285 Delaware Avenue, Suite 500 Buffalo, New York 14202 United States www.ghd.com



Our ref: 11227527

October 21, 2021

Mr. Tim Reilly, Chairperson Town of Glen 7 Erie Street Fultonville. New York 12072

Response to Comments – 411 Reynolds Road Wind Energy Project, Town of Glen, New York

Dear Mr. Reilly:

GHD is writing in response to the comment letter from Douglas Cole, PE (Prime AE Group of NY [Prime AE]) dated October 6, 2021, which was received via email. The letter comments on the Building Permit Application and supporting documentation submitted by GHD Consulting Services Inc. on behalf of Borrego Solar in connection with the Reynolds Road Wind Energy Project.

We appreciate the time taken to review the documents and offer the following responses.

Building Permit Application

1. The applicant did not identify an answer to Question 3 on the application form. The applicant should identify the zone district the project is located in.

GHD Response:

Application will be updated to identify the parcel as zoned R-R Rural Residential. We were unable to locate zoning map and request confirmation from the Town that the zoning classification is correct.

FEAF Part 1 - Comments #1 to #12

GHD Response:

GHD provided an updated FEAF with responses to specific comments via email on 10/20/21.

Site Use Permit Plans

"Wind Tower" is a Special Permitted Use within the Rural Residential District in section 87-11.
 There are currently no setback requirements, or minimum and maximum regulations regarding Wind Towers in the Town of Glen Town Code. We have written our recommendations for review based on NYS wind-power guidelines and comparable municipal codes in NYS.

GHD Response:

Acknowledged

2. Sheet C-0.0 has blank information regarding survey data and horizontal/vertical datum. However, topography is included in the plans. These blanks should be filled in promptly.

GHD will update the Plans with the survey data.

3. Sheet C-0.0 notes refer to the Town of DeRuyter. This appears to be an incorrect reference and should be updated.

GHD Response:

GHD to correct on revised Plans.

4. Sheet C-0.0, Erosion and Sediment Control Measures, Comment 9 states that "sediment collected... shall be disposed of on the site on a regular basis." This seems to imply that sediment collected on the site shall be disposed of on the site. Which does not seem like the appropriate disposal technique of collected sediment. If this is not the intention of the note, the note should be revised. If that is the intention of the note, we would ask the applicant to reconsider.

GHD Response:

GHD revised comment. Sediment collected by erosion and sediment control measures shall be used on-site as backfill or grading if appropriated or removed from site along with ESC measures when site stabilization is achieved.

5. The Town of Glen Code requires Site Plans to use a scale one-inch equals twenty feet or less. The submitted Site Use Plan uses scales of one-inch equals thirty, forty, sixty, and three hundred. We find these scales to be legible and acceptable.

GHD Response:

Acknowledged

6. Contours are shown at two-foot (2') intervals. We find this to be acceptable.

GHD Response:

Acknowledged

7. In the EAF Part 1, the applicant indicates there will be external lighting on the proposed site. The details of the proposed lighting including location, height, intensity, bulk type, direction of illumination and methods to eliminate potential glare onto adjoining properties should be provided on the Site Plans. Lighting plan should be submitted to and reviewed by the Federal Aviation Administration for any structure 200' or higher off the ground. **

GHD Response:

Borrego is coordinating with the Federal Aviation Administration regarding the tower (ASN Case # 2021-WTE-3419-OE) and will provide their determination prior to the building permit application. No other external lighting is proposed, and no lighting plan will be provided.

8. Wind turbine towers should be white in color. **

GHD Response:

The proposed wind turbine tower shall be white in color.

No advertising signs are allowed on any part of this wind facility. **

GHD Response:

Borrego commits that the wind facility will not be used for advertising and no advertising signs will be installed.

10. No tower shall be lit except to comply with Federal Aviation Administration (FAA) requirements. **

The tower shall not include any lighting except to comply with FAA requirements.

11. The 4.64 acres of disturbance as indicated in the EAF should be identified in location and type of disturbance on the plans.

GHD Response:

Area of disturbance is shown on Plans. GHD to revise Plans to identify location and type.

