Natural Heritage Assessment Report Summary

RECORDS REVIEW

Information gathered during this stage of the process was used to determine if there are any of the following natural features within the Study Area:

- Provincial Parks and Conservation Reserves;
- Wetlands;
- Woodlands;
- Valleylands;
- Rare species and significant wildlife habitats; and,
- Areas of Natural and Scientific Interest (ANSIs).

This involved contacting the Ministry of Natural Resources (MNR), the Ministry of the Environment (MOE), the local Conservation Authority and the Municipalities to obtain any records they keep of these natural features within the Study Area.

SITE INVESTIGATION

After the Records Review, Site Investigations were conducted to confirm that the findings of the Records Review were correct, to identify any additional natural features not documented in the Records Review, and, finally, to define the boundaries and characteristics of the features (for example, what types of plants and animals live in a particular woodland).

The results of the Site Investigation revealed:

- ▲ 10 wetlands;
- 35 woodlands;
- 2 valleylands;
- → 14 candidate Significant Wildlife Habitats, including important habitats for bats, birds, and amphibians; and,
- 13 candidate generalized Significant Wildlife Habitats.

These natural features were carried forward to the evaluation of significance stage.

EVALUATION OF SIGNIFICANCE

At this stage, natural features are evaluated to determine if they are significant according to provincial criteria. If a feature is determined to be significant, an Environmental Impact Study (EIS) must be conducted to identify potential effects, propose mitigation measures, and describe how the potential effects will be addressed through the environmental effects monitoring plan.

Of the natural features identified through the Site Investigation, the following were determined to be significant and therefore will be addressed in the EIS:

- ▲ 10 wetlands;
- 30 woodlands;
- ∠ 2 valleylands;
- 11 Significant Wildlife Habitats; and,
- 13 generalized Significant Wildlife Habitats.

A detailed evaluation of significance of all potentially significant natural features and wildlife habitats within 120 m of the Bornish Wind Energy Centre Project area was completed. Of those evaluated as significant, 30 woodlands, 10 wetlands, 2 valleylands, 1 raptor wintering area, 7 bat maternity colonies, and 3 amphibian breeding habitats (woodland) required detailed consideration as part of the Environmental Impact Study.

In addition to wildlife habitats that have been confirmed to be significant through the completion of the evaluation of significance, several other wildlife habitats that could be considered to be significant have been identified. For the purpose of the NHA submission these habitats will be treated as significant with a commitment for additional preconstruction surveys to be undertaken during the appropriate season, prior to any construction activities. Wildlife habitats that have been treated as significant for the purpose of this EIS include 1 raptor wintering area, 7 bat maternity colonies, and 3 amphibian breeding habitats – woodlands.

Natural Heritage Assessment Report Summary

ENVIRONMENTAL IMPACT STUDY

For each natural heritage feature identified as significant, potential effects were assessed and mitigation measures/monitoring commitments proposed depending on the type of project infrastructure affecting the feature.



Below is a summary of some of the potential effects, mitigation measures and monitoring commitments from the effects assessment. For the full effects assessment, please refer to the Natural Heritage Assessment Report.

POTENTIAL EFFECTS FROM CONSTRUCTION/DECOMMISSIONING:

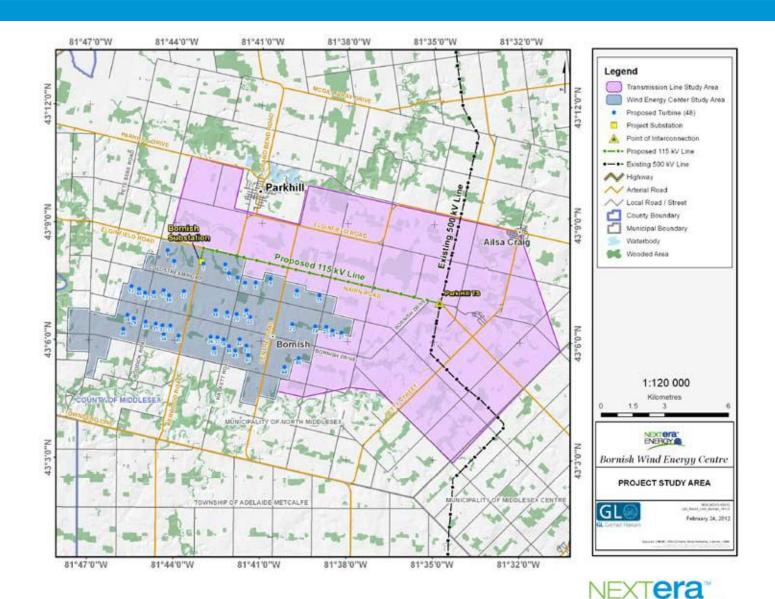
- Increased erosion, sedimentation and turbidity (i.e. an increase in soil in wetlands, water bodies and other significant features) from clearing vegetation for construction of access roads, temporary crane paths, etc. To avoid or lessen these effects, erosion control fencing will be used and kept in place until the disturbed areas are stabilized, all stockpiled materials will be kept away from the features and periodic monitoring will occur during construction to ensure compliance with these mitigation measures.
- A Damage to vegetation while operating construction equipment. To avoid or lessen these effects, protective fencing will be installed around construction areas to ensure that no work occurs outside the identified zones, and periodic monitoring will occur during construction to ensure compliance.
- Soil and water contamination from accidental spills of oils, gasoline or grease. To avoid or lessen these effects, a spill response plan will be developed to outline steps to be taken to contain any chemicals and avoid contamination of features. The Design and Operations Report contains an Emergency Response and Communication Plan which outlines action to be taken should a spill occur; including notifying the MOE's spills Action Centre, if required, and the local municipalities.

POTENTIAL EFFECTS FROM OPERATION:

Disturbance or mortality to wildlife (e.g. birds and bats) from collisions with turbines. To avoid or mitigate these effects, operational mitigation techniques will be implemented if impacts are observed to be above provincial thresholds. Monitoring will consist of three years of post-construction mortality surveys for birds and bats which will be submitted to the MNR.

The overall conclusion of the Natural Heritage Assessment Report is that this Project can be constructed and operated without any remaining effects that could harm the environment. Post-construction monitoring related to effects on wildlife, including birds and bats, will be undertaken to confirm this conclusion.

Natural Heritage Assessment Report Summary



Have A Question?

We hope you find this Plain Language Summary helpful. In case you would like additional information or have any questions, please contact us directly:

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CANADA

Noise Assessment Report Summary

APRIL 2012

Bornish Wind LP is proposing to develop the Bornish Wind Energy Centre (the "Project"). Bornish Wind LP is a wholly-owned subsidiary of NextEra Energy Canada ULC. The parent company of NextEra Energy Canada ULC is NextEra Energy Resources, LLC, with a current portfolio of nearly 8,500 operating wind turbines across North America. The Project is located in the Municipality of North Middlesex and will consist of 45, 1.62 MW turbines with a total nameplate capacity of 72.9 MW, though 48 turbine locations will be permitted.

The purpose of the Noise Assessment Report is to ensure that sound produced from the operating wind turbines and the transformer substations remain within Provincial guidelines at certain Points of Reception (Points of Reception are defined on page 2).





Noise Assessment Report Summary

STUDY PROCESS

According to Ontario Regulation 359/09, the regulation governing renewable energy approvals in the Province, turbines must be sited 550 metres (m) from non-participating Points of Reception. In addition, sound levels at non-participating points of reception cannot exceed 40 decibels (dBA) once the turbines and transformer substations are in operation. The Ministry of Environment (MOE) also requires that the sound effects from existing wind turbines are included in the analysis.

The transformer substation at the point of interconnect (i.e. the Parkhill Substation) for this project was evaluated separately using the "Basic Comprehensive Certificates of Approval (Air) – User Guide", due to the fact that it is greater than 5 km from the project site. This requires a search radius of up to 1,000 m for Points of Reception (POR). This study includes Points of Reception found within 2,000 m of the proposed main power transformer location in order to present modeling results up to 40 dBA.

POINTS OF RECEPTION

A Point of Reception, or noise receptor, is a location where sound created by the Project is received. The following table describes the number and type of Points of Reception that were included in the noise analysis and whether MOE guidelines apply.

