



Original Photograph



Visual Simulation

# ABO WIND

Rhodena  
Wind Project

Visual Simulation 1  
Lake Murray/Hwy 105

Image: Easting: 627,513  
Northing: 5,061,930  
Photograph Date: August 28, 2021  
View Angle: 327 Degrees

Tu r b i n e Manufacturer: Nordex  
Model: N163 6.X 7000  
Hub Height: 118 m  
Rotor Diameter: 163 m  
Rated Power: 7,000 kW

Coordinate System UTM, NAD83, Zone 20

April 8, 2024

Analysis By: AL-PRO GmbH & Co. KG



Location Map



Original Photograph



**Rhodena  
Wind Project**  
Visual Simulation 2  
MacMaster Brook/Hwy 105

**Image:** Easting: 628,161  
Northing: 5,065,568  
Photograph Date: August 28, 2021  
View Angle: 316 Degrees

**Turbine** Manufacturer: Nordex  
Model: N163 6.X 7000  
Hub Height: 118 m  
Rotor Diameter: 163 m  
Rated Power: 7,000 kW

Coordinate System: UTM, NAD83, Zone 20	April 8, 2021
Analysis By: AL-PRO GmbH & Co. KG	AL-PRO



Visual Simulation



Location Map



Original Photograph



**Rhodena  
Wind Project**  
Visual Simulation 3  
Walkers Cove Rd/Hwy 19

**Image:** Easting: 618,069  
Northing: 5,077,197  
Photograph Date: August 28, 2021  
View Angle: 139 Degrees

**Turbine** Manufacturer: Nordex  
Model: N163 6.X 70000  
Hub Height: 118 m  
Rotor Diameter: 163 m  
Rated Power: 7000 kW

Coordinate System: UTM, NAD83, Zone 20

April 8, 2021

Analysis By: AL-PRO GmbH & Co. KG



Visual Simulation



Location Map



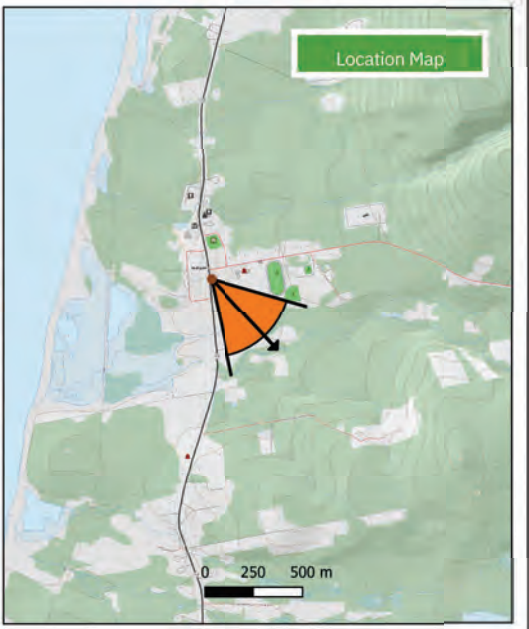
**ABO WIND**

**Rhodena Wind Project**  
**Visual Simulation 4**  
**Judique**

**Image:** Easting: 617,151  
 Northing: 5,081,366  
 Photograph Date: August 28, 2021  
 View Angle: 137 Degrees

**Turbine** Manufacturer: Nordex  
 Model: N163 6.X 7000  
 Hub Height: 118 m  
 Rotor Diameter: 163 m  
 Rated Power: 7000 kW

Coordinate System: UTM, NAD83, Zone 20	April 8, 2021
Analysis By: AL-PRO GmbH & Co. KG	AL-PRO



# Wind farm life cycle

## Decommissioning and Repowering



**ABO**  
**WIND**

Wind turbines are expected to last between 20 and 30 years.

During the life of the wind farm, maintenance will occur as needed to replace parts, like your vehicle or home. Operations and maintenance workers will be required to fulfill this important task through the life of the wind farm.

There will be a decommissioning and reclamation plan required as part of the Environmental Assessment.

**What happens at the end of life of a wind farm?** It may be repowered or decommissioned.

### Repowering

The older wind turbines or other components can be upgraded with newer, more efficient equipment.

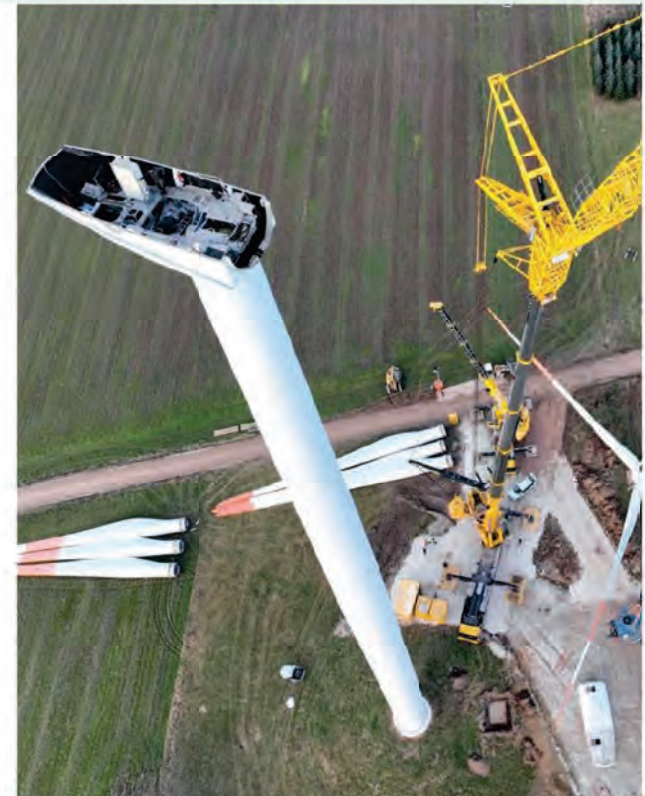
### Decommissioning

Due to economics, regular wear and tear or other factors, it may be necessary to remove the project and return the land to its original state.



The main components of a wind turbine that can be recycled, repurposed, or salvaged include: Steel tower sections, steel reinforcement, electrical equipment and cables, precious metals, and concrete. Other materials or pieces of equipment that cannot be recycled, repurposed, or salvaged will be disposed of according to local/provincial regulations.

Two of the largest turbine manufacturers have created the first set of turbine blades that are fully recyclable. The use of these blades will be evaluated for this project.



*Dismantling a wind farm*

2-4:30



ABO  
WIND

27 total

Thank you for attending the Rhodena Wind Open House!  
Please sign in below.

Name	Phone Number	Email	Receive Project Updates (Y/N)
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

*[Handwritten mark]*

N

5



2-4:30

ABO  
WIND

Thank you for attending the Rhodena Wind Open House!  
Please sign in below.

Name	Phone Number	Email	Receive Updates (Y/N)
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			

+1

2-4:30

**ABO**  
**WIND**

Thank you for attending the Rhodena Wind Open House!

Please sign in below.

Name	Phone Number	Email	Receive Updates (Y/N)
[REDACTED]			
[REDACTED]			
[REDACTED]			



Thank you for attending the Rhodena Wind Open House!

Please sign in below.

#2 - April 17  
evening  
6-8:30

28 total

+1

**ABO**  
**WIND**

Name	Phone Number	Email	Receive Project Updates (Y/N)
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]

#2 evening  
6-8:30  
+1 +1 +1  
+1 +1 +3



Thank you for attending the Rhodena Wind Open House!

Please sign in below.

Name	Phone Number	Email	Receive Project Updates (Y/N)
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			
[Redacted]			

+1



## Comment Form

Rhodena Wind Open House 2024

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

The staff were very informative and answered any questions we had.

Best of luck!

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional):

[REDACTED]

Phone Number (optional):

[REDACTED]

Email Address (optional):

[REDACTED]

#### Comments or questions regarding the Project?

Once again those of us living in between Port Hastings and Long Point (area where turbines are to be placed) did not receive the mail out about the information session. We have been told by Post Master that Port Hasting Post Office was not given the Mailout to distribute.

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

Hopeful for this project.

---

---

---

---

---

---

---

---



**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

**Comments or questions regarding the Project?**

---

---

---

---

---

---

---

---

---

---

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

- great engagement with ABO people
- clear display boards
- informative / professional.

Thank-you



**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

**Comments or questions regarding the Project?**

---

---

---

---

---

---

---

---

---

---



If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

As a Craigmoir land owner I fully support the wind (ABO) farm.

The world is under stress, and if we stand in the way, green energy development, all will further going forward.

Creating energy and using green energy is linked. We need the BITE. Lets all contribute.



**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

**Comments or questions regarding the Project?**

*Great presentation. Hopefully, the project gets  
swift!*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

*Very happy to see this coming.  
& hope it gets off the ground.*

---

---

---

---

---

---

---

---

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

Great Presentation!

Good Luck!



**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

**Comments or questions regarding the Project?**

Looks Great

---

---

---

---

---

---

---

---

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

Very well done - informative, willing to provide useful information, open to questions. Excellent staff presence, knowledgeable & friendly. Good combination of visual/technical information. Watch out for wetland interruption re: methyl mercury

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

I am pleasantly surprised that there will be relatively low visual and audible impact.