12. Proposed crane pad and turbine pad/foundation details should be provided for review. Dimensions of these features should be provided.

GHD Response:

GHD to revise Plans to add dimensions of the crane pad. The crane pad section will match the access road section and that detail will be re-labeled.

Final turbine foundation design as prepared by a licensed structural engineer shall be submitted as part of the building permit application. Typical wind turbine foundations are spread footers, but final must be based on geotechnical investigation.

13. There is a dotted-dashed line under the proposed access route where the feature crosses the existing wetlands (this is not the proposed culvert). This feature appears to be directly north-east of the proposed culvert. Applicant should identify this feature and its purpose.

GHD Response:

We believe this is the existing culvert, which will be replaced, and Plans will be labeled as such.

14. At the site entryway on the north side of the proposed access route, proposed grading seems to show proposed higher elevations (1098.5') at the existing wetlands, what is the purpose of performing this higher elevational grading at this location and beginning the swale here?

GHD Response:

GHD is taking a closer look at this grading with the intent to adjust the swale start location to be outside the wetland.

15. Circles that almost appear to have hooks coming out of them are not identified in the legend, nor done so with a leader. We may presume these are power poles, but they should be clearly identified in the plans. Additionally, if these are power poles, are they not required from the turbine all the way to the entryway of the site? There seems to be a long distance without additional support. a. Line type that is connected to these symbols should be identified with a leader.

GHD Response:

GHD to revise Plans to identify overhead and underground electrical line. Circles identified in the comment are overhead electrical with poles. All other electrical lines shall be installed underground to the turbine. Borrego shall adjust line type for underground to make more visible.

16. EAF mentions nearly 20% of the site has the presence of bedrock outcroppings. Applicant should indicate these bedrock outcroppings on the plans.

GHD Response:

EAF data was obtained from USDA Soil Survey based on the approximation of the area of the project and is generic data for the site. Detailed survey was performed at the site and did not identify bedrock outcroppings. A geotechnical investigation will be conducted at the turbine site.

17. For general clarity – the "temporary truck route" that loops around the proposed pad, equipment, and turbine is the only "temporary" section for access, correct? And the rest of the 20' and 40'

wide access road will be permanent, until the site is decommissioned, correct? The "temporary" route should clearly be identified on the plans.

GHD Response:

Correct. Only the loop road is temporary, the remaining road is permanent. The blade laydown is temporary. GHD to revise Plans with label the start and end of the temporary section of the access road

18. Applicant should identify all existing and proposed above and below ground utility lines on the Site as well as transformers, the interconnection point with transmission lines, and other ancillary facilities or structures including accessory facilities or equipment. **

GHD Response:

Above and underground electrical lines have been identified (see Comment 15). There are no ancillary facilities or structures proposed as part of the project. All connection equipment will be utility pole mounted. Any ground mounted equipment anticipated at the turbine shall be identified on the Plans.

Applicant should provide a Landscaping Plan.

GHD Response:

No landscaping is planned. All disturbed areas shall be restored as grass and seed mix will be added to the Plans.

19. Applicant should provide details for access route throughout the site.

GHD Response:

The Plans included access road layout, road profiles, and road sections at several stations throughout the site, as well as a detail. Please clarify what other details are needed.

20. Applicant should show traffic flow patterns in and around the site.

GHD Response:

GHD will add traffic arrows to the Plans. The access road is intended for two-way traffic. The widened portion of the road adjacent to the turbine is for unloading. Following unloading of turbine components, the tractor trailers collapse to a small size, so that they can take the loop road around the turbine and exit the site (without need to turnaround or reverse).

21. Details for the proposed filter strips should be included in the site plans.

GHD Response:

GHD will add detail to the Plans.

22. Guy wires shall not be permitted except to address specific safety issues. **

GHD Response:

No guy wires are proposed as part of the wind turbine.

23. We recommend the Town employ a setback requirement of 1,500' from residences. The applicant should prove that this setback is met. **

GHD Response:

Setback from nearest residence is 1,724 feet. Borrego will not site a turbine within 1,500 feet of a non-participating residential structure.

