APPENDIX XI. PUBLIC CONSULTATION MATERIALS

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

PO Box 130 Port Hood, NS B0E 2W0
Phone: 902 945 2300
Fax: 902 945 2087
Email: martha@celticcurrent.ca

June 01, 2016

To: The residents of New Victoria and surrounding areas.

RE: Public Meeting June 9th 6-8pm
New Waterford Community Center
Victoria Ave, New Waterford, NS B1H 4K4

Celtic Current LP was formed in 2011 when the Nova Scotia Government introduced the **COMFIT** (Community Feed In Tariff) program. As a small developer, we have successfully energized Projects in Cheticamp, Mulgrave, Bateston, and Point Aconi NS during 2015. In combination, these projects are currently producing a total of 6.5MW of renewable wind energy to Nova Scotian's. The energy produced is being sold to Nova Scotia Power through local distribution lines. Zutphen Wind (a minority partner in Celtic Current) managed the developments and construction of each project.

Celtic Current has COMFIT approval from Nova Scotia Department of Energy for an additional site located in New Victoria, NS which will produce 2.3MW of wind energy. The project is in the preliminary stages of development.

On June 9th, a community meeting will be held to discuss the project and provide details relating to provincial environmental assessment activities currently underway. We would like to invite you to come learn about our development.

For more information, please contact the undersigned at martha@zutphen.ca or call 902 623 1924.

Hope to see you there!

Regards,

Martha Campbell

New Victoria Community Wind Project

June 09, 2016

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

	Print Name	Address	Phone Number	E-mail address
11	ALEX MACISAAC	3483 New WATERFORD HWY VICTORIA MINES	902-842-2931	AMACISAAC@seaside.NS.CA
12	MARJORIE Garneau	3504 New Victorie	902-8626563	MARJORIE.GARNEAU@hotmail.com
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CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

June 09, 2016

	Print Name	Address	Phone Number	E-mail address
131	Cheryl LeBlanc	150 Armada Drive Victoria Mines	9028622878	
132	Denis Nemis	348 Convent St New Waterford	9028622361	
133	ANNA CORMIER	21 DALEY Rd New Victoria	902-862-2767	CORMIERANNAMARIE@HOTMAIL.COM
134	MELVIN CORMIER	" "	" "	
135				
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CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

June 09, 2016

	Print Name	Address	Phone Number	E-mail address
141	Jim Sheppard	146 Lake Rd Victoria Mines	867-2671	
142	MARTIN MACPHEE	3 HANNAH STREET NEW VICTORIA	862-2925	MWMACPHEE@SEASIDE.NS.CA.
143	Kim Desreaux	60 daley Rd.	862-8055	desreaux.kim@gmail.com
144			217-2092.	
145				
146				
147				
148				
149				
150				

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

June 09, 2016

	Print Name	Address	Phone Number	E-mail address
121	Richard Dumais	3644 New Waterford Hwy	862-8341	R.dumais@seaside.ns.ca
122	Patricia Dumais	3644 New Waterford Hwy	862-8341	Patriciadumais@seaside.ns.ca
123	Lowell Cormier	3181 Muise Ave	862-3462	lowellcormier2@me.com
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CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

June 09, 2016

	Print Name	Address	Phone Number	E-mail address
1	MAYNARD BATES	8 DALEY ROAD	902-862-7485	mj bates@seaside.ns.ca
2	Tom + Irene Sampson	11 Sampson's Lane	902-862-8726	
3	Joe Burke	MacKesey Drive	902-371-4569	
4	Randa & Allen Chiasson	35 Rainey's Lane	902-862-9694	gAndrchiasson@NS.sympatico.ca
5	Ralph + Lee Langlois	180 Daley Rd	902-862-3010	leecampbell501@Hotmail.com.
6	Kevin + Jo-Ann Burke	3436 Hwy 28 Victoria Mines	862-2839	
7	KATANNYA KAYLER	50 GUY ST NEW VICTORIA	862-6070	
8	JACK MURPHY	3975 NW Hwy NEW VIC	862-6882	
9	TOM WHITE	4004 NEW VIC	862-8082	
10	MARIA + BRIAN LAMEY	32 DALEY Rd	962-2443	majorlamey@Gmail.com

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

June 09, 2016

	Print Name	Address	Phone Number	E-mail address
	GARNEAU BETTY	3504 NWH	867-6543	
111				
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CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: Betty Garneau MARGIE GARNeau	**Please provide your comments**
Address: 3504 NW 4	We have no complaints about the wind mill. Thank you for the great presentation.
Phone: 862 6563	
Email: MARJORIE.Garneau@Hotmail.com	**Additional Questions?** Please contact Martha at martha@celticcurrent.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: Patricia Dumais	**Please provide your comments**
Address: 3644 New Waterford Hwy	Great presentation! Thank You My only concern is the sound level. Would it be feasible to build turbine further up from the proposed areas?
Phone: 862-8341	
Email: Patriciadumais@seaside.ns.ca	**Additional Questions?** Please contact Martha at martha@celticcurrent.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: LEE Campbell	**Please provide your comments**
Address: 180 Daley Rd New Victoria	VERY very disappointed that these wind turbine are so close to our homes. This will diLectly lower our property value. ~~I think~~ IT should be placed farther away from homes. - My plan is to research every avenue to have this project moved.
Phone: 902-862-3010	
Email: leecampbell501@hotmail.com	**Additional Questions?** Please contact Martha at martha@celticcurrent.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY
WIND POWER PROJECT
OPEN HOUSE

Name:	**Please provide your comments**
MARTIN MACPHEE	I THINK THAT THIS PROJECT IS A GOOD THING FOR THE AREA. IT WILL HELP THE CARBON FOOTPRINT BY LOWERING OUR USE OF COAL.
Address: 3 HANNAH STREET NEW VICTORIA B1H5A8	
Phone: 902-862-2925	
Email: MWMACPHEE@SEASIDE.NS.CA	

Additional Questions? Please contact Martha at martha@celticcurrent.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

July 07, 2016

	Print Name	Address	Phone Number	E-mail address
1	LEE & Ralph Campbell		862-3010	leecampbell501@hotmail.com
2	Irene Hogan		862-2959	44 Waterfall Lake RD
3	John Hogan		=	— —
4	Albert Hogan		862-3532	
5	Pauline Hogan		862-3294	
6	George P. Muise		862-3607	
7	Duncan MacDonald		862-3162	
8	MARTIN MACPHEE		862-2925	
9	John McIntyre		862-8173	
10	Shauna Patchford		578-3512	

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

July 07, 2016

	Print Name	Address	Phone Number	E-mail address
11	Maria Lamey	32 Daley Rd	862-2443	
12	Brian Lamey	32 Daley Rd	862-2443	
13	Rit Burchell	14 Waterford Lake Rd	862 8456	
14	Mary McLeod	80 Daley Rd	862-8737	
15	Carmel McRury	78 Daley Rd	862-1513	
16	Betty Garneau	3504 NW Hl	862-6563	
17	Marjorie Garneau	3504 NW H	862-6563	
18	Francis P [illegible]	1057 Wallace rd.	862-7284	
19	Lowell Cormier	3181 Muise	862 3462	
20				

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

New Victoria Community Wind Project

July 07, 2016

	Print Name	Address	Phone Number	E-mail address
21	Antony Macrae	300 Esplanade	902 574 1707	ammacrae@cbrm.ns.ca
22	Joe Burke	Victoria Mines	902-371-4569	
23	DAN FRASER	LINGAN RD.	902 567-0622	
24	Carl Getto	New Waterford	902-862-9369	
25	Millie Getto	New Waterford	902-862-9369	
26	Kim Desveaux	New Victoria	902-217-2092.	desveaux.kim@gmail.com.
27	Carol Ann MacMaster	New Victoria	902-304-4175	rebeccasauntie@icloud.com
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29				
30				

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: Mary McLeod	**Please provide your comments**
Address: 80 Daley Rd New Victoria	• Noise • Flicker • Health issues?? • Sleep disruption • property value ✓
Phone: 862-8737	
Email: mmcleodc@msn.com	**Additional Questions?** Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY
WIND POWER PROJECT
OPEN HOUSE

Name:	**Please provide your comments**
Pauline Hogan	Please NO.
Address:	too much noise, etc.
126 Doyle Rd	just not in favour of it
Phone:	being in My Back Yard
902 862 3296	
Email:	

Additional Questions? Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY
WIND POWER PROJECT
OPEN HOUSE

Name: Carmel McRury	**Please provide your comments**
Address: 78 Daley Rd	We are not happy that this is being proposed so close to our home. We are very concerned that down the road more of these will be set up in the area. We are worried of noise & health concerns. We do not want it. My kitchen/living room is in direct sunlight and the flicker will impact us!
Phone: 962-1513	
Email: Carmel.mcrury@eganail.com	

Additional Questions? Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: CarolAnn MacMaster	**Please provide your comments**
Address: New Victoria	Would seriously want to have at least 1000 m from any watershed area. As well as far enough removed to not impact local landowners who were not consulted (Burke)
Phone: 902-304-4175	
Email: rebeccasauntie@icloud.com	

Additional Questions? Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY
WIND POWER PROJECT
OPEN HOUSE

Name: Alice Hogan	**Please provide your comments**
Address: 178 Daley Rd	I am not in favor of the wind turbine, Not in my back yard
Phone: 8623532	
Email:	**Additional Questions?** Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: Lowell Cormier **Address:** 3181 Muse Cove New Waterford B1H1K8 **Phone:** 902 862 3462 **Email:** lowellcormier2@me.com	**Please provide your comments** The residents are against this Project for noise + fluchi issues - One residents property which is was saving for his children + grandchildren To develop is as close as 100 Meters to the proposed turbine. His property is now useless. This should never happen in our Society. **Additional Questions?** Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

NEW VICTORIA COMMUNITY WIND POWER PROJECT OPEN HOUSE

Name: Lee Campbell	**Please provide your comments**
Address: 150 Daley Rd New Victoria	My opinion has not changed since last meeting. This turbine is definitely going to make a difference (negative) in our small community. This turbine needs to be placed in an area away from the homes. - This company did not look at available property away from all homes. They took the easy way out & what was convienent for them.
Phone: 862-3010	
Email: leecampbell501@hotmail.com.	**Additional Questions?** Please contact Peter at peter@zutphen.ca or call us at (902) 945-2300

WELCOME TO OUR PUBLIC OPEN HOUSE FOR THE NEW VICTORIA COMMUNITY WIND POWER PROJECT

Please sign in at the front desk and provide your contact information if you would like to receive further information and updates about the Project.

We invite you to walk around and look at the displays.

If you have any comments or questions please ask one of our representatives or fill out a comment card and we will be in touch!

Thank you for coming!

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

PROJECT DESCRIPTION

The Celtic Current Project, located in the community of New Victoria, Nova Scotia, a community based wind development project with COMFIT approval.

