

Loyalist Township Staff Report Windlectric Post-Construction Summary Review Regular Council Meeting

Report Number: SR- 877



Meeting: 2nd Session - Regular Council - 14 Jan 2019
Type: Regular Council
Department: Infrastructure Services
Report Date: January 3, 2019
Author: Kyle Labbett

Executive Summary:

Windlectric has now completed construction of the wind turbines, as well as road work on Amherst Island, and has submitted their Post-construction Study. This Study was required as a condition of the Road Use Agreement (RUA). Windlectric has indicated that, in the opinion of their consultant, they have completed the repair of all deficiencies. As such, they anticipate that they qualify for the reduction of their construction securities, approximately \$19 million, to the amount the Township is to retain during the warranty period, being \$500,000.

The RUA required the Post-construction Study to be completed after the turbine construction and prior to doing any repairs. Windlectric never properly finished their road construction and waited until this fall to complete several activities. After limited activity in the summer months, Windlectric attempted to finished off the completion of the original road improvements, required by the Pre-construction Study, as well as clean up deficiencies, all at the same time.

The Township's consultant, Jewell Engineering, has been onsite throughout the construction and remediation phases. Based on their observations, they believe there are several outstanding items which need to be addressed, or that require additional information from Stantec Consulting, the engineering group hired by Windlectric.

As per the RUA, the Township has thirty (30) days to respond with deficiencies from the day the Post-Construction Study was received. Windlectric submitted the report, prepared by Stantec, on December 24, 2018, at approximately 1 pm. Due to the Christmas holiday, the office was closed, and the report was not received until the morning of December 27. Based on that date, the Township is required to respond to Windlectric by January 26, 2019.

Township staff intend to provide a list of deficiencies to Windlectric, in accordance with the RUA.

Recommendation:

That the report from the Engineering Technician II, January 8, 2018, re: Windlectric Post-Construction Summary Review, be received; and that staff be directed to forward the comments on the Post-construction Study and related deficiency list, to Windlectric.

Background:

Windlectric obtained approval from the provincial government, under the Green Energy program, to construct 26 wind turbines with a capacity of approximately 74.3 megawatts on Amherst Island. Loyalist Township entered into a Road Use Agreement (RUA) with Windlectric Inc. and Algonquin Power Co. in 2015. The RUA details how construction activities would be permitted to affect municipal roads and rights of way, including how each party could go about dealing with any issue that would arise throughout construction, and what Windlectric would provide to the municipality, following construction.

Windlectric completed the turbine work in the spring of 2018, and the project achieved its Commercial Operation Date in late June. Windlectric and their subcontractors left the island for the summer, without completing a significant amount of road repair work. Upon Windlectric's return in the fall of 2018, they had replaced Pennecon Heavy Civil, with Morven Construction, to complete the outstanding road work. This work included replacing and/or repairing damaged culverts, installing missing Combigrid, and repairing shoulders and ditches, to allow water to drain from the road platform. Morven Construction also shaped the roads to return them to a uniform driving platform, along the entirety of the improved road.

As part of the post construction work, Windlectric provided "as-built" drawings detailing the changes that were made to the municipal road infrastructure, as well as an updated Culvert Inventory Report, detailing which culverts were replaced, repaired, or left in place.

Status:

Windlectric was moderately cooperative through most of their autumn work and until December were generally achieving good results. Marine logistical issues forced them to have equipment removed from the Island prior to Seaway closures. Not being able to use the ferry has been a handicap for their operations. Windlectric feels they have completed all construction activities on the island, and have removed all construction equipment. Morven Construction has been retained by Windlectric to provide snow clearing to the turbine sites and currently has a grader on the island. All other equipment has been demobilized and removed from the site.

Stantec Consulting Ltd. has completed their post-construction study of the affected island roads, and has noted the following deficiencies caused by construction activities:

South Shore Road:

- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

Front Road:

- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

Second Concession Road:

- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

Third Concession Road:

- The entrance at the west limit of construction (station 30+260) requires final clean-up grading and seeding;
- Culvert marker and Wa-33R sign at 34+245 needed to be reinstated;
- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

Stella Forty-Foot Road:

- The entrance at the south end of the construction limits (station 40+150) requires final clean-up grading and seeding;
- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

Lower Forty-Foot Road:

- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

Dump Road:

- No remaining damage or adverse effects created by construction of the project were identified on this road segment.