My main concern (after environmental) was the visual impact affecting tourists coming from the mainland.

Your staff was helpful, friendly, and informative. Thank you!

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

I am glad I made it here today. Thanks for all the information. Look forward to see the wind turbine up and operational!



If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

We support this project as landowners and residents in the area and as people concerned about the climate crisis. Every possible clean energy initiative should be pursued.

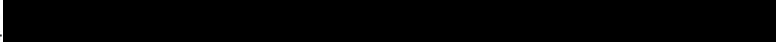


**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional):  \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional):  \_\_\_\_\_

**Comments or questions regarding the Project?**

*Interesting. Wondering if any local homes or industries will actually get any use of energy produced by the turbines, or is the electricity produced sent somewhere else or just sent to the NS Power lines.*

---

---

---

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

It looks like they have done their homework. We don't want to miss out on the future of power generation and we want to protect the world for our children, grandchildren and great-grandchildren.



**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

**Comments or questions regarding the Project?**

---

---

---

---

---

---

---

---

---

---



*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

*How soon would this project commence if approved?*

---

---

---

---

---

---

---

---



**Comment Form**  
*Rhodena Wind Open House 2024*

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

**Comments or questions regarding the Project?**

*Impressed with the timeframe of the project.*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Comment Form

Rhodena Wind Open House 2024

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

Looks Good only concern is snow mobile trails being plowed in winter what can be done to help out!

---

---

---

---

---

---

---

---

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

### Comments or questions regarding the Project?

Very much hoping the project goes through  
Need lots more Green Energy

traveled a little in this world - Europe, USA  
Dominican Republic, Mexico; Canada. seen lots  
of wind turbines.

asked about turbine recycling, why not  
rebuild from rubble up, renewable - them??



If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

#### Comments or questions regarding the Project?

Thanks for the presentation!

Best of luck with your project!

Be kind to the snowmobilers. ..





**NEWS**

Municipality honours its volunteers

**ARTS & CULTURE & ENTERTAINMENT**

Celtic Touch Dancers place second in competition.

**SPORTS**

Cape Nova Rifle and Revolver Club all fired up for National Range Day.

**WEEKLY PEARL** Some old-fashioned things like fresh air and sunshine are hard to beat. - Laura Ingalls Wilde

# ABO Wind shares revised Rhodena project plans at community open-house

-by Shelly Haill

ABO Wind held an open house at the Creignish Recreation Centre, on April 17<sup>th</sup>, to share their revised wind turbine plans with the community and answer any questions.

There were two drop-in sessions held on the day, one from 2:00 p.m. – 4:30 p.m., and one from 6:00 p.m. – 8:30 p.m., which were the 4<sup>th</sup> and 5<sup>th</sup> information sessions since the first ABO wind turbine project was proposed for Rhodena (Creignish) in 2021. Much has changed since that initial proposal, which was met with a lot of resistance from the surrounding community, for a variety of reasons, and was not approved for development by the Nova Scotia government, also for a variety of reasons.

The biggest change between this latest proposal and the initial submission is the reduction of proposed wind turbines; from 15 down to six. Another big change is that projects are no longer

allowed to be proposed on public Crown land.

According to Sean Fleming, senior project manager, Renewables, at ABO, “The last time we bid into the rate-based procurement, which was 2022, you were allowed to have equipment on both private and public land and our proposal had both. The new version of the tender, that was announced in the fall, which is the Nova Scotia Green Choice Program, said no Crown land could participate; so, we went back to the drawing board and we have revised the Rhodena Wind Project proposal down to the six turbines. It’s a smaller project and all on private land. Looking back, the size of the project was one of the things folks had raised concerns about so this revised size addresses some of their concerns.” Heidi Kirby, Renewable Development Stakeholder Engagement and Communications Lead, expressed the same optimism stating, “The main concern in the first round

was the visual impact so we are hoping that with the reduced amount people will see the change as a positive thing.”

Another new component in this round is that while the power generated will be fed into the grid, there is an option for large energy users – including big industrial customers, First Nations communities, post-secondary institutions and even entire municipalities – to sign up to get their power “100 per cent renewable.” According to Fleming, what that means is, “If the grid isn’t entirely renewable by 2030 and some of these folks have their targets, they can sign up and pay an extra fee on their power bill and that enables the utility to assign them a renewable energy certificate to demonstrate their commitment to their target of 100 per cent green energy. Eskasoni is an example of a partner who is onboard with this project and would be one of the ones interested in being 100

CONTINUED PAGE 5



ABO employees speak to one of the people who stopped by to learn more about the revised project. From left: Sean Fleming, ABO Senior Project manager, Renewables; visitor, Karen Malcolm; Heidi Kirby, ABO Renewable Development Stakeholder Engagement and Communications Lead.

# Province says “no” to spring bear hunt proposal

by Shelly Haill

Whether you were for or against the proposed spring bear hunt, you are probably relieved to finally have an answer. On April 17<sup>th</sup>, the government announced it will not be moving ahead with the proposal, putting the subject, and acrimony, to rest (for now?). As stated in the government press release: “After careful consideration of feedback from Nova Scotians, the province has decided there will be no spring bear hunt at this time. Results of the public consultation clearly show Nova Scotians care deeply and are very divided on the idea of a spring bear hunt.”

More than 17,000 Nova Scotians responded to the public engagement survey. About 51 per cent were opposed, 47 per cent were supportive and two per cent were neutral. The DNRR also received 134 emails and letters from people and 10 letters from organizations with most of this feedback being against a spring hunt.

When the Department of Natural Resources and Renewables (DNRR) announced the proposal for a spring bear hunt pilot project on January 24<sup>th</sup>, 2024, it resulted



The proposed spring bear hunt pilot project proved to be a very divisive subject among Nova Scotians.

in a heated debate in the media and online forums. Many individuals and organizations supported the hunt, including Safari Club International, and many individuals and organizations were against it, including Nature Nova Scotia whose member organizations represent over 10,000 Nova Scotians.

Additionally, many voiced their concerns about the government’s handling of the proposal, with seemingly uncertain science available to answer questions such as how many bears are even in the province. While others, including *The Oran*, questioned the government’s transparency as the choice of language used in the online public engagement survey seemed to suggest the spring hunt was “already a done deal.”

Certainly, emotions ran high, and according to Andrew Boyne, director of Wildlife for DNRR, so did misinformation, or at least lack of understanding. “One of the things that came to light, via the survey, emails, and conversations, was there’s a lot of misinformation or general confusion around how we manage hunting in the province and how

CONTINUED PAGE 4

**Midway Motors Ltd.**  
 Serving the Public Since 1926  
 2499 Cabot Trail, Middle River:  
 902-295-2290 • 1-866-484-3848  
 441 Hwy 4, Port Hastings:  
 902-625-3641

www.MidwayMotors.ca

**EMMLAW**  
 Lawyers-CapeBreton.com 625-0580  
 409 Granville Street, Port Hawkesbury

**MACLEOD LORWAY**  
 INSURANCE

CAR | HOME | BUSINESS | LIFE | TRAVEL | SPECIALTY

902 Reeves St, Unit #2 Port Hawkesbury NS B9A 2S3  
 902-625-0177 info@macleodlorway.com

**CAPE BRETON REALTY**

**KAREN GILLIES** Cell: 902-631-1778  
 karen@capebretonrealty.com  
 www.karengillies.com

**HART LAW**

contact us today (902) 295-1245  
 admin@mhartlaw.ca

# Rhodena Wind project reduces turbines from 15 to six and will only be situated on private land

## From previous page

per cent renewable.”

ABO has proposed wind turbine projects across Canada and has numerous projects up and running across Europe. When asked how Nova Scotia compares to other locations across Canada, in terms of receptiveness, both politically and by individual residents, Fleming said Nova Scotia is very much in favour (with a “but” caveat that will be explained later). “In terms of the different political parties’ stance on green developments such as wind turbines, in Nova Scotia there is a good consensus among the major parties on the need for green development. As Nova Scotians know, a couple of years ago, there was all party consensus on a piece of legislation that was brought in by the current government and included such things as land protection targets, renewables targets, and the phase out of coal. It included quite ambitious targets to meet the goal of 80 per cent renewables by 2030.”

Fleming went on to explain that, “Around the same time, there were a number of polls published on Atlantic Canadian support for renewables and Nova Scotia, in particular, was quite good at 75 per cent support. When it’s in the general topic, you get big support numbers.” And, here comes the “but” as Fleming stated, “But what often happens when it comes down to community level, in somebody’s neighbourhood, it can change into a different conversation and it’s about balancing the impacts.”

Indeed, *The Oran* spoke to a few local residents at the open-house and the sentiments seemed to range from reluctant acceptance of the

revised project to “nimby-ism” (not in my backyard), to remaining uncertainty, to skepticism about the project transparency.

Resident Greg MacInnis acknowledged the need to “get off of oil and fossil fuels” and said, “If that’s the way we have to go, we are going to have to put up with stuff like this.”

Another resident, who didn’t want to be named, admitted she was “pro-renewables and green energy” but still struggled with having the turbines “on the hills.” Although she did say she was feeling better that the number had been dropped from 15 to six and that, according to the photo mock-ups of what people would see (as viewed from Judique and Creignish) the turbines were really “not that intrusive.”