Project Infrastructure

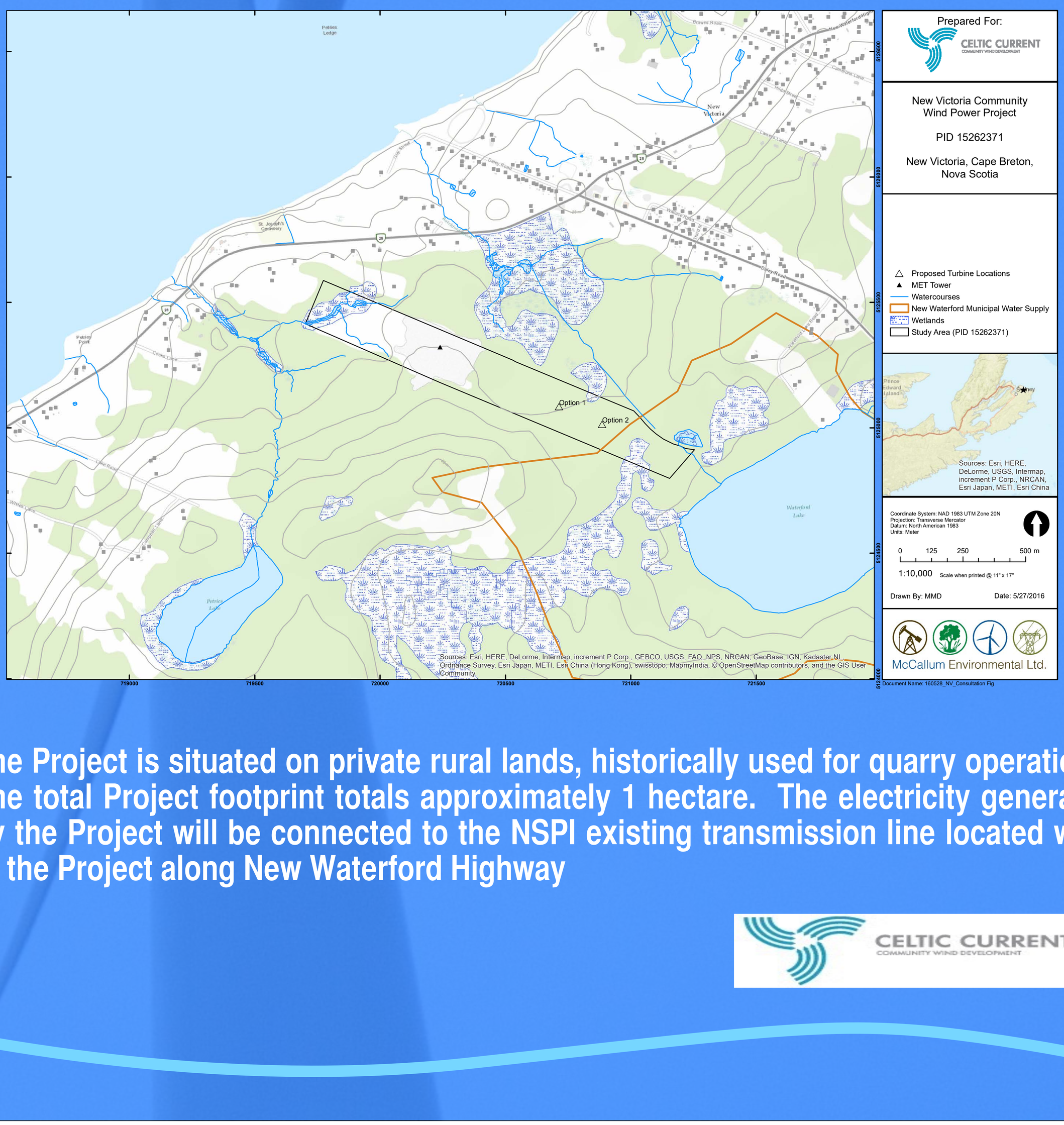
Number of Turbines: one
Turbine Model: Enercon-E92
Power output: 2.3 MW
Tower Height: 98 metres
Rotor Diameter: 92 metres
Infrastructure: Access Roads, temporary construction roads, and layout area

Project Schedule

Project Development Steps	Status
Environmental Studies	In progress
Public consultation	June 09, Open House and ongoing throughout the project to inform project design.
Environmental assessment registration	Early July 2016
Construction window	September 2016 - Spring 2017
Commencement of Operation	Spring 2017

PROJECT LOCATION AND DETAILS

The New Victoria Community Wind Project is situated in the community of New Victoria, Cape Breton County, Nova Scotia. The Project Area, located west of New Waterford Lake, consists of 29.64 hectares of privately owned land.



The Project is situated on private rural lands, historically used for quarry operations. The total Project footprint totals approximately 1 hectare. The electricity generated by the Project will be connected to the NSPI existing transmission line located west of the Project along New Waterford Highway

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

ENVIRONMENTAL CONSIDERATIONS

Wind power is a clean, renewable source of energy that is subject to provincial regulatory review by the Department of Environment under the Nova Scotia Environmental Assessment Act.

Environmental studies are in progress and have been conducted following the guidance from various agencies including the Nova Scotia Department of Natural Resources (DNR) and the Canadian Wildlife Service (CWS).

Findings of the environmental studies are considered and incorporated into the environmental assessment and final design of the Project. These studies focus on:

Wildlife – birds, bats and sensitive species

Vegetation – habitat mapping and listed plant studies

Wetlands – mapping and classification

Historical Resources – archaeological and cultural features

Visual Resources – changes to the viewscape

Predictive Sound Modelling – to meet regulatory requirements

Predictive Shadow Flicker Modelling – to meet regulatory requirements

First Nations Engagement – local Mi'kmq consultation

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

SOUND MODELLING

Wind energy projects must meet the Nova Scotia Department of Environment regulatory requirements for sound at a residence.

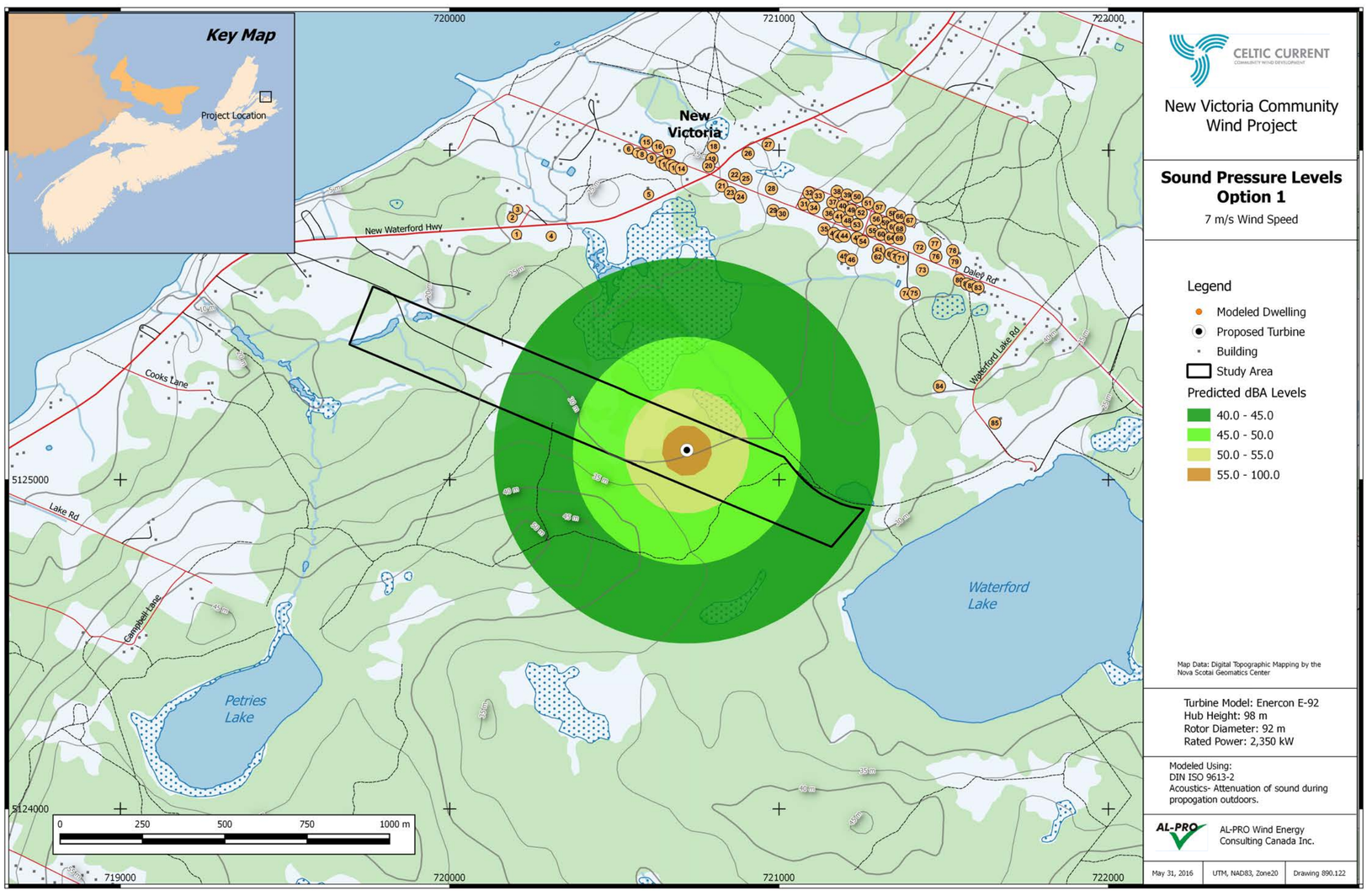
Detailed noise modelling is undertaken to ensure sound level requirements of 40 dBA (night time) are met at all residences.

The noise modelling takes into consideration:

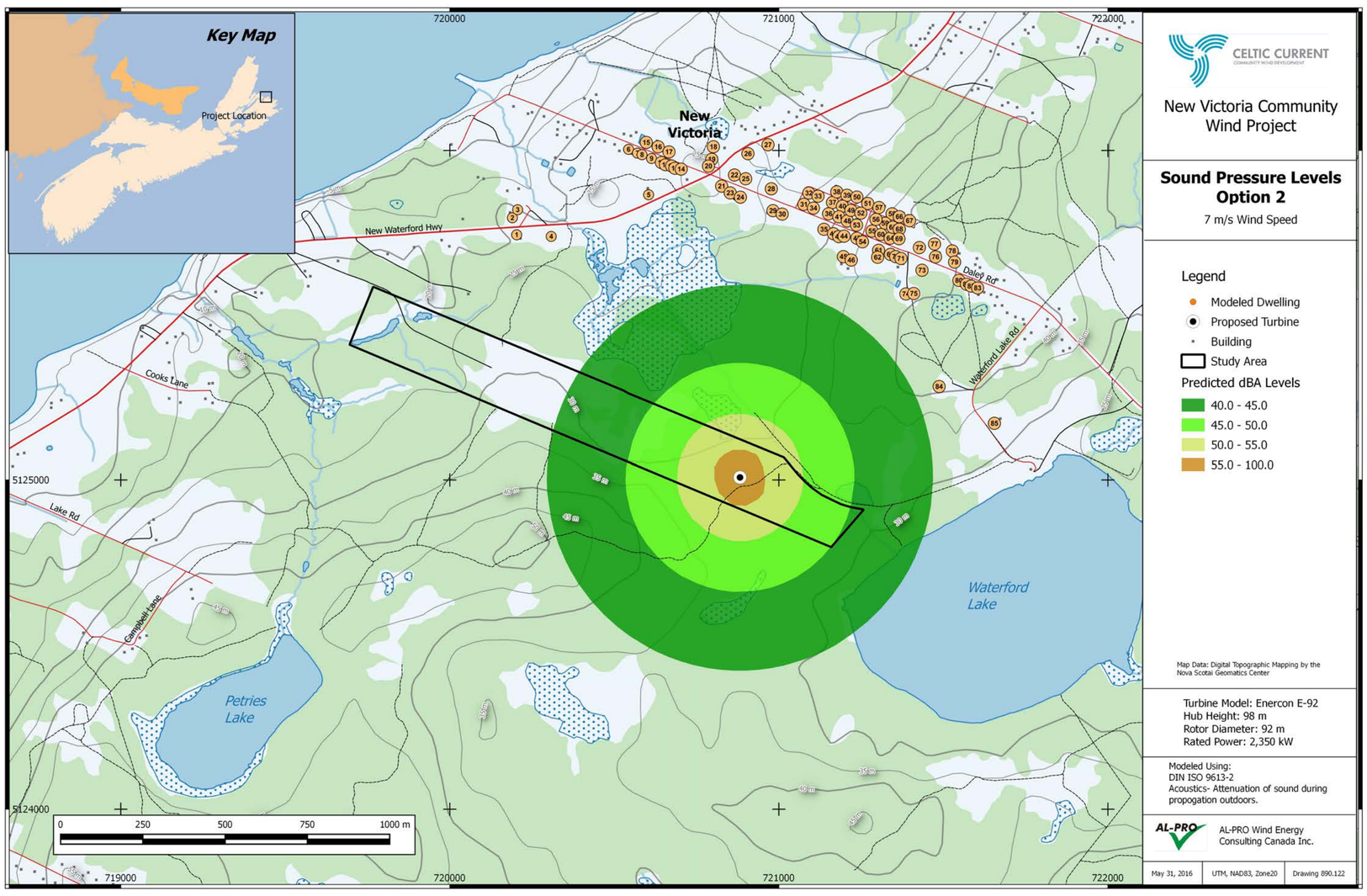
- Topography: hills and slopes
- Ground cover: trees, water, grass