“Subject to Section 24 of the Road Use Agreement, we therefore confirm, in our opinion, that no existing infrastructure remains damaged, destroyed or otherwise adversely affected by the construction of the Project. As no infrastructure remains damaged, there are no impacts to the service capacity of the infrastructure. The plans, as outlined in Appendix C, document the final remediation. As all of the works are completed, no additional cost to complete the works is required.” (Amherst Island Wind Farm, Post Construction Study, pg. 17.)

The Township's consultant, Jewell Engineering, has also completed a post-construction study and has summarized their findings, which summary is attached to this report. Jewell's observations have been that there is still a significant amount of outstanding work to be completed on the island.

At the time of writing this report, Township staff have taken over maintenance of the Amherst Island roads, as Windlectric has both ceased construction and addressed any immediate safety concerns.

Some of the items on the deficiency list, prepared by Jewell, may be addressed directly by Windlectric, should Stantec be in a position to support some of the statements they have made, to the satisfaction of the Township, either with survey data, field tests, inspection notes, or other data, as required by the various infrastructure deficiencies noted.

Analysis:

Based on the report received from Jewell Engineering, Township staff will be responding to Windlectric within 30 days of receipt of the Post-Construction Study, with deficiencies, as per the RUA. The primary content is a list of concerns, as outlined by Jewell.

The Township will be looking to retain sufficient securities to address any deficiencies. Windlectric was provided a list of locations where soft spots and rutting developed on the improved roads, and the Township will want to monitor their performance in wet, spring-like conditions.

Financial Considerations:

The recommendations presented to the Township, by Jewell Engineering will include a cost estimate for the repairs remaining to be completed. As per the Road Use Agreement (RUA), Sections 25-28 state the following:

25. Windlectric will complete the Post-Construction Remedial Work in accordance with the Post-Construction Study and to the satisfaction of the Municipality, acting reasonably.

26. Windlectric warrants that the Pre-Construction Preparatory Work, Collection System Work, Construction Period Works and Post-Construction Remedial Work, will be performed in accordance with good engineering practices and with applicable law. The foregoing warranty shall apply for a two (2) year period, following completion of the last of such work (the **“Warranty Period”**) and shall survive any intervening early termination of this Agreement. For any breach of the foregoing warranty, Windlectric will repair or replace such defective Pre-Construction Preparatory Work, Collection System Work, Construction Period Works and Post-Construction Remedial Work, failing which the Municipality shall be entitled to draw against the Construction LC and/or Warranty Security, as the case may be, and this will be the Municipality’s sole and exclusive remedy for a breach of warranty, hereunder.

27. Upon substantial completion, within the meaning of the Construction Lien Act, of the Post-construction Remedial Work, the Municipal Engineer shall provide, in writing, a certified list of any remaining deficiencies in the Post-construction Remedial Work, as of such date and an estimate of the projected cost to complete such repairs, within sixty (60) days thereof (the **“Repair Estimate”**). As soon as

reasonably practicable thereafter, Windlectric shall provide a letter of credit to the Municipality in an amount equal to the greater of (i) \$500,000.00; and (ii) the Repair Estimate, plus \$250,000.00; as security for Windlectric's obligations to repair and replace the Pre-construction Preparatory Work, Collection System Work, Construction Period Works and Post-Construction Remedial Work, in accordance with the warranty provided herein (the "**Warranty Security**"). Windlectric shall repair any such deficiencies as soon as reasonably practicable, and in any event, no later than the expiry of the Warranty Period. Upon completion of the repair or replacement of such deficiencies, the Warranty Security shall be reduced to an amount equal to \$500,000.00, for the duration of the Warranty Period.

28. Upon delivery of the Warranty Security, the Municipality shall promptly return the Construction LC to Windlectric. Upon the expiry of the Warranty Period and completion of all warranty work, the Municipality will promptly return the Warranty Security to Windlectric.

Based on the agreement, the Township will be looking to retain a portion of the securities from Windlectric, which amount will be informed by the cost estimate received from Jewell Engineering. This money will allow the Township to ensure any deficiencies that arise over the two year warranty period, are covered by Windlectric. Windlectric feels there are no outstanding deficiencies, which will likely result in disagreements moving forward as to what is Windlectric's responsibility and what is the Townships responsibility.

