

As-Built Inspection Report

Northern Divide Wind Energy Center

Northern Divide Wind, LLC

ND PSC Case No. PU-19-376

Prepared for:

North Dakota Public Service Commission
Public Utilities Division
State Capitol
600 East Boulevard – Dept. 408
Bismarck, ND 58505-0480

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Executive Summary

The State of North Dakota, acting through its North Dakota Public Service Commission (Commission), Division of Public Utilities, has contracted Keitu Engineers & Consultants, Inc. (Keitu) to perform consulting services for an As-Built Siting Inspection. This report addresses the Orders established by the Commission and issues established in Case No. PU-19-376.

The Northern Divide Wind Energy Center is a 200-megawatt (MW) wind energy facility consisting of 74 wind turbines, access roads, underground electrical collection and communication systems, an Aircraft Detection Lighting System (ADLS), a collection substation, an operations and maintenance building, one permanent meteorological evaluation tower (MET), and two temporary power performance MET towers. Of the total 74 wind turbines, 66 are GE 2.72 MW turbines, and 8 are GE 2.3 MW turbines. The turbines have a nameplate capacity of approximately 200 MW. The Project Area encompasses approximately 10,900 acres in Burke County, North Dakota.

The purpose of the As-Built Inspection was to ensure the Project was constructed in compliance with the siting laws, rules, and the applicable Commission Order for the Project. Prior to the inspection, Keitu reviewed all Project documents to verify any and all aspects requiring site verification.

The site was visually inspected on September 28, 2021 by Keitu staff. The Project was well-maintained, secured, and in good condition. During the As-Built Inspection, the areas appeared to have been properly restored. Vegetation had not be reestablished in all areas due to poor growing conditions in 2021, and many areas will be reseeded in the late fall of 2021 or spring of 2022. Overall, the Project appeared to be constructed as planned with numerous efforts to minimize impacts and to stay in compliance with the siting laws, siting rules, and Commission Orders.

Introduction

The Project was approved in June, 2020 and construction began in July, 2020. Construction for the Project was completed in the spring of 2021 and is operated by NextEra Energy Resources, LLC. The Project is a 200 MW wind energy facility consisting of 74 wind turbines and associated facilities. Northern Divide Wind, LLC also constructed a 41 mile, 345-kilovolt (kV) transmission line that will interconnect the generated power to the electrical grid at the existing Basin Electric Tande Substation near Tioga, North Dakota. Divide Wind submitted a separate application to the Commission for a Certificate of Site Compatibility for the transmission line.

The Project is under the jurisdiction of the North Dakota Public Service Commission, which issued its Certificate of Site Compatibility No. 63 for Case No. PU-19-376 on June 10, 2020.

Purpose and Scope of Inspection

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Public Service Commission to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and welfare of the citizens of North Dakota. Construction Inspections ensure the Project is constructed in compliance with siting laws, rules, and the applicable Commission Order Amending Certificate and Permit (Order).

The Commission retained Keitu Engineers & Consultants, Inc. (Keitu) to complete an As-Built Construction Inspection of the Project. The inspection process included a review of the Consolidated Application for Certificate of Corridor Compatibility and Route Permit (Application), Order, Certification Relating to Order Provisions (Certification), and other applicable documents to determine Project-specific siting and construction requirements; a site visit and inspection of facilities; documentation of compliance; and a report summarizing findings. This report includes, but is not limited to, site visit observations, documentation of compliance deficiencies, and a summary of issues that should be addressed for the Project to be considered complete and in full compliance.

Methods

Keitu reviewed North Dakota siting laws and rules, the Application, Certification, and the Order for the Project to identify what Project-specific documentation was required for compliance. Keitu then reviewed Project documents in the PSC Online Case Search to identify those siting laws, rules, and Application and Order assertions that already had written verification, those that still required documentation, and those that required physical site verification.

Keitu Staff visited the Project area on September 28, 2021 to visually inspect the site. Digital photographs were taken showing typical Project infrastructure. The Project was in operation at the time of visit.

Orders

The following section includes discussion of a list of components of the Project that were asserted in the Order which could be documented during the As-Built Inspection to verify compliance with siting laws, rules and the Order for the Project, via either written documentation or physical site verification. Included are detailed findings and observations from Keitu personnel involved in the As-Built Inspection for the Project.