Studies of the sound conditions at the New Victoria Community Wind Project are an important factor in selecting the turbine locations and final layout of the Project. Sound Modelling has been completed for both Turbine Option locations:

Turbine Option 1



Turbine Option 2



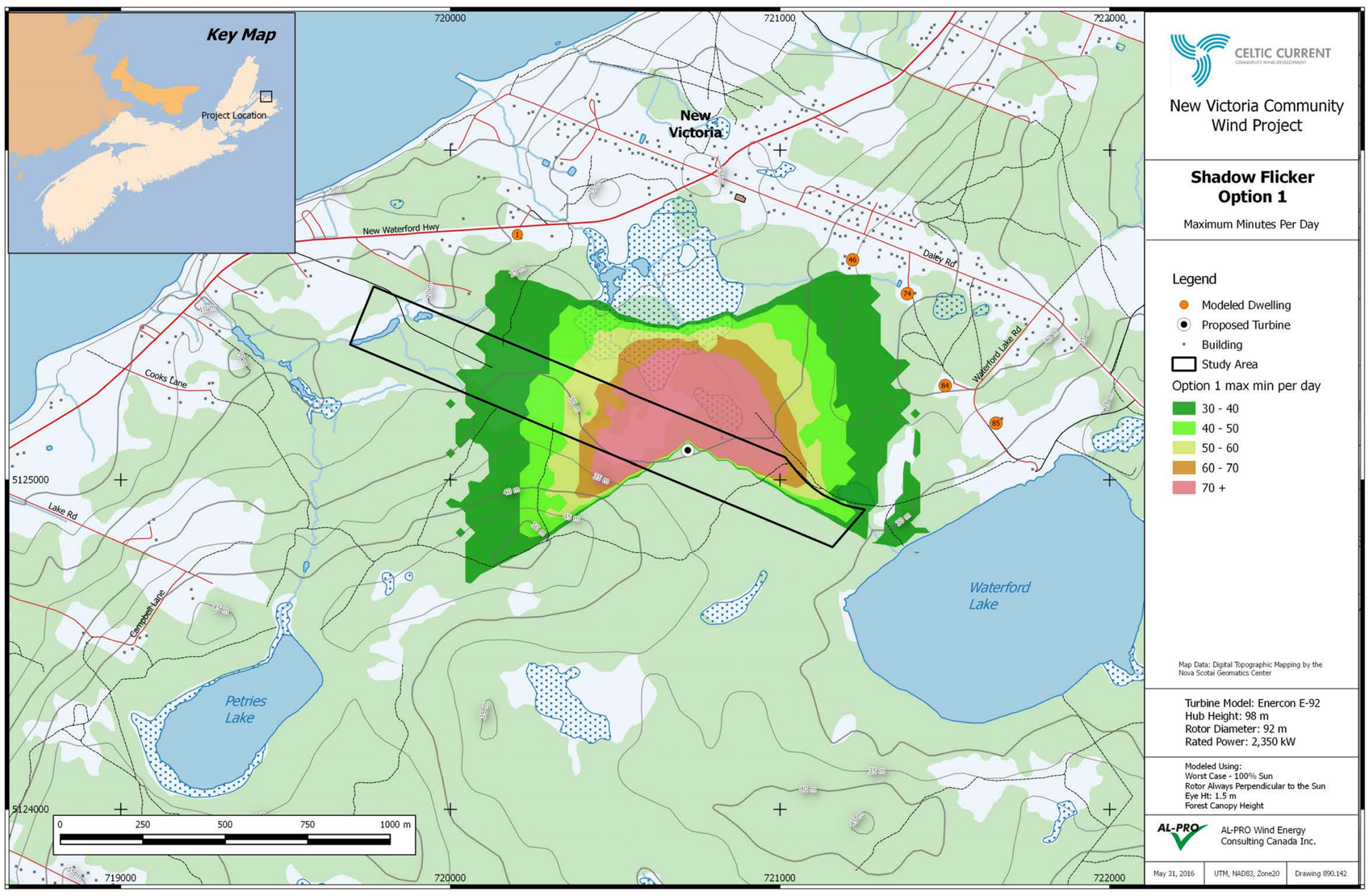
SHADOW FLICKER MODELLING

Shadow flicker is defined as the alternating light intensity produced by a wind turbine as the rotating blade casts shadows on the ground and stationary objects, such as the window of a residence. No flicker will occur when the turbines are not rotating or when the sun is obscured by clouds or fog.

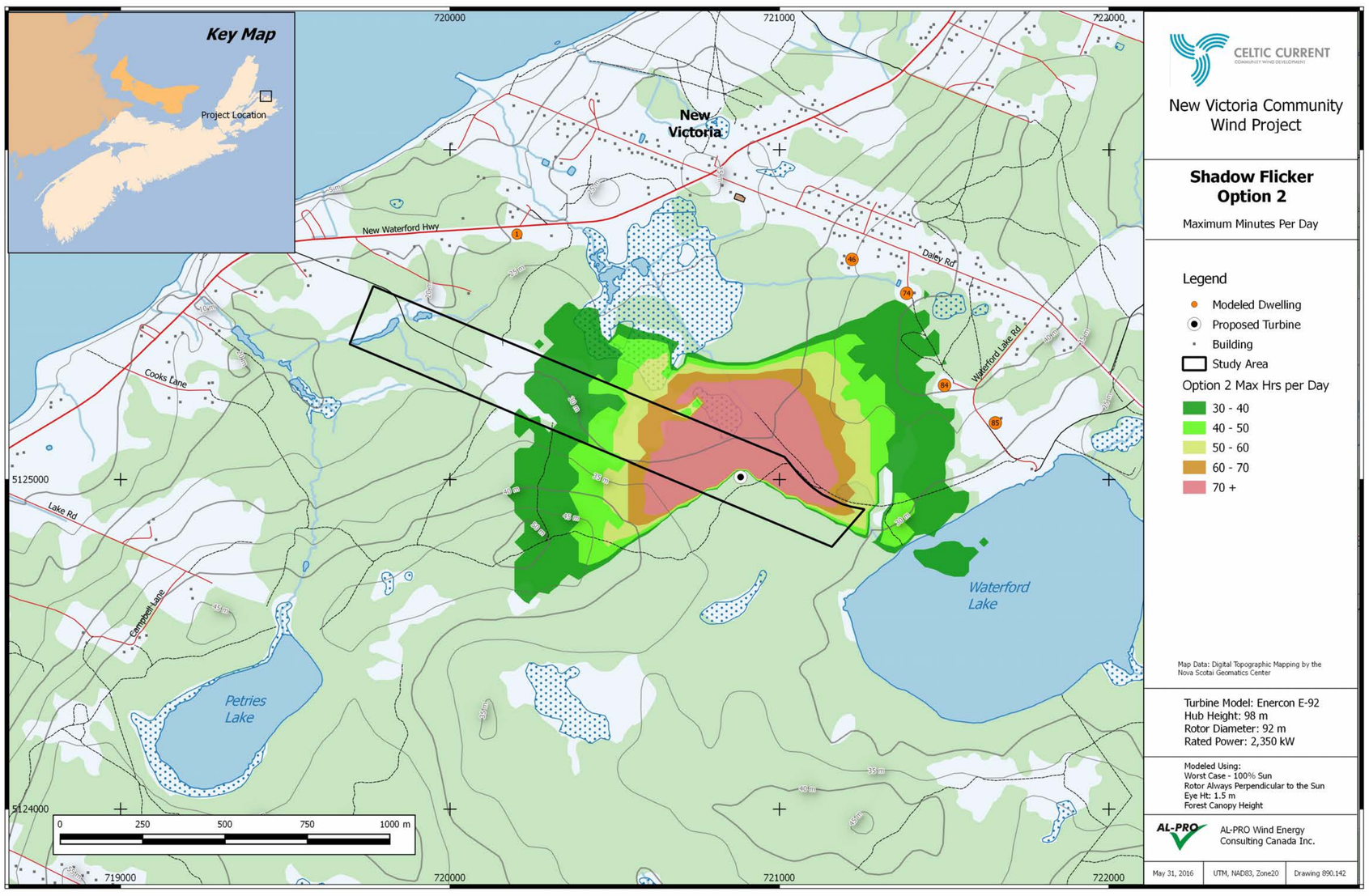
Wind energy projects must meet the Nova Scotia Department of Environment regulatory requirements for shadow flicker.

Shadow flicker modelling is undertaken to ensure requirements of 30 minutes maximum per day and 30 hours maximum per year are met at all residences. Shadow Flicker Modelling has been completed for both Turbine Option locations:

Turbine Option 1 - Maximum Minutes Per Day

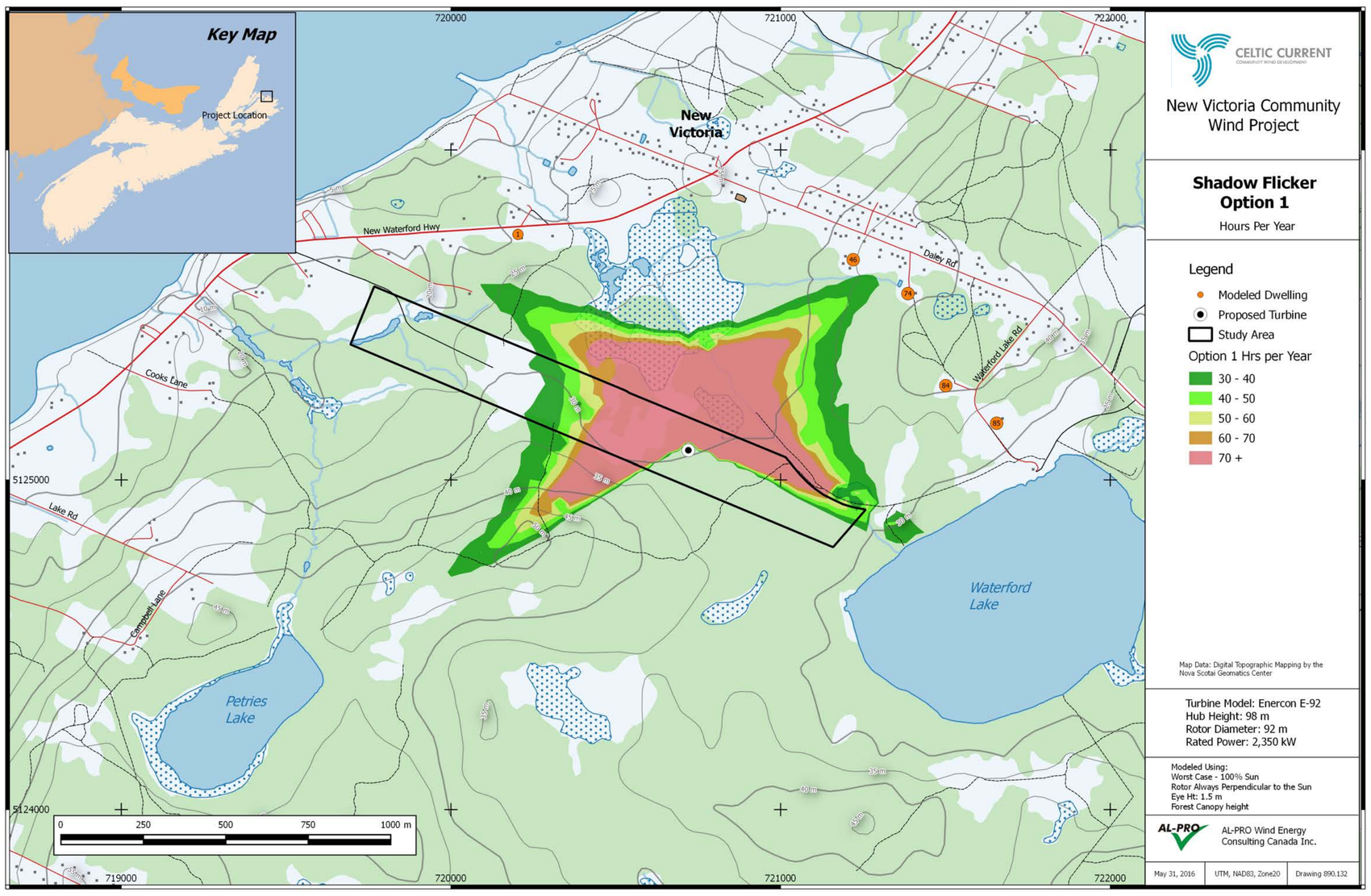


Turbine Option 2 - Maximum Minutes Per Day

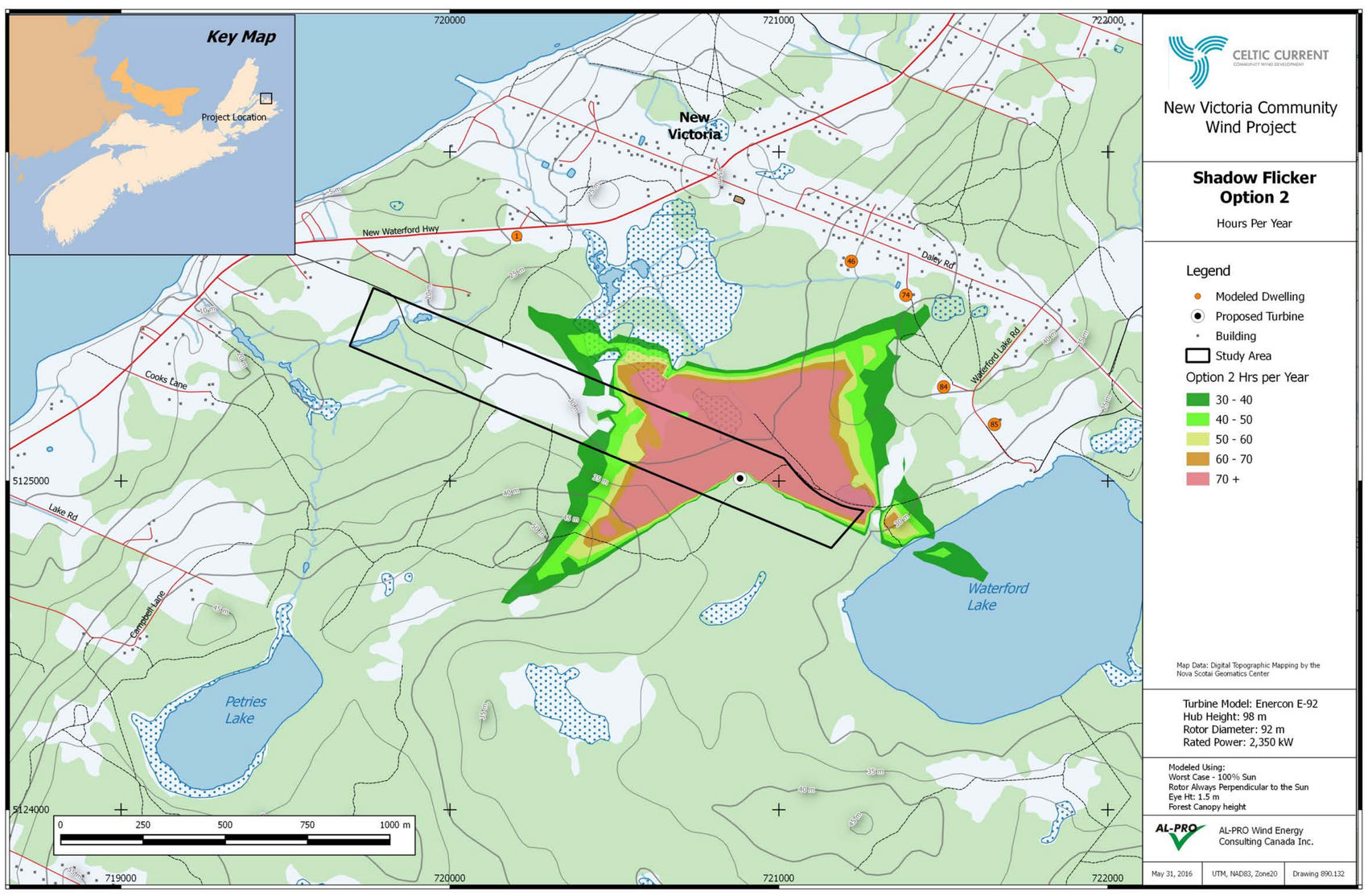


SHADOW FLICKER MODELLING

Turbine Option 1 - Maximum Hours Per Year



Turbine Option 2 - Maximum Hours Per Year



Source: Control Alt Energy LLC

SITING CONSIDERATIONS AND SETBACK REQUIREMENTS

The Project is designed to limit the placement of project components near or adjacent to specific features, while also meeting municipal and provincial/federal setbacks. As a result TWO turbine options are being considered for the Project and will be included in the Provincial EA process.

SPECIFIC FEATURES

Environmental Features – wildlife features such as raptor nests, and habitat such as wetlands and watercourses.

Residential Dwellings – municipal bylaws require setbacks from residential dwellings.

Sound Receptors – sound level limits, set by Nova Scotia Department of Environment, must not be exceeded at receptors (i.e. residences) within the project region.

Existing Infrastructure – avoidance of existing infrastructure, such as communication towers, radio and telecommunication frequency (beam) pathways, may be necessary.

SETBACKS

CAPE BRETON REGIONAL MUNICIPALITY

The requirements for development are outlined in the Cape Breton Municipality Land Use By-Law, include:

- The minimum separation distance for the location of the wind turbine model being used and a habitable building on a neighbouring property is 244 m (800 feet). Celtic Current has been able to meet a 740 m setback from the nearest residential property to Turbine Option 1, and a 669 m setback from the nearest residential property to Turbine Option 2.

- The proponent has been able to meet a 265 m setback from the New Waterford municipal Surface Water Boundary from Turbine Option 1, and a 85 m setback from Turbine Option 2.

PROVINCIAL / FEDERAL

- Minimum setback from a residence is 550 metres and where the sound from the turbines is less than 40 dBA as per the Nova Scotia Department of Environment requirements.

- Setbacks from radio, telecommunications, radar and seismoacoustic systems is determined, based on a review of the Project, by the appropriate regulatory agencies.

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

THANK YOU
for attending our
Public Open House

Please take the time to fill out a comment card and tell us what you think of wind energy in this area.

If you have any additional questions that were not answered here, or if you have further comments or information, please include them on the comment card and provide us with your name and contact information.

We would very much appreciate your comments by June 30, 2016.

Thanks again for coming!

For more information on Celtic Current and the New Victoria Community Wind Project, please visit:

www.celticcurrent.ca

or for more information requests, please contact us at
Martha@celticcurrent.ca

CELTIC CURRENT
COMMUNITY WIND DEVELOPMENT

Subject: New Victoria Q and A
Date: Tuesday, June 14, 2016 at 12:48:03 PM Atlantic Daylight Time
To: frasercommunitypress@gmail.com
CC: Meghan Milloy, Peter Archibald

Hi Jeremy,

Please see answers to your questions re New Victoria below.

Thanks,

Andy.

Q1: An information session was held on Thursday in New Waterford for this project. What were your overall thoughts on the public turnout?

Twenty Eight people signed up at the information session, but we believe approximately forty people were in attendance which we feel is very positive for a small community. The proponent and McCalllum Environmental Ltd. have been in attendance at multiple information sessions for other wind power projects of varying sizes throughout the province over the last five years or so, and this information session was one of the highest attendances we have encountered for a small scale project (i.e. one turbine).

Q2: Tell me the full details about this project in New Victoria. The more information about the project the better for this story.

Celtic Current LP (Celtic Current) intends to construct and operate a community wind power project with 2.3 MW of total capacity. As legislated in the 2010 amendments to the *Electricity Act,* Nova Scotia will produce 25% of total electricity from renewable energy by 2015. To enable the province to achieve this goal, a minimum of 100 MWs will be procured through the Community Feed in Tariff (COMFIT) program administered by the Nova Scotia Department of Energy. The Nova Scotia Community Feed-In Tariff, or COMFIT, is designed for locally-based renewable electricity projects. To be eligible, the projects must be community-owned and connected at the distribution level (i.e., typically under 6 MW). This Project is being developed in response to this government initiative, and has received COMFIT approval under this program from the Nova Scotia Department of Energy.

Q3: The project would see a wind turbine in the New Victoria community. In the New Waterford and surrounding area, there are already 11 wind turbines (eight in the New Waterford, Hinchey Avenue area and three in Gardiner Miners area). What made Celtic Current LP interested in putting one in the New Victoria community?

Each COMFIT project must be connected to the Nova Scotia Power grid at the distribution level. Capacity on the distribution lines is variable across the province. During the design and planning phase of this program province-wide, community wind projects were earmarked for locations across the province where capacity was present at the distribution level, including the New Victoria location.

Q4: What makes the New Victoria community an ideal place for the a wind turbine?

The proposed location for this community wind project has a quality wind resource. The site is near the three phase distribution system and has a partially constructed access road and gravel pit area which is already cleared and disturbed. Habitat quality is not high, and the location does not support rare plants or animals. There is no concentration of migratory birds through this local area, and no fish habitat was identified within the footprint of the access road or turbine. This turbine location meets all federal, provincial and municipal setbacks from residential

dwellings and modelling has confirmed acceptable sound levels and shadow flicker at nearby residences.

Q5: Where is the exact location for this wind turbine. Is it off Daley Road for is it off Highway 28?

One turbine is planned for the project, although two turbine siting locations are being considered and will be included as part of the Environmental Assessment process. The final turbine location will be within a property (PID15262371) located in between Highway 28 (New Waterford Highway) to the west, and Waterford Lake (east). The entrance to the property is via a gravel road opposite the parking lot to the Sydney Harbour Fortification Interpretive Park. The property consists of undeveloped land, although a active gravel quarry exists in the western third of it. Turbine Option 1 is proposed to be located approximately 1000 meters into the property, and approximately 1,440 meters from the New Waterford Highway (southeast). Turbine Option 2 is located approximately 180 meters further southeast from Turbine Option 1 toward Waterford Lake. Daley Road exists approximately 700 meters northeast of the proposed turbine locations.

Q6: The proposed wind turbine is 740 feet away from the nearest residential home. Although that meets the standards, will the group be taking into consideration the feedback on this from residents of the area who have concerns?

Two turbine option locations are being considered for the Project. The nearest house is 740 meters away from the preferred Turbine Option 1. The nearest house is 669 metres from the proposed Turbine Option 2 location but this is not Celtic Current's preferred option. Both turbine locations meet all provincial recommended setbacks from a residence and also comply with provincial thresholds for sound and shadow flicker. Public feedback and input into the project will form a component of the environmental assessment registration document for submission to Nova Scotia Environment.

Q7: Of course providing clean energy is a benefit, but what type of benefits does this wind turbine have for residents of the New Victoria area?

The benefits include new municipal tax revenue to support community services and infrastructure, provides additional income to the landowner, and provides an opportunity to the local residents to invest directly in the project. Additionally, all community wind projects, including the proposed New Victoria wind turbine, support the Nova Scotian initiative of a shift to renewable sources of energy from reliance on fossil fuels, especially coal.

Q8: Who did the company by the land from for this project?

Celtic Current leases the property from a private land owner.

Q9: It's been said that there are only plans for one wind turbine in the New Victoria area. Can you confirm that there are no plans to expand once the first turbine is placed in New Victoria?

Celtic Current confirms there are no plans to expand the project.

Q10: In the proposed location, it's close to an ATV pathway. With this project going up, will another pathway be build to compensate the one that will be lost?

Should Turbine Option 2 be chosen, the ATV pathway will be interrupted by the construction of the turbine pad. Celtic Current LP will re-align and construct a section of the trail necessary to replace that lost by the turbine pad if necessary.