Another resident, who also wanted to remain nameless, voiced his skepticism about one of the simulated photos, in which only the very tops of the turbines were barely visible, inland and at a great distance. As he stated, “Jesus Christ with the height of the things you’re going to see them from everywhere; when I’m gone, I’ll be able to look up and see them from the graveyard.” When asked what it was about the turbines that he didn’t like, he said, “It’s nice to see the mountain the way that it is.”

*The Oran* asked ABO Project Manager Jesse Cameron if he had been hearing similar sentiments while speaking to residents at the event. “There has been a lot of positive feedback on the revised project, but there are still some negative rumblings lingering and that’s why we’re here, to learn why and what it is about our revised approach that still isn’t sitting right.

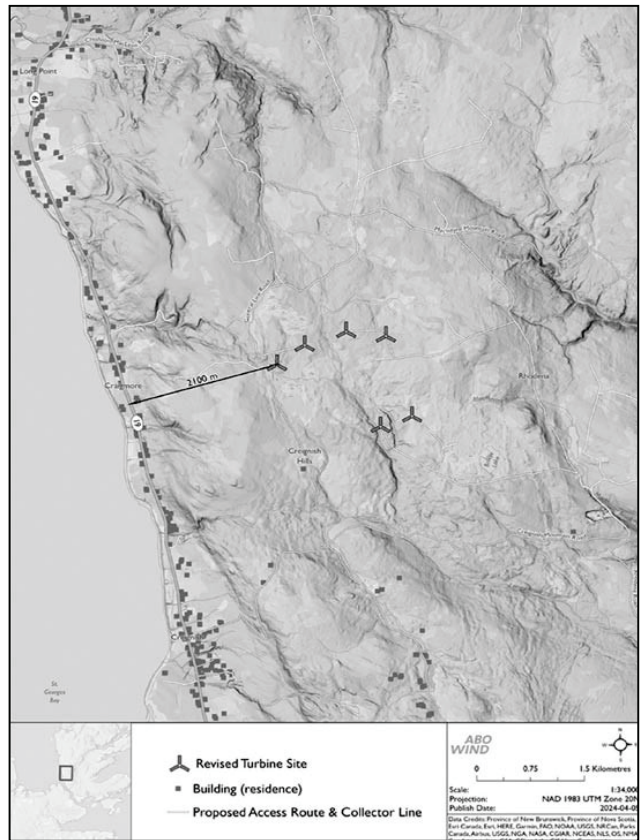
But really, we aren’t here to change minds, we are here to inform and help everybody make their own decisions. We aren’t going to make everyone happy, but we are trying to address the concerns that we have heard and be open and transparent.”

Angus Doane, an environmental scientist with Strum Consulting, was also on hand to answer questions and echoed Cameron’s sentiment saying, “Everyone that I’ve spoken to today has been receptive to the information and respectful, even if they aren’t totally onboard or are still skeptical in some areas; so, it’s been going well.” When asked about Strum’s role in the proposal process, Doane explained, “ABO has hired Strum Consulting as a third party, who stands behind our reputation, to support them through the environmental process; so, we are here today to openly answer any questions regarding impacts such as visual, sound, shadow flicker, and any other environmental concerns.”

In addition to ABO and Strum personnel being available to answer questions, the room was filled with infographics and photos all providing information to help visitors understand the change in scope of the project and what that means in terms of both addressing resident concerns as well as outlining the positive economic and green energy impacts.

Some of the information and statistics included: – Six turbines would generate 42 MW per year (enough to power 13,600 homes annually) and will generate electricity without emitting greenhouse gases or air pollutants or any use of fresh-

CONTINUED PAGE 12



One of the many visuals on display at the drop-in session showed the revised project with six turbines, instead of the original 15. The project will also use 70 per cent existing roads and generate 42 MW per year (enough to power 13,600 homes annually).

## Regional Assessment for Offshore Wind Development in Nova Scotia

### Upcoming Information Session

Join the Committee for the Regional Assessment of Offshore Wind Development in Nova Scotia for an informative presentation and question and answer session on offshore wind development and the regional assessment.

You will have an opportunity to:

- get answers to your questions
- share your thoughts on the future development of offshore wind

#### Cheticamp

May 9, 2024  
5:00 pm - 7:30 pm  
Club des retraités de Cheticamp  
15108 Main Street

For more information visit the Canadian Impact Assessment Registry at [Canada.ca/ciar](http://Canada.ca/ciar) then search by assessment name: Regional Assessment for Offshore Wind Development in Nova Scotia (Ref: 83514).

Or contact the Regional Assessment Committee directly at:

Email: [OffshoreWindNS-EolienneExtracotiereNE@iaac-ae-ic.gc.ca](mailto:OffshoreWindNS-EolienneExtracotiereNE@iaac-ae-ic.gc.ca)

Acting Manager of Engineering and Public Works – Town of Port Hawkesbury



### Acting Manager of Engineering and Public Works

Reporting to the Chief Administrative Officer, the successful applicant will provide leadership and strategic advice in the areas of engineering, capital asset management, project management, water treatment and distribution, wastewater treatment and collection, solid waste management, and street maintenance. The successful candidate will also be responsible for presentations of department-related information to the Town Council.

This is a one-year term position with the possibility of further extension.

**Overview:** The successful candidate will be a leader capable of managing public works and engineering staff and initiatives, planning and directing capital works projects, communicating effectively with a strong work ethic, and directing a workforce. The candidate will be the primary liaison with the Town’s engineering consultants, contractors, funding partners, regulators, and other agencies involved with engineering and municipal service delivery.

**Qualifications:** Persons with a professional engineering designation or certified engineering technology program completion with substantive and progressive work experience in the practice of civil engineering will be considered. Those applying must have at least five years at a supervisory or Department Head Level; should possess broad based engineering and technical skills relating to the municipal field; experience with computer software programs including Microsoft Office, GIS systems and AutoCAD; organizational skills in managing outside consultants and contractors; ability to manage a unionized workforce, knowledge of provincial regulations and Municipal by-laws, and experience with financial and budget administration, along with proficiency in purchasing and advertising processes.

**Application Process:** All interested applicants must forward a cover letter, resume, and two professional references by 4:00 p.m., Thursday, May 2, 2024. Only those selected for an interview will be contacted. Please forward applications [electronically only](#) to:

Chief Administrative Officer, Terry Doyle, P.Eng.  
RE: Acting Manager of Engineering and Public Works  
Email: [tdoyl@townofph.ca](mailto:tdoyl@townofph.ca)

# Nova Scotia's only bilingual doula sets up in Chéticamp

-by April MacDonald

*"Birth is not something we suffer from, but something we actively do and rejoice in."* - Sheila Kitzinger, British activist

Joannie de Grass de Joa

was recently introduced to the county at a lunch and learn presented by Le CDÉNE on March 22<sup>nd</sup> at St. Anne's University.

The CDÉNE is recognized as the champion of the economic vitality of the Acadian and francophone

community in Nova Scotia. They also deliver solutions to businesses, not-for-profit organizations, job seekers, economic immigrants, and communities to ensure their economic success. They offer a variety of

services to the Acadian and Francophone community and introducing the province's only bilingual doula was one of them.

Joannie de Grass de Joa refers to herself as a birth keeper and rebozo practitioner.

Rebozo massage treats and relieves pregnancy symptoms and is used during pregnancy as a pain-relieving and relaxing massage for the back, lower back, buttocks, and pelvic floor. It helps to get the baby in a good position before birth, and can also get the baby to turn correctly.

"I am what we call a doula; also know as a companion at birth," she says on her website.

"I am here to accompany you through your parenting journey, with all my comforting support, my warm presence and my unshakable confidence. I am convinced that people who give birth are by nature perfect for doing it, for giving it. I am here to offer you a real support through your life passages - from pregnancy to birth, postpartum to parenting challenges, from perinatal mourning to abortion," explains Joannie.

She said she also aids in the birth of major life projects or their failures - biological or not, parenting can be seen in many different levels.

"Therefore, it is with all my gentleness, my constant trust and my warm kindness that I accompany you by collaborating with you towards what fascinates me the most: loving life! No matter where you find yourself, I welcome you, without judgment and with great esteem. It is an honour for me to walk with you in this path intended for you," she added.

Her training:  
- Learning and improving services remain one of her priorities in order to offer a more complete and specialized service to the people she support.

- Training in perinatal naturopathic medicine.

- International Support School Cybele Center



(ongoing).

- Childbirth between Science and Sacred: A seminar on the quantum approach to birth.

- Quantik Mama (2023).

- Rebozo Training - Treatments and Rituals.

- Chemin de Traverse (2022).

- Caregiver at birth, Birth keeper, Doula training.

- Full moon centre (2021).

- Therapeutic touch training (2018).

What is a doula?

A doula is a birth attendant, which means a non-medical member of your care team for the birth of your baby. The doula is not only present for the person who is going to give birth, but also for the partner and any other member of the family. It is like a fairy who makes sure that everything goes as smoothly and as beautifully as possible, according to your desires and the choices you are going to make in all conscience. No matter what situation you find yourself in, the doula believes in you and supports you.