Points of Reception include buildings used for overnight stay, such as houses or apartments, in addition to schools, day care centres, churches, etc. Note that the noise analysis also considers potential Points of Reception on vacant lands where there are currently no buildings or structures. These are referred to as Vacant Lot Points of Reception.

Wind farm Points of Reception

Number of Points of Reception	Description	Remarks		
66	Non-participating	MOE guidelines apply		
31	Participating	MOE guidelines do not apply		
86	Vacant Lot Receptors MOE guidelines apply			

Point of interconnect Points of Reception

Number of Points of Reception	Description	Remarks MOE guidelines apply		
19	Non-participating			
21	Vacant Lot Receptors	ptors MOE guidelines apply		



Noise Assessment Report Summary

Any Point of Reception classified as non-participating is subject to noise level limits outlined in the MOE guidelines. Participating Points of Reception are not subject to noise level limits because the parcels of land host infrastructure associate with the Project.

RESULTS

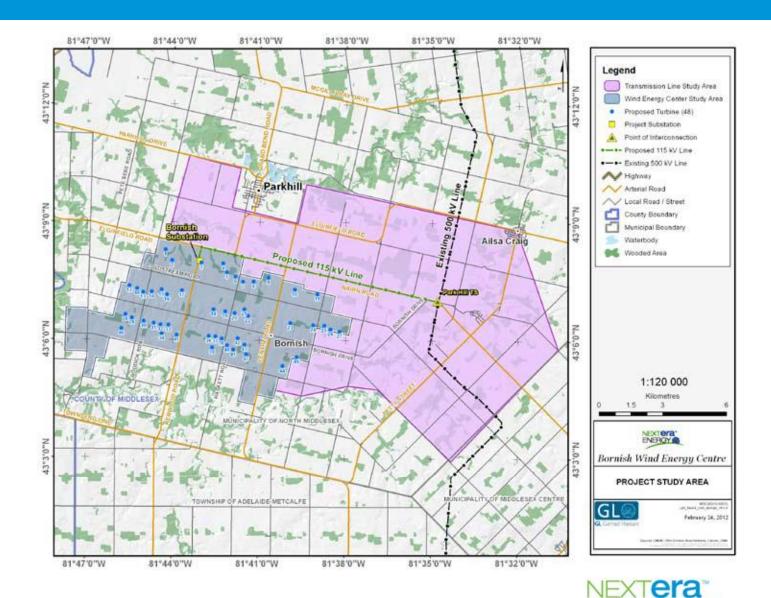
After modelling predicted noise levels from the proposed turbines, transformer substations and the proposed Napier Wind Farm, it was concluded that:

- All Non-Participating Points of Reception comply with MOE guidelines for wind turbines meaning that they are predicted to be below the 40 dBA noise threshold and are greater than 550 m from the nearest wind turbine.
- All Non-Participating Vacant Lot Points of Reception comply with MOE guidelines for wind turbines meaning that they are predicted to be below the 40 dBA noise threshold and are greater than 550 m from the nearest wind turbine.
- All Points of Reception comply with MOE guidelines for transformer substations.





Noise Assessment Report Summary



Have A Question?



CANADA

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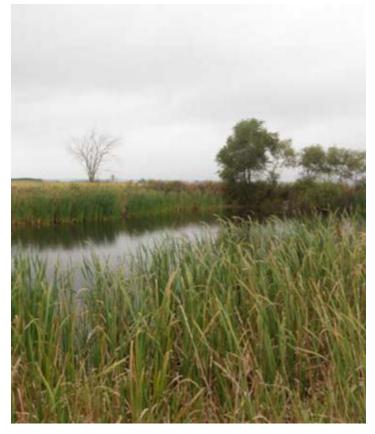
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Water Assessment and Waterbody Report Summary

APRIL 2012

Bornish Wind LP is proposing to develop the Bornish Wind Energy Centre (the "Project"). Bornish Wind LP is a wholly-owned subsidiary of NextEra Energy Canada ULC. The parent company of NextEra Energy Canada ULC is NextEra Energy Resources, LLC, with a current portfolio of nearly 8,500 operating wind turbines across North America. The Project is located in the Municipality of North Middlesex and will consist of 45, 1.62 MW turbines with a total nameplate capacity of 72.9 MW, though 48 turbine locations will be permitted.