Q11: With this wind turbine in the New Victoria area, will home owners lose property value because of this?

The effect of wind power projects on local property values has not been studied in Nova Scotia. That being said, some studies have been completed in Ontario and the U.S. and appear to suggest that loss of property values does not occur.

A study was completed by the University of Guelph between 2002 and 2010 where 133 turbines were erected between 2005 and 2008 and over 1000 properties were sold during that time period within the local townships surrounding them. The result of the study indicated that wind turbines generally have little effect on the value of nearby properties with possibly isolated exceptions. Prior to 2013, the most comprehensive study on the impact of wind farms on property values had been completed by Hoen *et al.* (2009) entitled "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis". This research analyzed data on nearly 7,500 sales of single family homes situated within 10 miles (16 km) of 24 existing wind farms in the United States. The results did not indicate that property values for houses located within 10 miles of wind farms are influenced by the developments. Subsequent research by the same laboratory but employing further analyses confirmed these results.

Conversely a study by Hinman (2010) entitled "Wind Farm Proximity and Property Values" tracked property transactions in communities located close to a 240- turbine wind farm for an eight year period that spanned pre-development and operation stages. Hinman (2010) found that before project approval, property values in the area decreased. This was attributed to a fear of the unknown effects that the development would have; an effect known as anticipation stigma. However, once the development became operational, property values recovered. This recovery was attributed to a greater understanding of the operational effects of the development.

Although evidence presented in the studies points to the conclusion that property values are unaffected as a result of wind power projects, the data obtained relates only to the specific geographical location to which the study was based. To our knowledge, studies of this nature have not been completed in Nova Scotia to date, therefore it is difficult to predict the potential affect the project will have on land values in New Victoria.

Q12: For residents who did not attend the open house on Thursday, how can they voice their opinion about this project?

Residents can contact the proponent of the project (Celtic Current) via the following methods:

Email: martha@zutphen.ca

or call 902 623 1924.

In addition, once registered, comments can be submitted as part of the Environmental Assessment process in writing to the Environmental Assessment Branch Nova Scotia Environment P.O. Box 442, Halifax, Nova Scotia B3J 2P8. Two public viewing locations will be made available for the public to review the Environmental Assessment document. These locations will be confirmed in the coming weeks and communicated to the public by way of a newspaper notice.

Q13: It was mentioned that another meeting has to take place regarding this project. Can you please tell me when and where this meeting will be. Will it be another open house presentation or will it be a meeting, etc.

A second community consultation session will be held to provide a further update on the progress of the proposed wind turbine development. The timing and location have yet to be determined but will be announced in the near future. In the meantime additional information can be obtained by contacting the proponent for the project.

Q1: What is McCallum Environmental Ltd's part in this project. Explain.

McCallum Environmental Ltd. (MEL) has been hired by Celtic Current LP to complete the biological studies,

project manage the technical studies and the provincial environmental assessment process, and report on the findings for submission of the environmental assessment registration document to Nova Scotia Environment.

Q2: How long have you been the vice president of the company?
I have been the Vice President of McCallum Environmental Ltd. since 2013.

Q3: When did the company begin business?
2001

Q4: Are you located out of Bedford, N.S.?
Yes

Q5: Explain the Environmental assessment registration is early July
[Jeremy, I am not sure I fully understand this question.] We will be registering the environmental assessment document with Nova Scotia Environment in July 2016.

Q6: Can you confirm, the project, if given the OK, would begin in September and run until Spring 2017 with operation of the wind turbine beginning is Spring 2017?
Yes, that is the proposed schedule of activities.

Andy Walter
Senior Project Manager
McCallum Environmental Ltd.
andy@mccallumenvironmental.com
(902) 446-8252 (office)
(902) 441-2639 (cell)

New Victoria Community Wind Project: Record of Public Inquiries

Call Date	Caller Name	Phone No.	Email	Question	Proponent Response
6/Jun/16	Jason MacDonald	902-664-6367	jmacdonald@amherst.ca	Requested additional information about the location of the proposed site.	Call/Email
6/Jun/16	Kim Desveraux	902-862-8055	desveraux.kim@gmail.com	Requested additional information about the location of the proposed site, rotor diameter of proposed wind turbine and setback from residential homes.	Call/Email(s)
6/Jun/16	Peter Cameron	902-682-8317		Requested additional information related to the location of the proposed wind turbine.	Call
6/Jun/16	Philomena S.	902-565-3034	philomenas@gmail.com	Requested additional information about the location of the proposed site.	Call/Email
6/Jun/16	Ralph Campbell	902-862-3010		Requested additional information related to the location of the proposed wind turbine.	Call
7/Jun/16	Sean Beever	902-862-9788		Requested additional information related to the proposed location of the wind turbine.	Call
8/Jun/16	Brenda MacIntyre	780-405-0816	brendami@shaw.ca	Requested additional information with respect to the potental impact on health and symptoms related to "wind turbine syndrome" as well as impact on avian life.	Email
8/Jun/16	Katannya Kayler	902-862-6070	katannya@ns.sympatico.ca	Requested additional information about the location of the proposed site.	Call/Email
21/Jun/16	Jessica Klein	902-217-7883	japk.imagines@gmail.com	Requested additional information related to: proposed project site, construction timeline, noise level of wind turbine, protection of wetlands and wildlife, fencing around the project, approval process,	Call/Email(s)

Peter Archibald <peter@zutphen.ca>

Re: New Victoria Wind Project

1 message

Jason MacDonald <JMacDonald@amherst.ca> Mon, Jun 6, 2016 at 7:18 PM
To: Peter Archibald <peter@zutphen.ca>

Thank you for the information Peter.

Jason MacDonald, LPP, MCIP
Director of Planning
Town of Amherst

On Jun 6, 2016, at 6:18 PM, Peter Archibald <peter@zutphen.ca> wrote:

> Hello Jason,
>
> I received a message to send along some additional information regarding the proposed wind project in New Victoria. Please find attached the location map of our proposed project. I have included a copy of the mail out as well.
>
> The proposed project will consist of a single wind turbine, an Enercon E92 2.3 MW machine with a 98 meter hub height. The project is to be located on private lands where there is an existing gravel pit, known locally as Sweeney's Pit. The entrance is located across from the War Memorial located on the New Waterford Highway.
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>
> If you have any additional questions or require any additional information, please do not hesitate to contact me directly at 902-631-4441 or via my email at peter@zutphen.ca.
>
> Kindest Regards,
>
> Peter Archibald, B.Eng., CSS
> Project Manager
> (902) 631-4441 direct
> (902) 945-2300 office
> (902) 945-2087 fax
>
> **Zutphen Contractors Inc. | Zutphen Wind Inc. | Celtic Current LP**
> 10442 Route 19
> Southwest Mabou, NS B0E 1X0
>
>
>
> <NV Site Map.pdf>
>
> <Public meeting mail out_FINAL.pdf>

Peter Archibald <peter@zutphen.ca>

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Peter Archibald <peter@zutphen.ca>

Re: New Victoria Wind Project

1 message

Kim Desveaux <desveaux.kim@gmail.com> Mon, Jun 6, 2016 at 7:38 PM
To: Peter Archibald <peter@zutphen.ca>

Thanks Peter,
I have concerns about the setback from residential homes. Is it not preferred to have a setback of at least 1000 m?
Thanks,
Kim

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>
>

Peter Archibald <peter@zutphen.ca>

New Victoria Wind Project

1 message

Peter Archibald <peter@zutphen.ca> Mon, Jun 6, 2016 at 6:09 PM
To: desveaux.kim@gmail.com
Bcc: Leonard Van zupten <leonard@zutphen.ca>, Martha Campbell <martha@zutphen.ca>

Hello Kim,

As discussed earlier today, please find attached the location map of our proposed project. I have included a copy of the mail out as well as I believe you mentioned that you had not received a copy.

The proposed project will consist of a single wind turbine, an Enercon E92 2.3 MW machine with a 98 meter hub height. The project is to be located on private lands where there is an existing gravel pit, known locally as Sweeney's Pit. The entrance is located across from the War Memorial located on the New Waterford Highway.

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If you have any additional questions or require any additional information, please do not hesitate to contact me directly at 902-631-4441 or via my email at peter@zutphen.ca.

Kindest Regards,

Peter.

Peter Archibald, B.Eng., CSS
Project Manager
(902) 631-4441 direct
(902) 945-2300 office
(902) 945-2087 fax

Zutphen Contractors Inc. | Zutphen Wind Inc. | Celtic Current LP
10442 Route 19
Southwest Mabou, NS B0E 1X0

2 attachments

NV Site Map.pdf
3697K

Public meeting mail out_FINAL.pdf
99K

Peter Archibald <peter@zutphen.ca>

New Victoria Wind Project

1 message

Peter Archibald <peter@zutphen.ca> Mon, Jun 6, 2016 at 6:14 PM
To: philomenas@gmail.com
Bcc: Martha Campbell <martha@zutphen.ca>, Leonard Van zupten <leonard@zutphen.ca>

Hello Philomenas,

As discussed earlier today, please find attached the location map of our proposed project. I have included a copy of the mail out as well as I believe you mentioned that you had not received a copy.

The proposed project will consist of a single wind turbine, an Enercon E92 2.3 MW machine with a 98 meter hub height. The project is to be located on private lands where there is an existing gravel pit, known locally as Sweeney's Pit. The entrance is located across from the War Memorial located on the New Waterford Highway.

The wind and environmental studies are in progress and detailed noise and shadow flicker modeling have been undertaken. The results will presented at the open house for public viewing.

As indicated in the mail out and the notice in the local paper, the Open House will be held at the New Waterford Community Center from 6 to 8 pm and we hope to see you there. If you are unable to attend, I would be happy to send along all the materials from the Open House for review.

If you have any additional questions or require any additional information, please do not hesitate to contact me directly at 902-631-4441 or via my email at peter@zutphen.ca.

Kindest Regards,

Peter Archibald, B.Eng., CSS
Project Manager
(902) 631-4441 direct
(902) 945-2300 office
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3697K

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99K

Peter Archibald <peter@zutphen.ca>

Re: New Victoria Wind Project

1 message

Kim Desveaux <desveaux.kim@gmail.com> Tue, Jun 7, 2016 at 1:04 PM
To: Peter Archibald <peter@zutphen.ca>

Hello again Peter,
What is the rotor diameter of the proposed turbine?
Thanks,
Kim

On Monday, June 6, 2016, Peter Archibald <peter@zutphen.ca> wrote:

> Hello Kim,
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>
>

Peter Archibald <peter@zutphen.ca>

New Victoria

1 message

Peter Archibald <peter@zutphen.ca> Wed, Jun 8, 2016 at 11:43 AM
To: katannya@ns.sympatico.ca

Good Morning Katannya,

It was nice speaking with you this morning. As discussed, please find attached the location map of our proposed project. I have included a copy of the mail out as well as I believe you may have not received a copy.

The proposed project will consist of a single wind turbine, an Enercon E92 2.3 MW machine with a 98 meter hub height. The project is to be located on private lands where there is an existing gravel pit, known locally as Sweeney's Pit. The entrance is located across from the War Memorial located on the New Waterford Highway.

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If you require any additional information, please contact me directly at 902-631-4441 or via email at peter@zutphen.ca.

Kind Regards,

Peter.

Peter Archibald, B.Eng., CSS
Project Manager
(902) 631-4441 direct
(902) 945-2300 office
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2 attachments

NV Site Map.pdf
3697K

Public meeting mail out_FINAL.pdf
99K

Peter Archibald <peter@zutphen.ca>

Re: New Victoria Wind Project

1 message

Peter Archibald <peter@zutphen.ca> Wed, Jun 8, 2016 at 5:55 AM
To: Kim Desveaux <desveaux.kim@gmail.com>
Bcc: Martha Campbell <martha@zutphen.ca>, Leonard Van zupten <leonard@zutphen.ca>

Good Morning Kim,

Detailed noise modeling has been undertaken (for both options presented) based the regulatory requirements of the Nova Scotia Department of Environment for sound at a residence and are an important factor in selecting the final turbine location. These results will be presented at the Open House. The consultant will be in attendance to answer any additional questions you may have. I look forward to meeting you there.

If you have any additional questions or require any additional information, please do not hesitate to contact me directly at 902-631-4441 or via my email at peter@zutphen.ca.

Kind Regards,

Peter.

Peter Archibald, B.Eng., CSS
Project Manager
(902) 631-4441 direct
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On Mon, Jun 6, 2016 at 7:38 PM, Kim Desveaux <desveaux.kim@gmail.com> wrote:

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> Thanks,
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Re: New Victoria Wind Project

1 message

Peter Archibald <peter@zutphen.ca> Wed, Jun 8, 2016 at 5:56 AM
To: Kim Desveaux <desveaux.kim@gmail.com>
Bcc: Martha Campbell <martha@zutphen.ca>, Leonard Van zupten <leonard@zutphen.ca>

Hello Kim,

The rotor diameter of the proposed wind turbine is 92 meters.

Kind Regards,

Peter.

Peter Archibald, B.Eng., CSS
Project Manager
(902) 631-4441 direct
(902) 945-2300 office
(902) 945-2087 fax

Zutphen Contractors Inc. | Zutphen Wind Inc. | Celtic Current LP
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On Tue, Jun 7, 2016 at 1:04 PM, Kim Desveaux <desveaux.kim@gmail.com> wrote:

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> What is the rotor diameter of the proposed turbine?
> Thanks,
> Kim
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Peter Archibald <peter@zutphen.ca>

Re: New Vic Wind Energy Project

1 message

Peter Archibald <peter@zutphen.ca> Thu, Jun 23, 2016 at 1:27 PM
To: Jessica Klein <japk.imagines@gmail.com>
Bcc: Martha Campbell <martha@zutphen.ca>, Leonard Van zupten <leonard@zutphen.ca>

Hello Jessica,

Thank you for your email. I apologize for the delay but I wanted our engineer to take the time to run the model for your specific location regarding sight-lines and noise. For modeling purposes, we assumed your residence was located at 3664 Hwy 28 (PID 15262546). Please correct me if I am mistaken and I will re-run the model. For convenience, I show the answers to your questions in red below:

The quarry is a little under 300 meters behind my house, I can hear the activity there from my backyard. I would be interested to know if the turbine would be in the view from my yard...its currently all forest, birds and sky. The locations you have indicated are about 1 km from my property. Besides that, my other concerns would be:

I asked our engineer to perform a sight-line analysis based upon the residence located at 3664 Hwy 28 (PID 15262546) and the results of the modeling suggest that the tower or hub's are not visible from the property with the existing forest in summer, leaf out condition. The blade tip heights for the eastern turbine position (Option 2) are obscured by the forest but the western turbine position (Option 1) blade tips would be visible from the house to the road (Hwy 28) but not in the backyard. I have attached the visual simulations that were presented at the open house for review.

1. What noise would there be on my property once the turbine is running?

In terms of sound levels, the expected maximum sound levels will be 37.2 dBA for the western turbine position (Option 1) and 35.2 dBA for the Eastern turbine position (Option 2). Nova Scotia Department of Environment requires a minimum setback of 550 meters and where the sound level is less than 40 dBA. I have attached the presentation boards that were used at the open house to help illustrate this as well as the other Federal and Provincial setback requirements.

2. How long would construction be going on?

Pending approval, road, site and foundation construction is anticipated to start in the fall around mid-September and completed the end of October. Erection of the turbine is tentatively scheduled for the month of November and commissioning in December 2016. It is possible that erection of the turbine may take place in the Spring of 2017. The schedule is tentative and dependent upon the timing of the approval, if given.

3. The wetland to the north is home to many many birds, both resident and migrating, as well as beavers, and there are also eagles and hawks regularly flying over the wetland - how would the wetland and wildlife be protected or accommodated?

No direct impacts to the off-site wetland is planned as part of the Project. The characteristics of the wetland will remain consistent to current conditions. Two small portions of up gradient wetland habitat will be altered for the proposed access road to the turbine, however a provincial permitting process is in place to ensure hydrological connectivity and source of water to the larger off-site wetland is maintained. Wildlife utilizing the wetland is therefore not expected to be affected by the installation of Project infrastructure.

Birds are at most risk from direct mortality as a result of collision with turbine blades, especially during migration periods, or in areas where large numbers of birds forage or roost. Bird surveys completed over the period of a year within the Project Area have not identified any significant bird use or activity within the Project Area itself (i.e. migration routes/foraging areas/breeding activity etc). That being said, adjacent land (including the wetland to the north of the Project Area) may provide specific bird habitat functions such as foraging or breeding areas. Although we do not anticipate a direct risk to the birds utilizing this off-site habitat, there is potential for sensory disturbances to these species as a result of the Project. Sensory disturbances can occur as a result of increased personnel on site, vehicle movement and construction equipment and of course the turbine itself. Quantifying actual impact (if any) is difficult due

to a general lack of research in this area. Due to the small size of the Project (one turbine), the construction period is anticipated to be short in duration which will reduce the potential sensory impact on the avian community.

As a condition of the EA the proponent must undertake post construction mortality monitoring for birds and bats. This involves searching for carcasses beneath turbines to better understand the potential impact on these populations. The monitoring occurs during the peak migration seasons (i.e. spring and fall), which is the most likely time period to which collisions can be expected. Should the findings of the monitoring suggest that the turbine is negatively impacting avian populations, NSDNR have the ability to require curtailments to turbine operation during specific avian activity windows.

4. I have often walked back across the gravel pit to access the trail system behind the quarry, would fencing be erected around the property?

No fencing will be erected around the property and there will be no impact or limitation to the trail system.

5. What is the approval process for this project? How will the public know what is happening, and how or where they might send or voice potential concerns?

Residents can contact the proponent of the project (Celtic Current) via the following methods:

Email: peter@zutphen.ca
or call 902 631-4441

A provincial Environmental Assessment will be registered in mid July for the Project. Once registered, comments can be submitted as part of the Environmental Assessment process in writing to the Environmental Assessment Branch Nova Scotia Environment P.O. Box 442, Halifax, Nova Scotia B3J 2P8. Two public viewing locations will be made available for the public to review the Environmental Assessment document. These locations will be confirmed in the coming weeks and communicated to the public by way of a newspaper notice.

If you require any additional information, please do not hesitate to contact me directly at 902-631-4441 or via email at peter@zutphen.ca. Again, thank you for your email.

Kind Regards,

Peter.

Peter Archibald, B.Eng., CSS
Project Manager
(902) 631-4441 direct
(902) 945-2300 office
(902) 945-2087 fax

Zutphen Contractors Inc. | Zutphen Wind Inc. | Celtic Current LP
10442 Route 19
Southwest Mabou, NS B0E 1X0

On Tue, Jun 21, 2016 at 2:39 PM, Jessica Klein <japk.imagines@gmail.com> wrote:

> Thank you Peter,
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>
> 1. What noise would there be on my property once the turbine is running?
> 2. How long would construction be going on?
> 3. The wetland to the north is home to many many birds, both resident and migrating, as well as beavers, and there are also eagles and hawks regularly flying over the wetland - how would the wetland and wildlife be protected or accommodated?
> 4. I have often walked back across the gravel pit to access the trail system behind the quarry, would fencing be

erected around the property?
5. What is the approval process for this project? How will the public know what is happening, and how or where they might send or voice potential concerns?

I am definitely in support of renewable energy, if wildlife and neighbouring property values are protected.

Thanks,
Jessica

On Tue, Jun 21, 2016 at 1:48 PM, Peter Archibald <peter@zutphen.ca> wrote:

> Hello Jessica,
>
> Thank you for your email. The proposed project will consist of a single wind turbine, an Enercon E92 2.3 MW machine with a 98 meter hub height. The project is to be located on private lands where there is an existing gravel pit, known locally as Sweeney's Pit. The entrance is located across from the War Memorial located on the New Waterford Highway. The wind and environmental studies are in progress and detailed noise and shadow flicker modeling have been undertaken. I have attached a location map for your review. We are proposing two siting options with our preference being Option 1 as shown.
>
> If you have any additional questions or require any further information, please do not hesitate to contact me directly at 902-631-4441 or via email at peter@zutphen.ca.
>
> Kind Regards,
>
> Peter.
>
> Peter Archibald, B.Eng., CSS
> Project Manager
> (902) 631-4441 direct
> (902) 945-2300 office
> (902) 945-2087 fax
>
> **Zutphen Contractors Inc. | Zutphen Wind Inc. | Celtic Current LP**
> 10442 Route 19
> Southwest Mabou, NS B0E 1X0
>
>
>
> On Tue, Jun 21, 2016 at 11:03 AM, Jessica Klein <japk.imagines@gmail.com> wrote:
>
> > Hi Peter,
> >
> > I left you a telephone message which you returned stating I could contact you by email for information regarding the location of the proposed Celtic Current COMFIT site in New Vic.
> >
> > I would appreciate receiving any information you can provide in regards to this.
> >
> > Thank you,
> >
> > –
> > Jessica Klein
> > Resident & Property Owner, New Victoria
> >
> >
> >
> >
> >
> >
> > –

Jessica Klein

Owner, Web Developer/Designer
Beach Pea Design
902 217 7883
jessica@beachpea.ca
http://beachpea.ca

"Specializing in modern website development & quality communication design."

Supporting independent business keeps more wealth in our communities. Shop local!

–
Jessica Klein

Owner, Web Developer/Designer
Beach Pea Design
902 217 7883
jessica@beachpea.ca
http://beachpea.ca

"Specializing in modern website development & quality communication design."

Supporting independent business keeps more wealth in our communities. Shop local!

2 attachments

New Victoria Poster Boards.pdf
3710K

NV_Visual_Poster_Boards.pdf
7751K

APPENDIX XII. PROJECT TEAM MEMBERS' CVS

McCallum Environmental Ltd.

Robert McCallum, P.Biol
robert@mccallumenvironmental.com
President

Years in Practice
20

Memberships

Alberta Society of Professional Biologists (ASPB), 2001
AB# 875

Certifications

Watercourse Alteration Certification, Nova Scotia.
#10044385

Education

Bachelor of Science, Biology/ Environmental Studies, University of Victoria, BC (1994)

Recent Training

- Project Management Fundamentals, 2010
- Electronic General Safety Orientation – Enform – 2015
- CSTS-09, 2013
- Petroleum Safety Training 2.0, 2015
- ISO 14064-1 Essentials: Greenhouse Gas Inventories
- ISO 14064-2 Expert – Greenhouse Gas Projects (Carbon Emissions Reduction Expert Course)
- Standard First Aid AED-CPR A, 2016
- WHMIS for Workers, 2016

Summary

I have 20 years of environmental assessment, biophysical studies, and regulatory permitting experience in a consulting capacity across Canada.

I am a former regulator with the federal government under CEAA. Acting as a Responsible Authority my role was to review, approve, deny, mitigate and ensure provincial and federal regulatory commitments and requirements were met by oil and gas developments on first nation reserves across Canada.

I have gained extensive environmental assessment experience, and have completed either federal or provincial environmental assessments, including the necessary biophysical studies, in British Columbia, Alberta, Saskatchewan, New Brunswick, Nova Scotia and Newfoundland.

I understand provincial and federal regulatory requirements, and have successfully completed regulatory applications to both provincial and federal regulatory authorities.

I understand project lifecycles and technical and regulatory requirements for oil and gas, renewable energy development, property development, overhead power line development, and industrial facilities.

I also understand technical, business and project management functions associated with Mega, large and small project development and execution. I understand typical small and large project life cycles and all associated critical inputs, outputs and deliverables associated with each project stage. I have the ability to adjust project management approaches to meet the requirements of projects with varying scope, complexity, risk, constraints.

I have a demonstrated dedication to safe project execution and a safe workplace in support of zero incident targets and since 1996 have not had any safety or workplace reportable incidents or near misses.

Experience Summary

OIL & GAS

- Completion of over 150 provincial environmental assessments for oil and gas developments in Alberta.
- Completion of over 75 CEAA environmental assessments for oil and gas development on First Nation Reserves in B.C., Alberta and Saskatchewan
- Completion of environmental assessments and industrial approval applications for 3 large gas plants in Alberta.
- Coordination and completion of reclamation of oil and gas facilities in Alberta and Saskatchewan, including Phase I and II ESAs.
- Coordination and completion of regulatory applications for gas powered electrical generation facilities.

McCallum Environmental Ltd.

Robert McCallum, P.Biol
robert@mccallumenvironmental.com
President

RENEWABLE ENERGY

- Coordination and completion of environmental assessments, construction monitoring, and post construction monitoring for 21 wind power projects in B.C., Alberta, Saskatchewan, New Brunswick and Nova Scotia. The total capacity of the assessed projects is approximately 1500 MW.

POWER GENERATION

- Environmental and Camp permitting for the Churchill Falls to Muskrat Fall HVAC and HVDC line for Valard Construction LP, Newfoundland. This project is approximately 1300 km in length.
- Environmental monitor for Segments 1 and 3 of the Eastern Alberta Transmission Line (EATL) Project for Graham Brothers Construction.
- Environmental coordinator and monitor for construction of the Pike 170s Substation for Rising Edge Technologies.

OTHER INDUSTRIES

- Completion of environmental assessments for highways and bridges in Nova Scotia. Assessments included biophysical studies and completion of environmental submission documents.
- Completion of the environmental assessment and environmental regulatory applications for the Deer Lake Airport runway expansion and access road realignment.

Company Experience

McCallum Environmental Ltd., Nova Scotia. 2001-present
President

Indian Oil & Gas Canada, Department of Indian & Northern Affairs, 2000-2001
Environmental & Surface Land Analyst (Responsible Authority under CEAA)

Stantec Consulting Ltd., AB. 1999-2000
Project Manager

Pioneer Land Services Ltd., Calgary, AB. 1998-1999
Assistant Environmental Manager - Calgary

Environmental Division Manager – Grande Prairie

Great White North Environmental Services Ltd., AB 1997-1998
Senior Environmental Scientist

Wellsite Environmental Services, AB 1996-1997
Environmental Technician

McCallum Environmental Ltd.

Meghan Milloy, BSc. (Bio), MES
meghan@mccallumenvironmental.com
Vice President

Years in Practice
15

Certifications

Nova Scotia Advanced Wetlands Delineator and Evaluator

Memberships

Nova Scotia Wetlands Delineation, Maritime College of Forest Technology

Education

- Master in Environmental Studies (MES), York University, Toronto, Ontario, 1997-1999
- BSc. (Biology), Dalhousie University, 1992-1997
- BA (Political Science), Honours, Dalhousie University, 1992-1997

Training

- Wetland Functional Assessment Training Workshop, NSE 2013
- Urban Wetland Restoration: A Watershed Approach, 2012
- Nova Scotia Advanced Wetlands Delineation and Evaluation Course, 2009;
- Water Management and Wetland Restoration Training Course, 2009;
- Identifying and Delineating Wetlands for Nova Scotia, 2008
- Saint John Ambulance Standard First Aid, AED, CPR(C). 2013

Summary

Ms. Milloy oversees, manages, and executes environmental and biophysical projects. She completes environmental baseline surveys for environmental assessment, habitat surveys, species at risk and wildlife surveys, botany and bird surveys, wetland and watercourse delineations, characterizations and functional assessment, fish habitat evaluation and bat hibernacula identification. Ms. Milloy also completes watershed evaluations, and guides clients through the environmental and permitting stages of mining, industrial and development projects. Ms. Milloy guides clients through provincial and federal environmental assessment requirements and has completed several Federal and Provincial environmental assessment registration documents in the past two years.

Ms. Milloy has worked on five mining projects and six quarry projects providing project management and regulatory consultation relating to all biophysical components and field surveys to support permitting and regulatory requirements.

Ms. Milloy regularly completes applications for wetland and watercourse alteration and development across Atlantic Canada, and has developed and implemented wetland compensation programs and wetland restoration projects. Ms. Milloy is a trained wetland evaluator, biologist, and restoration professional.

Project Experience

- Provision of biophysical project management and coordination of field surveys to support the Canadian Environmental Assessment Act (CEAA) environmental assessment process for 2 proposed mining projects in Nova Scotia (2014-current).
- Completion of biophysical field surveys to support expansion efforts for a mine in Nova Scotia (2014) to meet requirements under the provincial environmental assessment process.
- Completion of environmental baseline surveys for the provincial environmental assessment process for a proposed re-development of a gold mine in eastern Nova Scotia in 2013.
- Completion of two provincial environmental assessments for community wind projects in Nova Scotia in 2013.
- Completion of environmental baseline surveys for three Nova Scotian quarry expansion projects in 2012-2013.
- Watershed evaluation for wetlands and watercourses at a 500 hectares golf and residential development and associated wetland alteration permitting, compensation planning, wetland restoration activities, and enhancement of several wetlands to increase functionality.
- Surface water assessment and functional assessment, wetland permitting, watercourse permitting, and compensation planning and implementation at an 18 hole golf course and residential development along the south shore of Nova Scotia in 2014. Provision of environmental project management and regulatory lead role for the Project.
- Completed the Provincial Environmental Assessment for the 80 MW Glen Dhu South Wind Power Project, Nova Scotia, for Shear Wind Inc. The

McCallum Environmental Ltd.

Meghan Milloy, BSc. (Bio), MES
meghan@mccallumenvironmental.com
Vice President

Project received Ministerial approval on March 16, 2012.

- Project Management of regulatory permitting and environmental assessments for a 50 MW Wind Power Project in Nova Scotia for Sprott Power Corp.
- Evaluation of the Musquodoboit River Watershed for wetland restoration opportunities (GIS based and ecology/field based study).
- Evaluation of the Sackville River Watershed for wetland restoration opportunities (GIS based and ecology/field based study).
- Completion of 35-45 projects involving watershed evaluation, land use classification, wetland delineation and alteration and infill, and compensation planning for numerous residential and commercial large-scale developments across Nova Scotia and New Brunswick.
- Completion of wetland delineation and watercourse identification for three large scale developments (450 ha, 200 ha, 300 ha and 400 ha) from 2012 to 2014.

Work Experience

McCallum Environmental Ltd., Nova Scotia, 2010-Present

Vice President/Senior Project Manager - Provides project management expertise for site and/or route selection, constraints mapping, regulatory consultation, environmental assessments, environmental baseline surveys, wetland alteration and restoration planning, environmental protection plan development, regulatory applications, construction monitoring, and reclamation for small and large scale industrial projects. Other responsibilities include marketing, budget management, report preparation and client service.

Strum Environmental Services Ltd., Nova Scotia 2000-2010

Project Manager- From 2000- 2010, provided project management expertise for development clients across Atlantic Canada. Projects included environmental assessment, large scale commercial and residential developments, wetland alteration projects, wetland compensation planning and implementation, wetland restoration and creation projects, phased site assessments, and risk assessment and management.

Environmental Sciences Group, Kingston, ON 1998

Environmental Scientist- in 1998, provided contaminant and project management expertise to Department of National Defense in the Canadian Arctic in support of remediation of several remote military sites. Identified areas required for remediation and completed associated boundary soil and sediment confirmatory sampling and analysis.

Andy Walter, BSc. (Hort)
andy@mccallumenvironmental.com
Senior Project Manager

Years in Practice
8

Certifications
Nova Scotia Advanced Wetlands Delineator and Evaluator

Memberships
Nova Scotia Wetlands Delineation, Maritime College of Forest Technology

Education
- BSc. (Horticulture), Essex University (UK), 2003-2005

Training
- Wetland Functional Assessment Training Workshop, NSE 2013
- Urban Wetland Restoration: A Watershed Approach, 2012
- Nova Scotia Advanced Wetlands Delineation and Evaluation Course, 2010;
- Water Management and Wetland Restoration Training Course, 2014;
- Identifying and Delineating Wetlands for Nova Scotia, 2009
- Watercourse Alteration Certification (Nova Scotia Environment) (2008)
- Saint John Ambulance Emergency First Aid, AED, CPR(C). 2016

Summary
Mr. Walter is a trained biologist and wetland specialist, and has extensive experience managing technical biophysical projects within Atlantic Canada. Mr. Walter is knowledgeable in federal, provincial, and municipal environmental regulations and guidelines applicable to Atlantic Canada, and works closely with all necessary regulatory agencies to facilitate project implementation. As senior project manager, Mr. Walter ensures biophysical field programs are tailored to the needs of the client and project, while meeting regulatory standards. Mr. Walter has provided environmental support to the planning process in a wide range of project types including residential development, industrial projects (mining, pit and quarry), transmission line and hydro dam infrastructure and highway construction to name a few. Mr. Walter has managed the environmental processes associated with multiple wind energy developments in Nova Scotia, including compilation of provincial environmental assessment (EA) documents, and implementation of associated EA biophysical field surveys, as well as acquiring pertinent environmental information required for regulatory permitting.

As a trained field biologist, Mr. Walter has completed terrestrial and stream habitat assessments, and flora and fauna surveys, including desktop reviews and characterization of biophysical environments. Mr. Walter also completes numerous fish habitat/watercourse assessments for effects monitoring, watercourse alteration, and HADD authorization projects. Assessments have also included water quality sampling, benthic sampling, and biophysical characterization (channel depth and width, stream velocity, fish habitat assessment) of water bodies.

As a qualified wetland delineator and wetland function evaluator for Atlantic Canada, Andy has completed delineation of hundreds of wetlands. Projects often involve the completion of species at risk assessments, functions assessments, and detailed wetland characterization in support of provincial wetland alteration applications. In addition, Mr. Walter assists in the identification of potential compensation sites for wetland and fish habitat alterations, reviews databases, mapping, and aerial imagery, completes ground truthing and consults with local environmental groups and government to identify potential sites. Following alteration approval, Mr. Walter supervises construction activities for numerous construction projects in wetland habitat ensuring that erosion and sedimentation control measures are implemented prior to construction, and monitors activities during construction to ensure wetland protection measures are effective.

Project Experience
- Management and completion of terrestrial habitat mapping, wetland delineation and vegetation surveys in support of EA and regulatory permitting for the South Canoe Wind Project (80MW wind Project in Nova Scotia) 2011-2014.
- Management of a multi-faceted avian study in support of a provincial EA at Aulds Cove, NS.
- Completion of six provincial environmental assessments and baseline surveys for community wind projects in Nova Scotia in 2012-2014.
- Terrestrial habitat mapping, wetland delineation and vegetation surveys in support of a 65km distribution transmission line in central Nova Scotia.

Andy Walter, BSc. (Hort)
andy@mccallumenvironmental.com
Senior Project Manager

- Wetland delineation, species at risk, watercourses and flora surveys at the site of a proposed quarry in Nova Scotia. Subsequent facilitation of wetland alteration permit to alter in excess of 20 hectares of wetland.

- Implemented the passive wetland restoration strategy at a disturbed wetland on NSDNR property. Completed regular monitoring of vegetation, soil, and hydrology conditions and developed project recommendations accordingly (2009-2011).

- Wetland delineation, species at risk, watercourses and flora surveys at the site of a proposed 22km railway line and shipping container terminal in eastern Nova Scotia (2012-2014).

- Completion of wetland delineation and watercourse identification and associated regulatory permitting at multiple developments in Nova Scotia (2009-2016).

Work Experience

Strum Environmental Services Ltd., Nova Scotia 2008-2015

Environmental Specialist/Project Manager- provided project management expertise for development clients across Atlantic Canada. Projects included environmental assessment, large scale commercial, residential and wind power developments, wetland and watercourse alteration projects, wetland compensation planning and implementation, wetland restoration and creation projects, avian studies, and regulatory consultation.

