

EXHIBIT R

From: [Max Jabrixio](#)
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Cc: [Brenna Gunderson](#); [Dylan Ikkala](#); [Jennie Geiger](#); [Ryan Henning](#); [Drew Christensen](#); [Lance Rom](#); [Reuben Weston](#)
Subject: Big Bend Wind: June project update
Date: Wednesday, June 3, 2020 11:16:34 AM
Attachments: [Red Rock Solar Cultural Inventory Map 2020-05-13 SB-lr.jpg](#)
[Red Rock Cultural Survey Summary 2020-05-12 MC-lr.docx](#)
[image001.png](#)

Greetings THPOs,

We hope this message finds you safe and healthy. As Minnesota begins to ease pandemic-related restrictions in the month of June, we have a few important project updates to share, and hope to speak with you soon via video conference so that we can share our progress in more detail.

1. **Next Meeting:** As mentioned last month, we are in the process of finalizing a newly revised layout and visual simulations which we anticipate submitting to the state in our permit application. This is nearly complete, and we would like to share it with you as soon as it is ready. Given the continued restrictions on group meetings larger than 10 people, we would like to hold this meeting via video conference to enable as many participants as possible to attend.
 - a. **This meeting will be held on June 18th from 12-2pm CST via Zoom.** If you haven't used Zoom previously, please contact me and I will set up a time to test it with you beforehand to minimize any technical issues during the meeting.
2. **Solar site surveys:** The Phase 1 cultural resources inventory covering the recently revised Red Rock Solar boundary was conducted from May 6 to May 8. A summary and map are attached. Thank you to Upper Sioux Community and Ojibwe-Missouria Tribe for your participation, we know this was challenging due to the COVID-19 pandemic and are glad we were able to conduct surveys in a manner that prioritized the health and safety of those involved.
 - a. **Please note:** there is still a significant amount of survey work to be completed for the wind project, including all proposed linear facilities and revised turbine locations. These surveys have been postponed until later this year due to the COVID-19 pandemic. We hope conditions allow for these surveys to be completed in Fall 2020, and we expect to continue including tribal cultural specialists who are able to participate in the remaining inventories.
3. **Project timeline:** Big Bend Wind and Red Rock Solar expect to submit separate Certificate of Need, Site Permit, and HVTL route permit applications to the MN Public Utilities Commission in Q3 2020. While this submission will mark the beginning of the lengthy formal process for project review, we are extremely grateful to all of you who have participated actively in providing feedback over the last 2 years going back to our early design phase. Your input has led to numerous significant changes in our project plans, including an increase in distance from Jeffers Petroglyphs and the Red Rock Ridge to reduce visual impacts, which we hope improve the project for all stakeholders involved. We look forward to sharing the latest of those changes at the meeting mentioned above.

As always, please don't hesitate to contact us with any questions.

Sincerely,

EXHIBIT R

Max

MAX JABRIXIO
Public Engagement Manager

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Big Bend Wind Project, Jeffers Petroglyphs

June 18, 2020 Meeting Summary

Meeting Attendees:

- Samantha Odegard, Upper Sioux Indian Community THPO
- Drew Brockman, Upper Sioux Indian Community TCS
- Stacy Settje, Ponca Tribe of Nebraska THPO
- Cheyanne St. John, Lower Sioux Indian Community THPO
- Ben Rhodd, Rosebud Sioux Tribe THPO
- Dianne Desrosiers, Sisseton-Wahpeton Oyate THPO
- David Briese, MN Historical Society On-Site Manager, Jeffers Petroglyphs
- Brenna Gunderson, Apex Clean Energy
- Dylan Ikkala, Apex Clean Energy
- Max Jabrixio, Apex Clean Energy
- Jennie Geiger, Apex Clean Energy
- Lance Rom, Quality Services Incorporated
- Reuben Weston, Quality Services Incorporated

Notes Prepared by: Apex Clean Energy

Date: *June 25, 2020*

On June 18, 2020, Apex Clean Energy ("Apex") met with representatives of 5 tribes by Zoom video conference, along with tribal liaisons and archaeologists from Quality Services Incorporated ("QSI"), and professionals from the Minnesota Historical Society (MHS) and Jeffers Petroglyphs Historic Site (Jeffers) to discuss the Big Bend Wind and Red Rock Solar Projects ("project"), share the latest project plans and additional information that was previously requested, and collect further feedback and commentary from tribes with connections to the area. Thirty tribes were invited to attend the meeting by an invitation that was sent via e-mail on June 3, with follow up invitation calls made by Reuben Weston of QSI the following week.

Meeting Summary

The meeting began with a prayer by Reuben Weston (QSI).
Max Jabrixio (Apex) opened the meeting with a welcome and overview of the day's agenda.

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Dylan Ikkala (Apex) shared a project update, reviewing development progress over the past 5 months. Dylan mentioned that the turbine models under consideration for the project have been updated and fewer turbine locations are now needed, with a maximum of 56 turbines (down from 70-90 at the January meeting). This is one of several changes allowing Apex to remove from the project design those turbine locations which would have fallen closest to Jeffers Petroglyphs.

Dylan discussed Apex's timeline for future steps, including the plan to submit permit applications to the Minnesota Public Utilities Commission in Q3 of 2020.

- Cheyenne St. John (Lower Sioux) asked if permit applications will be submitted before or after the cultural analysis and reports are finished, and whether surveys will be submitted as part of the application.
 - Dylan answered that some surveys will still need to be completed after the permit applications are submitted, but all survey reports be completed and submitted to the Minnesota State Historical Preservation Office (SHPO) prior to construction. The reports submitted to SHPO will also be added to the application materials, with the exception of culturally sensitive information that won't be made public.

Lance Rom (QSI) shared information from our Fall 2019 and Spring 2020 cultural field surveys, and shared expected plans for the remaining Fall 2020 surveys.

Note: there was some discussion as to whether the number shown for Spring 2020 acreage surveyed was correct; this number is confirmed to be 790 acres in the new Red Rock Solar boundary.

Dylan shared the latest project boundary, which has been revised to avoid placing any turbines within 5 miles of the Jeffers Petroglyphs site. Dylan discussed how Apex has leased land in Watonwan County and actively worked to shift as many turbines as possible away from the Ridge and petroglyphs, having moved the entire northern project boundary a full mile to the south since the January meeting.

- Samantha Odegard (Upper Sioux) asked why there are so few turbines planned for the southwest portion of the project boundary, when there is a higher density in the northern portion closer to the Red Rock Ridge.
 - Dylan showed a map of potential buildable area, or the areas that remain possible for turbines to be sited after accounting for certain setback requirements (such as roads, wetlands, and shadow flicker regulations). Due to various required setbacks, there is very little buildable area in the southwest portion of the project boundary. This layout was designed specifically to use as many turbines to the south and east as possible in order to maximize our distance from Jeffers Petroglyphs and the Ridge.
 - Dylan also discussed the constraints that prevent Apex from shifting the project boundary any further, including existing wind farms, airspace constraints, a military training route, and the town of Mountain Lake.
- David Briesse (MN Historical Society On-Site Manager, Jeffers Petroglyphs) asked what turbine models Apex is proposing for the Big Bend Wind project.
 - Dylan answered that we are including three turbine models in our permit application that will all work with the new turbine layout. The turbine models are GE158-5.5MW, V162-5.6MW, and N163-5.5-5.7MW.

Max Jabrixio shared visual simulations based on the new layout, which also include notes on the distance from each key observation point shown to the closest turbine. These key observations points match those used for visual simulations shown in January and were based on locations suggested as most significant by THPOs and by Minnesota Historical Society Staff. These demonstrate the shift of the project to lessen visual impacts.

- Drew Brockman (Lower Sioux) asked if the project were to be re-powered with larger turbines, would less turbines be needed? If so, would the turbines that are no longer needed be removed from the northern portion of the project (closest to the ridge)?
 - Dylan responded that it is possible for the project to be re-powered at some point in the future, however no decisions will be made on this topic for a number of years. However, it is generally the trend that re-powering would be done with higher capacity turbines which could lower the overall number of turbines.
- Cheyanne asked if tribes will have the opportunity to review application documents and cultural survey documents before the permit applications are submitted.
 - The Apex team was uncertain which documents were being requested at what time; Cheyanne suggested she follow up via email to clarify. Apex will reach out to Cheyanne individually for details.
- Cheyanne also asked whether the data and survey reports being shared with THPOs were the same as what was being shared in SHPO reports, or whether these are revised before submission to SHPO.
 - Jennie Geiger (Apex) mentioned that while nothing would be changed, there will likely be additional information included to meet SHPO requirements.
 - Lance (QSI) indicated that cultural resource information previously provided to the tribes via email that are now outside the Project boundary will not be included in the reports that are submitted as part of the permit application.
- Samantha acknowledged Apex's efforts to shift the project and reduce visual impacts, while noting that these did not fully meet the buffer distance Upper Sioux previously requested (referring to 5 miles from the Red Rock Ridge in its entirety). Samantha stated that she plans to speak with other tribal members before providing an official reaction or commentary.
- Cheyanne shared that while this spring was a challenging time for everyone due to COVID-19, it was difficult for Lower Sioux and others to participate in surveys because of the short notice on which they were scheduled and the comfort level of staff with traveling at that time. While of course some flexibility may be needed for weather conditions and fall harvest, Cheyanne requests that a window be given for when fall surveys will take place, with at least 2 weeks of notice when an initial meeting will be held with participating tribal representatives.
 - Apex and QSI agreed this is reasonable and will communicate at least this far in advance to schedule fall surveys. Apex will try to set a window closer to a month in advance to help facilitate scheduling for THPOs.

Max thanked all participants for their input today and over the past 2 years to help Apex design a project we are proud of while limiting our impact on the important cultural resources in the area.

Reuben Weston ended with a closing prayer, and the meeting was adjourned.

For more information, please contact:

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Big Bend Wind and Red Rock Solar

June 18, 2020





Agenda

- **Welcome**
- **Project Overview and Update**
- **Surveys**
 - Spring 2020 surveys
 - Fall 2020 surveys
- **New Layout and Project Boundary**
- **Visual Simulations**
- **Discussion and Questions**

Apex: Values and Commitment

Summary

Apex Clean Energy is an independent renewable energy company focused on building utility-scale generation facilities. Our team includes experts in all areas of clean energy development including environmental permitting, project engineering, construction, electricity transmission, utility market analysis, and project operations.

Company Values

Entrepreneurship

Professionalism

Integrity

Safety

Sustainability

Commitment

Apex is committed to the responsible development of clean energy resources in order to ensure that our projects create economic and environmental value for all stakeholders.



Big Bend Wind and Red Rock Solar

Big Bend renewable projects will generate clean electricity and local economic benefits and support the local community

Big Bend Wind

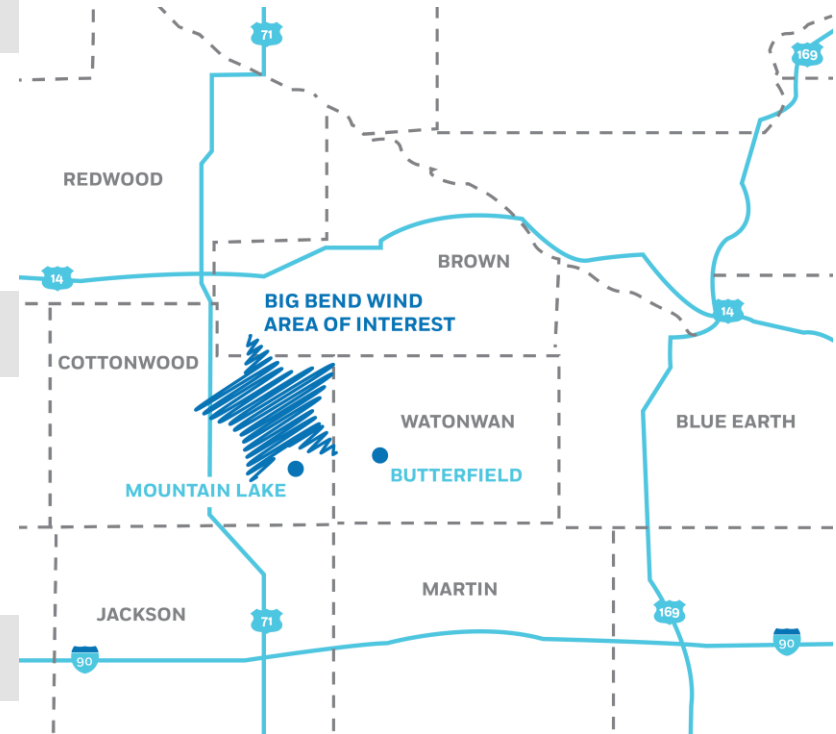
- Up to 320 MW (powering over 100,000 homes annually)
- Up to 56 wind turbines
- Developed across 30,000 acres of farmland

Red Rock Solar

- Up to 60 MW
- ~500 acres of buildable area for solar panel array
- Will not be a standalone project—will share facilities with Big Bend Wind

Project Schedule

- 2020: Complete environmental studies, begin MN permitting process
- 2022: Start construction and operations



Project Update: What's Happening Now?

Leasing Effort:

- Leasing complete in Cottonwood and Watonwan Counties
- Overhead transmission line leasing ~90% complete

Turbine Layout:

- Turbine locations for layout are finalized

Permitting:

- Finalizing our permit application to submit in Q3 2020. Big Bend and Red Rock will be seeking separate permits.

Environmental Surveys:

- Completed cultural and wetland surveys for revised Red Rock Solar boundary in May 2020.
- Additional wildlife surveys currently being completed for Watonwan County.



Project Update: What's next?

Leasing Effort:

- Finalize overhead transmission line route

Turbine Layouts:

- Turbine locations that we submit in our permit application will cover three different turbine models

Power Marketing:

- Secure a power purchaser for the project

Permitting:

- Submit our permit application in Q3 2020 and start the 12-15 month permitting window in order to construct the project in 2022.

Environmental Surveys:

- Remaining cultural surveys for new turbine locations and linear facilities (ex: collection lines, access roads) to be completed in Fall 2020



2019 Cultural Resources Surveys

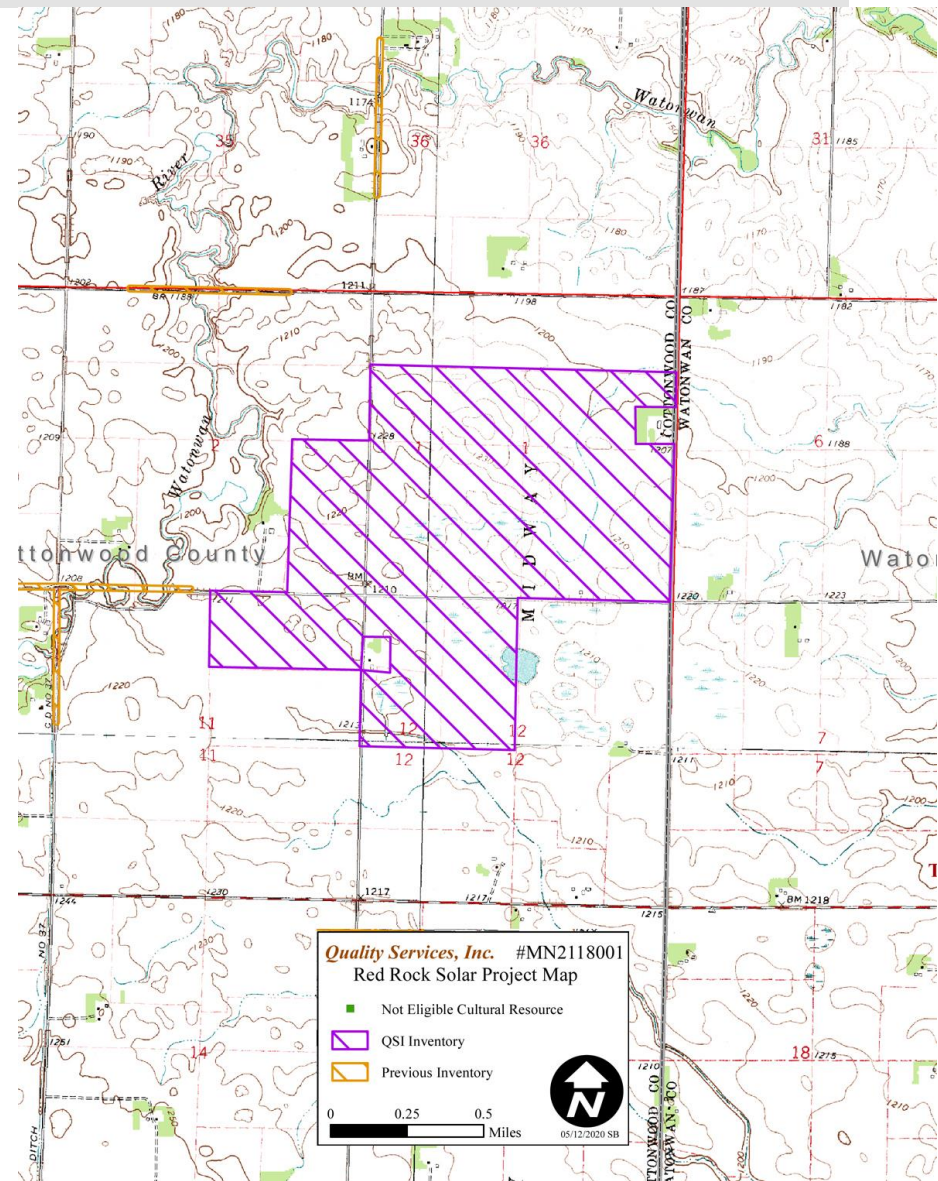
Fall 2019 Accomplishments

- Surveyed total 2,352 acres between Wind and Solar areas
- Recorded 5 historic period sites 3 of which are out of revised project areas
- Conducted subsurface testing at 5 historic period sites
- Located total of 40 bedrock outcrops, with one confirmed petroglyph and three possible petroglyphs, all of which are out of revised project areas
- Recorded 26 cultural sites; 8 of which are Traditional Cultural Properties (TCPs) including possible mounds, cairns, stone alignments, petroglyphs, and turtle effigy. All are out of revised project area.

2020 Red Rock Solar Cultural Resources Surveys

Spring 2020 Accomplishments

- Shifted project boundary to southeast, new area has no overlap with previous solar boundary where 8 TCPs and one confirmed petroglyph were found
- Completed from May 6 to May 8, 2020
- Surveyed 790 acres of plowed & planted agricultural fields
- Recorded 0 cultural, archaeological, or historical sites; 0 Traditional Cultural Properties (TCPs)
- Field crew consisted of Mark Carpenter, Loni Weston, Luke Cavallaris (QSI), Drew Brockman (Upper Sioux), and Jessica Arkeketa (Otoe-Missouria)



2020 Fall Survey Plans: What's next?

Red Rock Solar

- Complete architectural history (historic structures) inventory

Big Bend Wind

- Inventory additional areas for turbines, roads, collector or transmission lines, substations, operations and maintenance areas, laydown yards, etc.
- Complete architectural history (historic structures) inventory

Ongoing Coordination

- Continue coordination with those interested parties to employ tribal staff
- Continue to incorporate any received feedback into the fall survey plans

Big Bend's Commitments to Protect and Avoid

Big Bend will commit to protecting and avoiding significant cultural resources that are discovered during cultural surveys.

The project team will:

- Avoid all TCPs identified during surveys through micro-siting of project infrastructure
- Ensure final reporting ensures confidential treatment of TCPs
- Finalize the accuracy of the field determinations when the specific locations for the plotted cultural sites are received from QSI
- Partner with tribal monitors during construction to ensure avoidance
- **Develop an Unanticipated Cultural Resource Finds document that will be employed during construction**
 - The written plan which will define this process has been drafted and sent to THPOs for review (sent in early May).
- Help facilitate post-construction site revisits for tribes with the landowners

Big Bend Stakeholder Input Process

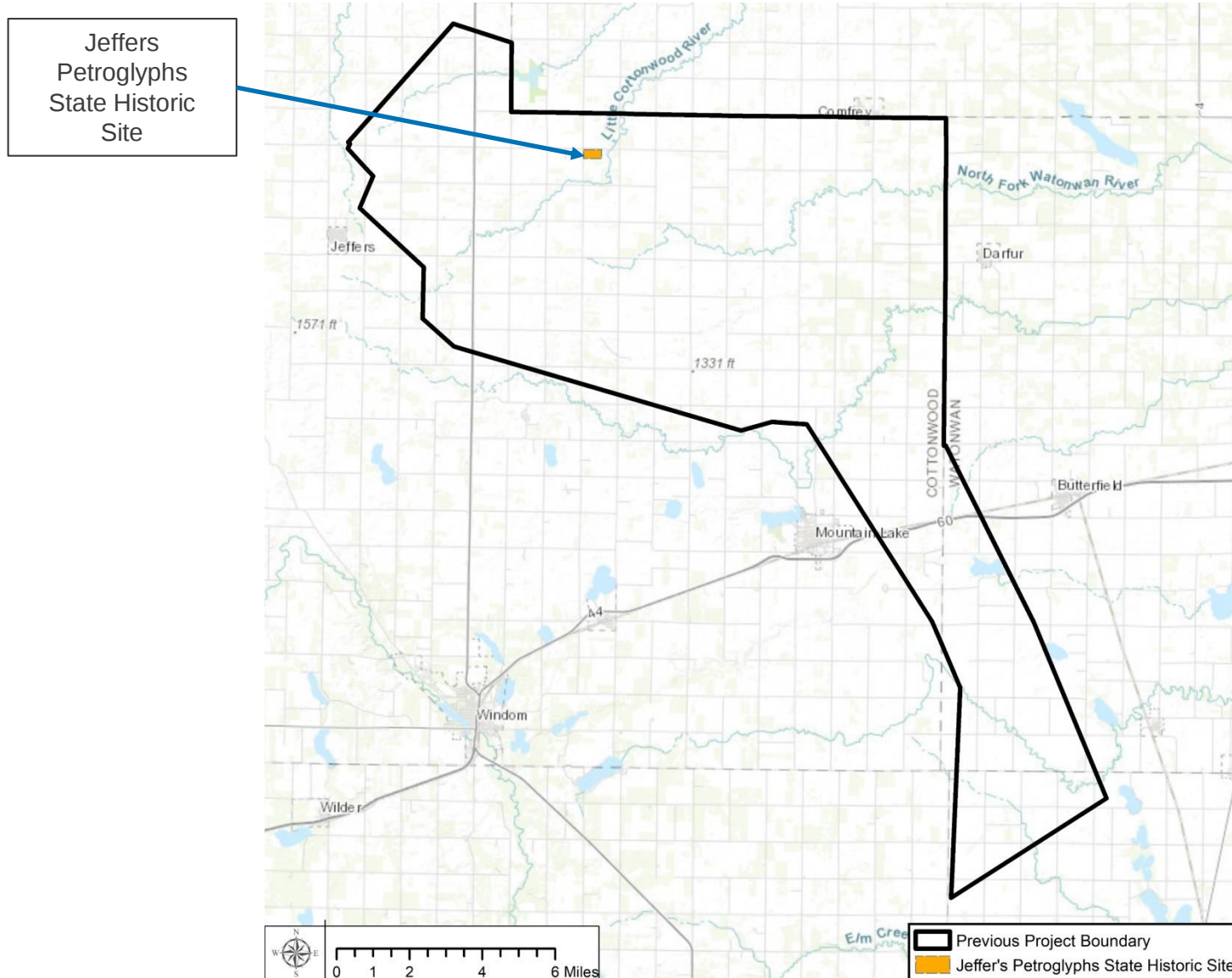
Apex's goal is to build a project that benefits the community and the environment while minimizing impacts to various environmental characteristics.

Feedback from tribes and other stakeholders has been ongoing since early 2018.

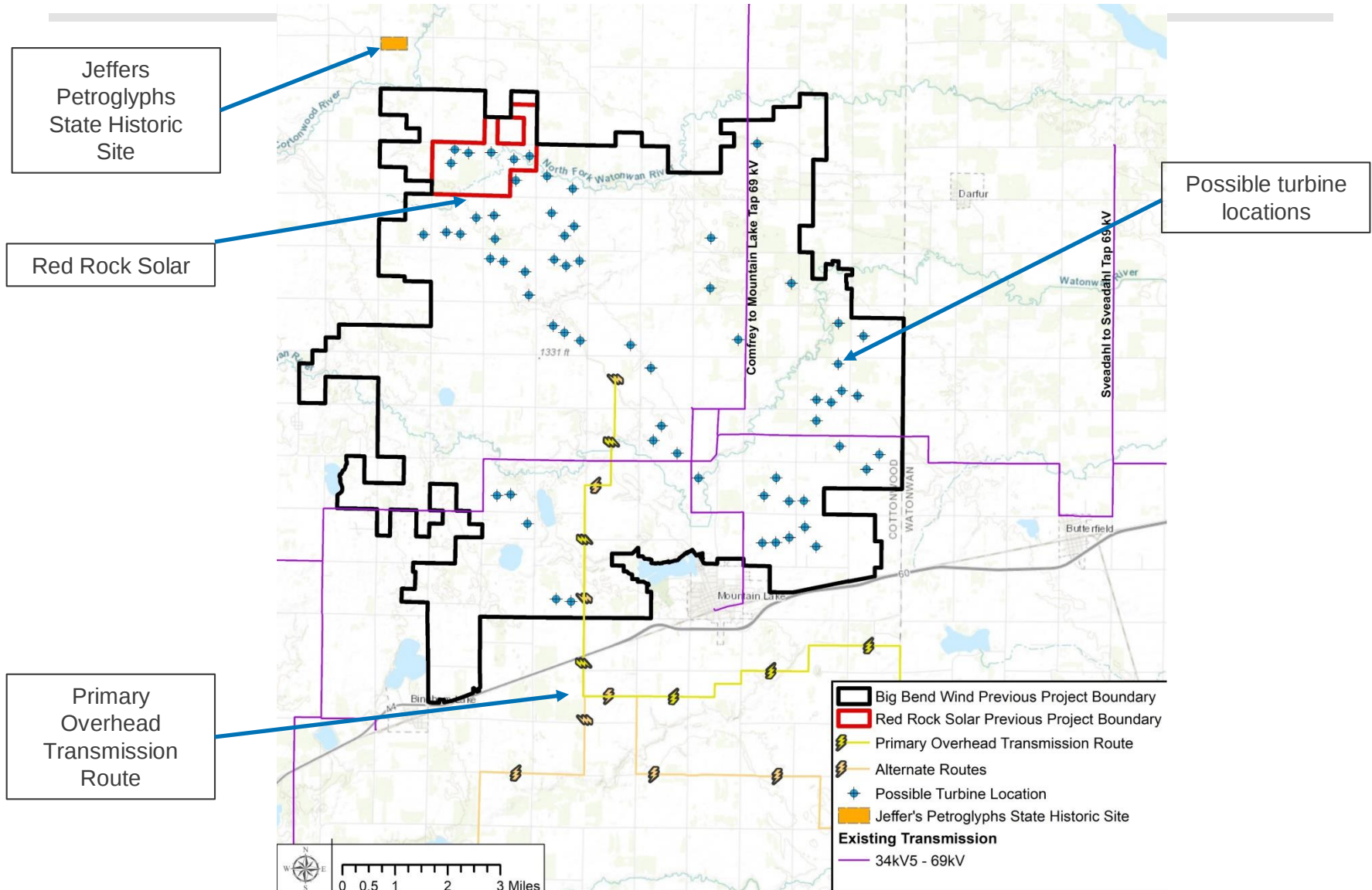
Feedback from tribes has led to several key changes in design:

- Avoiding any shadow flicker or audible turbine sound at the Jeffers Petroglyphs site
- Incorporating Aircraft-Detecting Lighting Systems (ADLS*) to minimize red lights at night
- Cultural and Archaeological Surveys include participation from seven tribes
- Surveys used methodology based on suggestions from tribes and Red Rock Ridge Research Group
- **Monthly updates sent to THPOs regarding general project development**
- **Project boundary has been shifted multiple times to attempt to address concerns with potential visual impacts**

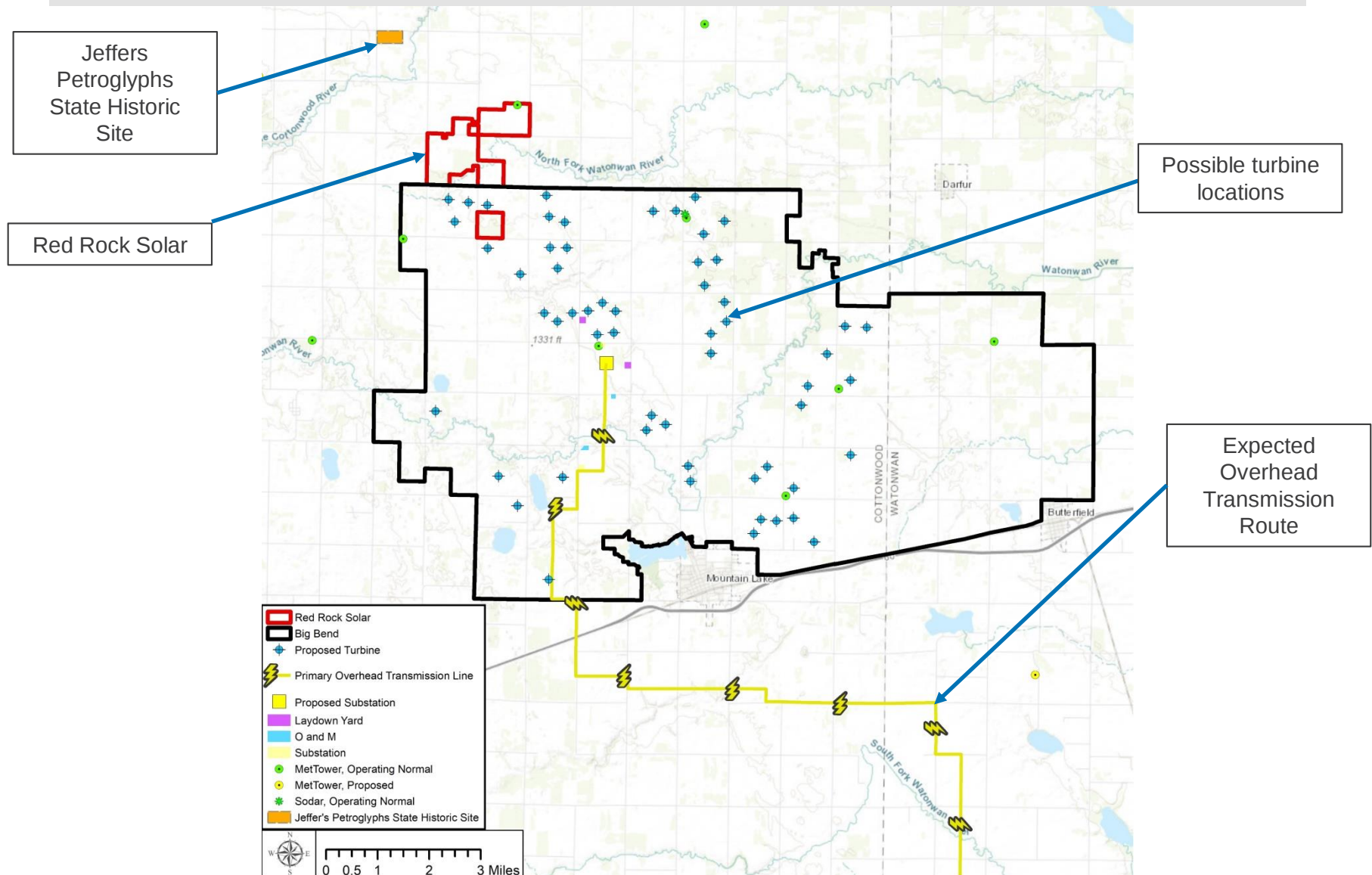
Original Project Boundary



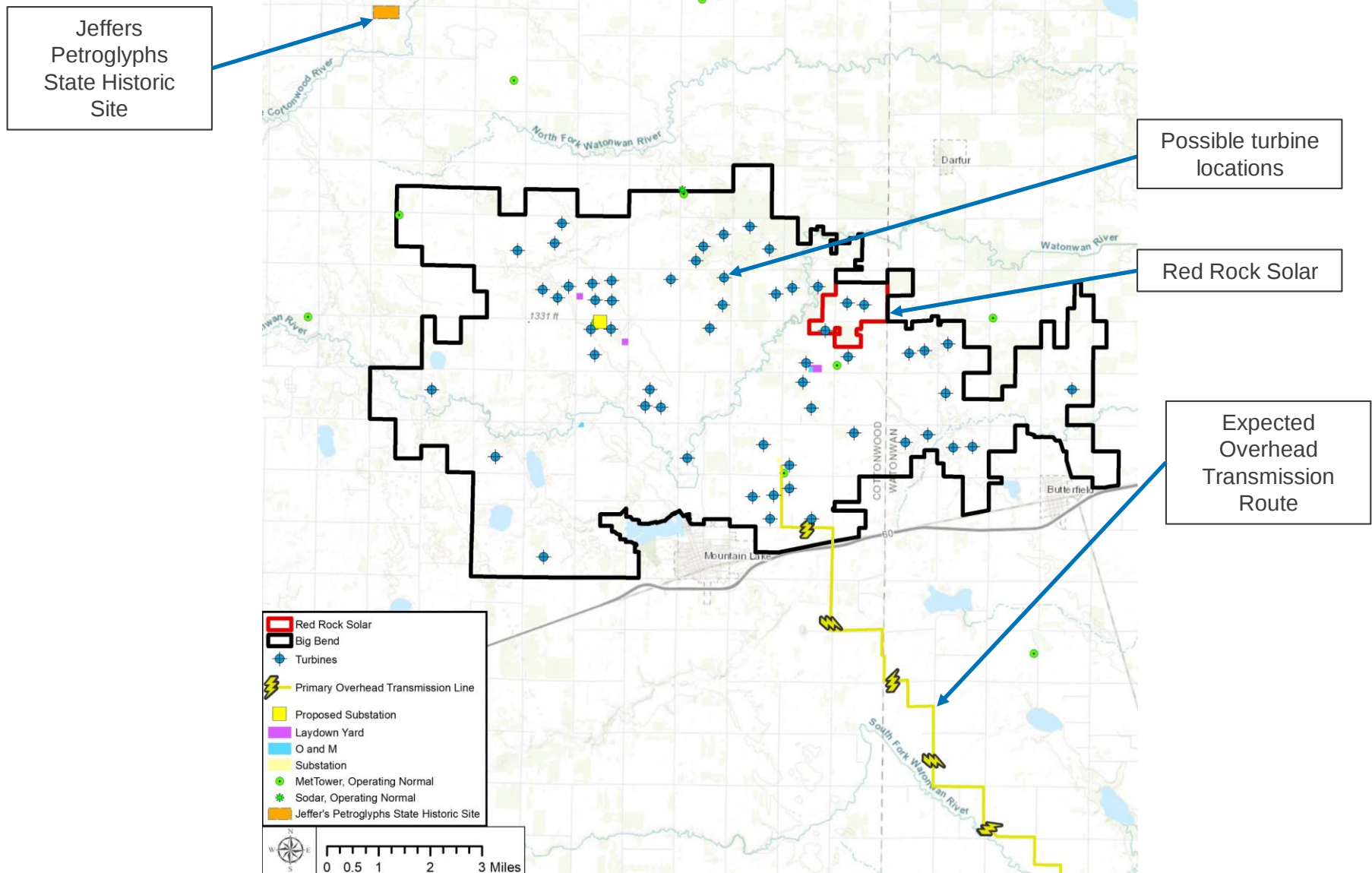
July 2019 Layout



December 2019 Layout

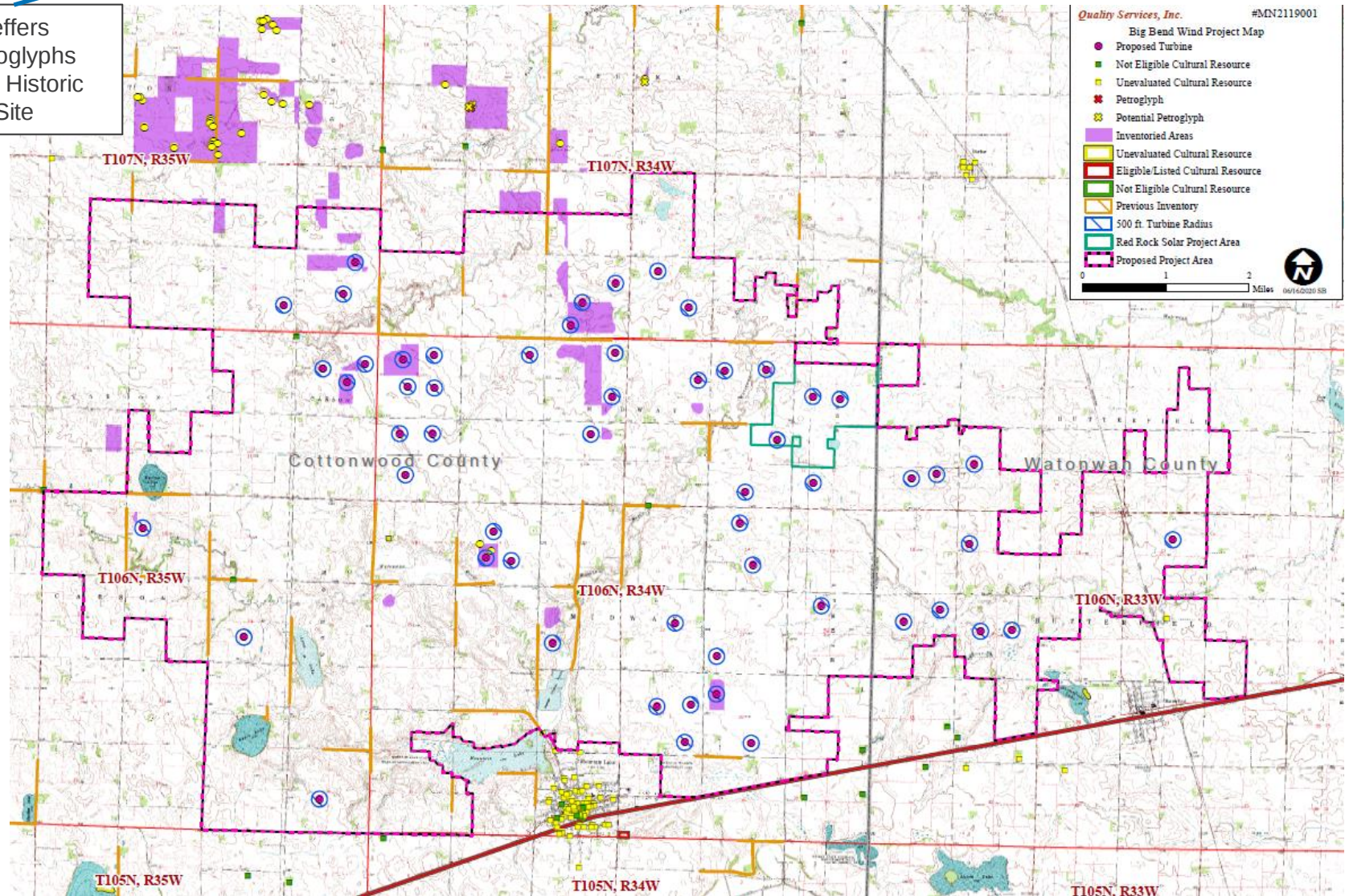


June 2020 Layout (new, final)



June 2020 Layout – Inventoried Areas

Jeffers
Petroglyphs
State Historic
Site



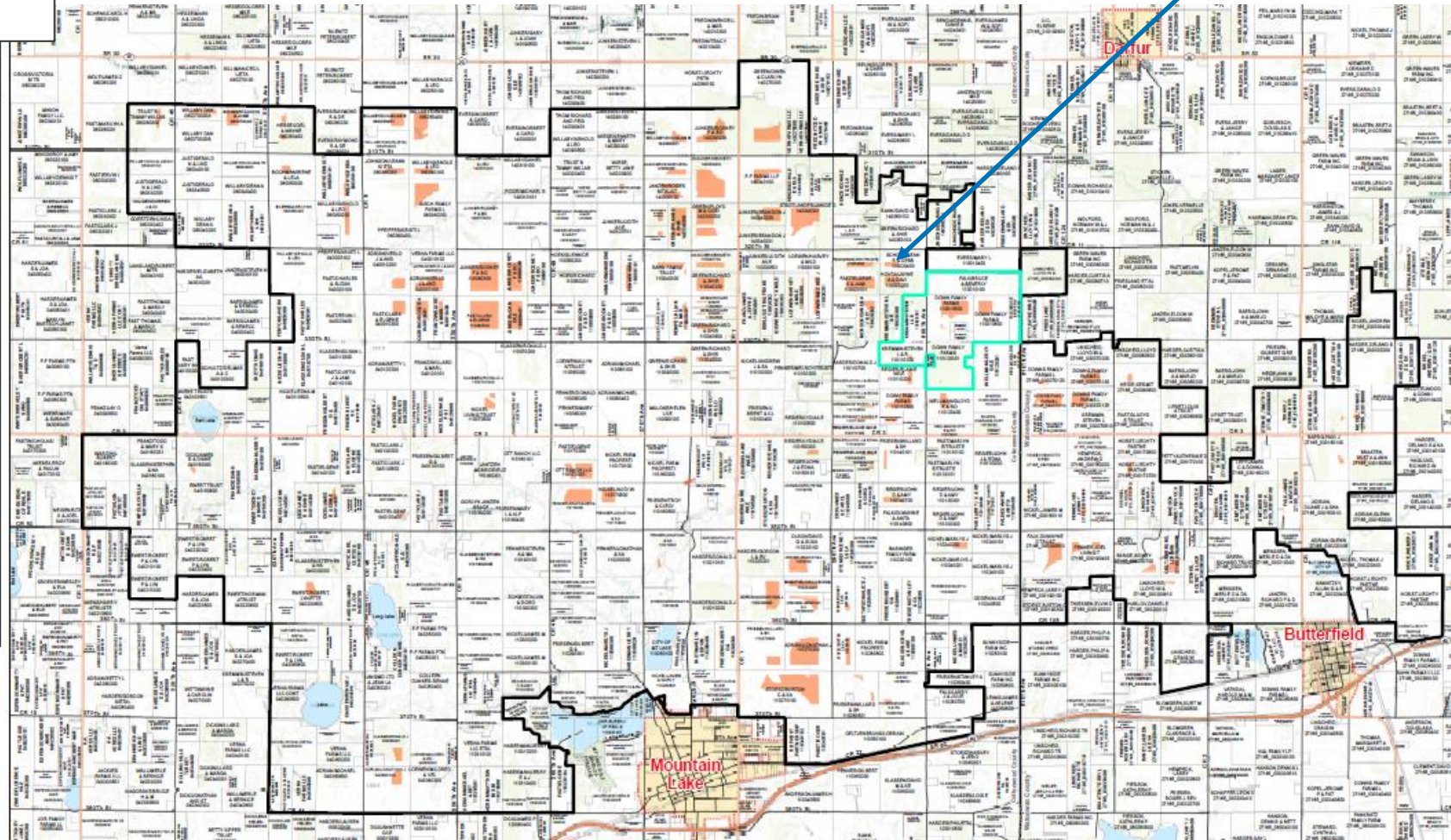
June 2020 Layout – buildable area shown

Jeffers
Petroglyphs
State Historic
Site

Big Bend Layout 17

- Buildable Area
- Big Bend Project Boundary
- Red Rock Project Boundary
- Parcel Boundary
- County
- City

Red Rock Solar



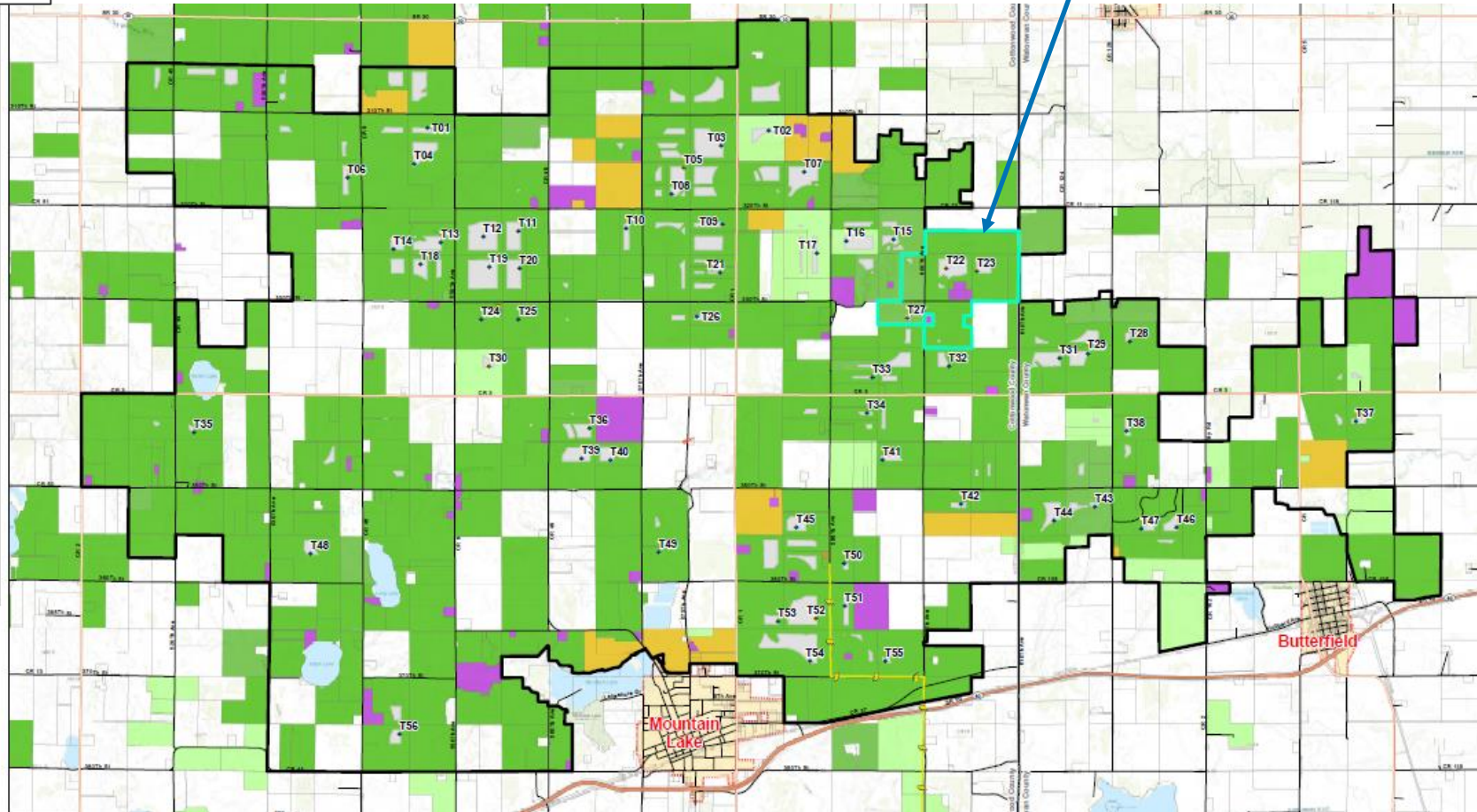
June 2020 Layout – signed agreements shown

Jeffers
Petroglyphs
State Historic
Site

Red Rock Solar

Big Bend Layout 17

- Buildable Area
- Big Bend Project Boundary
- Red Rock Project Boundary
- Parcel Boundary
- Interconnection
 - Project Substation
 - Gentle Line
 - County
 - City
- Primary Turbine
- Spare Turbine
- Big Bend Lease Status
 - Lease
 - Participation Agreement
 - Purchase Option/Owned, Signed
 - Underground Collection Easement
- Big Bend Contact Status
 - Positive



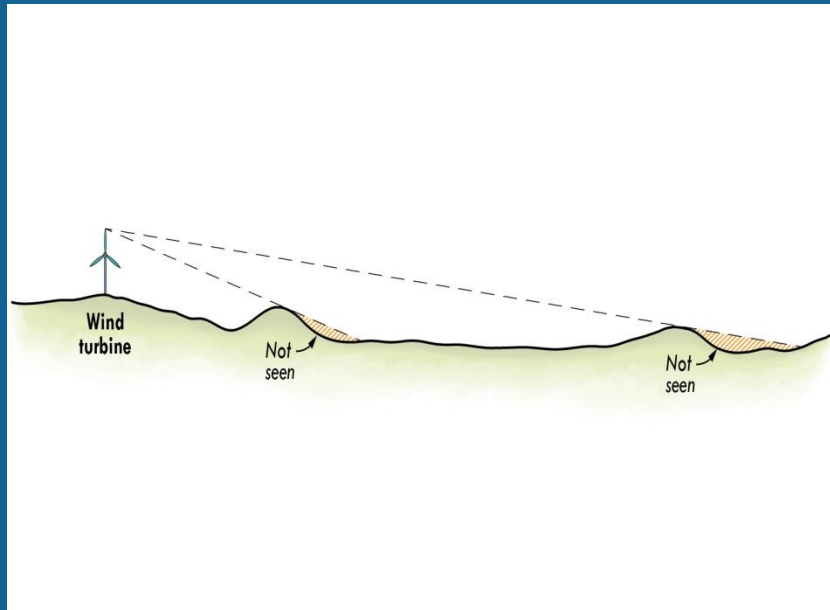
VISIBILITY OF THE PROPOSED BIG BEND WIND PROJECT IN THE VICINITY OF RED ROCK RIDGE AND JEFFERS PETROGLYPHS

**Mark Greenig
Jacobs
June 2020**

WHAT IS DETERMINED IN A VISIBILITY ASSESSMENT?

1. Determine where a proposed project would be seen (the viewshed).
 2. Identify specific sensitive viewing locations (where people have concern related to changes in a viewed landscape).
 3. Develop accurate photo-simulations of a proposed project.
 4. Describe changes to the viewed landscape.
- 
- A series of white diagonal lines of varying lengths and thicknesses are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

DETERMINING AREAS WHERE WIND TURBINES WOULD BE POTENTIALLY SEEN



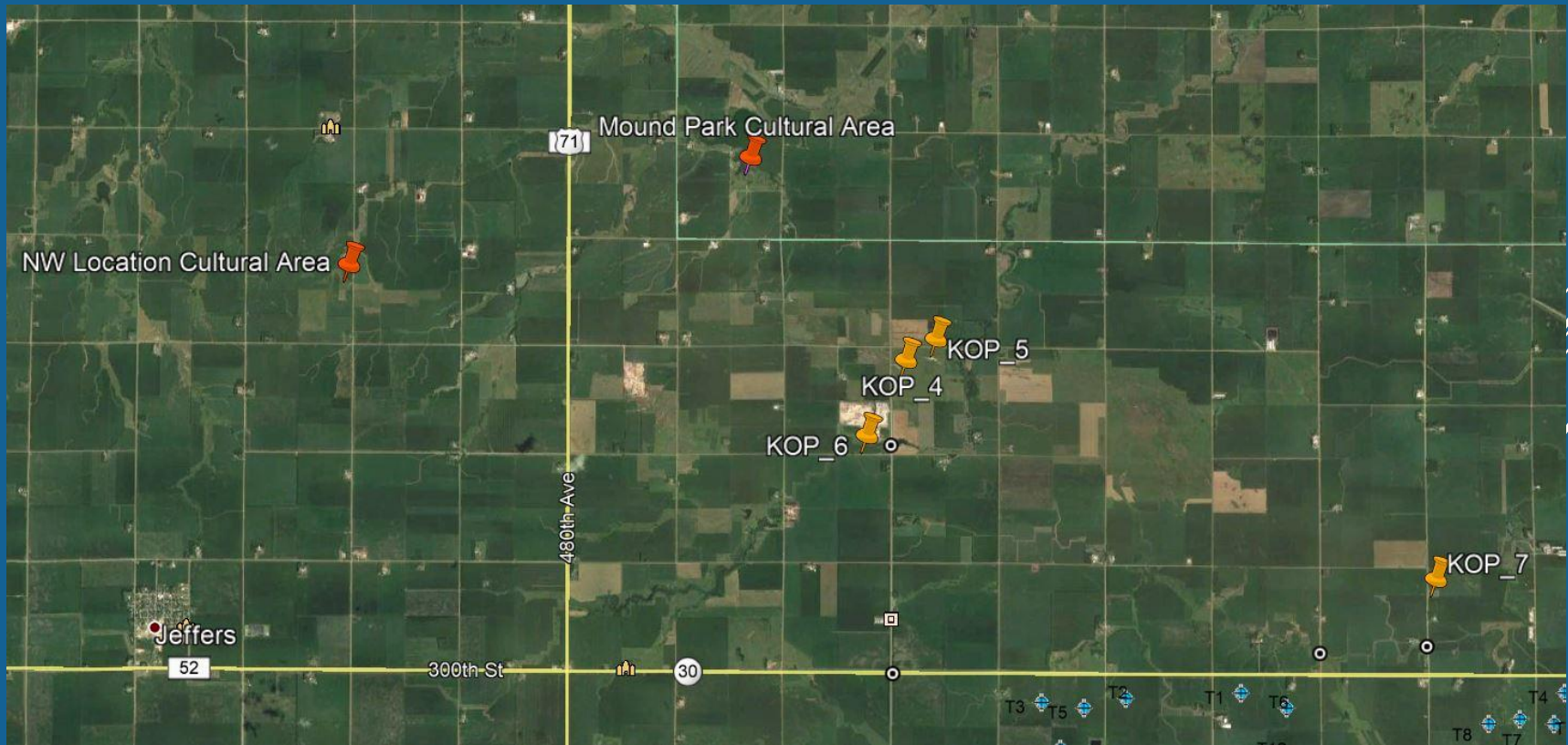
- ▶ The visibility assessment used a line-of-sight model based on topography.
- ▶ Visibility was measured from the top of the turbine blade at maximum rotation.
- ▶ View blockage by most vegetation and structures was not considered, nor were atmospheric conditions.

PRIOR TO THE JULY 17, 2019 MEETING 3 LOCATIONS AND 2 CULTURAL AREAS IN THE RED ROCK RIDGE AREA WERE VISITED TO DETERMINE THEIR POTENTIAL FOR EVALUATING THE PRELIMINARY JULY 2019 PROJECT WIND TURBINE LAYOUT.



IN LATE 2019 STAKEHOLDERS REQUESTED THAT APEX EXAMINE ADDITIONAL LOCATIONS TO ASSIST IN EVALUATING POTENTIAL PROJECT VISIBILITY.

FOUR NEW LOCATIONS (ORANGE PINS) THAT ARE ALSO CALLED KEY OBSERVATION POINTS (KOPS) AND TWO NEW CULTURAL AREAS (RED PINS) WERE EXAMINED.



KOP 1: PARKING LOT/ENTRANCE TO JEFFERS PETROGLYPHS VISITORS CENTER. EXISTING VIEW.



Existing visual elements dominance.

- sky
- parking area
- field
- building
- masses of trees
- silos
- distant wind turbines

**KOP 1: PARKING LOT/ENTRANCE TO JEFFERS PETROGLYPHS
VISITORS CENTER. PHOTO-SIMULATION OF JULY 2019
PROJECT LAYOUT (CLOSEST TURBINE APPROXIMATELY 2 MILES AWAY).**



**July 2019 layout visual
dominance**

- sky
- project turbines
- parking area
- field
- building
- masses of trees
- silos
- distant turbines

KOP 1: PARKING LOT/ENTRANCE TO JEFFERS PETROGLYPHS VISITORS CENTER. PHOTO-SIMULATION OF JUNE 2020 PROJECT LAYOUT. (CLOSEST TURBINE 5.4 MILES AWAY).



June 2020 layout visual dominance

- sky
- parking area
- field
- building
- project turbines
- masses of trees
- silos
- distant turbines

KOP 2: BOARDWALK AT JEFFERS PETROGLYPHS. EXISTING VIEW.



Existing visual elements
dominance.

- prairie
- sky
- masses of trees
- path
- deck and bench

KOP 2: BOARDWALK AT JEFFERS PETROGLYPHS.
PHOTO-SIMULATION OF JULY 2019 PROJECT LAYOUT
(CLOSEST TURBINE APPROXIMATELY 2 MILES AWAY).



July 2019 layout visual dominance.

- prairie
- sky
- project turbines
- masses of trees
- path
- deck and bench

KOP 2: BOARDWALK AT JEFFERS PETROGLYPHS. PHOTO-SIMULATION OF JUNE, 2020 PROJECT LAYOUT. (CLOSEST TURBINE 5.25 MILES AWAY).



June, 2020 layout visual dominance.

- prairie
- sky
- masses of trees
- path
- deck and bench
- project turbines

KOP 3: NATURE CONSERVANCY PROPERTY RIDGETOP EAST OF JEFFERS PETROGLYPHS. EXISTING VIEW.



Existing visual elements dominance.

- prairie
- sky
- masses of trees
- edge of outcropping
- distant wind turbines

**KOP 3: NATURE CONSERVANCY PROPERTY RIDGETOP EAST OF
JEFFERS PETROGLYPHS. PHOTO-SIMULATION OF JULY 2019
PROJECT LAYOUT (CLOSEST TURBINE APPROXIMATELY 1.5 MILE AWAY).**



July 2019 layout visual dominance.

- prairie
- project turbines
- sky
- masses of trees
- edge of outcropping
- distant turbines

KOP 3: NATURE CONSERVANCY PROPERTY RIDGETOP EAST OF JEFFERS PETROGLYPHS. PHOTO-SIMULATION OF JUNE, 2020 PROJECT LAYOUT. (CLOSEST TURBINE 3.9 MILES AWAY).



June, 2020 layout visual dominance.

- prairie
- sky
- project turbines
- masses of trees

KOP 4 (NEW): JEFFERS PETROGLYPHS ASTRONOMICAL EDUCATION FACILITY. EXISTING VIEW.



Existing visual elements
dominance.

- prairie
- sky
- silos
- masses of trees

KOP 4 (NEW): JEFFERS PETROGLYPHS ASTRONOMICAL EDUCATION FACILITY. PHOTO-SIMULATION OF DECEMBER 2019 PROJECT LAYOUT (CLOSEST TURBINE APPROXIMATELY 3.25 MILES AWAY).



**December 2019 layout
visual dominance.**

- prairie
- sky
- project turbines
- masses of trees
- silos

KOP 4 (NEW): JEFFERS PETROGLYPHS ASTRONOMICAL EDUCATION FACILITY. PHOTO-SIMULATION OF JUNE 2020 PROJECT LAYOUT.
(CLOSEST TURBINE APPROXIMATELY 5.4 MILES AWAY).



June 2020 layout visual dominance.

- prairie
- sky
- project turbines
- masses of trees
- silos

KOP 5 (NEW): JEFFERS PETROGLYPHS HIGHEST POINT. EXISTING VIEW.



Existing visual elements
dominance.

- outcropping
- prairie
- sky
- masses of trees
- snow in fields
- silo

KOP 5 (NEW): JEFFERS PETROGLYPHS HIGHEST POINT. PHOTO-SIMULATION OF DECEMBER 2019 PROJECT LAYOUT (CLOSEST TURBINE APPROXIMATELY 3.25 MILES AWAY).



December 2019 layout visual dominance.

- outcropping
- prairie
- project turbines
- sky
- masses of trees
- snow in fields
- silo

**KOP 5 (NEW): JEFFERS PETROGLYPHS HIGHEST POINT. PHOTO-SIMULATION OF JUNE 2020 PROJECT LAYOUT.
(CLOSEST TURBINE APPROXIMATELY 5.25 MILES AWAY).**



June 2020 layout visual dominance.

- prairie
- sky
- project turbines
- masses of trees
- silos

**KOP 6 (NEW): 280TH STREET NEAR RED ROCK QUARRY.
EXISTING VIEW.**



**Existing visual elements
dominance.**

- roads
- field
- sky
- snow
- masses of trees

**KOP 6 (NEW): 280TH STREET NEAR RED ROCK QUARRY. PHOTO-SIMULATION OF DECEMBER 2019 PROJECT LAYOUT
(CLOSEST TURBINE APPROXIMATELY 3 MILES AWAY).**



**December 2019 layout
visual dominance.**

- roads
- field
- project turbines
- sky
- snow
- masses of trees

**KOP 6 (NEW): 280TH STREET NEAR RED ROCK QUARRY. PHOTO-SIMULATION OF JUNE 2020 PROJECT LAYOUT
(CLOSEST TURBINE APPROXIMATELY 5 MILES AWAY).**



KOP 7 (NEW): CULTURAL SITE EAST OF PROJECT BOUNDARY. EXISTING VIEW.



**Existing visual elements
dominance.**

- field and grass
- sky
- trees and barn on right
- masses of trees

KOP 7 (NEW): CULTURAL SITE NORTH OF PROJECT BOUNDARY.
PHOTO-SIMULATION OF DECEMBER 2019 PROJECT LAYOUT.
(CLOSEST TURBINE APPROXIMATELY 1.5 MILE AWAY).



December 2019 layout visual dominance.

- field and grass
- project turbines
- sky
- trees and barn on right
- masses of trees

KOP 7 (NEW): CULTURAL SITE EAST OF PROJECT BOUNDARY.
PHOTO-SIMULATION OF JUNE 2020 PROJECT LAYOUT.
(CLOSEST TURBINE APPROXIMATELY 2.33 MILES AWAY).



June 2020 layout visual dominance.

- field and grass
- project turbines
- sky
- trees and barn on right
- masses of trees

Discussion



Thank You



Please do not hesitate to contact us for more information.

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Big Bend Wind and Red Rock Solar

July 29, 2020



Agenda



- **Welcome**
- **Project Overview and Update**
- **Surveys**
 - Completed – Red Rock Solar and turbine buildable areas (Fall 2019 and Spring 2020)
 - Pending – Revised turbine buildable areas, other project facilities, Tline (Fall 2020)
- **New Layout and Project Boundary**
- **Visual Simulations**
- **Discussion and Questions**

Big Bend Wind and Red Rock Solar

Big Bend renewable projects will generate clean electricity and local economic benefits and support the local community

Big Bend Wind

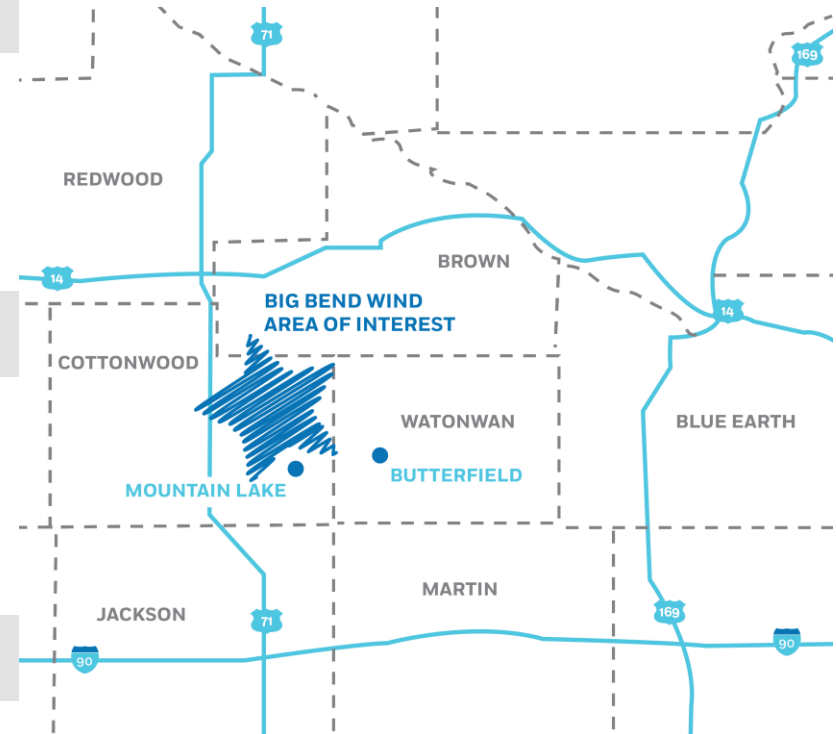
- Up to 320 MW (powering over 100,000 homes annually)
- Up to 56 wind turbines
- Developed across 30,000 acres of farmland

Red Rock Solar

- Up to 60 MW
- ~500 acres of buildable area for solar panel array
- Will not be a standalone project—will share facilities with Big Bend Wind

Project Schedule

- 2020: Complete environmental studies, begin MN permitting process
- 2022: Start construction and operations



Project Update: What's Happening Now?

Leasing Effort:

- Leasing complete in Cottonwood and Watonwan Counties
- Overhead transmission line leasing ~90% complete

Turbine Layout:

- Turbine locations for layout are finalized

Permitting:

- Finalizing our permit applications to submit in Q3 2020. Big Bend and Red Rock will be seeking separate permits.
- No federal nexus or Section 106 process is expected

Environmental Surveys:

- Completed cultural and wetland surveys for revised Red Rock Solar boundary in May 2020.
- Additional wildlife surveys currently being completed for Watonwan County.



Project Update: What's next?

Leasing Effort:

- Finalize overhead transmission line route

Turbine Layouts:

- Turbine locations that we submit in our permit application will cover three different turbine models

Power Marketing:

- Secure a power purchaser for the project

Permitting:

- Submit our permit applications in Q3 2020 and start the 12-15 month permitting window in order to construct the projects in 2022.

Environmental Surveys:

- Remaining cultural surveys for new turbine locations and linear facilities (ex: collection lines, access roads) to be completed in Fall 2020



SHPO/MNHS Recommendations

Stakeholder Comment	Apex Response
We [SHPO] believe there are more known, potentially significant, sites and previous surveys in the vicinity of Jeffers Petroglyphs than what is indicated in desktop studies. We recommend that additional records search and information collection be completed.	A revised desktop assessment was completed by QSI for current boundary and 1.5 mi buffer on July 16, 2020. Will be submitted to SHPO prior to submission of state permit applications.
We [SHPO] recommend that you consult with staff at the Minnesota Historical Society's Jeffers Petroglyphs Historic Site, including both the current site manager and the retired site manager, Tom Sanders.	MNHS staff have been consulted and included in all correspondence and meetings pertaining to cultural and tribal resources. Tom Sanders and the Red Rock Ridge Research Group have also participated in several consultation meetings.
A thorough viewshed analysis should be completed to ensure that these sites [Jeffers and surrounding area] will not be visually impacted by the Project. As part of this analysis, we [SHPO] recommend that visual impacts be assessed for the Red Rock Ridge, which is a culturally significant landform. If the landform ends up being within the Project's area of potential effect, then the landform and all sites within it should be inventoried and fully evaluated, in consultation with our office, consulting Native American tribes, MHS staff, and others, as appropriate, for NRHP eligibility as a potential cultural landscape historic district so that effects from the project can be fully considered and assessed prior to Project final design approval and implementation.	A viewshed analysis has been completed for various iterations of the project and will be submitted in our permit application. Red Rock Ridge is outside of the direct and indirect APE for the current Project boundary.

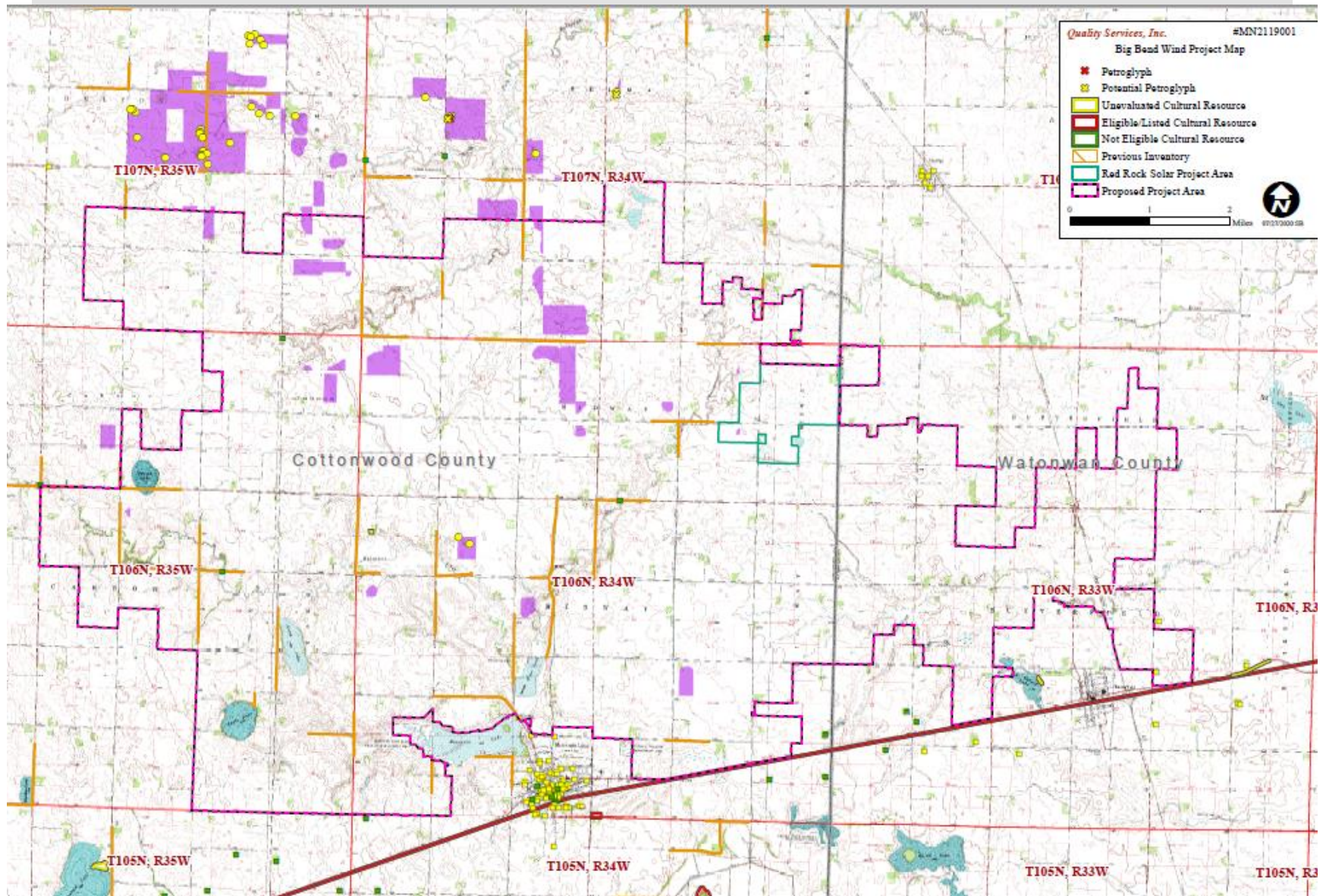
SHPO/MNHS Recommendations

Stakeholder Comment	Apex Response
It is also important for our office [SHPO] to gain a better understanding of consultation that Apex, Quality Services, and/or the Department of Commerce, has had with Native American tribes in association with the proposed Project and identification of historic sites of cultural or religious significance to the tribes. It will be important to coordinate consultation among all parties who express an interest in the identification and preservation of significant cultural, archaeological, and historic sites within the Project area.	Information on the extensive amount of coordination that has occurred with Native American tribes on this project has been provided to SHPO. This has included: • multiple in-person meetings and teleconferences • monthly updates on the project • participation in the development of survey methodology and in surveys themselves • review and feedback on the Unanticipated Discoveries Plan • Apex plans to avoid direct impacts to known protected resources (NRHP-eligible); UDP will address potential impacts to unknown resources and will be submitted to SHPO once tribal feedback is incorporated into draft UDP.
MNHS requested a visual simulation (viewshed analysis) be conducted based on a buffer of 5 and 8 miles from the Jeffers Petroglyphs site.	Viewshed analysis was completed by Jacobs Engineering for multiple iterations of the project design, including the current design in which turbines are located a minimum of 5 miles from Jeffers Petroglyph site.

2019 Cultural Resources Surveys

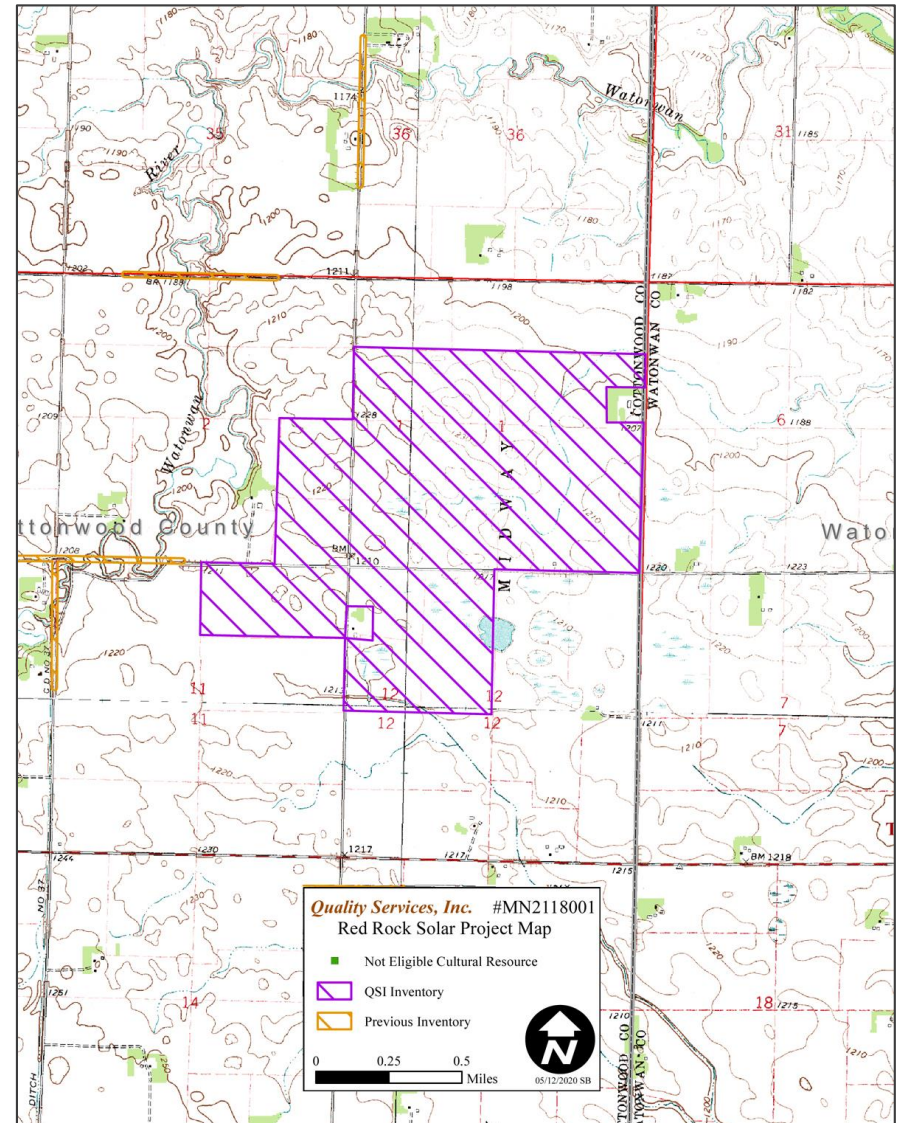
- Surveys completed in accordance with survey plan discussed with SHPO and MNHS on 9/17/19
- Seven tribes assisted QSI in surveying 2,352 acres between wind and solar areas
- Recorded 5 historic period sites, 3 of which are outside of current project areas
- Conducted subsurface testing at 5 historic period sites
- Located total of 40 bedrock outcrops, with one confirmed petroglyph and three possible petroglyphs, all of which are outside of current project areas
- Recorded 26 cultural sites; 8 of which are Traditional Cultural Properties (TCPs) including possible mounds, cairns, stone alignments, petroglyphs, and turtle effigy. All TCPs are outside of current project area.

2019 Surveyed Areas and Results



2020 Cultural Resources Surveys – Red Rock Solar

- Completed from May 6-8, 2020
- Project boundary shifted to southeast, new area has no overlap with previous solar boundary where 8 TCPs and one confirmed petroglyph were found
- Surveyed 790 acres of plowed & planted agricultural fields
- Recorded 0 cultural, archaeological, or historical sites; 0 Traditional Cultural Properties (TCPs)
- Field crew consisted of Mark Carpenter, Loni Weston, Luke Cavallaris (QSI), Drew Brockman (Upper Sioux), and Jessica Arkeketa (Otoe-Missouria)



2020 Fall Survey Plans: What's next?

Red Rock Solar

- Complete architectural history (historic structures) inventory

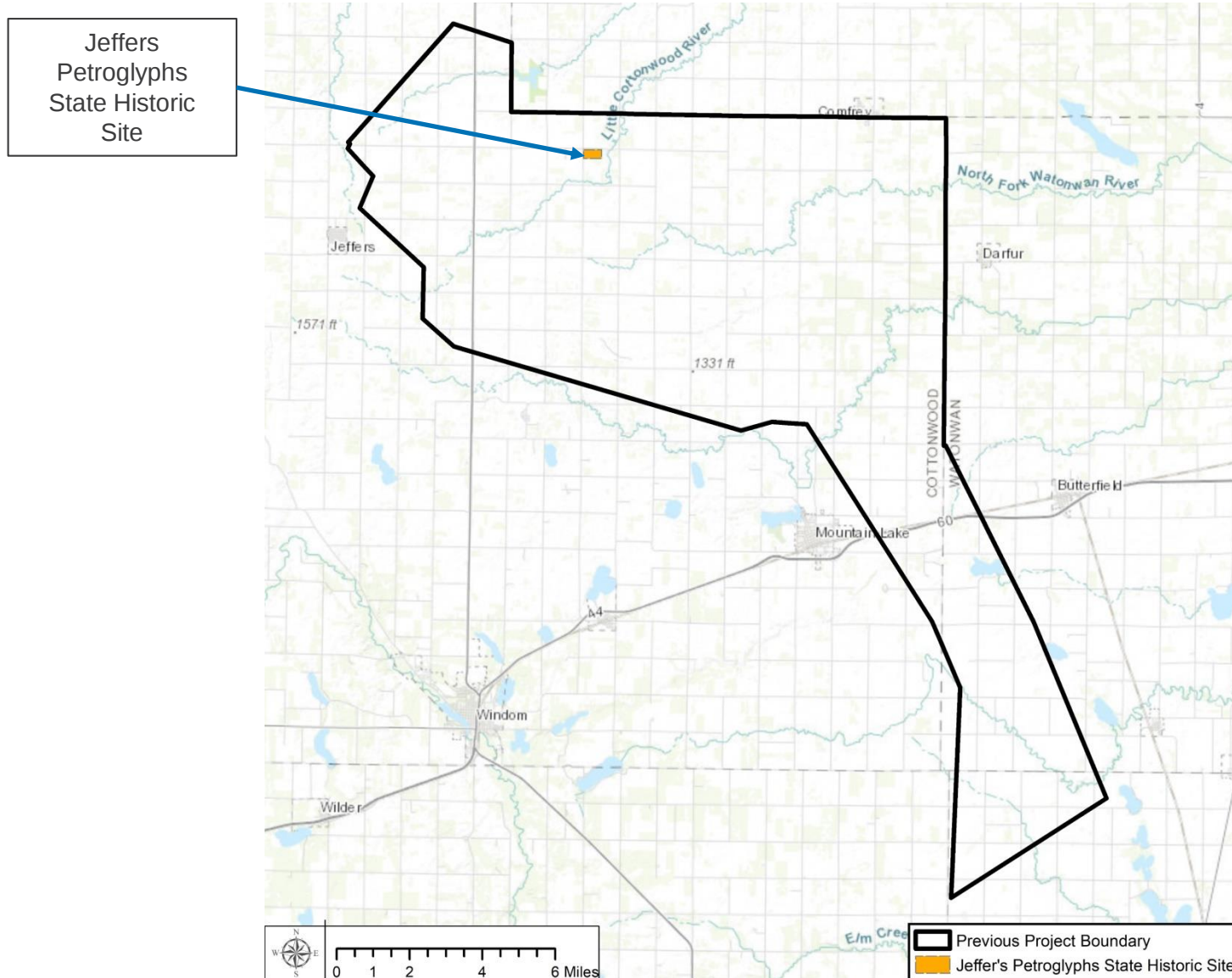
Big Bend Wind

- Inventory additional areas for turbines, roads, collector or transmission lines, substations, operations and maintenance areas, laydown yards, etc.
- Complete architectural history (historic structures) inventory

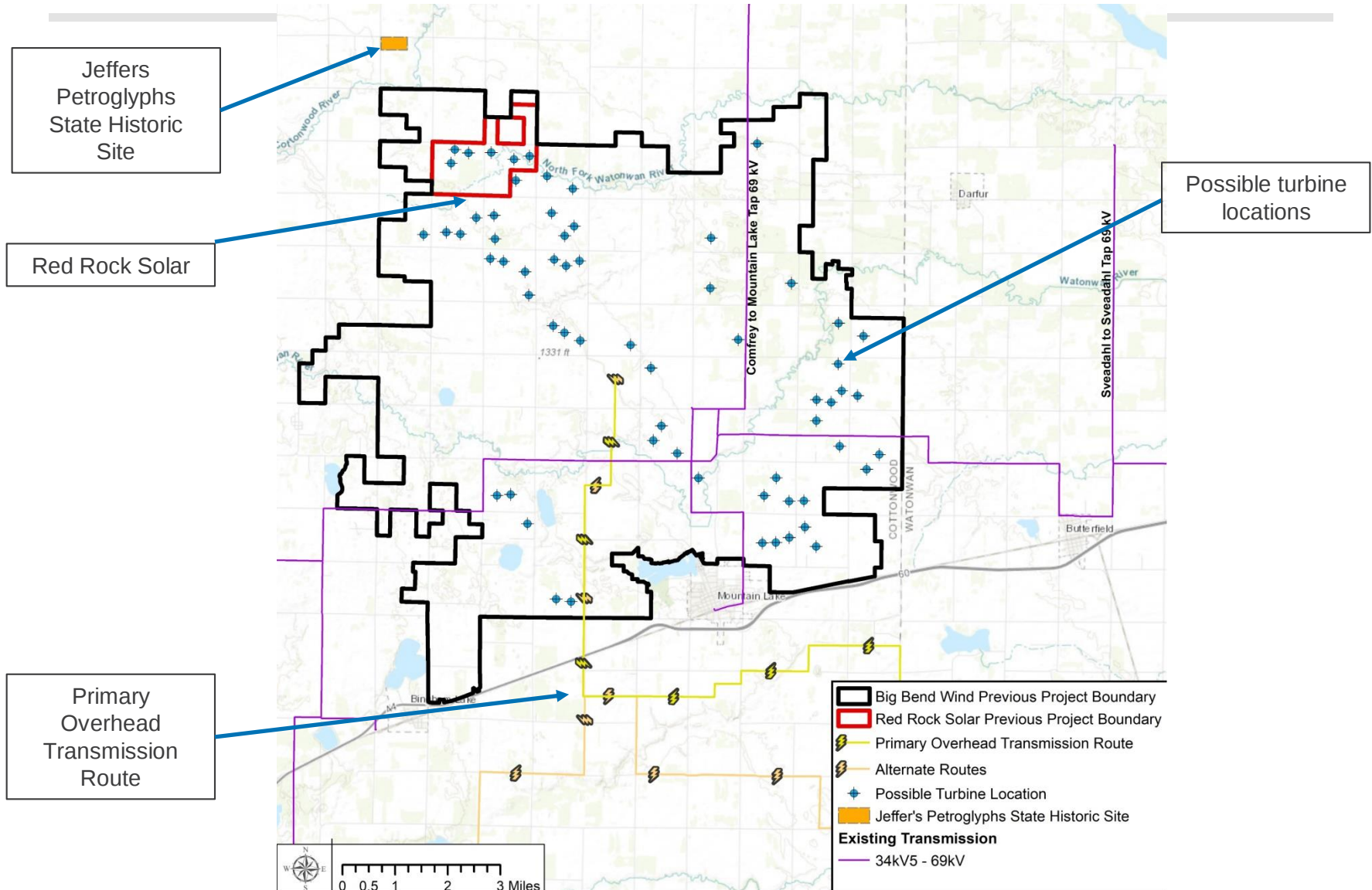
Ongoing Coordination

- Continue coordination with those interested parties to employ tribal staff
- Continue to incorporate any received feedback into the fall survey plans

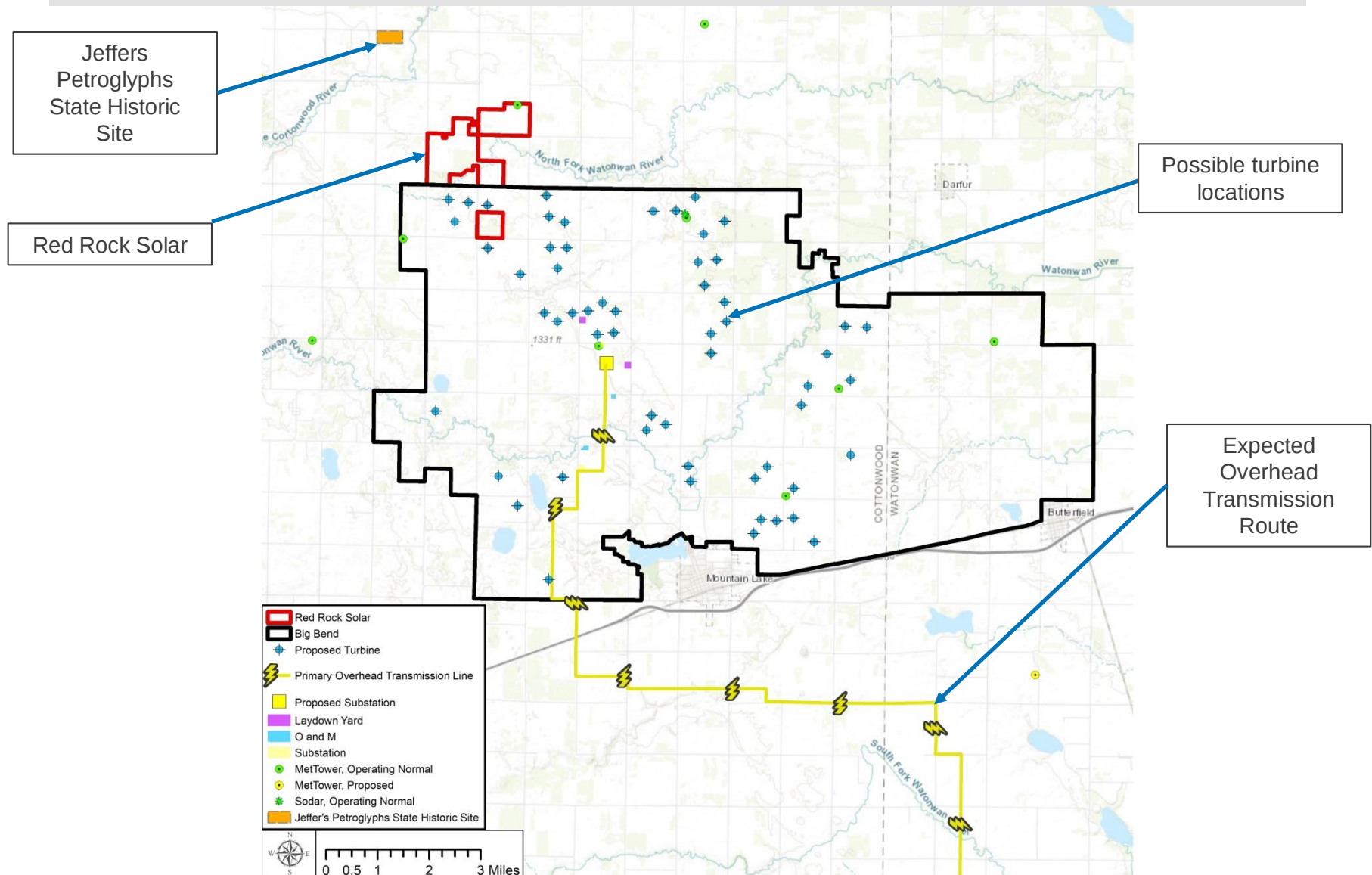
Original Area of Interest



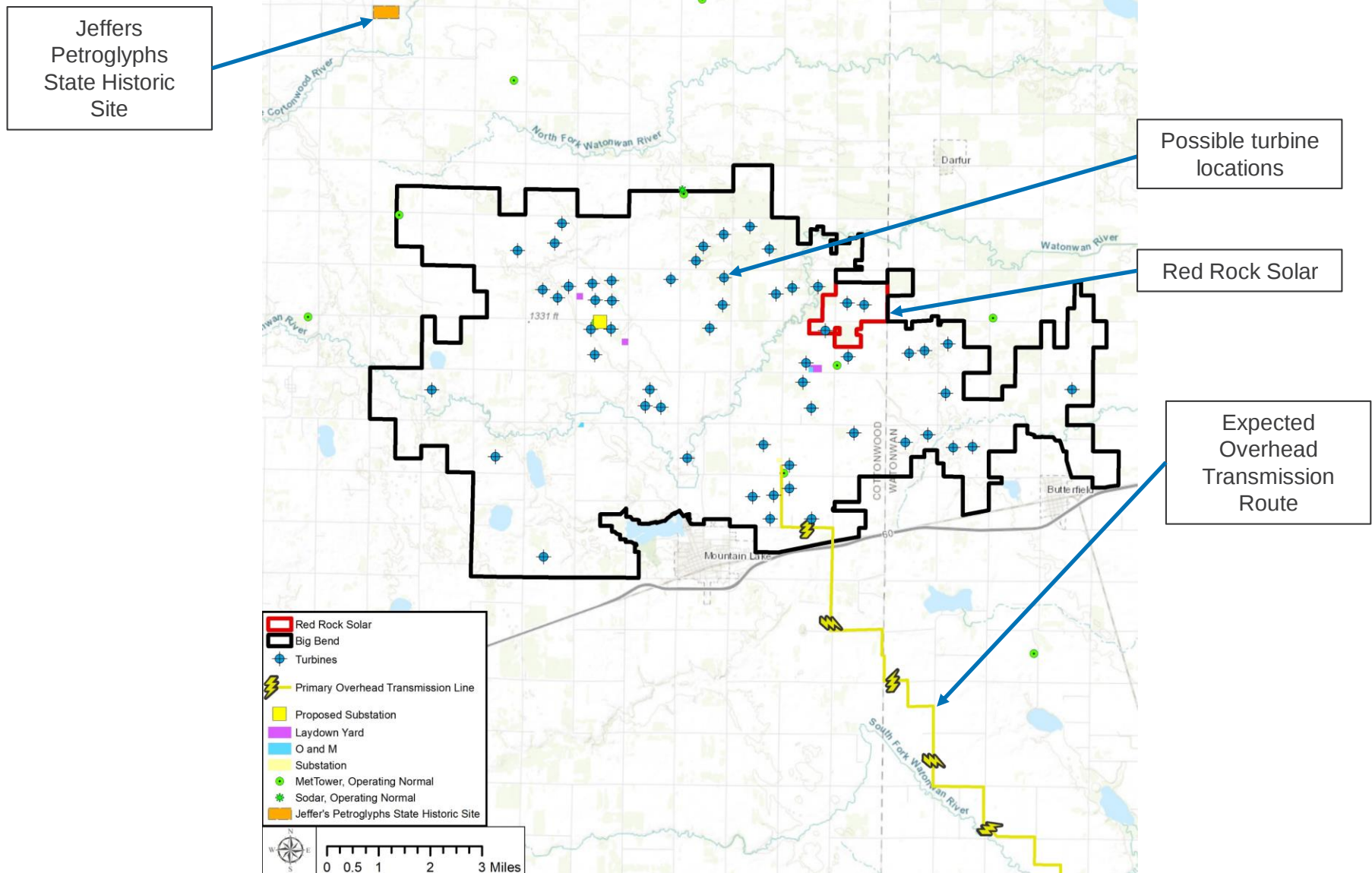
July 2019 Layout



December 2019 Layout



June 2020 Layout (To be included in Applications)



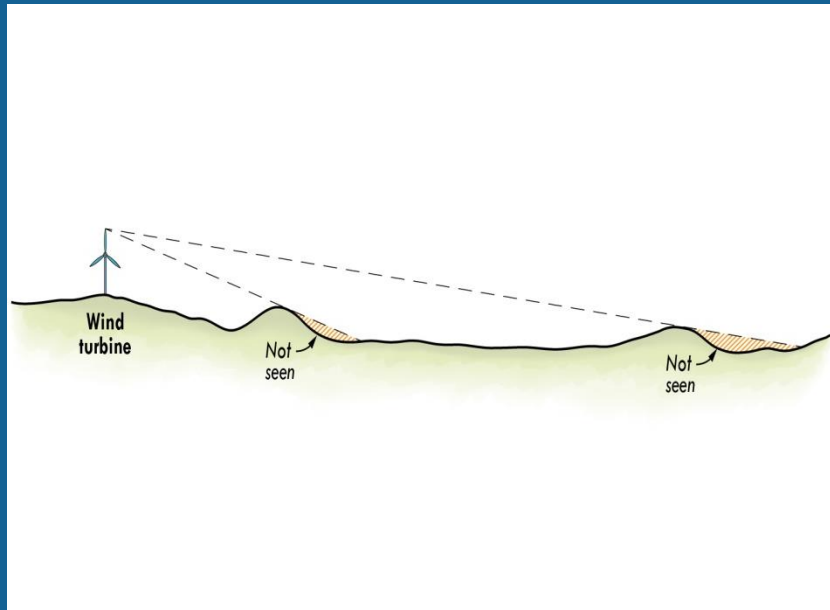
VISIBILITY OF THE PROPOSED BIG BEND WIND PROJECT IN THE VICINITY OF RED ROCK RIDGE AND JEFFERS PETROGLYPHS

Jacobs Engineering
June 2020

WHAT IS DETERMINED IN A VISIBILITY ASSESSMENT?

1. Determine where a proposed project would be seen (the viewshed).
 2. Identify specific sensitive viewing locations (where people have concern related to changes in a viewed landscape).
 3. Develop accurate photo-simulations of a proposed project.
 4. Describe changes to the viewed landscape.
- 
- A series of white diagonal lines of varying lengths and thicknesses are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

DETERMINING AREAS WHERE WIND TURBINES WOULD BE POTENTIALLY SEEN



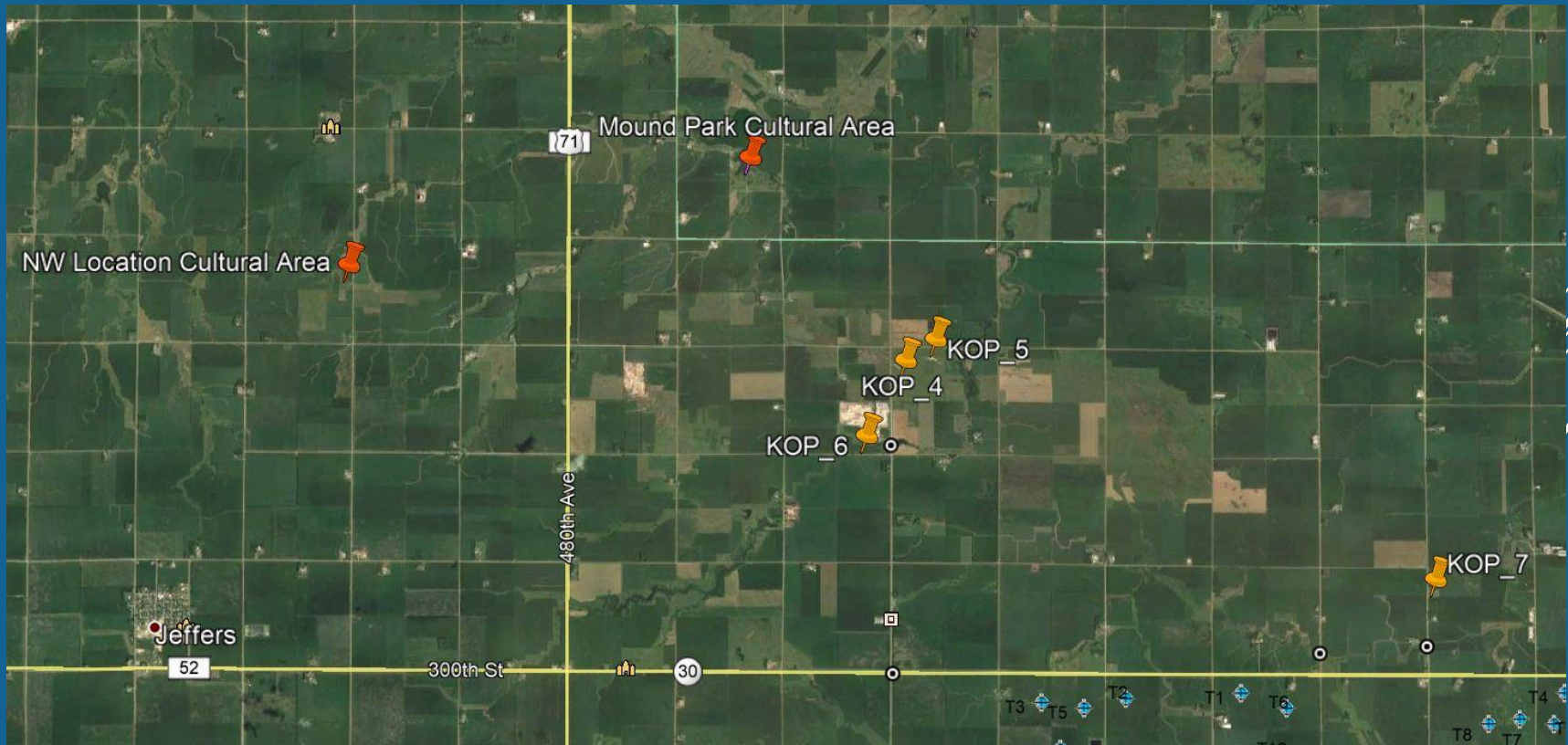
- ▶ The visibility assessment used a line-of-sight model based on topography.
- ▶ Visibility was measured from the top of the turbine blade at maximum rotation.
- ▶ View blockage by most vegetation and structures was not considered, nor were atmospheric conditions.

PRIOR TO THE JULY 17, 2019 MEETING 3 LOCATIONS AND 2 CULTURAL AREAS IN THE RED ROCK RIDGE AREA WERE VISITED TO DETERMINE THEIR POTENTIAL FOR EVALUATING THE PRELIMINARY JULY 2019 PROJECT WIND TURBINE LAYOUT.



IN LATE 2019 STAKEHOLDERS REQUESTED THAT APEX EXAMINE ADDITIONAL LOCATIONS TO ASSIST IN EVALUATING POTENTIAL PROJECT VISIBILITY.

FOUR NEW LOCATIONS (ORANGE PINS) THAT ARE ALSO CALLED KEY OBSERVATION POINTS (KOPS) AND TWO NEW CULTURAL AREAS (RED PINS) WERE EXAMINED.



KOP 1: PARKING LOT/ENTRANCE TO JEFFERS PETROGLYPHS VISITORS CENTER. EXISTING VIEW.



Existing visual elements dominance.

- sky
- parking area
- field
- building
- masses of trees
- silos
- distant wind turbines

**KOP 1: PARKING LOT/ENTRANCE TO JEFFERS PETROGLYPHS
VISITORS CENTER. PHOTO-SIMULATION OF JULY 2019
PROJECT LAYOUT (CLOSEST TURBINE APPROXIMATELY 2 MILES AWAY).**



**July 2019 layout visual
dominance**

- sky
- project turbines
- parking area
- field
- building
- masses of trees
- silos
- distant turbines

KOP 1: PARKING LOT/ENTRANCE TO JEFFERS PETROGLYPHS VISITORS CENTER. PHOTO-SIMULATION OF JUNE 2020 PROJECT LAYOUT. (CLOSEST TURBINE 5.4 MILES AWAY).



June 2020 layout visual dominance

- sky
- parking area
- field
- building
- project turbines
- masses of trees
- silos
- distant turbines

KOP 2: BOARDWALK AT JEFFERS PETROGLYPHS. EXISTING VIEW.



Existing visual elements
dominance.

- prairie
- sky
- masses of trees
- path
- deck and bench