The purpose of the Water Assessment and Water Body Report is to first identify water bodies within 120 metres (m) of the proposed Project Location (the Project Location is defined as outer limit of where disturbance will occur due to construction or operation of the Project), and then to identify potential effects, mitigation measures and residual effects, if any. Residual effects are "left over" effects once mitigation measures have been applied for these water bodies.







Water Assessment and Waterbody Report Summary

RECORDS REVIEW

Information gathered under this stage of the process was used to determine if there are any water bodies in the Project Location or within 120 m of the Project Location. This involved contacting the Ministry of Natural Resources, the Ministry of the Environment, the local Conservation Authority and the Municipalities to obtain any records they keep of water bodies within the Study Area.

The results of the Records Review identified 27 potential water body crossings and 47 potential water bodies present within 120 m of the high water mark of a permanent or intermittent stream (excluding those indicated as crossings).

SITE INVESTIGATION

Following the Records Review, Site Investigations were conducted to confirm that the findings of the Records Review were correct, to identify any additional water bodies not documented in the Records Review, and finally to define the boundaries of the water bodies.

During the Site Investigations, an overall assessment of the water body was conducted based on a number of criteria including stream measurements, quality of fish habitat and the surrounding land uses (for example agriculture uses and any type of livestock, adjacent houses, roads, meadows or wetlands, etc.). Findings of the site investigations confirmed the presence of 17 water body features within the project area. A total of 21 sites within these features were identified as occurring within 120 m of a project component. No lakes, Lake Trout lakes, or seepage areas were identified within 120 m of the Bornish Wind Energy Centre project location.

DESCRIPTION OF ENVIRONMENTAL EFFECTS

For each water body identified through the Site Investigation, potential effects were assessed and mitigation measures proposed depending on the type of project infrastructure affecting the feature.

Below is a summary of some of the potential effects, mitigation measures and monitoring commitments from the effects assessment. For the full effects assessment, please refer to the Water Assessment and Water Body Report.

POTENTIAL EFFECTS FROM CONSTRUCTION/DECOMMISSIONING

Erosion and sedimentation (i.e. increase in soil in watercourse) from clearing vegetation. To avoid or mitigate these effects, an erosion and sediment control plan will be developed before construction. Erosion blankets, erosion control fencing and straw bales will be used, where necessary to control erosion and prevent soil from entering the watercourse.



Water Assessment and Waterbody Report Summary

- Degradation of fish habitat from access roads crossing water courses. To avoid or mitigate these effects, culverts will be designed and installed in a way that prevents barriers to fish movement, the culverts will be embedded below the stream bed to maintain water flow and the culverts will be regularly maintained to ensure debris does not build-up.
- Soil compaction which could increase water runoff into watercourses. To avoid or mitigate these effects, changes in land contours and natural drainage will be minimized and temporary storage basins will be installed to allow water to infiltrate, or permanent stormwater management facilities will be used as necessary. Prior to construction a Stormwater Pollution Prevention study will be conducted and submitted to the municipalities.

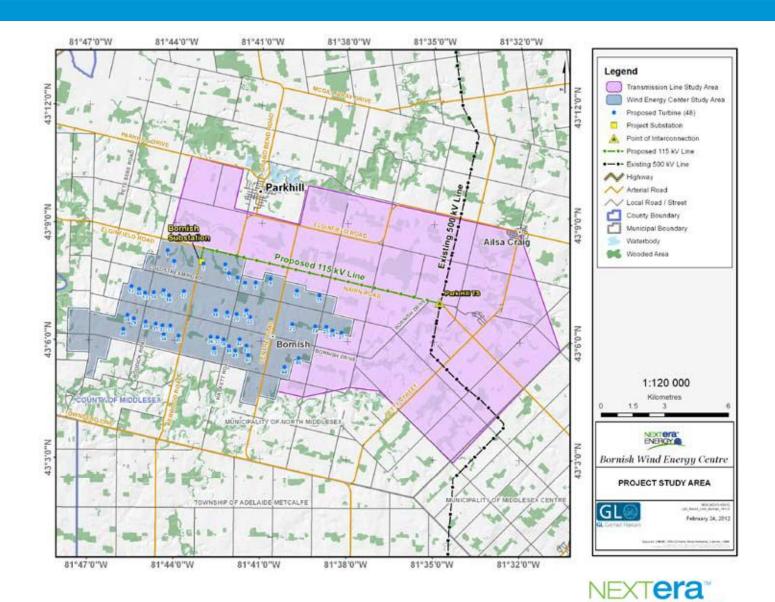
POTENTIAL EFFECTS FROM OPERATION

Water contamination is possible, although unlikely, due to accidental spills associated with maintenance activities. A spill response plan will be developed and an emergency spill kit will be kept on site. In addition, the Ministry of the Environment and the local municipalities will be notified of any spills, if required.