24. Wind tower shall be located no less than 1.5x the total height of the wind turbine or 500 feet from the off-site property boundaries and public roads **

The Town of Glen bylaw grants the PB discretion on setback requirements. The 1.5x setback was taken from the Town of Duansburg bylaw. Borrego presented the general layout and turbine height to the PB on June 17, 2021. However, Borrego understands the concerns regarding setbacks and would like to propose a 1.1x total height (as defined as blade tip) resulting in 715-foot setback from property lines. We feel this is more appropriate for wind projects as it is use by the Office of Renewable Energy Siting (ORES) and several other municipalities, such as Jasper, West Union, Enfield, and Rushford. See the enclosed ORES regulations.

Borrego welcomes the opportunity to discuss this further with the PB and engineer.

25. Facilities should be gated and/or fenced to prevent unrestricted public access to the facility. **

GHD Response:

Borrego proposes to install a gate at the access road to limit access. This shall be added to the Plans.

SWPPP

 In section 3.1 – removal of erosion and sediment control features should be specific, as 80% of vegetation must be established before erosion control practices can be removed – this should be stated.

GHD Response:

GHD shall revise the SWPPP to note 80% establishment.

2. Construction sequence should also include the maintenance of erosion and sediment control practices as required throughout construction.

GHD Response:

GHD shall revise the SWPPP to include maintenance of ESC throughout construction.

3. In Section 3.2, it is stated that it is never intended for the site to exceed 5-acres of disturbance. The last sentence of the first paragraph is written as follows: "If, at any time, the disturbance drops below the 5-acre threshold, the Contractor shall advise the Regional Office in writing." This wording indicates that the plan for the site is already above the 5 acre threshold. This sentence should be rephrased for cohesiveness.

GHD Response:

GHD will revise the SWPPP to clarify.

4. In Section 3.5, Step 1.a indicates an exclusion area determined by the landowner. It would be beneficial for the record to have this area identified on the plans.

GHD Response:

GHD to revised Plans to show lease exclusion zone.

5. Anticipated location of filter strip that is planned to be the post-construction stormwater management practice should be identified on the plans.

GHD Response:

GHD shall update the plans to show and detail the filter strip.

6. Please advise where it is not required by NYSDEC to show volume controls for 1-year, 10-year, and 100-year storm events if it can be shown that there is less that a 2.5% increase to the peak flow during a 1-year event and less that a 5% increase during 10-year and 100-year events? It appears that changes to peak flow in the NW sub-catchment area during a 1-year storm event is an increase

of 7.6%. 10 yr and 100 yr peak flows are less than an increase of 5% but the 1-year storm events do not meet these criteria that is mentioned. The tables should show the percentage of increase of peak flow for each subcatchment for each type of storm.

GHD Response:

GHD will revise the SWPPP to address.

7. Channel Protection Volume, Overbank Flood Control, and Extreme Flood Control were not designed for as it is stated on page 6 that "...this method of analysis is not in accordance with the requirements of the SWDM..." what method of analysis is being described here? If this is in regard to the design of the proposed filter strips, that should be mentioned here more explicitly.

GHD Response:

GHD will revise the SWPPP to address and clarify.

8. Section 3.6 should include essentially an Operation and Maintenance manual of all Erosion and Sediment Control Practices that will be implemented for this SWPPP.

GHD Response:

GHD will update Section 3.6 to cover O&M of all ESC.

9. Section 4 states that "The Town" will be owner/operator. This does not seem like an accurate statement. If it is not, the sentence should be revised.

GHD Response:

GHD will revise the SWPPP. Borrego is the operator under the SWPPP requirements.

10. An inspection schedule should be identified in the SWPPP.

GHD Response:

Under Section 4.2, the inspections are identified as required every 7 calendar days. Please provide clarification on what inspection schedule is requested.

11. An example weekly inspection template should be included in the SWPPP. This should include all items listed in Part IV.C.4 of the General SPDES Permit.

GHD Response:

The standard Construction Duration Inspection form will be made part of the SWPPP Appendices.

12. The Contractor Certification should have specific elements of the SWPPP that each contractor will be responsible for implementing – per Part III.A.6 of the General SPDES Permit.