On February 19, 2020, the Commission deemed the applications for both the Wind Project and associated Transmission Project (PU-19-377) complete and issued a Notice of Filings and Consolidated Hearing. A public hearing was scheduled for April 17, 2020 at 9:30 a.m. CDT, at Memorial Hall, 100 Main Street NW, Bowbells, North Dakota 58721.

Due to the public health crisis result from the novel coronavirus, the North Dakota Governor declared a state of emergency and public gatherings were restricted. As a result, on April 9, 2020, the Commission issued Amended Notice of Filings and Consolidated Hearing amending the location of the April 17, 2020 9:30 a.m. CDT public hearing to be held via remote means (“Amended Notice”). The Amended Notice provided as follows:

A consolidated Public Hearing on the applications in Case No. PU-19-376 and Case No. PU-19-377 was noticed to be located at Memorial hall, 100 Main Street NW Bowbells, ND 58721. Due to the state of emergency, the Public Hearing will be held remotely to begin April 17, 2020 at 9:30 a.m. CDT. The public is encouraged to view the hearing electronically via <http://psc.nd.gov/public/meetings/live.php> or listen telephonically via 1-888-585-9008 with room code 259-316-322.

- 1. Certificate of Site Compatibility for an Energy Conversion Facility No. 63 is issued to Northern Divide Wind, LLC for the construction, operation, and maintenance of a wind energy conversion facility known as the Northern Divide Wind Energy Center corresponding to the “Northern Divide Wind Energy Center Project Area” identified in Exhibit #15. Archaeological sites which are identified as exclusion areas are not included in the Certificate of Site Compatibility, and no construction, operation, and maintenance is permitted to occur in any exclusion area.**

On June 10, 2020, the Commission issued a Certificate of Site Compatibility No. 63 to Northern Divide Wind, LLC. Order #1 is complete.

- 2. Within the permitted area, Northern Divide Wind is authorized to site and construct up to 200 MW consisting of up to 74 wind turbines only in the proposed and**

alternative locations identified in Exhibit #15. Due to the importance of micro-siting turbines to avoid environmental impacts at the proposed location, no modifications to the turbine locations are permitted unless expressly approved in writing by the Commission. Additionally, Northern Divide Wind is authorized to construct electric collection and communication lines, a substation, access roads, an operations and maintenance building, and other associated facilities as identified in the Application and supporting filings, and at the public hearing.

Order #2 was followed.

- 3. The Certification Relating to Order Provisions with accompanying Tree and Shrub Mitigation Specifications admitted into evidence as Exhibit #4, is incorporated by reference and attached to this Order.**

Order #3 was followed.

- 4. To the extent there are any conflicts or inconsistencies between the Wind Project application and the Certification, the Certification provisions control.**

Order #4 was followed.

- 5. Prior to commencing construction of any portion of the proposed Wind Project, Northern Divide Wind shall obtain all necessary licenses and permits for construction of such portion, and provide copies to the Commission prior to the construction of that portion of the Wind Project.**

Order #5 was followed.

- 6. If Northern Divide Wind seeks approval for modifications to the Wind Project layout as shown in Exhibit #15, Northern Divide Wind shall complete and file the following:**
 - a. A Class II Cultural Resource Survey for any previously un-surveyed portions of the designated site affected by Wind Project-related construction activities, in accordance with SHPO guidance, and shall submit cultural resource finds to SHPO for review, and file a copy of SHPO’s response with the Commission prior to beginning construction in said areas;**
 - b. Complete a wetland determination of any previously un-surveyed areas affected by Wind Project-related activities, as necessary, and file the report with the Commission;**
 - c. Conduct an acoustic analysis and file a report with the Commission that shows the predictive model results comply with the Commission’s Avoidance Area sound**

- requirement at all applicable receptors, unless otherwise agreed to by the effected landowners.
- d. **Conduct a shadow flicker analysis, and file a report with the Commission that shows the predictive model results meet the Commission recognized shadow flicker 30 hours per year industry standard or less at all applicable receptors, unless otherwise agreed to by the effected landowner.**
 - e. **Consult with the NDGFD. A copy of correspondence with the NDGFD and the NDGFD's response, if any, must be filed with the Commission.**

Based on available information, it is Keitu's opinion that Order #6 was followed.

Certification

The following section includes discussion of relevant items included in the Certification attached by reference to original Order. All certification points relevant to the As-Built Inspection Report are included.