The overall conclusion of the Water Assessment and Water Body Report is that this Project can be constructed and operated without any remaining effects that could harm the environment.



Water Assessment and Waterbody Report Summary



Have A Question?

We hope you find this Plain Language Summary helpful. In case you would like additional information or have any questions, please contact us directly:

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CANADA

Wind Turbine Specification Report Summary

APRIL 2012

Bornish Wind LP is proposing to develop the Bornish Wind Energy Centre (the "Project"). Bornish Wind LP is a wholly-owned subsidiary of NextEra Energy Canada ULC. The parent company of NextEra Energy Canada ULC is NextEra Energy Resources, LLC, with a current portfolio of nearly 8,500 operating wind turbines across North America. The Project is located in the Municipality of North Middlesex and will consist of 45, 1.62 MW turbines with a total nameplate capacity of 72.9 MW, though 48 turbine locations will be permitted.

The purpose of the Wind Turbine Specification Report is to provide specific information on the turbine proposed for the Project; this includes the size, sound levels and the amount of electricity produced.





Wind Turbine Specification Report Summary

TURBINE SPECIFICATIONS

BLADES AND TOWER

The wind turbine technology proposed for this Project is the 1.62 megawatt GE model wind turbine. The turbines are 80 m tall with three, approximately 50 m long blades.

LIGHTING

Some of the wind turbines will have external lighting in accordance with the requirements of Transport Canada (TC) for aviation safety. NextEra will consult with TC regarding the number of turbines requiring lighting.

TURBINE MONITORING

The wind turbines are continuously monitored throughout the operations phase of the Project. The turbines are equipped with a mechanism for automatically or manually controlling the turbines, either from the control centre or from the actual turbine.

BRAKE SYSTEM

To stop turbine operation braking is accomplished by feathering the blades out of the wind – meaning that each blade rotates so it no longer catches wind.

Specification	Turbine				
Make	General Electric				
Model	1.62-100				
Name Plate Capacity	1.6 MW				
Hub Height	80 m				
Rotor Diameter	100 m				
Minimum Rotational Speed	9.75 rpm				
Maximum Rotational Speed	16.2 rpm				

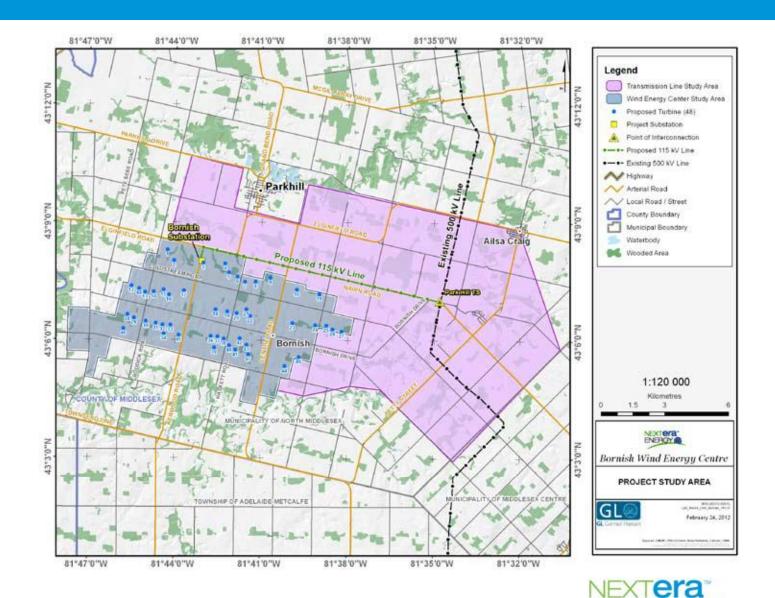
Wind Turbine Specification Report Summary







Wind Turbine Specification Report Summary



Have A Question?