GHD Response:

The certification form will be modified to include a section to identify the specific elements of the SWPPP, as well as a separate subcontractor certification form that can copied as needed.

13. The size of the proposed filter strips is not identified in the SWPPP. This should be revised.

GHD Response:

GHD will revise the SWPPP.

14. It is understood that figure 1 contains a map of the site, however, per Part III.B.1.b requires SWPPP to have a site map/construction drawings for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns the could be affected by the construction activity; existing and final contours; locations of different soil types with boundaries;

material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater discharge(s).

GHD Response:

Section 2.3 identifies that the Project Drawings are made part of the SWPPP. The Plans will address all the items listed herein and required by the permit. The Plans will be listed as an Appendix and 11x17 copies included in the SWPPP.

15. A schedule should be included to identify the timing of implementation of each erosion and sediment control practice and the minimum time frames that each should remain in place or be implemented.

GHD Response:

GHD will revise the SWPPP to include timing and time frames for ESC.

16. SWPPP should include the dimensions, material specifications, installation details and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils.

GHD Response:

ESC details are on the Plans. The SWPPP will be revised to reference appropriate details. The project does not propose to use temporary sediment basins or diversion practices.

17. SWPPP should include a description of the pollution measures that will be used to control litter and construction debris, as to prevent it from becoming a pollutant source to stormwater discharge.

GHD Response:

See Section 3.3 for Waste Disposal and Construction Debris.

18. Stormwater Modeling and Analysis Report should include maps showing pre and post development conditions including watershed/subcatchment boundaries, flow paths, routing and design points.

GHD Response:

GHD will add Figure(s) to the analysis section.

19. Soil testing locations and results should be included in the Stormwater Modeling and Analysis Report.

GHD Response:

No soil testing was conducted. The report utilizes publicly available soils data from USDA Soil Survey.

General Wind Energy Based Comments

We recommend the Planning Board require pre and post construction impact surveys be conducted in accordance with the NYSDEC Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects by the applicant. These studies will document bird and bat mortality rates at the site and can be submitted to the NYSDEC for research. * The applicant should solicit input from NYSDEC on such studies and should follow their protocol. **

Borrego is coordinating with NYSDEC and shall meet their requirements. Borrego will provide the preconstruction avian study that have been conducted for the site and any determination by the NYSDEC.

2. Why is such a large tree clearing area required as part of this construction when a lot of the site is currently meadow-type land cover that could easily be used for wind farming and would not require the same level of clearing that could be damaging to wildlife and habitat? *

GHD Response:

Several factors determine the feasible area for siting a wind turbine including any landowner requirements. We maintain setbacks from residences at 1,500 ft. In addition, the forested area on the far side of the stream/wetlands is at a higher elevation and wind production modeling identified the area most suitable for energy generation. Additional considerations were needed to maintain distance from avian habitat areas per avian study. Finally, much of cleared area referenced contains a large wetland area.

3. Were interruptions to microwave communications, point-to-point, off-air television reception, radar, land mobile radio (LMR), cellular and PCS telephones, AM radio coverage, and amateur radio operations considered in the development of these plans for this wind project? If no, applicant should consider how this wind project may impact these modes of communication. If yes, what are the anticipated effects of the wind project on these modes of communication? How does the applicant intend to mitigate these effects? *

GHD Response:

Communication and microwave studies have been completed and will be submitted.

- 4. Has a visual impact analysis been performed with consideration of the following steps? GHD Response:
 - Visual impact analysis is underway and shall be submitted. PB input is requested on key viewpoints.
- 5. We recommend the applicant study likelihood of shadow flicker on neighboring parcels, including parcels across the street of the proposed wind facility. *

GHD Response:

Borrego shall provide a shadow flicker analysis for the site.

- 6. We recommend the applicant preform a noise study on both the proposed wind turbine and any proposed equipment set to stay on site for the lifetime of the turbine. The study should include the types of sound expected of the proposed turbine and the decibels expected from all proposed equipment at the surrounding property lines. * Such noise study should be prepared to determine predicted sound at off-site property lines and residences from operation of the proposed turbine. Such analysis should be referred to as "Wind Turbine Only Sound". "Wind Turbine Only Sound" shall be predicted based upon appropriate ambient sound levels obtained from field or lab measurements of the proposed wind turbine, as well as appropriate background sound levels of the site and nearby off-site areas. This analysis should show that the proposed location of the wind turbine will not exceed 50 dB(A) at off-site property lines and 45 dB(A) at surrounding residences. If the proposed wind turbine contains a pure tone component, it shall be located so that "Wind Turbine Only Sound" at off-site property lines shall not exceed 45 dB(A) at off-site property lines and 40 dB(A) at surrounding residences. **
 - a. A pure tone is defined to exist when 1/3 octave band noise level exceeds arithmetic average of the two adjacent 1/3 octave band levels by the following:

<u>Band Range</u>	<u>Exceedance</u>
31.5-125 Hz	15 dB(A)
160-400 Hz	8 dB(A)
500-8,000 Hz	5 dB(A)

Borrego has conducted noise analysis of the site and shall submit results.

7. Applicant should supply a post construction noise monitoring plan which shall, at a minimum, require annual certification by the permittee or applicant that the Wind Energy Facility remains in conformance with the requirements as stated as above. **

GHD Response:

Sound compliance testing will be performed once the wind energy facility is fully operational, and the report shall be provided to the town. An annual certification is more appropriate for a large-scale wind farm, not community wind.

8. It is understood that this project is under 25 MW and therefore not required to seek permits through Article 10 process, or Office of Renewable Energy Siting through New York State. *

GHD Response:

Agreed.

9. Are proposed wind turbines International Electrotechnical Commission (IEC) certified? *

GHD Response:

Yes.

10. We recommend the applicant post signs on the site that warn of falling ice in applicable areas. *

GHD Response:

Borrego will post signs at the base of the turbine.

11. We recommend the applicant post signs on the site that warn of any danger in regard to electrical equipment or other hazard. We recommend that a 24 hr emergency number be posted at the site. *

GHD Response:

Borrego agrees to post the information requested at the site.

12. A fire protection and emergency response plan to address emergency response and coordinate with local emergency response providers during any construction or operation phase emergency, hazard, or other event should be provided by the applicant. **

GHD Response:

Borrego will provide fire protection and emergency response plan at the time of building permit application. Borrego shall provide on-site training and documentation for local emergency response providers during construction or prior to project operation.

13. Applicant should supply photos and manufacturer's specifications of the proposed turbine model – Including decibel data, and material safety documentation for all materials used in the operation of the equipment. **

GHD Response:

Borrego will provide manufacturer's specifications and turbine cutsheet.

14. Applicant should provide a construction schedule describing anticipated commencement and completion dates, including a traffic analysis with a description of the routes to be used by construction and delivery vehicles. **

Construction is anticipated to start fall of 2022 and the turbine would be in operation the summer of 2023.

Borrego will provide the route analysis for the wind turbine components.

15. Applicant should provide photos to the town before and after construction of the Town's public road system to show that no damages have occurred. If damages have occurred, applicant will be responsible for costs and repair work to repair such damages. **

GHD Response:

Agreed.

16. A transportation plan describing routes to be used in delivery of project components, equipment and building materials and those to be used to provide access to the Site during and after construction. This plan should also describe any anticipated improvements to existing roads, bridges or other infrastructure, as well as measures which will be taken to restore damaged/disturbed access routes following construction. **

GHD Response:

A transportation study is underway and can be provided once complete.

17. Applicant should provide an O&M plan to provide regular periodic maintenance schedules, any special maintenance requirements and procedures and notification requirements for restarts during icing events. **

GHD Response:

Borrego will provide O&M plan.

18. Applicant should provide an assessment of potentially impacted wetland, surface and groundwater resources, and the geology and land use of the site, as well as an assessment of construction phase impacts, traffic impacts and adverse sound impacts that may arise from the project construction. **

GHD Response:

Borrego will provide a summary memo of the above items.

19. Wind turbine towers should be white in color. **

GHD Response:

The proposed wind turbine tower shall be white in color.

20. No advertising signs are allowed on any part of this wind facility. **

GHD Response:

Borrego commits that the wind facility will not be used for advertising and no signs will be installed.

21. No tower shall be lit except to comply with Federal Aviation Administration (FAA) requirements. **

GHD Response:

The tower shall not include any lighting except to comply with FAA requirements.

22. All wind turbines shall have an automatic braking, governing, or feathering system to prevent uncontrolled rotation, overspeeding and excessive pressure on the tower structure, rotor blades and turbine components. **

- There are emergency stop buttons in the nacelle, hub and bottom of tower.
- The turbine is equipped with breakers to allow for disconnection from all power sources during
 inspection or maintenance. The switches are marked with signs and are in the nacelle and the bottom
 of tower.
- Placards can be generated for either of these and located per Town requirements.
- 23. The minimum distance between the ground and any part of the rotor or blade system shall be 30 feet. **

GHD Response:

The distance between the ground and any part of the rotor blade is 157.5 feet.

Decommissioning Plan

1. The height of the turbine in the Decommissioning Plan (344') differs from that of what is stated in the SWPPP (640'). This discrepancy should be rectified.

GHD Response:

The Decommissioning Plan has been updated and the revised SWPPP provides clarification. The anticipated turbine height is 394 ft to the top of tower. The blade length is 246 ft. At the highest rotation, the overall height is 640 ft.

The decommissioning plan discusses a lot about materials and quantities and total costs but it
does not truly describe the means and methods of removing the equipment from its installed
location and how to deconstruct it. That is approximately half of the expectation of what this plan
should be.

GHD Response:

The Decommissioning Plan has been updated to provide a general description of the anticipated means and methods for removal. Note, the contractor selected at the decommissioning will be responsible for the final means and methods.

3. Applicant should note, the amount required to be insured to the Town of Glen must be Decommissioning Costs before consideration of Salvage Values.

GHD Response:

The table in Section 8 of the Decommissioning Plan provides the Decommissioning Costs (before salvage) at \$211,200. A Decommissioning surety bond will be provided based on Decommissioning costs before salvage.

4. The decommissioning plan should describe the method of ensuring that funds will be available for decommissioning and restoration of the Site and any off-site areas disturbed by or utilized during decommissioning. **

GHD Response:

Decommissioning Plan will be updated to note that a surety bond will be provided.

 Decommissioning plan should describe the method by which the cost estimate can be made current. **

The Decommissioning Plan will be revised to indicate that Decommissioning Costs should be updated by a licensed professional engineer every 5 years based on the current material and labor costs.

If you have any questions or require additional information, please do not hesitate to call me at the number below.

Regards

Camie Jarrell, PEProject Manager

Camie Soull

+1 716 362-8879 camie.jarrell@ghd.com

Copy to: Douglas P. Cole, PE – Prime AE

Brandon Smith – Borrego Solar

quirements in Table 1 or manufacturer setbacks, whichever hall be measured as a straight line from the centerline or midest point on the building foundation, property line or feature, ks (based on the tallest wind turbine model under

Il site plan drawings (or as stand-alone mapping) as required

§900-2.6 Exhibit 5

(a) Drawings to be quirements for Wind Turbine Towers professional engir

the drawings.	Wind Turbine Towers setback*
(b) Wind facilities	1.5 times
are more stringerectric System**	1.5 times
point of the wind y landowner and as applicable. Con	1.1 times
consideration) sha	1.1 times
by section 900-2.6	1.1 times
idential	1.5 times

owers setback is equal to the Total Height of aximum blade tip height).

Sther, and as defined by North American Aron Bulk Electric System Definition Grant 3, August 2018 (see section 900-

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Prated power, hub height, rotor diameter, and total height of No for the facility.

2 times

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Nirements set forth in Table 2. Compliance with such setbacks *1site plan drawings required by section 900-2.6(f)(1)(i) of this thad landscaping may occur within the setback.

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- (c) The applicant sheach wind turbine i
- (d) Solar facilities sl listed in Table 2 sha Part. Fencing, collection

ITING SECTION 94-c OF THE EXECUTIVE LAW

nis section shall be prepared by or at the direction of a red in New York State, whose name shall be clearly printed on