Working with a doula means you are listened to with care and without any judgment. Your doula will be there to walk alongside you on your path. They bring confidence and awareness, as well as light and strength.

In other words, a doula is your ally, your friend, your lighthouse, your guidance, your sister, your person

of trust; for you, for your loved ones, for your family.

In numbers, here's what science says about the services offered by doulas:

- Reduce by 50 per cent the risks of C-Section.

- Reduce by 40 per cent the use of synthetic hormones.

- Reduce by 30 per cent the use of narcotics to combat pain.

- Reduce of 30 per cent the use of forceps and suction cups.

- Reduce of 25 per cent the birthing hours.

- Reduce the risk of pdd (postpartum depression).

- Improve the breastfeeding experience.

- Increase the parenthood senses.

During birth, not only is a baby being born, but a new parent, a mother, a father, an entire new family is being born as well.

"This is why it is important to care and support each of the family members during this marvelous transition. As your birth keeper, I will help you navigating your birth with a safer, yet more fulfilling, positive and respectful childbirth experience. I am convinced that all births are honorable and, therefore, they deserve to be assisted properly, with love, trust and consciousness in the process," she explains.

Here are some themes that can be discussed during  
CONTINUED NEXT PAGE

## Rhodena Wind project open-house in Creignish

From page 5

water.

- The new layout is 100 per cent on private land and will use nearly 70 per cent existing roads with about 10 per cent requiring upgrades to ensure safe access and sufficient widening for equipment associated with turbine installation.

- The new six-turbine layout reduces the expected land disturbance by 50 ha (from 155 ha to 107 ha).

- The closest house is 1.2 km away from nearest turbine, which exceeds current setbacks required by the municipality.

- An estimated \$8-10 million in municipal tax payments will be made by ABO Wind to the municipality for local services and infrastructure over the lifetime of the project.

- Anticipated hub height will range from about 100 metres to 125 metres with an approximate blade length between 60 metres and 85 metres.

- Life of a turbine is typically 20 to 30 years. The life expectancy of this project will be subject to the requirements set out by Nova Scotia Power within the Power Purchase Agreement, which ABO expects to be 25 years.

Even with the reduced number of turbines and the

resulting decreased visual and footprint impacts, the Route 19 Community Association is still against the development and has been from the start. This is the most organized and active group against the project and, according to an article by the CBC (April 2022), when the initial project was proposed in 2021 with 15 turbines on mix of Crown and private land, "David Hart (the spokesperson for the Route 19 Community Association) went door to door with flyers along the coast from Hastings to Judique asking people to visit their website to learn more about the proposed project and to get involved with a letter-writing campaign."

The Oran contacted Route 19 Community Association to enquire whether their stance has changed upon learning about the reduced size of the project as well as the other changes and received the following response: *Our Association still remains strongly opposed to any type of wind farm along Route 19. Our Association is now 732 strong having increased by 34 after ABO Wind Canada last Information Session.*

Regarding next steps in the process, according to

Heidi Kirby, "ABO will be submitting our revised proposal for the Rhodena Wind project to the government's Green Choice program in June. We believe there are between 20-30 others submitting wind turbine proposals and the province will select the ones that meet their criteria and proceed with development, with the first phase including things such as environmental assessments."

According to Jesse Cameron, the government's selection criteria is strict and he stated that their initial proposal in 2021 may not have been as "mature" as it needed to be. "Nova Scotia is really good at this. They have 15 categories that they score you on and it's not just things like how big is it. It takes a lot of time to prepare all of the research and information and to do it right including community engagement and support, education, environmental consulting, and community partnerships. In the first round, we didn't have the team we do now and, with 20-30 others submitting proposals, it's very competitive, but we feel we are really set up to answer and address all concerns and deliver a very good thing for the province, the area and its residents."



## FLOWER ARRANGEMENT WORKSHOP

ICCA - Arts Centre  
Tuesday, May 7, 2024  
1 pm, Fee \$5

Pre-registration required  
limited space available

To Register



For more info contact  
Accessibility & Seniors Safety Coordinator  
Maggie MacDonald 902-258-7960



Joannie de Grass de Joa was introduced to the county at a lunch and learn presented by Le CDÉNE on March 22<sup>nd</sup> at St. Anne's University.

ABO Wind Canada Ltd.  
Ste. 200, 2111 Maitland Street  
Halifax, NS B3K 2Z8



April 22, 2024

**A Message from the ABO Wind Canada Team:**  
Rhodena Wind Project Update – We're Sorry We Missed You

Dear Resident:

On behalf of the Nova Scotia ABO Wind Canada team, we wish to apologize for a recent error in mailing our informational flyer for the proposed Rhodena Wind Project, which included Project updates and an invitation for two additional drop-in community information sessions.

The information sessions were held on April 17, 2024, at the Creignish Recreation Centre. Our team arranged a mailout through Canada Post to ensure coverage of all communities in the general vicinity of the Project. We were thoroughly disappointed to learn from some residents living between Port Hastings and Creignish that our mailer and open house invitation may not have been received in your area.

While we understood the informational mailer was being sent to this area, we are sending it to you now after learning it did not reach all residents as intended. On behalf of the ABO Wind team working on community engagement for the Rhodena Wind Project, we sincerely apologize for this issue.

Our team advertises for information sessions using other means, including numerous advertisements in local media, e-mail outreach to all contacts who have previously consented to receive information from ABO Wind Canada Ltd. through signing in at previous open houses, along with sending a social media post to many other contacts in the region with a goal of having it shared widely for the knowledge of all residents.

We hope this informational flyer is helpful in providing information on the Project. We have reduced the number of turbines from 15 to 6 and are hopeful this is accepted positively by community members in general. Your feedback is integral to our Project planning, and we encourage you to get in touch if you have comments or questions.

In the meantime, as always, our team is available to discuss the Rhodena Wind Project with you, should you have any questions. If you were unable to attend our recent open house or were not aware, please note that all posterboards and maps shared at the information session are available on our website, [www.rhodenawind.ca](http://www.rhodenawind.ca). We will also be updating the website with additional Frequently Asked Questions that we've heard from the recent information session.

Yours sincerely,

A handwritten signature in black ink that reads "Jesse Cameron". The signature is written in a cursive style.

Jesse Cameron, Project Developer  
Rhodena Wind – ABO Wind Canada Ltd.  
[jesse.cameron@abo-wind.ca](mailto:jesse.cameron@abo-wind.ca)  
1 (902) 439-8111

A handwritten signature in black ink that reads "Heidi Kirby". The signature is written in a cursive style.

Heidi Kirby,  
Communications and Engagement Lead, Atlantic  
ABO Wind Canada Ltd.  
[heidi.kirby@abo-wind.ca](mailto:heidi.kirby@abo-wind.ca)  
1 (902) 329-9907

# Rhodena Wind 2024 Project Updates

[www.rhodenawind.ca](http://www.rhodenawind.ca)



ABO Wind Canada is developing the Rhodena Wind project together with our First Nations partner, Eskasoni, in response to Nova Scotia's Green Choice procurement program for clean, low-cost energy to fight climate change. The Green Choice Program ([www.novascotiagcp.com](http://www.novascotiagcp.com)) was developed to allow Nova Scotia's large-scale energy customers to purchase up to 100% of their electricity use from local renewable energy sources.

## **NEW Map Rhodena Wind Layout: 6 turbines, producing 42 megawatts of clean energy**

Now, up to 6 wind turbines would be placed on the hills between Route 19 and Trans-Canada Highway 105 in the Municipality of the County of Inverness on private land where we have the permission of the landowner. This renewable energy project would produce an estimated 42 megawatts of green energy – enough to power more than 13,600 homes annually!

### **Why the change from 15 turbines to 6?**



The Green Choice program has a new requirement to build on private land only, so we are no longer utilizing Crown lands for our turbines. We are hopeful this new layout, with a reduced footprint and only 6 turbines (previously 15), is accepted positively by the community. We look forward to hearing your feedback as we prepare to submit our Project into this procurement round in June 2024.

The Green Choice Program is administered by an independent advisor, Coho.

### **Construction and environment**

- Additional environmental studies are ongoing to help inform ABO Wind's Environmental Assessment, a required component to proceed with Project construction.
- The new layout will use nearly 70% existing roads, with about 10% of these requiring upgrades to ensure safe access and sufficient widening for equipment associated with wind turbine installation.
- With our new 6-turbine layout, we have reduced the amount of expected land disturbance caused by site preparation and construction by nearly 50 ha (from 155 ha to 107 ha).

### **Questions and Additional Information**

Website: [www.rhodenawind.ca](http://www.rhodenawind.ca) (the website includes our Project map and FAQs)

If you have any questions, concerns or feedback please reach out to us at any time. ABO Wind values your input as part of our Project planning. **Contact:** Heidi Kirby, Communications and Engagement Lead, Atlantic, at [heidi.kirby@abo-wind.com](mailto:heidi.kirby@abo-wind.com) or 902-329-9907.