1. **Company understands and agrees that the Certificate of Site Compatibility will be issued by the Commission subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Company shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.**

Certification Point #1 was followed.

2. **Company agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed energy conversion facility including all city, township, and county zoning regulations.**

Based on available information, it is Keitu's opinion that Certification Point #2 was followed.

3. **Company understands and agrees that it shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction activity associated with the energy conversion facility that requires said license or permit.**

Based on available information, it is Keitu's opinion that Certification Point #3 was followed.

4. **Company understands and agrees that the Certificate of Site Compatibility is subject to suspension or revocation and may in an appropriate and proper case, be suspended or revoked for failure to comply with the Commission's order, the conditions and**

criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.

Certification Point #4 was followed.

- 5. Company agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission’s order and the Certificate of Site Compatibility, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.**

Based on available information, it is Keitu’s opinion that Certification Point #5 was followed.

- 6. Company understands and agrees that the authorizations granted by the Certificate of Site Compatibility for the energy conversion facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.**

Certification Point #6 as followed.

- 7. Company is aware that under North Dakota Century Code section 49-02-27 the Commission has rules for decommissioning of wind energy conversion facilities. Company agrees to comply with all decommissioning rules adopted by the Commission.**

Based on available information, it is Keitu’s opinion that Certification Point #7 was followed.

- 8. Company agrees to hold a preconstruction conference prior to commencement of any construction, which must include a Company representative, its construction supervisor, and a representative of Commission Staff, to ensure that Company fully understands the conditions set forth in the Commission’s order.**

A preconstruction conference call was held on June 15, 2020. Company representatives, the construction supervisor, Commission Staff, and the Commission’s third-party construction inspectors were in attendance. Certification Point #8 was followed.

- 9. Company understands and agrees that all cultural resource mitigation plans must be approved by the North Dakota State Historic Preservation Office prior to the start of any fieldwork and construction activity in the affected area.**

On February 24, 2020, ND SHPO notified the Company that they had reviewed the reports for the Project (ND SHPO Ref.: 19-0490) entitled Northern Divide Wind Energy Center: A Class III Cultural Resource Inventory in Burke County, North Dakota and concurred with the determination of “No

Historic Properties Affected” for the Project provided it takes place in the location and in the manner described in the documentation. Certification Point #9 was followed.

- 10. Company understands and agrees that topsoil removal will begin when the Commission’s third party construction inspector is present at the Project site to observe that topsoil is properly removed and kept segregated from subsoil until replacement occurs. Company shall establish the date and time for the Commission’s third-party construction inspector’s topsoil removal oversight in the preconstruction conference.**

Keitu conducted a topsoil inspection when the Project construction commenced on July 2, 2020 and found topsoil removal activities to be in compliance with the Commission’s Order. Certification Point #10 was followed.

- 11. Company agrees to inform the Commission and the Commission’s third-party construction inspector of its intent to start construction on the energy conversion facility prior to the commencement of construction. Once construction has started, Company shall keep the Commission and the Commission’s third-party construction inspector updated of construction activities on a monthly basis.**

Construction inspection reports were not filed monthly July 2020 through October 2020. On January 13, 2021, construction reports for July 2020 through November 2020 were filed with the commission, reports were filed monthly thereafter.

- 12. Company is aware that North Dakota law requires that all companies that own or operate electric generation of any size for the primary purpose of resale must comply with the standards of the National Electrical Society Code in effect at the time of construction of the generation facility, and agrees to comply with that requirement.**

Based on available information, Keitu’s opinion is that Certification Point #12 was followed.

- 13. Company agrees to construct and operate the energy conversion facility in accordance with all applicable safety requirements.**

Based on available information, it is Keitu’s opinion that Certification Point #13 was followed.

- 14. Company understands and agrees that it shall bury all underground collection and feeder lines to a depth of at least 48 inches to the top of the lines.**

Based on available information, it is Keitu’s opinion that Certification Point #14 was followed.

15. Company understands and agrees that topsoil, up to 12 inches, or topsoil to the depth of cultivation, whichever is greater, over and along trench areas, roadways, tower locations, and locations of associated facilities must be carefully stripped and segregated from the subsoil. Any area on which excavated subsoil will be placed must first be stripped of topsoil. The stripped topsoil must not be stockpiled in natural drainages, and must be protected from water erosion. Care must be taken to protect topsoil from unnecessary compaction by heavy machinery. Unless otherwise approved by the Commission, topsoil must be removed before topsoil freezes in the late fall/early winter to the point that frost inhibits proper soil segregation. After backfilling with subsoil is completed, any excess subsoil must be placed over the excavation area, blending the grade into existing topography. Topsoil must be replaced over areas from which it was stripped only after the subsoil is replaced.