Consultation:

The Township's solicitor and Jewell Engineering were consulted in the preparation of this report.

Operational Impact:

Some of the noted deficiencies will have a greater operational impact than others, and may cause significant costs in the future if they are not addressed under warranty. These issues include:

- Shallow geotextile (Combigrid) , which may be destroyed during future grading events.
- Soft spots in the road, which were present during construction, may reappear next spring and present significant driving hazards to motorists. These soft spots will also require additional gravel and excavation of the sub base, to ensure the road performs as per the Stantec design.
- Guiderail which does not meet OPSS specification, may open the Township to future liability if we, knowingly, allow the guiderail along South Shore to remain out of specification. There is one 80m section, which is below the minimum height threshold, outlined by OPSS.

Other Considerations:

Island life has now returned to relatively normal and any future construction projects will, once again, disturb residents. After a dry weather review next spring, and hopefully receiving additional information from Windlectric and their engineering team, staff will need to determine which items must be fixed and which may be left without having a significant impact to the safety and operation of the roads.

Attachments:

[M-DThompson-2019-01-10-AIWF Post Construction Study Review & General Comments](#)

Approved By:

Dave Thompson, Director of Infrastructure Services
Kerry Rousselle, Executive Assistant
Debbie Chapman, Township Clerk
Steven Silver, Chief Administrative Officer

Status:

Approved - 09 Jan 2019
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Memorandum

To	Dave Thompson	Date	January 10, 2019	Project Number	170-9452
CC	Kyle Labbett, Reg Swart				
Subject	Algonquin Power Amherst Island Wind Project – Post Construction Study Review				
From	Dan Fencott				

We are providing this memorandum in response to the Post Construction Study, provided by Mr. Jim Stewart of Liberty Power, dated December 21, 2018 and received December 24, 2018.

The Municipal Engineer was not made aware of days the Project Engineer was on site to review road conditions and therefore, did not complete the review with the Project Engineer. The Municipal Engineer was only provided with contact information for the Project Engineer following a December 19, 2018 conference call with representatives of Algonquin Power. Jewell Engineering Inc. did contact the Project Engineer to discuss the Post Construction Study. The conversation was general in nature and did not include any specific details on work being completed at that time.

Jewell Engineering Inc. is providing comments with respect to the aforementioned study in accordance with Clause 24 of the Road Use agreement. The following deficiencies are noted within the Post Construction Study;

1. The post construction study appears to include historical photos of several culverts. Please confirm all photos in the study are representative of the current condition of the culverts.
2. The finished centreline profiles shown on the drawings do not appear to reflect current centreline elevations in several locations.
3. The edge of road noted on the drawings does not appear to reflect the current location of the edge of road in several locations.
4. Please confirm culvert diameters.
5. Drawings to not properly reflect all culvert extensions.
6. The drawings indicate frost taper installations at culverts that were not replaced. Please confirm.
7. Culvert information shown on the drawings conflicts with culvert information included in the report. Please confirm the correct information.
8. Not all culvert installations and/or modifications shown on the plans reflect actual installations and/or modifications.
9. The study indicates, for all road sections, there is no damage or adverse effects created by construction. During the project, several soft spots were identified in roads affected by the project. As these areas are only evident under particular conditions, they may not

have been visible on the days the Project Engineer was on site. Please confirm that the Project Engineer considered these areas in the assessment of pre and post construction road conditions.

10. Several culverts were not inspected as part of the pre-construction study due to limited access. How was it determined there has been no impact to these culverts?

Jewell Engineering Inc. attempted to contact the Project Engineer on January 9, 2019 to discuss the Post Construction Study but did not receive a response.

It is understood that an updated copy of the Post Construction Study will be provided for our review upon completion of any revisions.

With respect to the Pre-construction Preparatory Work and conformance to the Pre-Construction Study, we provide the following comments;

1. A field check of granular depths over the combgrid has identified several locations with less than the required 200mm of Granular A.
2. A field check of road grades has identified several areas with crossfall that does not conform to those prescribed by Pre-Construction Study.
3. There are several locations that require hydroseed.
4. A field check of road widths identified at least one location, on 2nd Concession Road, where the road width is less than 6.0m.
5. Several road signs need to be reinstated.
6. Several 'soft spots', subject to severe rutting, were noted in the municipal roads during completion of the Pre-construction Preparatory work.

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