## Current Project timeline:

Ongoing	Consultation and engagement with local community groups, businesses, First Nations, government, and other relevant organizations in the region. Consultation will continue throughout the life of the Project.
December 1, 2023	Green Choice RFP was released.
Winter/Spring 2024	Information sessions and ongoing local engagement.
June 14, 2024	The Project will be submitted for the Green Choice Program.
September 2024	Anticipated Green Choice project award.
2024-2025	Further field studies and Environmental Assessment (EA) submission.
2025-2026	Construction anticipated to begin with tree and road clearing.
2027-2028	Commissioning – The Project is producing clean energy.

Schedule is preliminary and is subject to change

## Community Benefits



### Health Benefits

The Project will offset emissions that would otherwise be emitted through the burning of fossil fuels. It will generate electricity without emitting greenhouse gases or air pollutants or any use of freshwater.



### Municipal Tax Payments

An estimated \$8-10M from ABO Wind to the municipality for local services and infrastructure over the lifetime of the project.



### Local Contracts and Jobs, and Spinoff Revenue

During development and construction, estimated 30 to 50 local jobs during construction. During operation, estimated 1-3 wind turbine technicians and other required maintenance work.



### Community Benefits Fund for Local Initiatives

## About ABO Wind Canada

ABO Wind Canada Ltd. has been a subsidiary of ABO Wind since 2017, with offices now located in Halifax, St. John's, and Calgary. Founded in 1996, ABO Wind is a Germany-based company with more than 1,200 employees in 16 countries.

Visit [www.abo-wind.ca](http://www.abo-wind.ca) to learn more.

# Inverness County council split on ABO Wind proposal

-by Rankin MacDonald

ABO Wind representatives, Sean Flemming and Heidi Kirby, appeared before Inverness County Council on Thursday to bring the councillors up to date on its plans to erect six wind turbines in the Rhodena Hills near Craigmore.

Some of the points made by ABO Wind included:

- ABO will submit a proposal in the Green Choice program on June 14<sup>th</sup>, 2024.
- Continued partnership with Eskasoni First Nation.
- Now 42 MW wind project with six turbines (118 m to hub, 199.5 m including tip

of blade); was 105 MW and 15 turbines in 2023.

- Enough energy to power approximately 15,000 homes annually.

- Approximately \$85M to \$95M CAPEX.

Land and location:

- All turbines located on private land. Previous a mix of Crown and private.

- Over 1200 m from nearest residences, 2100 m to Route 19.

- Excellent network of forestry roads, over 75 per cent of roads existing.

- Five open houses have taken place with 55 attendees at the two recent sessions.

- Two years of bird and bat radar and acoustics complete (number of birds not considered high).

- Additional field studies underway to support environmental assessment submission in 2025.

- Interactions between project and environmental components will be reviewed as part of the Effects Assessment in the Environmental Assessment Registration Document.

- Incorporating feedback from the public and a six-member Community Liaison Committee is in place with access for others.

They discussed benefits

and opportunities with an \$85 to \$95 million project coming to the municipality.

- **Opportunities right here:** Local Economic Development Policy, Indigenous Inclusion Policy, Community Benefit Funds, Local Contracts and Jobs, and Spinoff Revenue: 30-50 jobs during construction, one to three long-term for operations and maintenance.

- **Community benefits:**

Funds for communities in the vicinity of the project to help local initiatives each year through its life.

- **Municipal tax payments:** \$8-10 million from ABO Wind to the municipality for local services and infrastructure over the lifetime of the project.

- **Health benefits:** The project will offset emissions that would otherwise be emitted through the burning of fossil fuels. It will generate

electricity without emitting greenhouse gases or air pollutants or any use of fresh water.

A project-specific Emergency Management Plan will be developed.

If its submission to the Green Choice Program is successful the award will be made in September with construction anticipated to begin with tree clearing and access roads.

CONTINUED NEXT PAGE

## ABO Wind towers stir up discussion at council

From previous page

The project could be producing energy by 2027-2028.

"We respect and understand those who are opposed," said Flemming. "But we will have open and honest discussions."

Deputy Warden Gillis said she has received "lots of concerns."

She was told the lifetime of the project is 25 years and it will bring \$350,000 a year in taxes to the municipality.

Gillis pointed out that some residents didn't get mail-outs which was unfortunate.

She suggested an "open door" to locals on the liaison committee with a cross section of community members for and against.

Councillor Lynn Chisholm pointed out that the towers will always be there affecting the vista and wildlife.

Councillor Claude Poirier said the towers in his

district are out of sight so no one sees them.

Flemming said they can't erect towers on Crown land.

Councillor John

MacLennan said you can't please everyone.

"So what if you see them. You see them once and they don't bother me

CONTINUED NEXT PAGE

## Wind tower proposal to be settled in September

From previous page

and then you don't look," he said.

"I support the project," he added. "I support you 100 per cent. I think it should go ahead."

ABO will be responsi-

ble for decommissioning.

Gillis added that the council must protect the residents with its by-law.

Warden MacIsaac asked, "Why here?"

Flemming said the winds are high, there are

roads, and there is transmission access.

The warden asked about the sound and vibrations.

"I'm not familiar with vibrations," he replied.

The county will know the outcome by September.



## APPENDIX B GREENHOUSE GAS

---

Table 1: Baseline GHG Quantification - Rhodena

Project # 24-9952

Power Generation via Coal			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Coal	54,527,952	kWh/year	Based on 34% of electricity generated by NSPI in 2023
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Coal Generated Electricity	1.0439	kg CO <sub>2</sub> e/kWh	[Source: USEIA, 2022]
<i>Conversion Factor</i>	0.001	t CO <sub>2</sub> e/kWh	1 kg = 0.001 Tonnes
Emissions	56,920.72	t CO <sub>2</sub> e/year	B5*B8*B9
Power Generation via Oil			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Oil	4,811,290	kWh/year	Based on 3% of electricity generated by NSPI in 2023
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Oil Generated Electricity	1.0902	kg CO <sub>2</sub> e/kWh	[Source: USEIA, 2022]
<i>Conversion Factor</i>	0.001	t CO <sub>2</sub> e/kWh	1 kg = 0.001 Tonnes
Emissions	5,245.40	t CO <sub>2</sub> e/year	B14*B17*B18
Power Generation via Natural Gas			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Natrual Gas	32,075,266	kWh/year	Based on 20% of electricity generated by NSPI in 2023
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Natural Gas Generated Electricity	0.4404	kg CO <sub>2</sub> e/kWh	[Source: USEIA, 2022]
<i>Conversion Factor</i>	0.001	t CO <sub>2</sub> e/kWh	1 kg = 0.001 Tonnes
Emissions	14,126.25	t CO <sub>2</sub> e/year	B23*B26*B27
Power Generation via Wind			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Wind	68,961,821	kWh/year	Based on 43% of electricity generated by NSPI in 2023
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Wind Generated Electricity	0	t CO <sub>2</sub> e/kWh	
Emissions	0	t CO <sub>2</sub> e/year	B32*B35
<b>Total Emissions</b>	<b>76,292.36</b>	<b>t CO<sub>2</sub>e/year</b>	<b>B10+B19+B28</b>

User input data  
 Compiled data

Table 2: Construction Phase GHG Quantification - Rhodena

Turbine Fabrication			
Parameter/Variable	Value	Unit	Comments
Turbine Steel	840,000 kg/Turbine		Based on weights provided in NREL's 2015 Report [NREL, 2017]
	840.00 tonne/Turbine		1 kg = 0.001 Tonnes
Emission Factors			
Parameter/Variable	Value	Unit	Comments
General Steel	1.5 kg CO <sub>2</sub> e/kg		Estimated from the UK's mixture of steel types, excluding stainless steel (Inventory of Carbon & Energy (ICE), Version 2.0).
Conversion Factor	0.001 t CO <sub>2</sub> e/kg		1 kg = 0.001 Tonnes
Emissions	7,560.00 t CO <sub>2</sub> e		B5*B9*B10*6(WT)
Turbine Transportation			
Parameter/Variable	Value	Unit	Comments
Transportation Vehicle			
Heavy Duty Truck (Diesel)	1 ea		
Distance Travelled	5,753.00 km		From manufacturing facility to Chennai Port, India and Straight of Canso Superport, Mulgrave, NS, to Wind Turbine Laydowns (includes all the wind turbine components for all wind turbines).
Freight Weight	70.00 tonne		Estimate of each component; 792 tonnes/12 components
Marine Cargo and Containers (Diesel)	1 ea		
Distance Travelled	96,000 km		From Port in Chennai, India, to Straight of Canso Superport, Mulgrave, NS, (includes 6 WT).
Freight Weight	840.00 tonne		Cell B6
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Heavy Duty Truck	135 g CO <sub>2</sub> e/tonne·km		Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d]
Conversion Factor	0.000001 t CO <sub>2</sub> e/tonne·km		1 g = 0.000001 Tonnes
Emissions	54.37 t CO <sub>2</sub> e/year		B16*B17*B18*B24*B25
Marine Cargo and Containers (Diesel)	15.1 g CO <sub>2</sub> e/tonne·km		Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d]
Conversion Factor	0.000001 t CO <sub>2</sub> e/tonne·km		1 g = 0.000001 Tonnes
Emissions	1,217.66 t CO <sub>2</sub> e/year		B20*B21*B27*B28
Concrete Tower Foundation and Pedestal			
Parameter/Variable	Value	Unit	Comments
Concrete Production Quantity	2,500,000 kg		Based on a volume of 1,000 m <sup>3</sup> (per Wind Turbine Pad) and concrete density of 2,500 kg/m <sup>3</sup>
	2,500 tonne		1 kg = 0.001 Tonnes
	17.86 tonne/truck		
Concrete Transportation			
Concrete Truck	140 ea		[Source: Kenter, 2017 ]
Distance Travelled (freight)	188.43 km		Based on one-way trip from Concrete Supplier to each Wind Turbine Pad
Distance Travelled (no freight)	188.43 km		Based on one-way trip from each Wind Turbine Pad to Concrete Supplier
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Concrete Production	300 g CO <sub>2</sub> e/kg		0.3 kg CO <sub>2</sub> e/kg [Source: GHGenius v5.0d].
Concrete Truck (freight)	135 g CO <sub>2</sub> e/tonne·km		Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d].
Concrete Truck (no freight)	1,106 g CO <sub>2</sub> e/km		Emissions for calculating GHGs where the volume of fuel consumed is unknown but the distance travelled is known [Source: GHGenius v5.0d].
Conversion Factor	0.000001 t CO <sub>2</sub> e/tonne·km		1 g = 0.000001 Tonnes
Concrete Production Emissions	4,500.00 t CO <sub>2</sub> e/year		B33*B42*B45*6(WT)
Concrete Truck (freight) Emissions	63.60 t CO <sub>2</sub> e/year		B35*B37*B38*B43*B45
Concrete Truck (no freight) Emissions	29.18 t CO <sub>2</sub> e/year		B37*B39*B44*B45
Total Concrete Tower Foundation and Pedestal	4,592.77 t CO <sub>2</sub> e/year		B46+B47+B48
<b>Total Emissions (Construction Phase)</b>	<b>13,424.80 t CO<sub>2</sub>e</b>		<b>B11+B26+B29+B49</b>