Certification Point #15 was followed.

16. Company understands and agrees that all buried facility crossings of graded roads shall be bored unless the responsible governing agency specifically permits Company to open cut the road.

Based on available information, it is Keitu’s opinion that Certification Point 16 was followed.

17. Company understands and agrees that staging areas or equipment shall not be located on land owned by a person other than Company unless otherwise negotiated with landowners.

Based on available information, it is Keitu’s opinion is that Certification Point #17 has been followed.

18. Company understands and agrees that if any cultural resource, paleontological site, archeological site, historical site, or grave site is discovered during construction, it must be marked, preserved and protected from further disturbances until a professional examination can be made by the State Historical Society, and a report of such examination is filed with the Commission.

Based on available information, it is Keitu’s opinion that Certification Point #18 has been followed.

19. Company understands and agrees that construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land, unless adequate protection measures are taken by Company.

Based on available information, it is Keitu’s opinion that Certification Point #19 has been followed.

- 20. Company understands and agrees that the Commission has authority to stop Project construction activities in the event of a probable violation of the siting laws, siting rules, or applicable Commission Orders if, in the opinion of the Commission, construction activities are likely to result in irreparable or significant harm.**

Certification Point #20 has been followed.

- 21. Company agrees that it shall, as soon as practicable upon the completion of the construction of the energy conversion facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.**

At the time of the inspection, reclamation activities were still ongoing due to the poor growing conditions during the summer of 2020. Reseeding of areas with poor emergency of vegetation will take place in the late fall of 2021 or spring of 2022. Based on available information, Keitu’s opinion is that Certification Point #21 has been followed.

- 22. Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the energy conversion facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.**

Based on available information, Keitu’s opinion is that Certification Point #22 was followed.

- 23. Company understands and agrees that reclamation, fertilization, and reseeded is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.**

Reclamation is ongoing at the site due to the poor growing conditions in 2021. Reclamation activities appeared to be done according to the Natural Resources Conservation Service recommendations. Based on available information, Keitu’s opinion is that Certification Point #23 was followed.

- 24. Company will fulfil its obligation for reclamation and maintenance of the approved site continuing throughout the life of the energy conversion facility.**

Based on available information, Keitu’s opinion is that Certification Point #24 was followed.

25. Company will repair all fences and gates removed or damaged during all phases of construction and operation of the proposed energy conversion facility.

Based on available information, it is Keitu's opinion that Certification Point #25 was followed.

26. Company will repair or replace all drainage tile broken or damaged as a result of construction and operation of the proposed energy conversion facility.

Based on available information, it is Keitu's opinion that Certification Point #26 was followed.

27. Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.

Based on available information, it is Keitu's opinion that Certification Point #27 has been followed.

28. Company understands and agrees that it shall work with landowners and residents to mitigate any increase in television and residential radio interference that results from the construction of the energy conversion facility.

Based on available information, it is Keitu's opinion that Certification Point #28 has been followed.

29. Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.

Based on available information, it is Keitu's opinion that Certification Point #29 was followed.

30. Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the energy conversion facility.

Based on available information, it is Keitu's opinion that Certification Point #30 was followed.

31. Company agrees to provide the Commission with engineering design drawings showing surveyed structure and collection substation locations prior to construction.

Based on available information, it is Keitu's opinion that Certification Point #31 was followed.

32. Company understands and agrees that it shall advise the Commission as soon as reasonably possible of any extraordinary events which take place at the site of the

energy conversion facility, including injuries to any person, a tower collapse, or a catastrophic turbine failure.

Based on available information, it is Keitu's opinion that Certification Point #32 was followed.

- 33. Company agrees to report to the Commission, as soon as reasonably possible, the presence in or near the approved site of any critical habitat of threatened or endangered species that Company becomes aware of and which were not previously reported to the Commission.**

Based on available information, it is Keitu's opinion that Certification Point #33 was followed.

- 34. Company agrees to provide the Commission with both an electronic and a paper copy of the site approved by the Commission and the facility design specifications for the construction of the energy conversion facility showing the location of the energy conversion facility as built, and will provide this information within 3 months of the completion of the construction. Company also agrees to provide an electronic version of the site approved by the Commission and the facility design specifications for the construction of the energy conversion facility showing the location of the energy conversion facility as built that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.**

Certification Point #34 was followed.