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CANADA

Construction Plan Report Summary

APRIL 2012

Bornish Wind LP is proposing to develop the Bornish Wind Energy Centre (the "Project"). Bornish Wind LP is a wholly-owned subsidiary of NextEra Energy Canada ULC. The parent company of NextEra Energy Canada ULC is NextEra Energy Resources, LLC, with a current portfolio of nearly 8,500 operating wind turbines across North America. The Project is located in the Municipality of North Middlesex and will consist of 45, 1.62 MW turbines with a total nameplate capacity of 72.9 MW, though 48 turbine locations will be permitted.

The purpose of the Construction Plan Report is to describe all activities that are part of the Project's construction phase so that possible negative environmental effects can be identified. The report also presents mitigation measures/monitoring commitments and residual effects, if any. Residual effects are "left over" effects once mitigation measures have been applied.





1

Construction Plan Report Summary

DESCRIPTION OF CONSTRUCTION AND INSTALLATION ACTIVITIES

The table below presents the anticipated construction schedule and approximate order of construction activities for the proposed Project; although some construction activities will overlap. The construction phase of the Project is anticipated to begin in late summer/early fall 2013 and last 6 months.

CONSTRUCTION SCHEDULE

	—(Activity)	МО	M1	M2	М3	M4	M5	М6
-	Surveying (prior to construction)	.						
-	Geotechnical Sampling (prior to construction)	.						
-	Land Clearing and Construction of Access Roads		<u></u>	.				
-	Temporary Crane Paths			.				
-	Installation of Culverts		<u></u>					
-	Construction of Laydown Area			.				
-	Turbine Site and Crane Pad Construction			.	.			
-	Delivery of Equipment		6	.		.	.	
-	Construction of Turbine Foundations				.			
-	Wind Turbine Assembly and Installation				<u> </u>	.	.	.
-	Construction of Electrical Collector System						.	
-	Construction of Transformer Substation					<u></u>	.	
-	Construction of Operations Building						.	<u></u>
-	Land clean up and Reclamation			<u></u>		<u></u>	<u></u>	
-	Turbine Commissioning							<u></u>

Construction Plan Report Summary

CONSTRUCTION ACTIVITIES

SURVEYING AND GEOTECHNICAL STUDIES

- Surveys are required to identify locations of major Project components; this involves surveyors walking around the sites and marking locations using stakes.
- △ Geotechnical sampling is required to locate turbine foundations; this involves drilling boreholes (i.e. holes about 5 centimetres (cm) wide and 1 metre (m) deep drilled in the ground) to collect information on the type of soil below ground.

LAND CLEARING AND CONSTRUCTION OF ACCESS ROADS

- Access roads and crane paths will be 11 m wide during the construction phase and are required to transport equipment to the turbine location construction sites.
 - First, the land is cleared and the topsoil is removed, stored for later use and replaced with a layer of gravel.
 - Following construction, the gravel will be removed and replaced with topsoil; some access roads will remain in place for maintenance activities.

CONSTRUCTION OF LAYDOWN AREAS

- Construction laydown areas are approximately 4 hectares (ha) in size and are used to temporarily store construction equipment.
 - First, the land is cleared and topsoil is removed, stored for later use and replaced with a layer of gravel.
 - Following construction, the gravel will be removed and the topsoil returned.



Construction Plan Reports Summary

CONSTRUCTION OF TURBINE SITES AND CRANE PADS

- Turbine laydown areas are approximately 122 m by 122 m and are used to store wind turbine components during construction.
 - First, the turbine site is cleared and levelled and topsoil is removed, stored for later use.
- Crane pads are approximately 15 m by 35 m and are used to support the large cranes during construction, particularly when they lift the nacelle into place.
 - First, the topsoil is removed, stored for later use and replaced with a layer of gravel.
 - Following construction, the crane pad will be restored to pre-construction condition.