Melanie MacDonald, BSc. (ISAR & Bio), MREM
melanie@mccallumenvironmental.com

Years in Practice
10

Education

Masters of Resource and Environmental Management, Dalhousie University, 2009-2011

B.Sc. Advanced Major in Biology & Interdisciplinary Studies in Aquatic Resources, St. Francis Xavier University, 2001-2005

Training

- Wetland Delineation Certification, 2013
- Saint John Ambulance Standard First Aid, AED, CPR(C), 2013
- Health Safety and Environmental Leadership training and Advanced Safety Audit training, 2009
- Emergency Operations Centre crisis management training, 2006-2008
- Introduction to the Fisheries Act and Navigable Waters Protection Act course – ESAA
- Bear Awareness training and ATV training – Alberta Safety Council, 2006
- Site Supervisor Safety Training, Construction Safety Training System and W.H.M.I.S., 2005

Summary

Ms. MacDonald has been in the environmental consulting profession since 2005. She has worked on both project related and research related field assessments in Nova Scotia, Prince Edward Island, and Alberta.

Ms. MacDonald is responsible for completing biophysical assessments, including flora and fauna surveys, avian surveys, and species at risk evaluations, primarily for clients in the energy sector, mining sector, and commercial development sector. Ms. MacDonald coordinates all field staff required to complete all environmental baseline programs for Provincial Environmental Assessment registration. Ms. MacDonald has been responsible for the implementation of six environmental baseline programs for mining, quarry development and energy sector development projects in Nova Scotia in advance of environmental assessment registration.

Selected Project Experience

- Completion of environmental baseline surveys for the provincial environmental assessment process for Goldworx for a proposed re-development of a gold mine in eastern Nova Scotia.
- Completion of environmental baseline surveys for Quebec based company for a proposed gold mine expansion in eastern Nova Scotia and the completion of environmental baseline surveys for three Nova Scotian quarry expansion projects in 2012-2013.
- Completed watershed planning for the Sackville River Secondary watershed to evaluation wetland restoration potential and to aid in better land use planning, source water protection and management of water resources.
- Completion of field work associated with a wetland alteration application and associated compensation for 24 individual wetlands associated with road development in support of a planned residential development in Sackville Nova Scotia.
- Completion of wetland delineation and watercourse identification for five large scale developments (2 - 200 ha, 300 ha, 400 ha, and 450 ha) from 2012 to 2014.

Experience

McCallum Environmental Ltd., Halifax, Nova Scotia

Biologist and Environmental Specialist/Coordinator:
May-Aug 2011, Jan 2012-Present

- Completing biophysical assessments, including flora and fauna surveys, with emphasis on species at risk. Completing wetland and watercourse delineations and assessments and coordinating migratory bird and bat monitoring. Communicating field survey results and methodologies for Environmental Assessments and other Provincial regulatory applications.

Melanie MacDonald, BSc. (ISAR & Bio), MREM
melanie@mccallumenvironmental.com

Amec Colt, Shell/Albian Sands Expansion 1 - Fort McMurray, Alberta.

Environmental Specialist and Area Environmental Lead
July 2008 – October 2009.

- Proactively monitored construction activities via inspections, audits and Environmental Work Permits & Protection Plans to ensure compliance with regulatory approvals, the projects' Environmental Control Plan, and best management practices. Investigated and reported incidents, and liaised between contractors and project owners. Implemented Environmental Awareness and communicated issues via weekly newsletters. Worked as an independent contractor to Amec Colt.

Canadian Natural Resources Ltd. - Fort McMurray, Alberta

Regulatory and Environmental Specialist: October 2005 – July 2008

- Conducted extensive field work in various fish and wildlife programs. Communicated issues with government agencies, contractors and external stakeholders. Performed on-call duties, spill response, and non-compliance reporting and response. Expanded upon site wide procedures for protection of water, wildlife and waterbirds. Played a pivotal role in planning & completion of a fish salvage of 38 km of the Tar River, and in construction of a 77 hectare fish habitat compensation lake (Horizon Lake). Horizon Lake earned CAPP Steward of Excellence Award for Environmental Performance. Hired, trained, and supervised teams of up to four summer interns. Chaired the regional 'Oil Sands Bird and Wildlife Protection Committee.

McCallum Environmental Ltd.

Tiffany T. Gilchrist, M.Sc.

17 Castlestone Dr. • Bedford, NS • B4B 0J4
Phone: (902)-222-8904 • E-Mail: tiffany@mccallumenvironmental.com

SUMMARY:

- Over two years of experience in environmental consulting
- Second M.Sc. in Renewable Resources, with a first M.Sc. in Tourism and Conservation
- Experience with qualitative research and quantitative data analysis using SAS, SPSS, and Excel
- Experience with leading wildlife survey crews
- Up to date certifications in ATV Safety, WHIMIS, First Aid and CPR, H2S Alive, Wildlife Awareness, MED A2, TDG, CSTS, PCST, and Electrofishing
- Multilingual with working knowledge of English and French
- International work experience (United Kingdom, Cambodia, and Kenya)

EDUCATION:

M.Sc. in Renewable Resources, McGill University (2012)
Thesis: "Reproductive and endocrine health of tree swallows (*Tachycineta bicolor*) exposed to flame retardant chemicals in wastewater treatment plant effluent"

- Two poster presentations at international conferences with a published manuscript in *Science of the Total Environment* (2014)

M.Sc. in Tourism and Conservation, University of Kent (2009)
Dissertation: "Emerging issues in outdoor recreation: An investigation into the conflict between kitesurfing and birds in the UK"

- Graduated with Distinction
- Online survey published in a book: "Conducting research in conservation: A social science perspective"

Ontario College Graduate Certificate in Ecotourism and Adventure Tourism Management, Fleming College (2006)

- Graduated on the President's Honour Role
- End of year internship undertaken at the Il Ngwesi Group Ranch ecolodge in Laikipia, Kenya (3 months)
- Received the Natural and Cultural Stewardship Award

B.Sc. in Biology, University of Western Ontario (2005)

PUBLICATIONS:

Gilchrist, T.T., Letcher, R.J., Thomas, P. and Fernie, K. J. Polybrominated diphenyl ethers and multiple stressors influence the reproduction of free-ranging tree swallows (*Tachycineta bicolor*) nesting at wastewater treatment plants. *Science of the Total Environment*, 472: 63-71., 2014.

Gilchrist,T. Letcher, R. J. and Fernie, K. J.. *Exposure to brominated flame retardants via wastewater treatment plant effluent and changes in the reproductive success of tree swallows (Tachycineta bicolor)*. Poster session presented at the 30th International Symposium on Halogenated Persistent Organic Pollutants (POPs) of DIOXIN, San Antonio, Texas, 2010.

Newing, H. Appendix 1. Conducting Research in Conservation: A Social Science Perspective, Routledge, 2011.

ENVIRONMENTAL CONSULTING EXPERIENCE:

Environmental Project Specialist, McCallum Environmental Ltd., Bedford, NS, Canada
April 2015 - Present

Biologist, Stantec Experts-conseils ltée., Saint-Laurent, QC, Canada
April 2013 - December 2014

- Assisted in the development of wildlife survey programs for projects in Quebec
- Conducted terrestrial and marine wildlife surveys for oil and gas pipeline, power transmission and distribution, and residential development projects in the provinces of Quebec and Alberta
- Acted as crew lead for nocturnal amphibian, artificial snake refuge, wood turtle, nocturnal yellow rail, short-eared owl, nest search, marine bird and marine mammal surveys.

- Assisted with aquatic surveys, specifically sediment sampling, water sampling, underwater video, and Acoustic Doppler Current Profiler field surveys
- Conducted data analysis and participated in the writing of a national environmental impact assessment report

WILDLIFE RESEARCH EXPERIENCE:

Bird observatory volunteer, McGill Bird Observatory, Ste. Anne de Bellevue, QC, Canada
Fall 2012, Fall 2010, Fall 2009, and October 2008

- Extracted birds from mist nests (lead extractor) and accurately recorded banding data
- Acquired training towards bird banding certification

Toxicology project coordinator, Avian Science and Conservation Centre, McGill University, Ste. Anne de Bellevue, QC, Canada
Project: Behavioural and physiological effects in captive American kestrels (*Falco sparverius*) orally dosed with the veterinary drug Diclofenac
February - April 2010

- Coordinated and participated in the development of the project
- Collected behavioural data and assisted with the necropsies

Field technician (contract), Canada Centre for Inland Waters, Environment Canada, Burlington, ON, Canada
Project: Effects of brominated flame retardant chemicals in wastewater treatment plant effluent on tree swallows
April - August 2010 and 2009

- Captured adult birds for collection of droppings, banding, weighing and measuring
- Monitored nest boxes daily at three sites
- Banded, weighed, and measured nestlings, and collected their droppings
- Collected blood from nestlings for sex identification

Research assistant (contract), Canada Centre for Inland Waters, Environment Canada, Burlington, ON, Canada
Project: Effects of brominated flame retardant chemicals in wastewater treatment plant effluent on tree swallows
February - April 2009

- Statistically analyzed bomb calorimetry data on nestling tree swallow feces and prepared an associated report
- Completed a literature review on perfluorinated compounds, and their occurrence and effects in wild and captive avian species

Field research assistant (volunteer), University of Kent, Canterbury, Kent, United Kingdom
Project: Amphibians as indicator species
April 2008

- Set traps in ponds, checked traps, and identified newts in traps (species and sex)
- Employed visual search (including egg search), netting, and torchlight survey techniques

Small mammal surveyor (volunteer), Kent Mammal Trust, Canterbury, Kent, United Kingdom
December 2008

- Set and checked live traps for small mammals
- Identified small mammals and accurately recorded data (species, sex, weight and reproductive condition)

Research assistant (volunteer), University of Western Ontario, London, ON, Canada
Project: Variation in the songs of male song sparrows (*Melospiza melodia*)
September - December 2003

- Analyzed previously recorded bird songs using the program 'Syrinx'

Research assistant (volunteer), University of Western Ontario, London, ON, Canada
Project: Differences in nuptial signals of male three-spined stickleback (*Gasterosteus aculeatus*)
September 2002 - January 2003

- Dissected ~120 three-spined stickleback; separated and weighed the liver, eggs, guts, skin, muscle, and remains
- Assisted in testing samples for carotenoid pigment

OTHER EXPERIENCE:

Avian care technician, Avian Science and Conservation Centre, McGill University, Ste. Anne de Bellevue, QC, Canada

September 2009 - 2011

- Monitored health and performed general husbandry of captive American kestrels and endangered eastern loggerhead shrikes (*Lanius ludovicianus migrans*)

Ornithology teaching assistant, McGill University, Department of Natural Resources, Montreal, QC, Canada
Fall 2010

- Led trips to assist in the identification of birds in the field
- Prepared and assisted with labs on bird identification (using mounted specimens) and bird dissection
- Organized mandatory volunteer hours with the McGill Bird Observatory
- Marked assignments and taught class in absence of the professor

World Wildlife Fund volunteer, Sen Monorom, Mondulkiri Province, Cambodia
Summer 2008 (5 weeks)

- Investigated tourism benefit-sharing options within and among hill tribe communities
- Conducted face-to-face questionnaire surveys within hill tribe communities
- Gained experience working with a translator

Lodge hostess, The Wolf Den Bunkhouse n' Cabins, Oxtongue Lake, ON, Canada
Summer 2007

- Single employee working with owners to manage the facility
- Provided customer services such as greeting guests, managing reservation, and providing touristic information
- Performed housekeeping duties (60 beds plus main lodge)

RELEVANT CERTIFICATIONS AND COURSES:

- Electrofishing, Halifax, NS, 2015
- Bat identification (acoustics) course, Domaine Joly-de-Lotbinière, QC, 2014
- Formation sur le processus d'évaluation environnemental, Quebec, QC, 2014
- Marine Emergency Duties (MED) A2, Saint-Romuald, QC, 2014
- H2S Alive, Calgary, AB, 2013
- First Aid and CPR, Calgary, AB, 2013
- Workplace Hazardous Materials Information System (WHMIS), Montreal, QC, 2013
- ATV training, Calgary, AB, 2013
- Canadian Firearms Safety and Introduction to Hunting with Firearms courses, Île-Perrot, QC, 2012
- Advanced Falconry course, Quebec, QC, 2009
- Techniques for the Non-Destructive Collection of Biological Samples from Wild Species for Contaminant Analysis workshop, San Antonio, TX, 2009
- Geographic Information Systems (GIS) course, London, ON, 2009
- Small Mammal Trapping and Mammal Identification courses, Kent, United Kingdom, 2008