	SUB-CANOPY	2-3	3	ACEFEE >> COTTONWOOD
3	UNDERSTOREY	4	3	ACEFEE > SCLCANA
4	GRD. LAYER	5-7	4	

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:	☒ A	<10	☒ R	10 - 24	☒ O	25 - 50	☒ A	>50
STANDING SNAGS:	☒ R	<10	☒ R	10 - 24	☒ R	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			

SOIL ANALYSIS:

TEXTURE: <i>Clay Loam</i>	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE: <i>U4-5</i>	DEPTH OF ORGANICS:	<i>22.8</i>	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	<i>>120</i>	(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:	CODE:
COMMUNITY SERIES:	CODE:
ECOSITE:	CODE:
VEGETATION TYPE: <i>freeman Maple Cultural woodland type</i>	CODE: <i>CuW1-3*</i>
INCLUSION	CODE: <i>MAM 2-6</i>
COMPLEX	CODE:

Evidence of Disturbance / Notes:

Pies 768 - Community is fragmented (<10m road) from "FOD" community.
 768 NAM. - Cottonwood borders road & field along west & south borders - area cleared & new new regrowth.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON: 31-1
	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)



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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 4, 2011

Field Personnel: N. Leava

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>50-100</u>	<u>Ø</u>	<u>Rain</u>

ELC Polygon: # 31-1 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)

-AMCR

SE 49-6; Tile 31; Poly 31-2

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>NRWC</u>		POLYGON: <u>3rd</u>	
	SURVEYOR(S): <u>NAL + CKK</u>		DATE: <u>Oct 4, 2011</u>	
	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	☐ SWMAP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ 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	3	SPICE BUSH
3	UNDERSTOREY	4	3	SOLICANA > Red Oxier = T.W. Aster = SPICE BUSH
4	GRD. LAYER	5-7	3	T.W. Aster

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	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	Y 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 Osier Dogwood Cultural Thicket		CODE: CUT.1-7*
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: NRWCDate: Oct 4, 2011Field Personnel: N. Leava

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>50-100</u>	<u>Ø</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?

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: NWRC		POLYGON: 31-3	
	SURVEYOR(S): OKKENAL		DATE: Oct 4-2011	
	START:	END:	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
☒ SURFICIAL DEP.					☒ PLANTATION
☐ BEDROCK					

STAND DESCRIPTION:

LAYER		HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	ACESACC > FRAPENS > QUERUBR > ALESAC > FRAPENS > ALE RUBR
2	SUB-CANOPY	2	3	SPUBUSH > ACESACC > FRAPENS
3	UNDERSTOREY	3	4	SPUBUSH > ACESACC > FRAPENS
4	GRD. LAYER	4.7	4	SPUSFRN > T.W. ASTER > SPUBUSH

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:		☐ 0	<10	☐ A	10 - 24	☐ 0	25 - 50	☐ R	>50		
STANDING SNAGS:		☐ R	<10	☐ R	10 - 24	☐ N	25 - 50	☐ N	>50		
DEADFALL/LOGS:		☐ 0	<10	☐ A	10 - 24	☐ 0	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: <u>Sandy Clay</u>	DEPTH TO MOTTLES/GLEY	g= <u>0</u>	G= <u>0</u>
MOISTURE: <u>56</u>	DEPTH OF ORGANICS:	<u>2 cm</u>	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	<u>> 128</u>	(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: <i>Silver Maple Mineral Dr. Swamp</i>		CODE: <i>SWD 3-2</i>
☐	INCLUSION	CODE:
☐	COMPLEX	CODE:

Evidence of Disturbance / Notes:

Evidence of Disturbance / Notes:
- small shed along road w small tank in it.

- Peeling throughout community; adjacent to large OA, & drainage ditch along border.

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:

Natalona
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

Form is complete ☒ & legible ☒

 (Project Manager)

**Stantec**

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

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269Project Name: NRWCDate: Oct 4, 2011Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>50-100</u>	<u>Ø</u>	<u>Rem.</u>

ELC Polygon: # 343 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)

- Chorus Frog
 - Spring Peepers
 - AMRO
 - AMCR

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



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 4, 2011

Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
	<u>10</u>	<u>1</u>	<u>50-100</u>	<u>Ø</u>	<u>Rain</u>

ELC Polygon: # 31-4 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)

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

Photo# 769.

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Niagara Wind</u>		POLYGON: <u>31-5</u>	
	SURVEYOR(S): <u>NALECK</u>		DATE: <u>Oct 5, 2011</u>	UTME:
	START:	END:	UTMZ:	UTMN:

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:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE:
	POLYGON: 31-5
	DATE:
	SURVEYOR(S):

[illegible]

Signature:

(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

(Project Manager)



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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 4, 2011

Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C): <u>10</u>	WIND: <u>1</u>	CLOUD: <u>50-100</u>	PPT: <u>0</u>	PPT (in last 24 hrs): <u>Rain</u>
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ELC Polygon: # 31-5 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)

--

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 AND CLASSIFICATION	SITE: NWRC		POLYGON: 3-6	
	SURVEYOR(S): NAL & CRR		DATE: Oct 6, 2011	
	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	☐ 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	1	4	ALF FREE > DIP PRUBR > PRUSERO = FRAN 1 GR
2 SUB-CANOPY	2	4	ALF FREE > ALER 1 BR > PRUSERO = FRAN 6 R
3 UNDERSTOREY	3-4	3	SPICE R SH >> ALER 1 BR
4 GRD. LAYER	5-7	2-3	SPICE FERN > SPICE R SH > SPIN WOOD

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:		0	<10	1	10 – 24	0	25 – 50	2	>50		
STANDING SNAGS:		2	<10	2	10 – 24	2	25 – 50	N	>50		
DEADFALL/LOGS:		1	<10	0	10 – 24	2	25 – 50	N	>50		
ABUNDANCE CODES:			N=NONE	R=RARE	O=OCCASIONAL	A=ABUNDANT					
COMM. AGE:		PIONEER	YOUNG	<input checked="" type="text" value="MID-AGE"/>	MATURE		OLD GROWTH				

SOIL ANALYSIS:

TEXTURE: <i>Cl / Loam</i>	DEPTH TO MOTTLES/GLEY	g= <i>/</i>	G= <i>/</i>
MOISTURE: <i>4</i>	DEPTH OF ORGANICS:	<i>2</i> 1 <i>< 1 cm</i>	(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:	<i>> 20</i>	(cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS:		CODE:
COMMUNITY SERIES:		CODE:
ECOSITE:		CODE:
VEGETATION TYPE: F-M Freeman - Red maple Lowland deciduous forest type.		CODE: FOD.7-6*
	INCLUSION	CODE:
	COMPLEX	CODE:

Evidence of Disturbance / Notes:

Mc #771 - open ground cover; bordered by small pool of water from adj. SWD

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:

Nata Kea
(Field Personnel)

Quality Control: This form is complete ☒ & legible ☒

Signature:

This form is complete ☒ & legible ☒

[Signature]
(Project Manager)



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Canada N1G 4P5
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Stantec

Woodland & Wildlife Habitat Assessment Form

Project Number: 160950269

Project Name: NRWC

Date: Oct 4, 2011

Field Personnel: N. Leaver

Weather Conditions:	TEMP (°C): <u>10</u>	WIND: <u>1</u>	CLOUD: <u>50-100</u>	PPT: <u>0</u>	PPT (in last 24 hrs): <u>Ran</u>
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ELC Polygon: #31-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)

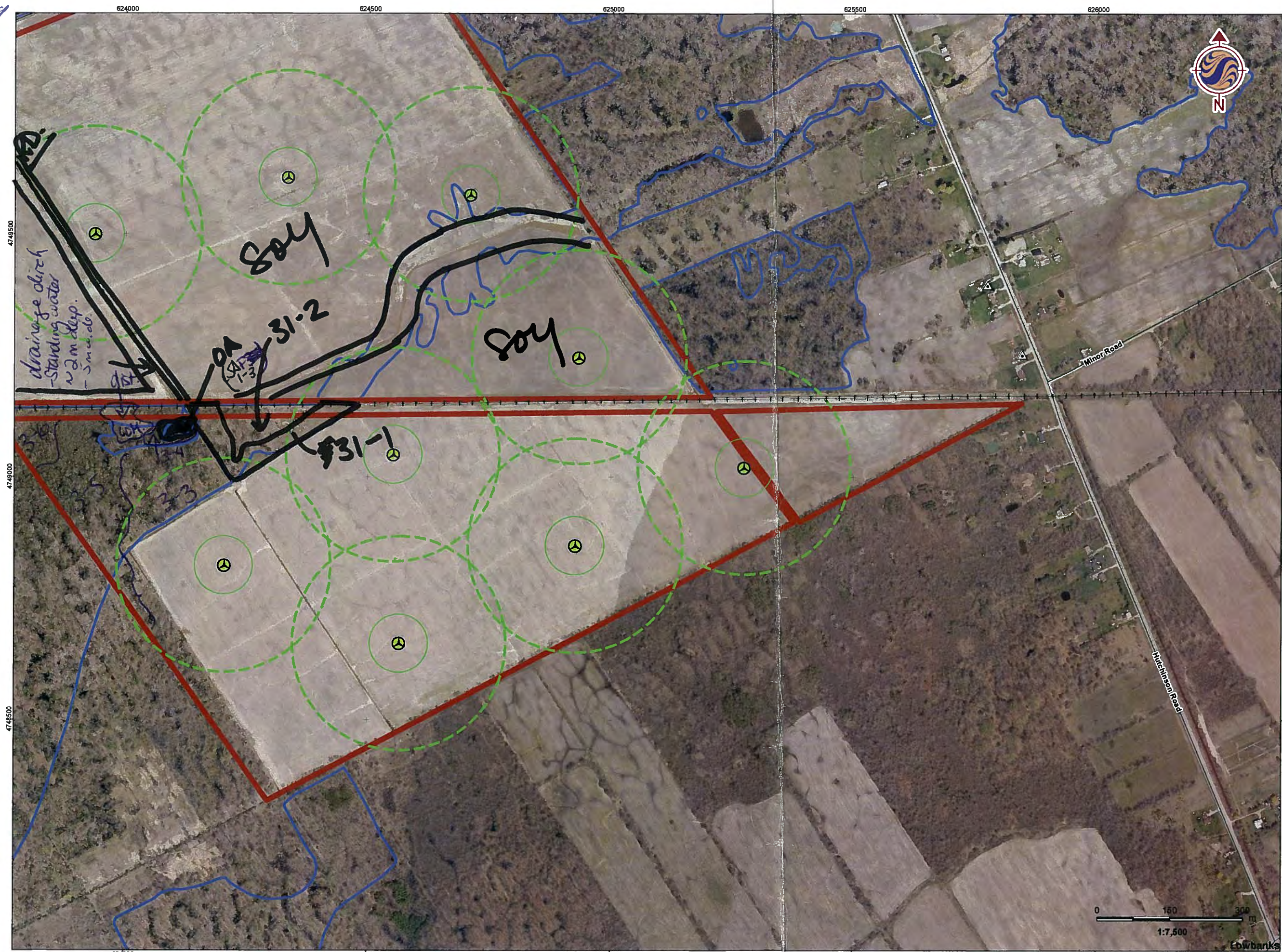
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

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)

-RWBL - BUCH - crickets
-HOLA - Sparrow sp. - woodfrogs
-CAGO - deer tracks - AMRO
-BJA - Raccoon tracks

CA=carcass; DP=distinctive pair; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; 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
- 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-31

Title
Field Map 31