User input data  
Compiled data

Table 3: Construction Phase GHG Quantification - Rhodens

Wind Energy			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generation via Winc	160,376,328 kWh/year		See Equation
$kWh = 6 \text{ Turbines} \times \frac{7 \text{ MW}}{\text{Turbine}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{24 \text{ hours}}{\text{day}} \times 0.4359 \times \frac{1000 \text{ kW}}{\text{MW}} = 160,376,328 \text{ kWh/year}$			
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Wind Generated Electricity	0 t CO <sub>2</sub> e/kWh		
Emissions	0 t CO <sub>2</sub> e/year		B5*B8
Maintenance			
Parameter/Variable	Value	Unit	Comments
Nacelle Components Replacement	11,431 kg/Turbine		15% of Nacelle [Source: Source: Padey et al., 2012, (Number Three Wind LLC, 2018
Blade Replacement	18,688 kg/Turbine		One Blade [Source: Source: Padey et al., 2012, (Number Three Wind LLC, 2018
Emission Factors			
Parameter/Variable	Value	Unit	Comments
General Steel	1.5 kg CO <sub>2</sub> e/kg		Estimated from the UK's mixture of steel types, excluding stainless steel (Inventory of Carbon & Energy (ICE), Version 2.0).
Conversion Factor	0.001 t CO <sub>2</sub> e/kg		1 kg = 0.001 Tonnes
Emissions	45.18 t CO <sub>2</sub> e/turbine		(B13+B14)*B17*B18
<b>Total Emissions</b>	<b>271.07 t CO<sub>2</sub>e</b>		<b>B9+B19*6 (WT)</b>

User input data  
 Compiled data

APPENDIX C  
GROUNDWATER WELLS

---

Well Number	Address	Community	County	Year Installed	Well Depth (m)	Casing Depth (m)	Bedrock Depth (m)	Static (m)	Yield (Lpm)	Elevation (m)	Well Type	Water Use	Easting	Northing
1901	PORT HASTINGS	CRAIGMORE	INVERNESS	2000-10-02	22.23	12.18	8.53	6.7	113.5	103	DRILLED	Domestic	619500	5068500
1906	JUDIQUÉ	LONG POINT	INVERNESS	2000-09-08	29.54	12.18	9.74	3.04	158.9	65	DRILLED	Domestic	618500	5073500
1921	CREIGNISH, BRAS D'OR	LONG POINT	INVERNESS	2000-06-20	29.54	18.27	10.66	18.27	204.3	13	DRILLED	Domestic	617500	5073500
1926	QUEENSVILLE, SUGAR CAMP	CRANDALL ROAD	INVERNESS	2000-11-07	44.76	12.18	3.65	6.09	18.16	119	DRILLED	Domestic	628500	5062500
11109	RR#1 JUDIQUÉ, HIGHWAY #19	CRAIGMORE	INVERNESS	2001-05-25	37.15	21.32	19.79	12.18	68.1	103	DRILLED	Domestic	619500	5068500
11131	RR#1 JUDIQUÉ	LONG POINT	INVERNESS	2001-08-15	29.54	12.18	3.35	0.3	81.72	32	DRILLED	Domestic	618500	5074500
13569	2689 HIGHWAY #19	CRAIGMORE	INVERNESS	2001-03-27	37.76	12.18	-	-	27.24	30	DRILLED	Domestic	619171	5068384
13595	LONG POINT	CRAIGMORE	INVERNESS	2001-08-09	49.94	24.36	-	24.36	90.8	16	DRILLED	Domestic	618500	5070500
13702	HIGHWAY #105, RR#1 PORT HOOD	QUEENSVILLE	INVERNESS	2001-10-05	44.15	19.49	9.14	7.61	11.35	76	DRILLED	Domestic	627500	5064500
13725	HIGHWAY #105	QUEENSVILLE	INVERNESS	2001-09-26	44.15	30.45	27.4	3.04	27.24	76	DRILLED	Domestic	627500	5064500
22698	-	LONG POINT	INVERNESS	2002-01-17	37.76	12.18	9.14	6.09	54.48	32	DRILLED	Domestic	618500	5074500
31881	1114 GENERAL	CREIGNISH REAR	INVERNESS	2003-06-25	30.15	6.09	3.96	3.65	27.24	202	DRILLED	Domestic	623764	5064102
31886	PO BOX 290	LONG POINT	INVERNESS	2003-07-29	22.84	12.18	8.22	9.14	36.32	13	DRILLED	Domestic	617500	5073500
31897	3570 HIGHWAY #19	CREIGNISH	INVERNESS	2003-10-27	30.45	12.18	4.57	4.57	27.24	20	DRILLED	Domestic	617849	5072494
31902	2930 HIGHWAY #19	CRAIGMORE	INVERNESS	2003-11-27	37.76	12.18	8.53	11.57	54.48	41	DRILLED	Standby	618968	5069602
32236	-	LONG POINT	INVERNESS	2003-10-01	24.36	20.4	16.75	-	90.8	13	DRILLED	Domestic	617500	5073500
32311	LONG POINT ROAD	LONG POINT	INVERNESS	2003-05-29	31.67	21.32	-	-	36.32	13	DRILLED	-	617500	5073500
32336	3601 HIGHWAY 19	LONG POINT	INVERNESS	2003-10-27	31.67	18.27	-	-	90.8	8	DRILLED	-	617567	5072562
32337	-	LONG POINT	INVERNESS	2003-10-28	31.67	24.36	-	-	90.8	2	DRILLED	-	617500	5072500
51837	Highway #105	QUEENSVILLE	INVERNESS	2005-10-12	60.6	12.18	3.65	42.63	113.5	122	DRILLED	Domestic	628120	5063505
62234	3240 HIGHWAY #19, CRAIGMORE	LONG POINT	INVERNESS	2006-05-01	48.72	18.27	14.62	-	54.48	41	DRILLED	Domestic	618235	5071843
72000	133 MACLEAN ROAD (CHISHOLM ROAD), LONG POINT	CENTENNIAL	INVERNESS	2007-06-25	29.54	11.72	9.14	8.22	22.7	66	DRILLED	Domestic	619295	5075041
81507	HIGHWAY #19 (ROUTE #19)	CRAIGMORE	INVERNESS	2008-02-21	48.72	18.27	11.57	-	181.6	26	DRILLED	Domestic	619018	5068681
101742	2414 (2412?) HIGHWAY #19 (ROUTE #19)	CREIGNISH	INVERNESS	2010-05-19	22.84	8.53	5.18	-	68.1	40	DRILLED	Domestic	619657	5066940
121255	3564 (3566) HIGHWAY #19 (ROUTE #19)	LONG POINT	INVERNESS	2012-10-17	56.33	8.22	8.22	-	90.8	42	DRILLED	Domestic	618164	5072513
121263	HIGHWAY #19 (ROUTE #19) (CIVIC 3351?)	CRAIGMORE	INVERNESS	2012-02-16	47.2	18.27	5.79	21.32	13.62	152	DRILLED	Domestic	619045	5071691
150331	3878 HIGHWAY #19	LONG POINT	INVERNESS	2015-11-27	31.97	18.27	12.79	12.18	90.8	30	DRILLED	Domestic	618264	5074018
150343	3133 HIGHWAY #19 (ROUTE #19)	CRAIGMORE	INVERNESS	2015-08-21	38.06	18.27	14.01	12.18	68.1	18	DRILLED	Domestic	618531	5070411
160996	3937 HIGHWAY 19	LONG POINT	INVERNESS	2016-10-24	25.88	18.27	13.7	12.18	68.1	20	DRILLED	Domestic	618086	5074210
660306	-	LONG POINT	INVERNESS	1966-10-13	31.97	11.57	10.66	10.96	18.16	84	DRILLED	Domestic	619418	5075367
660307	-	LONG POINT	INVERNESS	1966-10-18	27.4	21.32	21.32	5.18	36.32	67	DRILLED	Domestic	619665	5075142
660308	-	LONG POINT	INVERNESS	1966-10-27	21.92	13.7	13.09	10.66	18.16	71	DRILLED	Domestic	619289	5075117
680172	-	LONG POINT	INVERNESS	1968-10-02	21.62	13.55	11.57	1.83	136.2	66	DRILLED	Domestic	618527	5071125
681233	-	LONG POINT	INVERNESS	1968-03-15	21.32	14.92	13.7	-	27.24	13	DRILLED	Domestic	617500	5073500
690737	-	QUEENSVILLE	INVERNESS	1969-10-10	18.27	6.39	4.57	5.18	22.7	58	DRILLED	Domestic	627719	5066270
691179	-	LONG POINT	INVERNESS	1969-05-02	11.57	11.57	-	-	36.32	14	DRILLED	Domestic	617790	5072930
700626	NS OBS WELL - LONG POINT (082) HWY19	LONG POINT	INVERNESS	1970-03-02	18.27	13.09	10.66	6.09	18.16	16	DRILLED	Domestic	618131	5074277
700997	-	LONG POINT	INVERNESS	1970-08-25	14.62	11.88	10.66	-	22.7	23	DRILLED	Domestic	618024	5073557
701005	-	LONG POINT	INVERNESS	1970-07-18	18.27	17.05	15.22	-	22.7	19	DRILLED	Domestic	617824	5073290
701009	-	MABOU	INVERNESS	1970-07-24	9.44	9.44	-	-	363.2	27	DRILLED	Domestic	618077	5073509
701020	-	TROY	INVERNESS	1970-07-15	12.18	12.18	-	-	27.24	18	DRILLED	Domestic	617816	5072595
701029	-	LONG POINT	INVERNESS	1970-08-20	18.27	13.09	12.18	-	27.24	20	DRILLED	Domestic	618043	5074203
710092	-	LONG POINT	INVERNESS	1971-06-21	18.27	14.31	12.18	2.44	54.48	17	DRILLED	Domestic	617788	5073860
710109	-	LONG POINT	INVERNESS	1971-06-23	21.32	15.22	7.31	3.04	68.1	14	DRILLED	Domestic	618249	5074271
721209	-	LONG POINT	INVERNESS	1972-10-30	14.31	9.44	-	-	22.7	26	DRILLED	Domestic	618215	5074833
721213	-	LONG POINT	INVERNESS	1972-10-12	14.62	14.62	-	-	27.24	20	DRILLED	Domestic	617979	5074167
731646	-	LONG POINT	INVERNESS	1973-08-31	19.79	11.57	10.96	-	22.7	19	DRILLED	Domestic	617821	5073093
731647	-	CRAIGMORE	INVERNESS	1973-05-18	25.88	16.14	9.14	-	18.16	15	DRILLED	Domestic	618175	5074462
731652	-	LONG POINT	INVERNESS	1973-08-29	14.92	12.18	11.57	-	22.7	14	DRILLED	Domestic	617709	5072643
740179	RR#1	JUDIQUÉ	INVERNESS	1974-09-26	38.37	34.71	28.93	17.66	22.7	41	DRILLED	Domestic	619629	5074754