- 35. Company shall notify the Commission, as soon as reasonably possible, if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during construction conducted under the certificate or permit issued in this proceeding. In the event of any damage to underground facilities, Company shall suspend construction in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined.**

Based on available information, it is Keitu's opinion that Certification Point #35 was followed.

- 36. Company agrees that it shall provide, if requested, educational material for landowners within the site boundaries about the proposed energy conversion facility and any restriction or danger concerning the proposed energy conversion facility.**

Based on available information, it is Keitu’s opinion that Certification Point #36 has been followed.

- 37. Company understands and agrees that it shall implement a procedure for how complaints concerning the proposed energy conversion facility will be handled by Company.**

Certification Point #37 has been followed.

- 38. Before conducting any construction activities for any modification within the designated site, the Company will file the name and contact information for a key contact person for the purposes of notice and communication during the site modification application and will use the following procedures:**

- a. Before conducting any construction activities for any modification within the designated site, and such construction activities will not affect any known exclusion or avoidance areas within the designated site, the Company will file certification and supporting documentation:**
 - i. Affirming that construction activities will not affect any known exclusion or avoidance areas within the designated site;**
 - ii. Including a map meeting the requirements of N.D. Admin. Code § 69-06-04-01(2)(n) identifying the designated site and site modification(s); and**
 - iii. Affirming that Company will comply with the Commission’s order, law and rules designating the site.**
- b. Before conducting any construction activities for any modification within the designated site, and such construction activities will not affect any known exclusion but may affect an avoidance area within the designated site, the Company will file:**
 - i. A specific description of the avoidance area expected to be impacted, including a map meeting the requirements of N.D. Admin Code § 69-06-04-01(2)(n) identifying:**
 - 1. The designated site and the site modification;**
 - 2. All exclusion and avoidance areas within the portion of the designated site containing the site modification.**
 - ii. Certification and supporting documentation affirming that construction activities will not affect any known exclusion area.**

- iii. **All field studies performed on the portion of the designated site containing the site modification;**
- iv. **Specific information about any mitigation measures Company will take within the modification area;**
- v. **Certification that each owner of real property on which the modification is to be located and any applicable governmental entity with an interest in the same modification area do not oppose the modification;**
- vi. **Certification that unless the Commission previously authorized the impact to the same avoidance area, that the utility has good cause and a specific reason to impact the avoidance area and a reasonable alternative does not exist;**
- vii. **Certification that Company will comply with the Commission's order, law, and rules designating the site.**

On July 24, 2020, Northern Divide Wind, LLC notified the Commission proposing modification of the laydown yard and two access road shifts. On August 2, 2020, the Commission certified, under North Dakota Century Code section 49-22-03(3) that:

- 1) The construction activities will not affect any known exclusion or avoidance area as defined under the North Dakota Administrative Code chapter 69-06-08.
- 2) Project construction will occur wholly within the geographic location for which Northern Divide Wind previously obtained a site certificate.
- 3) The Projects will comply with all applicable conditions and protections in applicable North Dakota siting laws and rules and Commission orders previously issued for any part of the facilities.

Based on available information, Keitu's opinion is that Certification Point #38 has been followed.

39. Company acknowledges and agrees that written authorization from the Commission for impacting the avoidance area is necessary prior to commencement of construction activity.

Certification Point #39 has been followed.

Conclusions

Overall, the Project appeared to be constructed as designed with minimal impacts to the surrounding environment. The Project site was in good condition, well maintained, and appeared to be constructed in compliance with the siting laws, siting rules, and applicable Commission Orders.

Construction inspection reports were not filed monthly July 2020 through October 2020. On January 13, 2021, construction reports for July 2020 through November 2020 were filed with the commission, reports were filed monthly thereafter.

Reclamation is still occurring onsite.