CONSTRUCTION OF TURBINE FOUNDATIONS

- Turbine foundations are approximately 400 m².
 - First, an area approximately 3 m deep x 20 m x 20 m is dug and the earth is stored for later use.
 - The foundations are shaped like an upside-down mushroom and made of a wooden frame, poured concrete and steel rebar to provide strength, with only a small portion of the 'stem' visible once construction is complete



After construction, the subsoil and topsoil will be returned and the area can be farmed to within a few metres of the turbine.

WIND TURBINE ASSEMBLY AND INSTALLATION

Once turbine foundations are complete and the concrete has set, the turbines will be constructed, usually in five lifts (three for the towers, one for the nacelle - which houses the main components of the wind turbine such as the rotor shaft, control panel, generator, etc. - and one for the rotor with the blades already mounted).

CONSTRUCTION OF ELECTRICAL COLLECTOR SYSTEM (INCLUDING PAD MOUNTED TRANSFORMERS AND UNDERGROUND COLLECTION LINES)

Pad Mounted Transformers are approximately 2.2 m by 2.5 m in size and are used to "step-up" the electricity generated by the turbine to 34.5 kV.

Construction Plan Reports Summary

- First, soil in the area is removed and stored for later use.
- Once the grounding equipment, concrete pad and transformer are in place, the electrical connectors are installed.
- Collection lines are electrical cables that are used to connect each turbine to the Bornish Substation.
 - First, soil in the area is removed and stored for later use.
 - The collection lines are generally buried 0.9 m below ground.
 - Some collection lines will be tunnelled below woodlots or watercourses to avoid effects to natural
 areas.
 - In these cases, entrance and exit points will be created on each side of the natural area to be crossed, the tunnel between the two points will be excavated, and the electrical cable will be fed from the entrance to the exit point.

CONSTRUCTION OF TRANSFORMER SUBSTATION

- The transformer substation with a total footprint of 2-3 ha is used to "step-up" electricity from the collection lines (34.5 kV) to 115 kV for transmission to the Parkhill Substation, where the voltage will be stepped up to 500 kV.
 - First, soil in the area is removed, stored for later use and replaced with a layer of gravel, if needed.
 - A containment system will be constructed around the transformer to prevent soil contamination in the event there is an oil leak.

CONSTRUCTION OF ELECTRICAL TRANSMISSION LINE

- The 115 kV electrical transmission line will connect the electricity generated by the wind Project from the Bornish Substation to the proposed Parkhill Substation where it will be fed into the Provincial electricity grid.
- The transmission line will be mounted on existing poles or on new poles, to be determined during the engineering and design phase and with Hydro One Networks Inc.
- New poles will be constructed of wood, concrete or steel and will be 18 − 30 m tall with the poles buried 1 to 2 m below ground.
- Once poles are in place, the cables will be strung between the poles.



Construction Plan Reports Summary

CONSTRUCTION OF OPERATION AND MAINTENANCE BUILDING

- An operations building will be built for the Project or an existing building will be purchased/leased. The operations building is approximately 30 m by 15 m in size and is used to monitor the daily operations of the wind energy centre.
- Drinking water will be supplied by a well or through the municipal water system and if required, a septic bed will be constructed for the disposal of sewage.

CONSTRUCTION OF PERMANENT METEOROLOGICAL TOWER(S)

- The meteorological tower(s) are approximately 80 m high and used to monitor wind conditions at the Project site.
- They will either be monopole (a single pole) or lattice structure (a framework tower) and will be secured with three guy wires.

CLEAN UP AND SITE RECLAMATION

- Site clean-up will occur throughout the construction phase and site reclamation will occur after construction has been completed.
- Materials will be recycled as much as possible and waste will be removed from the site and disposed of at an appropriate facility.
- All disturbed areas will be restored with the stockpiled soil and reseeded, as appropriate.

Effects Assessment

The following flow chart describes the effects assessment process from the first stage of identifying potential effects through to describing residual effects (i.e. effects remaining after mitigation measures are applied) and conducting monitoring.

This section provides a summary of some of the potential effects, mitigation measures and monitoring commitments from the effects assessment. For the full effects assessment, please refer to the Construction Plan Report.

Identify potential effects

Describe desired outcome of mitigation (i.e., performance objective)

Propose mitigation

Describe effects remaining after applying mitigation

In some cases, conduct monitoring to ensure mitigation measures achieve objectives