Well Number	Address	Community	County	Year Installed	Well Depth (m)	Casing Depth (m)	Bedrock Depth (m)	Static (m)	Yield (Lpm)	Elevation (m)	Well Type	Water Use	Easting	Northing
741465	-	CRAIGMORE	INVERNESS	1974-08-15	10.96	10.35	-	-	36.32	37	DRILLED	Domestic	618645	5070521
741486	-	CREIGNISH	INVERNESS	1974-02-25	42.93	22.53	21.32	-	18.16	51	DRILLED	Domestic	619418	5067729
741492	-	Long Point	INVERNESS	1974-04-09	25.88	13.4	10.66	-	36.32	13	DRILLED	Domestic	617675	5073006
741506	-	LONG POINT	INVERNESS	1974-04-12	15.83	13.4	11.57	-	18.16	23	DRILLED	Domestic	617920	5073321
751626	-	LONG POINT	INVERNESS	1975-04-30	15.22	13.4	12.18	-	36.32	13	DRILLED	Domestic	617500	5073500
751627	-	CRAIGMORE	INVERNESS	1975-03-27	27.4	9.14	7.61	-	22.7	103	DRILLED	Domestic	619500	5068500
751656	-	LONG POINT	INVERNESS	1975-01-01	13.4	13.4	-	-	54.48	13	DRILLED	Domestic	617500	5073500
761607	-	CRAIGMORE	INVERNESS	1976-04-22	25.88	15.22	15.22	-	31.78	103	DRILLED	Domestic	619500	5068500
770108	-	LONG POINT	INVERNESS	1977-08-04	44.46	13.4	10.05	6.09	31.78	20	DRILLED	Domestic	618698	5074437
771277	-	LONG POINT	INVERNESS	1977-01-01	15.53	13.7	12.79	-	36.32	37	DRILLED	Domestic	618861	5074184
771281	-	LONG POINT	INVERNESS	1977-12-16	35.02	16.75	10.66	-	18.16	30	DRILLED	Domestic	618344	5074636
771308	-	CREIGNISH	INVERNESS	1977-12-23	21.92	7.61	7	-	36.32	31	DRILLED	Domestic	619642	5066779
780848	-	Long Point	INVERNESS	1978-12-31	37.76	29.54	12.18	9.14	18.16	21	DRILLED	Domestic	617965	5074023
790158	-	LONG POINT	INVERNESS	1979-07-05	37.15	13.4	6.09	12.18	158.9	29	DRILLED	Domestic	618337	5074616
791393	-	CREIGNISH	INVERNESS	1979-12-04	9.74	8.83	5.48	0.91	22.7	38	DRILLED	Domestic	619532	5067265
830624	-	LONG POINT	INVERNESS	1983-09-06	15.83	11.27	10.66	3.04	45.4	16	DRILLED	Domestic	617755	5073029
840851	-	LONG POINT	INVERNESS	1984-07-24	33.19	11.27	10.35	15.22	18.16	34	DRILLED	Domestic	618368	5074661
850795	-	CENTENNIAL	INVERNESS	1985-11-26	25.58	8.53	5.48	4.26	36.32	126	DRILLED	Domestic	620943	5076623
860814	CREIGNISH MOUNTAIN	CREIGNISH	INVERNESS	1986-07-14	20.1	4.87	3.65	4.87	18.16	212	DRILLED	Domestic	622478	5065870
872049	LONG POINT	CENTENNIAL	INVERNESS	1987-12-11	50.24	19.49	18.27	-	90.8	32	DRILLED	Domestic	618500	5074500
872139	-	MCINTYRES MOUNTAIN	INVERNESS	1987-07-16	90.44	6.09	3.35	71.86	-	128	DRILLED	Domestic	627500	5069500
872145	-	PORT HASTINGS	INVERNESS	1987-08-04	29.54	12.18	4.26	3.04	18.16	170	DRILLED	Domestic	624500	5062500
882134	-	QUEENSVILLE	INVERNESS	1988-08-18	44.76	14.92	5.48	35.02	68.1	96	DRILLED	Domestic	628257	5063835
882155	-	CENTENNIAL	INVERNESS	1988-09-23	37.45	17.36	16.75	35.93	22.7	22	DRILLED	Domestic	618277	5074170
882156	-	LONG POINT	INVERNESS	1988-09-26	18.27	12.48	10.05	13.7	227	11	DRILLED	Domestic	617703	5072271
882163	-	CENTENNIAL	INVERNESS	1988-10-12	44.76	18.27	14.01	24.36	272.4	70	DRILLED	Domestic	619144	5075706
902199	-	LONG POINT	INVERNESS	1990-08-09	32.58	23.14	21.92	7.31	499.4	2	DRILLED	-	617500	5072500
910429	-	MACKDALE	INVERNESS	1991-06-03	60.9	5.79	1.52	-	6.81	149	DRILLED	Domestic	625500	5061500
912119	-	CENTENNIAL	INVERNESS	1991-10-16	29.54	16.75	5.48	10.66	454	17	DRILLED	Domestic	617754	5073155
912128	-	CREIGNISH REAR	INVERNESS	1991-07-12	29.54	6.09	3.04	6.09	181.6	201	DRILLED	Domestic	623500	5063500
921647	46 MACLAUGHLIN DRIVE	CRAIGMORE	INVERNESS	1992-05-04	29.54	25.88	2.44	16.44	22.7	36	DRILLED	Domestic	618691	5070345
931785	-	CREIGNISH	INVERNESS	1993-05-19	33.5	6.09	4.26	3.04	9.08	191	DRILLED	Domestic	623280	5064455
931813	-	QUEENSVILLE	INVERNESS	1993-09-02	24.36	12.18	3.65	2.44	181.6	42	DRILLED	Domestic	629369	5064016
942496	MACINTYRE ROAD	MACKDALE	INVERNESS	1994-10-17	67.9	11.88	2.44	35.63	90.8	104	DRILLED	Domestic	628667	5063185
952390	MACINTYRE MOUNTAIN	RHODENA	INVERNESS	1995-09-07	29.54	6.09	3.65	-	0	152	DRILLED	-	625500	5070500
972711	-	LONG POINT	INVERNESS	1997-05-29	29.54	18.27	17.05	10.66	158.9	32	DRILLED	Domestic	618500	5074500
972731	LONG STRETCH, SUGAR CAMP	CRANDALL ROAD	INVERNESS	1997-09-02	29.54	18.27	9.14	4.57	45.4	98	DRILLED	Domestic	629500	5062500
972743	MACLEOD AVENUE, PORT HAWKESBURY	CRAIGMORE	INVERNESS	1997-08-04	37.15	12.18	8.53	4.57	36.32	197	DRILLED	Domestic	619500	5070500
972861	PORT HAWKESBURY	CRAIGMORE	INVERNESS	1997-11-06	47.2	24.36	21.92	-	15.89	0	DRILLED	Domestic	618603	5069530
982248	-	MCINTYRES MOUNTAIN	INVERNESS	1998-05-25	37.15	36.54	-	12.18	6.81	73	DRILLED	Domestic	627940	5068741
982251	RR#1 JUDIQUÉ	LONG POINT	INVERNESS	1998-09-07	31.97	18.27	17.05	19.79	68.1	22	DRILLED	Domestic	617891	5072674
982263	PORT HAWKESBURY	LONG POINT	INVERNESS	1998-12-17	24.66	12.18	7.61	-0.03	68.1	7	DRILLED	Domestic	617535	5072562
982265	-	CREIGNISH REAR	INVERNESS	1998-05-15	22.23	6.09	0.91	3.04	68.1	202	DRILLED	Domestic	623755	5063640
991179	SUGAR CAMP	CRANDALL ROAD	INVERNESS	1999-07-29	21.92	12.18	5.79	6.7	136.2	140	DRILLED	Domestic	628500	5061500
993186	SUGAR CAMP	CRANDALL ROAD	INVERNESS	1999-06-21	24.36	9.44	7.61	5.48	45.4	117	DRILLED	Domestic	626500	5061500
				Min	1966-10-13	9.44	4.87	0.91	-0.03	0				
				Max	2016-10-24	90.44	36.54	28.93	71.86	499.4				
				Mean	-	30.55	14.68	10.18	11.47	70.27				