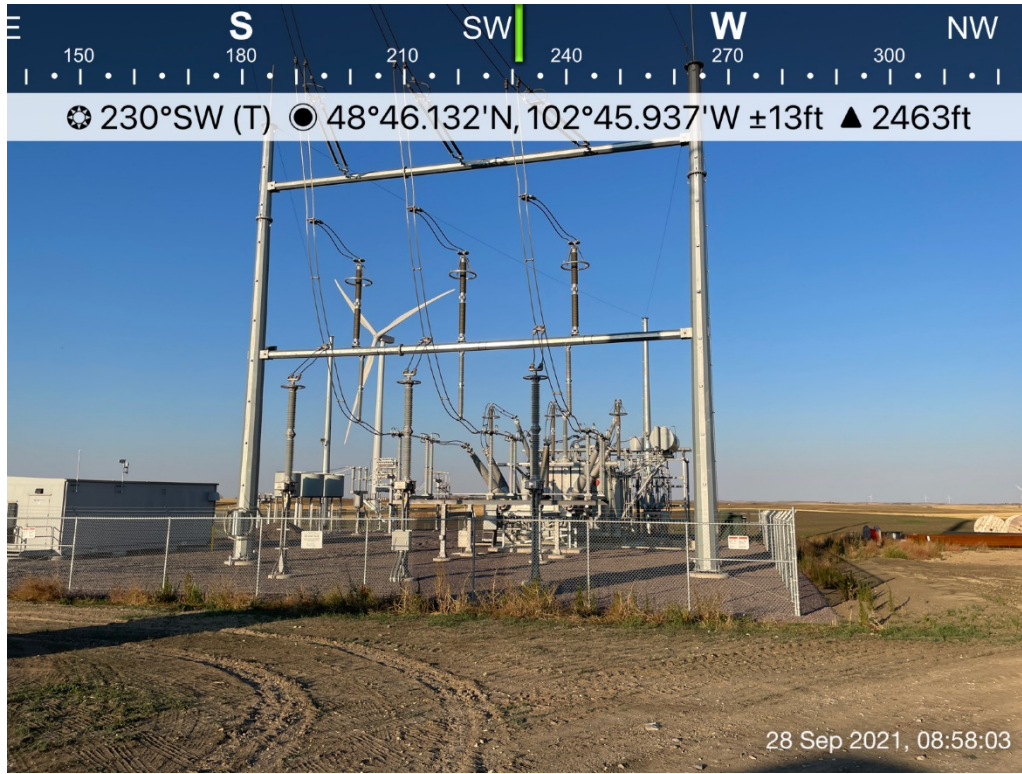
Management Review

The services performed by Keitu and its staff for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints.

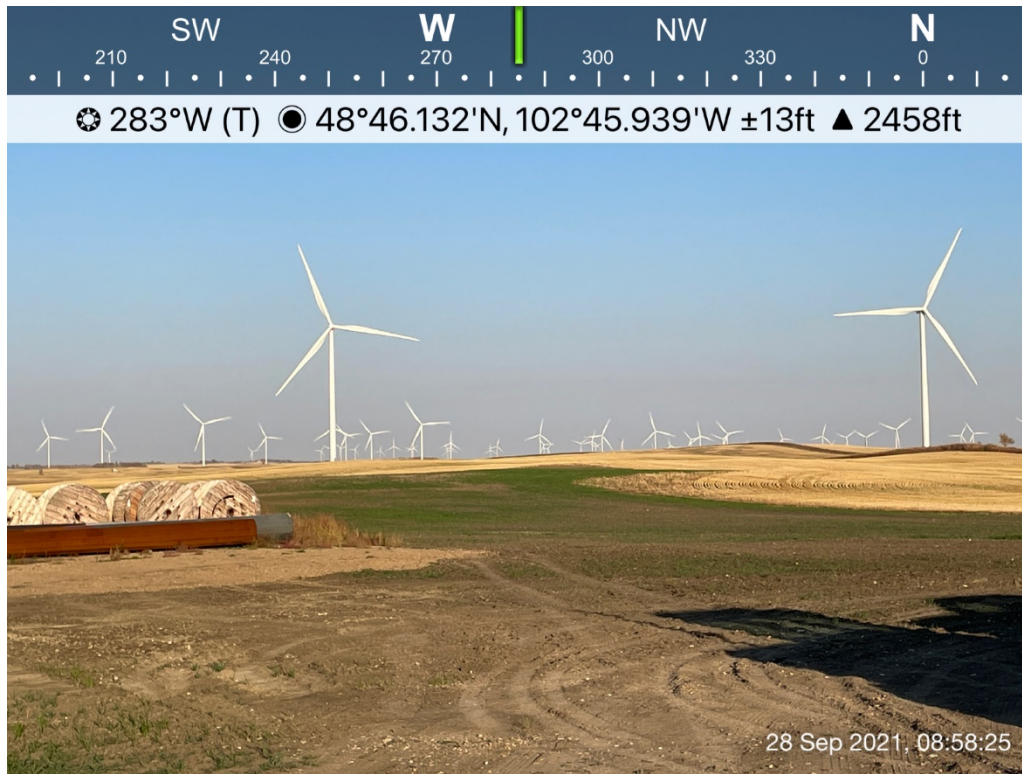
Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.

Jaimee Antognazzi, Operations Manager

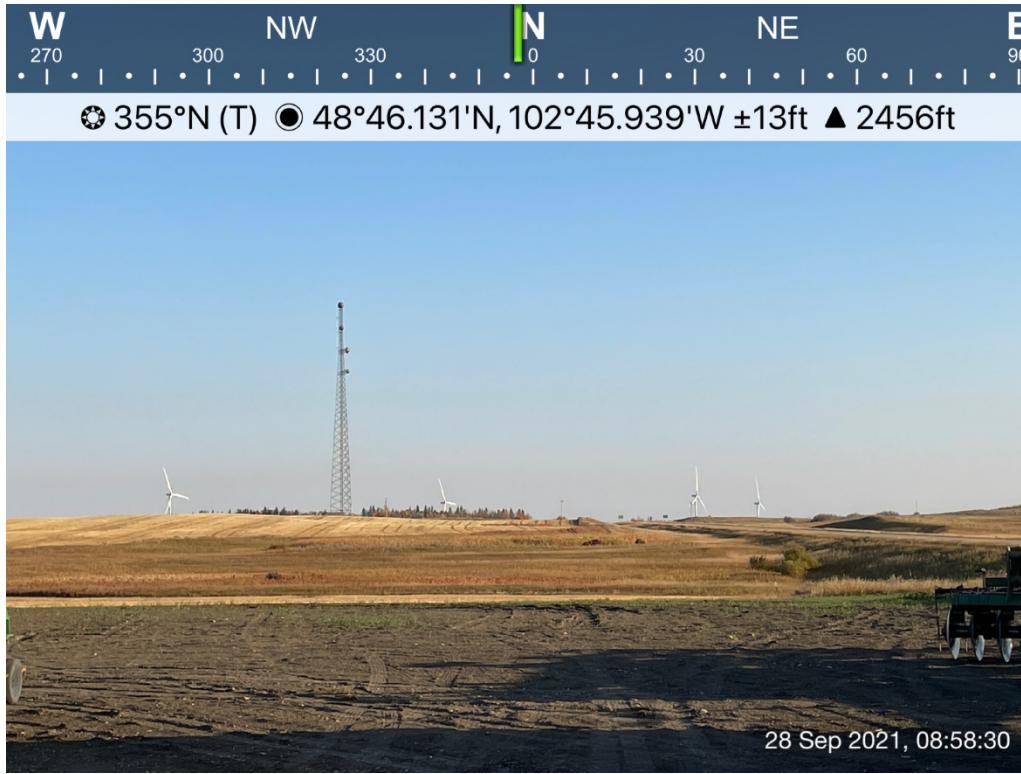
Report Photo #1: Substation



Report Photo #2: Overview of Wind Turbines



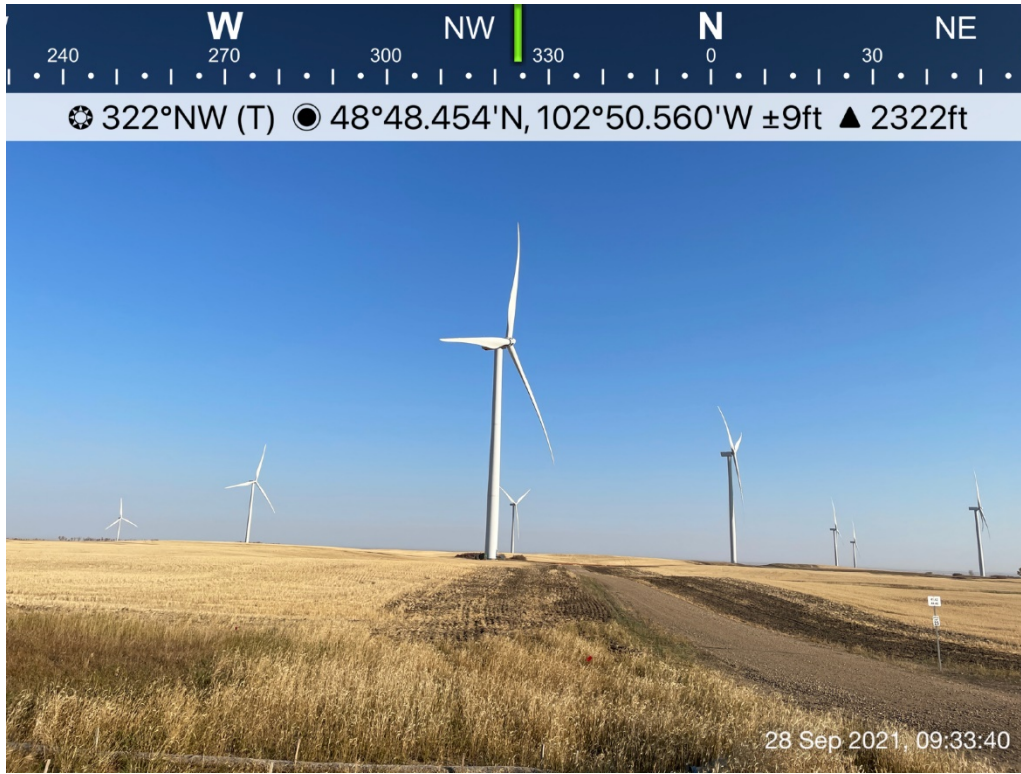
Report Photo #3: Turbines 66, 67, 71 and 72