APPENDIX D  
WATERCOURSES

---



WATERCOURSE ID	FLOW TYPE	WATER DEPTH (m)	VELOCITY (m/s)	BANKFULL WIDTH (m)*	HABITAT CHARACTERISTICS	DIRECTION OF FLOW	SUBSTRATE COMPOSITION (%)	ENTRENCHMENT	BANK STABILITY
WC1	Perennial	0.02-0.08	0.05	1.1-1.4	Riffle, Run	East	Gravel (15), Muck (85)	Slightly entrenched	High
WC2	Perennial	0.04-0.12	0.05	0.5-3.8	Run, Pool	West	Muck (100)	Slightly entrenched	High
WC3	Perennial	0.01-0.18	0.05	0.8-1.4	Flat	Southwest	Muck (100)	Moderately entrenched	High
WC4	Perennial	0.05-0.19	0.05-0.14	0.5-1.6	Riffle, Run	South	Muck (100)	Moderately entrenched	High
WC5	Intermittent	0.11-0.20	0.0-0.01	1.50-2.30	Run	Southeast	Boulder (5), Rubble (40), Cobble (20), Gravel (30), Muck (5)	Slightly entrenched	Moderate
WC6	Perennial	0-0.13	0.05-0.43	2.1-4.5	Riffle, Run	West	Boulder (20), Rubble (30), Cobble (40), Gravel (5), Sand (5)	Slightly entrenched	High
WC7	Perennial	0.3-0.4	0.05	0.6-1.3	Flat, Run, Pool	West	Gravel (50), Muck (50)	Moderately entrenched	Low
WC8	Intermittent	0.09-0.45	0.05-0.07	0.9-2.2	Flat, Run, Pool	West	Rubble (10), Sand (30), Muck (60)	Slightly entrenched	Low
WC9	Intermittent	0.07-0.10	0.05	0.25-1.0	Flat, Run	Northwest	Cobble (10), Muck (90)	Moderately entrenched	Low
WC10	Perennial	0.18-0.28	0.06-0.33	2.38-5.23	Run, Pool, Chute/Falls/Cascade	South	Boulder (12), Rubble (28), Cobble (40), Gravel (15), Silt (5)	Slightly entrenched	Moderate
WC11 (Lamey Brook)	Perennial	0.14-0.23	0.17-0.5	4-4.3	Riffle, Pool	South	Cobble (40), Rubble (30), Boulder (20), Gravel (10)	Slightly entrenched	High
WC12	Perennial	0.03-0.13	0.05	1.05-1.34	Run	South	Cobble (10), Gravel (80), Sand (10)	Slightly entrenched	High
WC13	Perennial	0.11-0.39	0.05	0.8-1.1	Flat	Southeast	Muck (100)	Highly entrenched	High
WC14	Intermittent	0.15	n/a	n/a	Run	n/a	Gravel (5), Sand (15), Muck (80)	Slightly entrenched	Moderate
WC15	Perennial	0-0.31	0.05	0.9-2.0	Run	South	Rubble (10), Muck (90)	Moderately entrenched	High
WC16	Intermittent	0-0.14	0-0.05	0.30-0.90	Run	Southeast	Gravel (15), Sand (30), Muck (40), Clay/Mud (15)	Slightly entrenched	Moderate
WC17	Perennial	0.02-0.19	0.05	1.6-1.7	Riffle	Southeast	Boulder (25), Rubble (20), Cobble (10), Gravel (5), Muck (40)	Slightly entrenched	High
WC18	Perennial	0.03-0.36	0.05-0.08	1.5-4.1	Flat, Run	Southeast	Bedrock (50), Muck (50)	Slightly entrenched	Moderate
WC19	Intermittent	0-0.07	0.05	1.00-1.10	Riffle, Run	Southwest	Cobble (5), Gravel (5), Sand (5), Muck (85)	Slightly entrenched	High
WC20	Intermittent	0.00-0.05	0.05	0.3-1.1	Flat, Run	South	Rubble (5), Cobble (10), Gravel (15), Sand (20), Muck (20), Clay/Mud (30)	Slightly entrenched	High
WC21	Perennial	0.06-0.36	0.13-0.59	2.4-5.5	Riffle, Run, Pool, Cascades	South	Bedrock (15), Boulder (5), Rubble (20), Cobble (20), Gravel (10), Sand (10), Muck (10)	Slightly entrenched	High
WC22	Intermittent	0.0-0.02	0.05	1.5-3.0	Riffle, Flat	East	Boulder (50), Rubble (22), Cobble (18), Gravel (2), Muck (8)	Slightly entrenched	High
WC23 (MacMaster Brook)	Perennial	0.05-0.31	0.08-0.34	4.2-6.0	Riffle, Pool	East	Bedrock (5), Boulder (20), Rubble (20), Cobble (15), Gravel (40)	Slightly entrenched	High
WC24 (Lamey Brook)	Perennial	0.20-0.85	0.05-0.30	3.50-8.75	Run, Riffle, Pool	Southeast	Muck (100)	Heavily entrenched	High
WC25	Perennial	0.02-0.12	0.02-0.18	1.8-2.8	Run, Pool, Riffle	East	Boulder (20), Rubble (30), Cobble (30), Gravel (20)	Moderately entrenched	High
WC26	Perennial	0.04-0.05	0.03-0.30	1.18-3.10	Riffle, Run	North	Boulder (30), Rubble (30), Cobble (20), Gravel (15), Sand (5)	Moderately entrenched	High



Photo 1: Representative photo of WC1.



Photo 2: Representative photo of WC2.



Photo 3: Representative photo of WC3.



Photo 4: Representative photo of WC4.



Photo 5: Representative photo of WC5.



Photo 6: Representative photo of WC6.



Photo 7: Representative photo of WC7.



Photo 8: Representative photo of WC8.



Photo 9: Representative photo of WC9.



Photo 10: Representative photo of WC10.



Photo 11 Representative photo of WC11.



Photo 12: Representative photo of WC12.



Photo 13: Representative photo of WC13.



Photo 15: Representative photo of WC15.



Photo 16: Representative photo of WC16.



Photo 17: Representative photo of WC17.



Photo 18: Representative photo of WC18.



Photo 19: Representative photo of WC19.



Photo 20: Representative photo of WC20.



Photo 21: Representative photo of WC21.



Photo 22: Representative photo of WC22.



Photo 23: Representative photo of WC23.



Photo 24: Representative photo of WC24.



Photo 25: Representative photo of WC25.



Photo 26: Representative photo of WC26.