Report Photo #4: Turbine 64



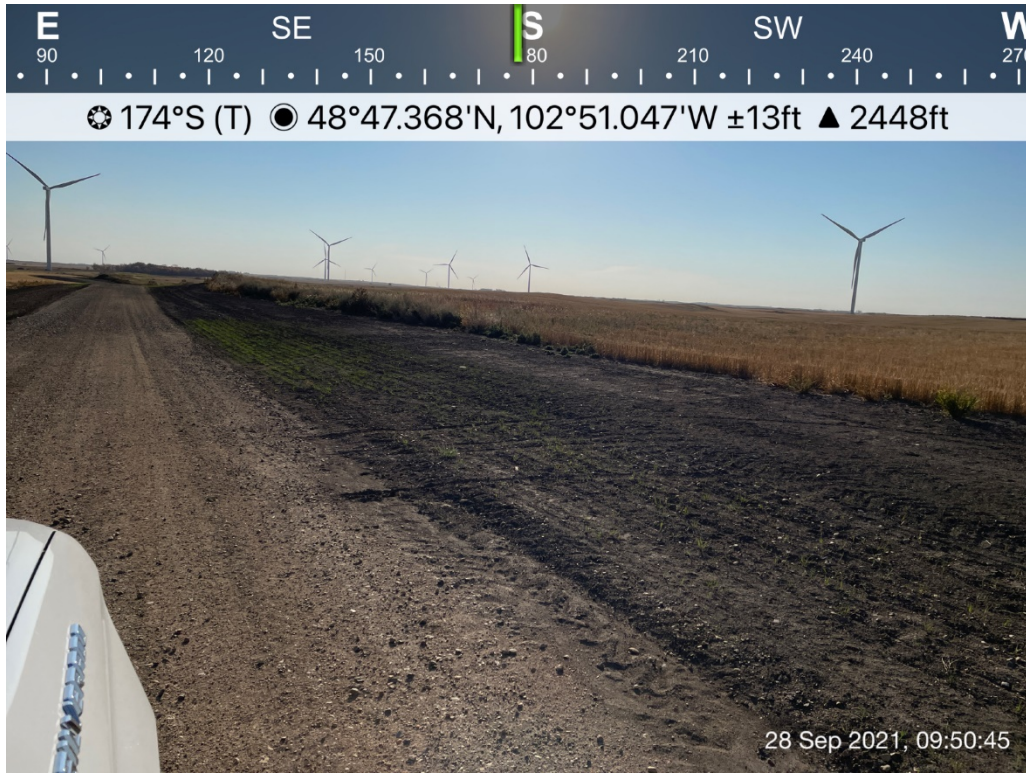
Report Photo #5: Turbine 44



Report Photo #6: ADLS Radar Tower



Report Photo #7: Recently Reseeded ROW



Report Photo #8: Overview of Wind Turbines



Project Map:

