

Appendix D

Agency Correspondence

Mr./Ms. XX
Title, Agency
Address line 1
Address line 2

October X, 2021

Subject: Proposed Badger Wind Energy Center in McIntosh and Logan Counties, North Dakota

Dear XX:

Badger Wind, LLC (“Badger”) is in the process of developing the proposed approximate 252-megawatt (“MW”) Badger Wind Energy Center (the “Project”) in McIntosh and Logan Counties, North Dakota. Badger is an indirect, wholly owned subsidiary of Ørsted Onshore North America, LLC (“Ørsted”), which is a large renewable energy developer with more than 2,000 MW of wind and solar energy in operation or under construction in the United States. The proposed Project is planned to be located on approximately 34,000 acres of private land in southern Logan County and northern McIntosh County, approximately 40 miles east of the Missouri River. The approximate location of the Project is shown below in Figure 2 (the “Area of Analysis”). I am reaching out to you on behalf of Badger to inform you about the proposed Project and give you the opportunity to provide input.

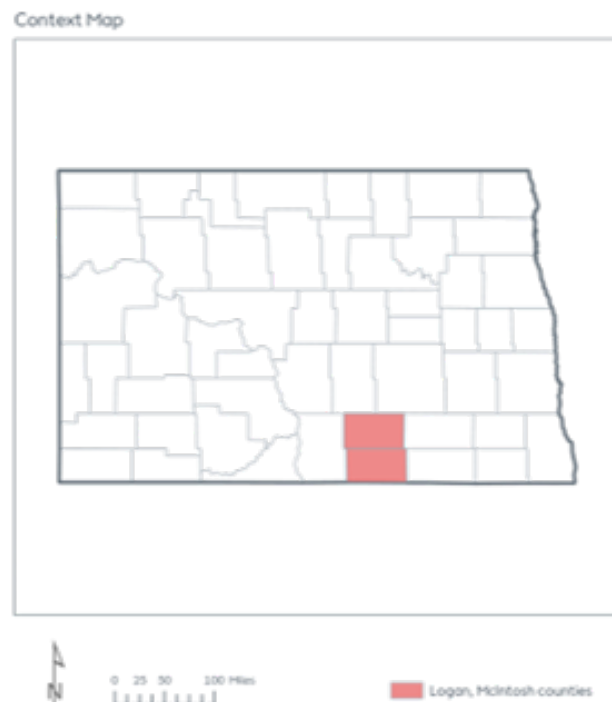


Figure 1: Context map of Area of Analysis in North Dakota.

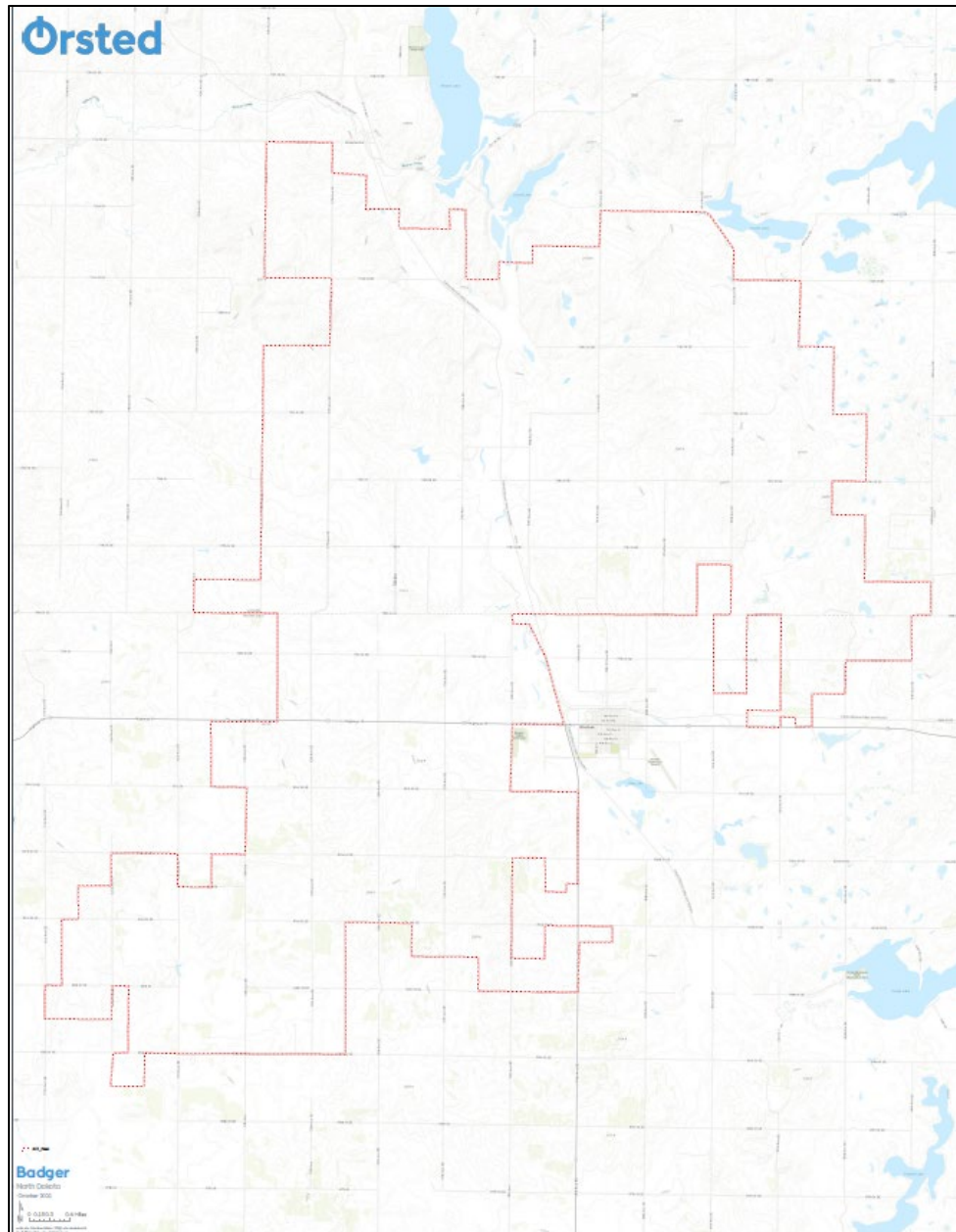


Figure 2: Area of Analysis for Badger Wind Farm

Proposed Project

The proposed Project would consist of an array of wind turbines, each with an associated transformer. Proposed Project facilities would include the following components:

- Currently up to 100 turbine locations under consideration with up to 75 wind turbines, depending on final turbine model selected, for final site construction;
- All-weather access roads to each turbine site;
- One collection substation (approximately 5 acres);
- Underground electrical collection lines and fiber optic cables from each turbine to the collection substation;
- An operations and maintenance (“O&M”) facility (approximately 10 acres);
- A temporary concrete batch plant location (up to 5 additional acres);
- A temporary laydown yard (up to 15 acres);
- An Aircraft Detection Lighting System (ADLS) tower;
- Up to 3 permanent meteorological (“MET”) towers; and
- One generation tie-line that would not exceed 1 mile in length

The Project will have one point of interconnection: Montana-Dakota Utilities’ (“MDU”) 230 kV Wishek substation. There will be one collector substation and one generation tie line totaling less than 1 mile.

Resource surveys and other supporting field work is anticipated to take place Fall 2021 with Badger anticipating initiating permitting through the North Dakota Public Service Commission in early 2022, with construction scheduled to start in Fall 2022.

More information can be found at our project website:

<https://badgerwindfarm.com>

If you have an interest in receiving further information about the project, please contact me via e-mail at saraf@orsted.com.

Regards,
Sarah Aftergood
Director, Environmental Permitting

Cc: Charles Smith, Senior Director of Development, Ørsted

Badger Wind Agency Consultation List				
Date	Task	Communication Type	To	From
10/15/2021	Project Notification	Letter	20th Airforce 91st Missile Wing	Orsted
10/15/2021	Project Notification	Letter	Federal Aviation Administration	Orsted
10/15/2021	Project Notification	Letter	Grand Forks Air Force Base	Orsted
10/15/2021	Project Notification	Letter	Job Service North Dakota	Orsted
Various Dates	Project Notification/Consultation	Various	Logan County	Orsted
Various Dates	Project Notification/Consultation	Various	McIntosh County	Orsted
10/15/2021	Project Notification	Letter	Military Aviation and Installation Assurance Siting Clearinghouse	Orsted
10/15/2021	Project Notification	Letter	Minot Air Force Base	Orsted
10/15/2021	Project Notification	Letter	North Dakota Aeronautics Commission	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Agriculture	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Career and Technical Education	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Commerce	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Environmental Quality	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Health	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Human Services	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Labor and Human Rights	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Transportation	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Trust Lands	Orsted
10/15/2021	Project Notification	Letter	Energy Infrastructure and Impact Office, North Dakota Department of Trust Lands	Orsted
10/15/2021	Project Notification	Letter	North Dakota Department of Water Resources	Orsted
10/15/2021	Project Notification	Letter	North Dakota Forest Service	Orsted
Various Dates	Project Consultation	Various	North Dakota Game and Fish	Orsted
10/15/2021	Project Notification	Letter	North Dakota Geological Survey	Orsted
10/15/2021	Project Notification	Letter	North Dakota Indian Affairs Commission	Orsted
10/15/2021	Project Notification	Letter	North Dakota Industrial Commission	Orsted
10/15/2021	Project Notification	Letter	North Dakota Office of the Attorney General	Orsted
10/15/2021	Project Notification	Letter	North Dakota Parks and Recreation Department	Orsted
10/15/2021	Project Notification	Letter	North Dakota Pipeline Authority	Orsted
Various Dates	Project Notification/Consultation	Various	North Dakota State Historic Preservation Office, State Historical Society of North Dakota	Orsted
10/15/2021	Project Notification	Letter	North Dakota Transmission Authority	Orsted
10/15/2021	Project Notification	Letter	Office of Governor Doug Burgum	Orsted

Date	Task	Communication Type	To	From
9/22/2021	Project Notification	Letter	Crow Creek Sioux Cheyenne River Sioux Flandreau Santee Sioux Lower Brule Sioux Three Affiliated Tribes of the Fort Berthold Reservation: Mandan, Hidatsa, and Arikara Nation Oglala Sioux Rosebud Sioux Santee Sioux Sisseton Wahpeton Oyate Spirit Lake Standing Rock Sioux Turtle Mountain Band of Chippewa Yankton Sioux Omaha Tribe Winnebago Tribe of Nebraska	Orsted
Various Dates	Project Notification/Consultation	Various	U.S. Army Corps of Engineers	Orsted
10/15/2021	Project Notification	Letter	Bureau of Land Management	Orsted
10/15/2021	Project Notification	Letter	U.S. Department of Defense	Orsted
10/15/2021	Project Notification	Letter	USDA NRCS	Orsted
Various Dates	Project Notification/Consultation	Various	U.S. Fish and Wildlife Service	Orsted

Appendix D

Agency Correspondence

North Dakota Aeronautics Commission/20th Airforce 91st Missile Wing

From: [Sarah Aftergood](#)
To: [Dillin, Adam](#)
Cc: [June Marie Gray](#)
Subject: RE: Wind Farm Project Comments
Attachments: [image003.png](#)

Hi Adam

Thank you for the response. We are actively working through the FAA process which will include the Wishek Airport so I imagine more will come out of the process. We are currently working to finalize the layout for the state permitting process so once I know the location of our Met towers locations I will be more than happy to share with you. Let me know if you have any questions in the meantime. Have a good Thursday.

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

Ørsted
Tel. +15122302148

From: Dillin, Adam <adillin@nd.gov>
Sent: Monday, October 18, 2021 2:07 PM
To: Sarah Aftergood <SARAF@orsted.com>
Subject: Wind Farm Project Comments

Good afternoon,

My name is Adam Dillin, and I am the North Dakota Aeronautics Commission airport planner for eastern North Dakota. Wind power is increasingly important to our state and it should be a welcome benefit to see another wind farm added to our energy infrastructure. I have two brief comments to offer as the project moves forward.

First, while I'm sure that Badger Wind has factored aircraft operations in the area into the design of the farm, I would like to specifically mention that Wishek Municipal Airport lies just outside of the development area as identified in the letter recently sent to our office. At the North Dakota Aeronautics Commission, our top priority is the safety of aircraft and the communities from which they operate and we would like to make sure that the airport airspace protections outlined in Federal Aeronautical Regulations Part 77 and North Dakota Administrative Code Chapter 6-02-03.1 are followed to prevent safety hazards to aviation. Additionally, while North Dakota does not regulate private airstrips in our state and none were identified within the boundaries of the proposed wind farm as of our last statewide system plan in 2014, we ask that potential impacts to private airstrips in/near the area be considered when siting turbines and towers.

Second, Aeronautics requests that the locations of all MET towers be reported to us for inclusion in the map we have posted on our website at <https://aero.nd.gov/maps/>. This serves as a safety resource to help pilots, particularly our agricultural spraying aircraft, avoid potential collisions. To

report MET tower locations, please contact Mike McHugh at mmchugh@nd.gov or (701)328-9653.

Please feel free to reach out to me if you have any question. Thank you.

Adam Dillin, C.M., A.C.E.

Airport Planner

North Dakota Aeronautics Commission

Tel: (701) 328-9657 Email: adillin@nd.gov Website: <https://aero.nd.gov>



Appendix D
Agency Correspondence
Bureau of Land Management

Caitlin Cyrus

Subject: BLM Response to the Proposed Badger Wind Energy Center in McIntosh and Logan Counties, North Dakota

From: Splichal, Chelsie J <csplichal@blm.gov>

Sent: Tuesday, November 2, 2021 3:07 PM

To: Sarah Aftergood <SARAF@orsted.com>

Subject: BLM Response to the Proposed Badger Wind Energy Center in McIntosh and Logan Counties, North Dakota

Sarah,

Upon review of the proposed Badger Wind Energy Center in McIntosh and Logan Counties the Bureau of Land Management (BLM) has no resource concerns regarding the proposal, at this time. It does not appear to involve BLM land, but it could potentially impact other Federal Lands, in which those agencies may wish to respond.

Thank you

Chelsie Splichal

Realty Specialist

Bureau of Land Management

99 23rd Avenue West, Suite A

North Dakota Field Office

701-227-7702

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Appendix D

Agency Correspondence

Logan County, North Dakota

From: Blanche Schumacher <baschuma@nd.gov>
Sent: Thursday, October 15, 2020 3:29 PM
To: Jonathan Baker <JONBA@orsted.com>
Cc: 'Brenda Fischer' <bkfischer@nd.gov>
Subject: FW: Message from "LoganAuditorMPC2504"

Jon:

Attached you will find pages 41 thru 58 of the Logan County Zoning Regulations which pertain to the Wind Energy Facility permitting process.

Section 6.11.3.1 sets forth the Application process, and the fees that are to be included with the Application. You will notice the section thereafter calls for the submission of names, etc., along with a map, followed by the proposed start and completion dates, and copies of all leases and easements or agreements .

Section 6.11.3.2 sets forth the requirements for a public hearing, followed with sections explaining the Deliberation and Decision, Demonstration of Compliance and General Requirements for Wind Energy Facilities. Section 6.11.4.2 explains the setbacks required for the wind towers.

In looking back through one of the previous files, I noticed that we did not have a Conditional Use Permit, and am uncertain whether one was filed with the latest Wind Energy Facility Application. I am also sending a copy of this email to the Code Administrator, Brenda Fischer, so that you may communicate with her in the event that you need to request any additional forms, etc. for this project. I am also enclosing a sample Application so that you may use this as a format when preparing your Application for Building Permit, as I noticed that one of the companies used this when they prepared their application as it gets quite lengthy when all the information is placed within the document.

I apologize for the delay in responding to your request—we look forward to hearing from you and working with you and your company, and in the event that you would like us to forward actual copies of the Application or other forms that were filed by the most recent Wind Energy Facility Applicant, please don't hesitate to ask and we will do our best to round up those documents.

Sincerely yours,

Blanche Schumacher,
Logan County Commissioner

From: loganauditor.copier@nd.gov [<mailto:loganauditor.copier@nd.gov>]

Sent: Thursday, October 15, 2020 1:09 PM

To: Blanche

Subject: Message from "LoganAuditorMPC2504"

External Email: Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Alan Plumeau

Subject: FW: Logan County - Wind Energy Ordinances/Permitting
Attachments: LOGAN CO ZONING REGS AMEND 071118.doc

From: Brenda Fischer <bkfischer@nd.gov>
Sent: Wednesday, January 15, 2020 7:34 AM
To: Griffin Fraser <gfraser@atwell-group.com>
Subject: RE: Logan County - Wind Energy Ordinances/Permitting

Griffin-

Please find attached the Logan County Zoning Regulations.

Brenda

From: Griffin Fraser <gfraser@atwell-group.com>
Sent: Tuesday, January 14, 2020 3:16 PM
To: bkfischer@nd.gov
Subject: Logan County - Wind Energy Ordinances/Permitting

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Hi Brenda –

Thanks again for taking the time to help me out this afternoon. As discussed, we are assisting a client in the permitting of a utility scale wind energy facility in Logan County. We'd like to obtain copies of your zoning ordinance, comprehensive plan, and any other guidance documents you have related to wind development in the county. Would you please be able to provide me with copies?

Thanks so much, and please give me a call on my mobile if you have any questions.

Griffin Fraser
Environmental Consultant
ATWELL, LLC
303.222.5046 Direct
720.925.8217 Mobile
6200 S. Syracuse Way | Suite 470 | Greenwood Village, CO 80111
www.atwell-group.com

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**REGULAR MEETING
Board of Logan County Commissioners
Napoleon, ND
May 12, 2021**

The regular monthly meeting of the Board of Logan County Commissioners was called to order at 1:00 P.M. by Chairperson, Blanche Schumacher with Commissioner Charles Johs present. Absent due to illness was Commission member, John W. Wald.

Johs moved, seconded by Schumacher to approve the agenda. All voted in favor—the motion carried.

Johs moved, seconded by Schumacher, to approve the minutes of the April, 2021 regular and special meetings. All voted in favor--the motion carried.

Schumacher moved, seconded by Johs, to approve the Auditor's list of vouchers prepaid during the month of April, the May vouchers proposed for payment including those vouchers flagged for special attention, and the following April payroll vouchers: County Extension Service payroll voucher in the amount of \$2,810.00; County General payroll vouchers in the amount of \$40,113.55; Veterans Service Officer payroll voucher in the amount of \$696.00; E-911 payroll voucher in the amount of \$200.00; Napoleon Contract Policing payroll voucher in the amount of \$125.00; Weed Control payroll voucher in the amount of \$574.08 and County Highway Department payroll vouchers in the amount of \$15,264.73. All voted in favor--the motion carried.

The following is a list of the vouchers with attached invoices that the Board authorized for payment:

8198	Dakota Central Telecom I-Monthly Phone Service-----	43.07
8199	Dakota Central Telecommunications-911 Circuit Telecom-----	21.00
8200	Quadient Finance USA, Inc.-Postage-----	612.00
8201	Andrew S Marquart-Adult Mental Hearing-----	441.00
8202	Nutrien Ag Solutions, Inc.-Plateau-----	2120.00
8203	Pharmchem, Inc.-Sweat Patch Analysis-----	57.10
8204	Underground Vaults & Storage-Lease Rental-MFILM Box-----	200.00
8205	Verizon Wireless-4G Mobile Broadband 5GB-----	50.29
8206	Brenda Fischer-Mileage Reimbursement-----	42.00
8207	Gackle Coop Oil Co-ATF Fluid; Blades; Oxygen; Misc Shop Supplies----	943.71
8208	BEK Communications Cooperative-Monthly Phone Service-----	936.32
8209	Fredonia Coop Oil Co-Equipment Fuel-----	4116.50
8210	Napoleon Drug, Inc.-Jury Supplies-----	78.76
8211	Charles Johs-Mileage Reimbursement-----	211.12
8212	Verizon-Monthly Sheriff & Deputies Cell Phone Service-----	246.41
8213	Personalized Stamped Envelope Program-Stamped Envelopes & Hdlg--	1650.20
8214	First Community CU-Official Travel; Bulbs for Light; Postage-----	833.34
8215	Andrew S. Marquart-Adult Mental Hearing Legal Services-----	639.00
8216	Quality Repair, Inc.-Repairs on Kenworth-----	2405.80
8217	RDO Equipment-Misc Maintenance Supplies; Repairs on 772D-----	5175.98
8218	Escosupply-Cutting Edges (Napoleon Shop) -----	2821.00
8219	Local's Convenience Center-Official Travel-----	150.02
8220	Prairie Heating & Air, Inc.-2021 Heating/Cooling Maint. Agreement-----	1100.20
8221	Electionsource-Quick Seals & Freight-----	15.85
8222	Advanced Business Methods-Contracted Base Rate-----	254.64
8223	ND Surplus Property-Light Bar; Two Laptop Computers-----	250.00

3:20 P.M. Logan County Sheriff, Andrew Bartholomaus arrived to discuss the possibility of retaining the 2015 Dodge Ram patrol vehicle as a back-up vehicle and for use by the Special Deputy, as Special Deputy is currently using the 2012 Ford Expedition which has over 200,000 miles on it. Board members stated that they will take the request into consideration.

Bartholomaus also reported that he worked the Easter Holiday and stated that he would like to be allowed to receive Holiday pay (same as Deputies) when working one of the 11.5 state holidays. Johs moved, seconded by Schumacher to authorize Bartholomaus to be paid when required to work on one of the 11.5 state holidays. All voted in favor---the motion carried.

3:25 P.M. Logan County resident, Gerald Rattei arrived.

3:30 P.M. Representatives from Lincoln Clean Energy, Jonathan and Franchesca, arrived to update Logan County Commissioners on the Badger Wind project between Logan/McIntosh Counties. Representatives noted that the project is moving quickly, they have reviewed the County Zoning Ordinances, and requested copies of the Conditional Use Permits that were filed for previous projects. Board members discussed the roads and bridges in the proposed grid area that may be affected when moving heavy equipment into and out of the area.

3:40 P.M. Logan County Tax Director, Trisha Laine arrived.

3:45 P.M. Gerald Rattei addressed the Board concerning the tax on his farm residence, which wasn't removed from the time when he moved off in 2015 through 2021. Tax Director, Trisha Laine, who was present, reported that the exemption for the farm residence was corrected for the 2021 tax year, and an abatement was filled out for tax year 2020, but he would need to also complete an abatement for tax year 2019. Rattei reported that he came in several times requesting the tax to be removed after he moved into the City in March, 2015, but there was no change, and he is now requesting a correction, and asked that the County consider reimbursing him for taxes paid for calendar year 2015 and thereafter. Commission members informed Rattei that for tax year 2015, the valuations would have been in place by February of that same year, that he could file an abatement for 2018, 2019 and 2020, but by law, they could not go back beyond 2018. Commissioner Schumacher stated that there are Century Code laws that all jurisdictions are required to follow, and the county may have to issue an apology for the oversight, however, Schumacher volunteered to discuss the matter with the State Tax Department and with the Logan County States Attorney to see if they would have any other suggestions.

In reviewing the annual contracts for custodial services at the Logan County Courthouse, Johs moved, seconded by Schumacher to send a Letter of Intent to the Courthouse Custodian that their contract for custodial services will be renewed for an additional twelve months. Voting in favor were Johs and Schumacher---absent and not voting was Wald--the motion carried.

Auditor presented the following Building Permit Applications: Application received from Nicholas Gross for an addition onto existing Farm Shop which he proposes to locate in the NE¼ of Section 20, Township 135, Range 73 (Kroeber Township); Lane Kleingartner, Application for a hoop barn which he proposes to locate in the SE¼ of Section 30, Township 136, Range 67 (Finn Township) and Lawrence (Larry) Fettig, a Corrected Application to place a double-wide mobile home (instead of an off-site built log cabin home) which he proposes to locate in the NE¼ of Section 8, Township 133, Range 73 (Schell Butte Township). After briefly discussing the requests and the set-back requirements of each, Johs moved, seconded by Schumacher to issue Building Permits as requested. Voting in favor were Commissioners Schumacher and Johs---absent and not voting was Commissioner Wald--the motion carried.

County Auditor reported that Highway Department Employee, Bryan Batsch would like to donate 8 days of sick leave to County Highway Department Employee, Jack Erbele, who has nearly depleted his sick leave. Briefly noting that county policies are not definitive, Johs moved, seconded by Schumacher to approve the donation of 8 days sick leave from Batsch to Erbele. Voting in favor were Johs and Schumacher---absent and not voting was Commissioner Wald---the motion carried.

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: FW: Message from "LoganAuditorMPC2504"
Date: Thursday, September 16, 2021 11:25:27 AM
Attachments: [20210916102538194.pdf](#)

June:

I scanned these maps at an earlier date, but noticed I had to make some additional notations for the bridges, so sorry for the delay, but they are now attached.

As far as the additional questions in your September 8th email, I plan to respond to those within the next few days if that will work for you. At that time, I can attach a copy of the Template that was used by Emmons-Logan Wind if that will be of some help. Sorry to make this short and brief, but I got to run.

Blanche

From: loganauditor.copier@nd.gov <loganauditor.copier@nd.gov>
Sent: Thursday, September 16, 2021 9:26 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Message from "LoganAuditorMPC2504"

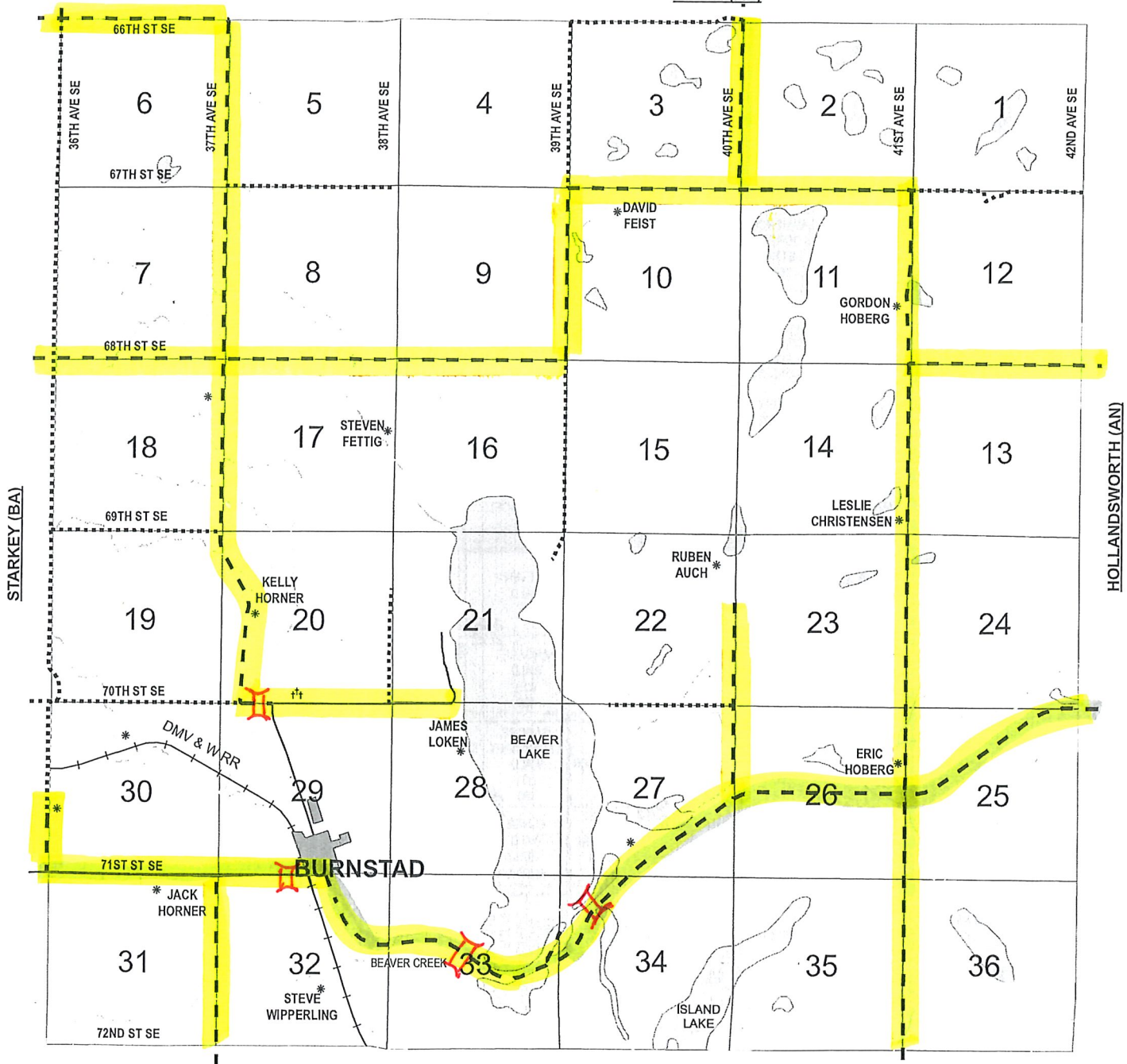
RED LAKE DIRECTORY

T134N

CODE: AX

R71W

DIXON (AE)



JOHANNESDALE (AP)

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T136N	AZ	AH	AD	AG	AB	AW	AF
T135N	AS	AC	AE	AI	AQ	AU	AJ
T134N	BB	BA		AN	AM	AV	AO
T133N	AY	AL	AP	AA	AR	AT	AK

HOLLANDSWORTH DIRECTORY

T134N

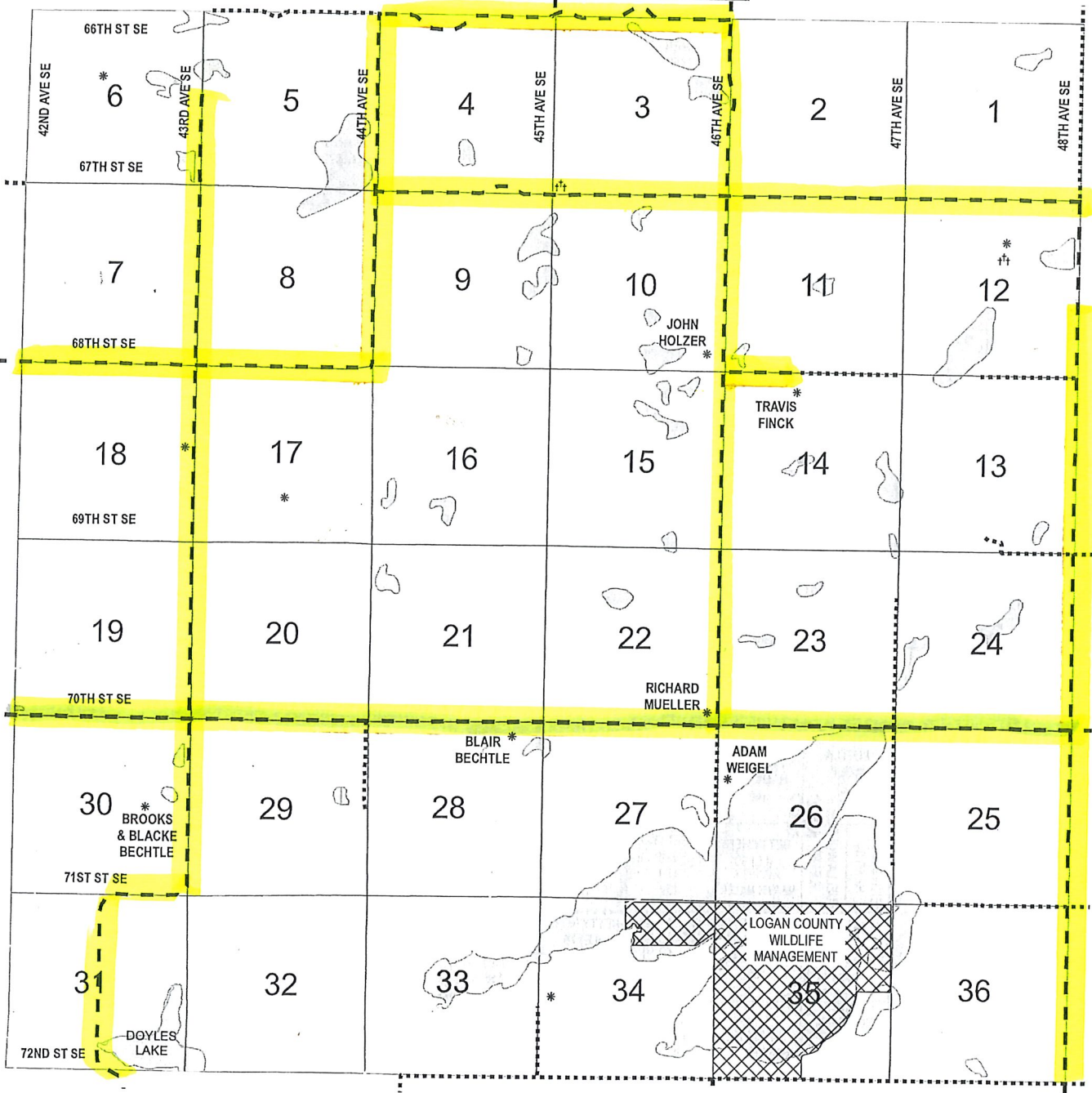
CODE: AN

GRENZ (AI)

R70W

RED LAKE (AX)

HILLSBURG (AM)



ARVADA (AA)

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T133N	AY	AL	AP	AA	AR	AT	AK

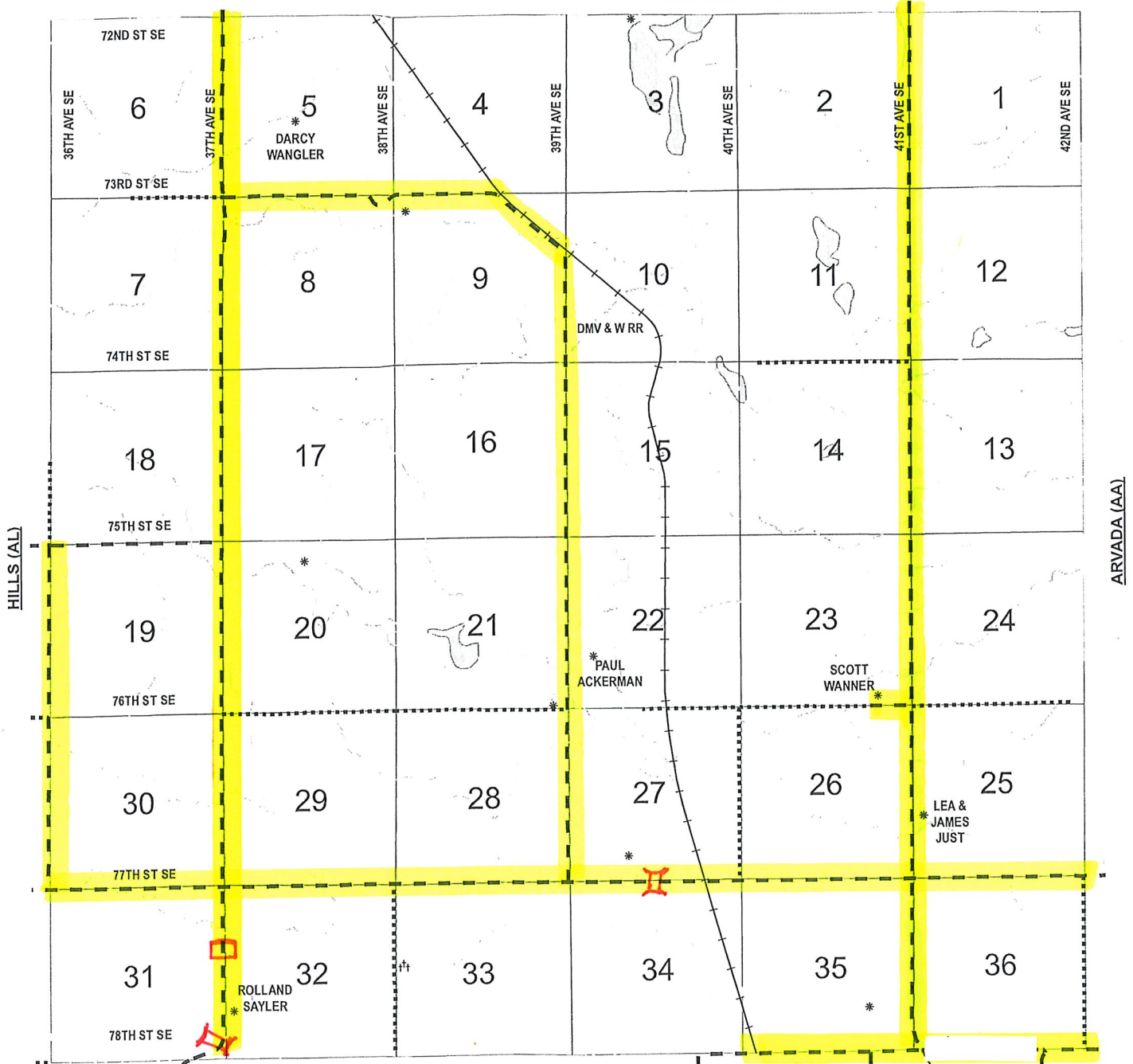
JOHANNESDALE DIRECTORY

T133N

CODE: AP

R71W

RED LAKE (AX)



□ Box CULVERT
 ≡ BRIDGES

	R73W	R72W	R71W	R70W	R69W	R68W	R67W
T135N	AZ	AH	AD	AG	AB	AW	AF
T134N	AS	AC	AE	AI	AQ	AU	AJ
T133N	BB	BA	AX	AN	AM	AV	AO
T132N	AY	AL		AA	AR	AT	AK

ARVADA DIRECTORY

T133N

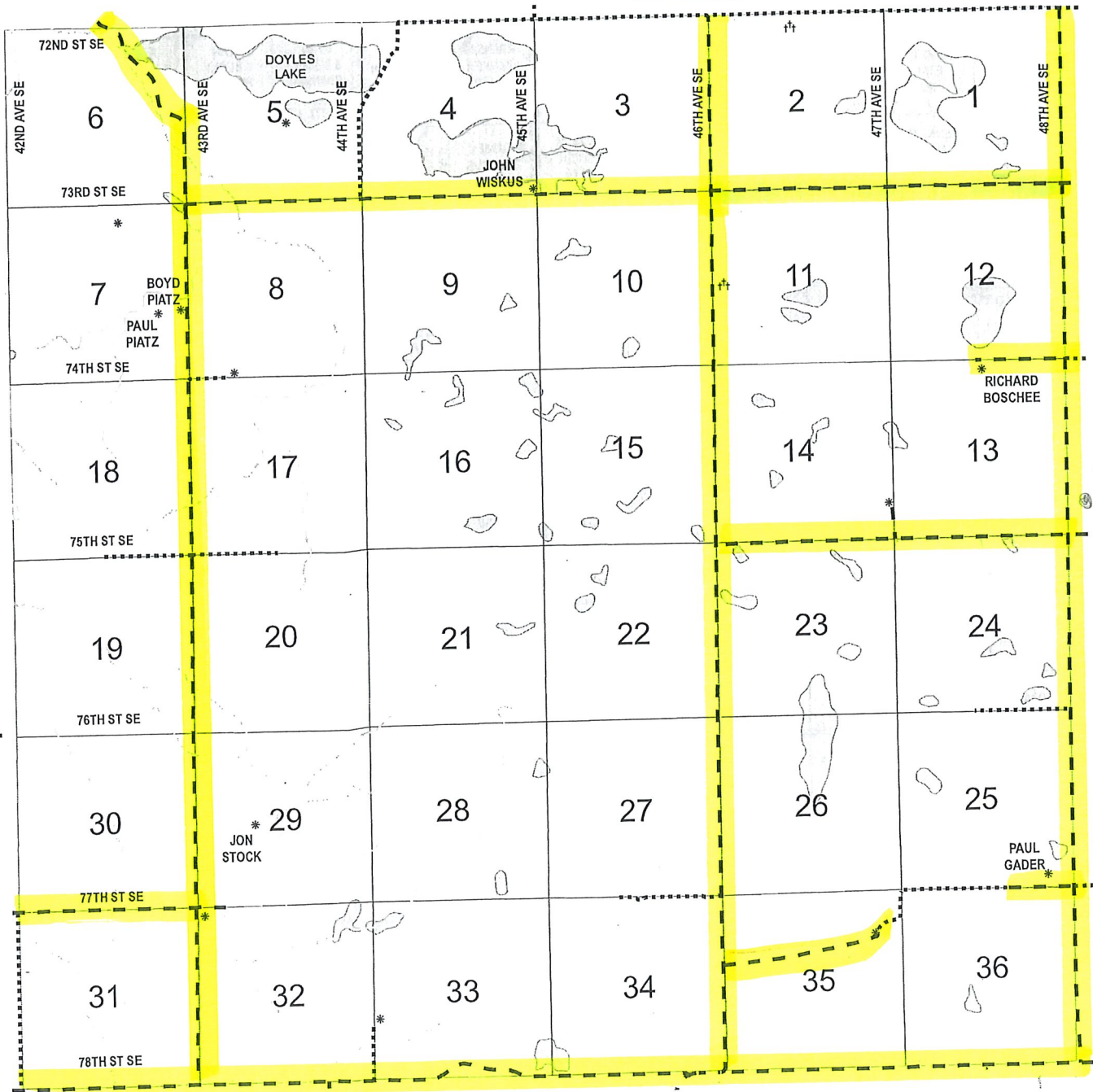
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R70W

HOLLANDSWORTH (AN)

JOHANNESDALE (AP)

KOEPLIN (AR)



	R73W	R72W	R71W	R70W	R69W	R68W	R67W
T136N	AZ	AH	AD	AG	AB	AW	AF
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T133N	AY	AL	AP		AR	AT	AK

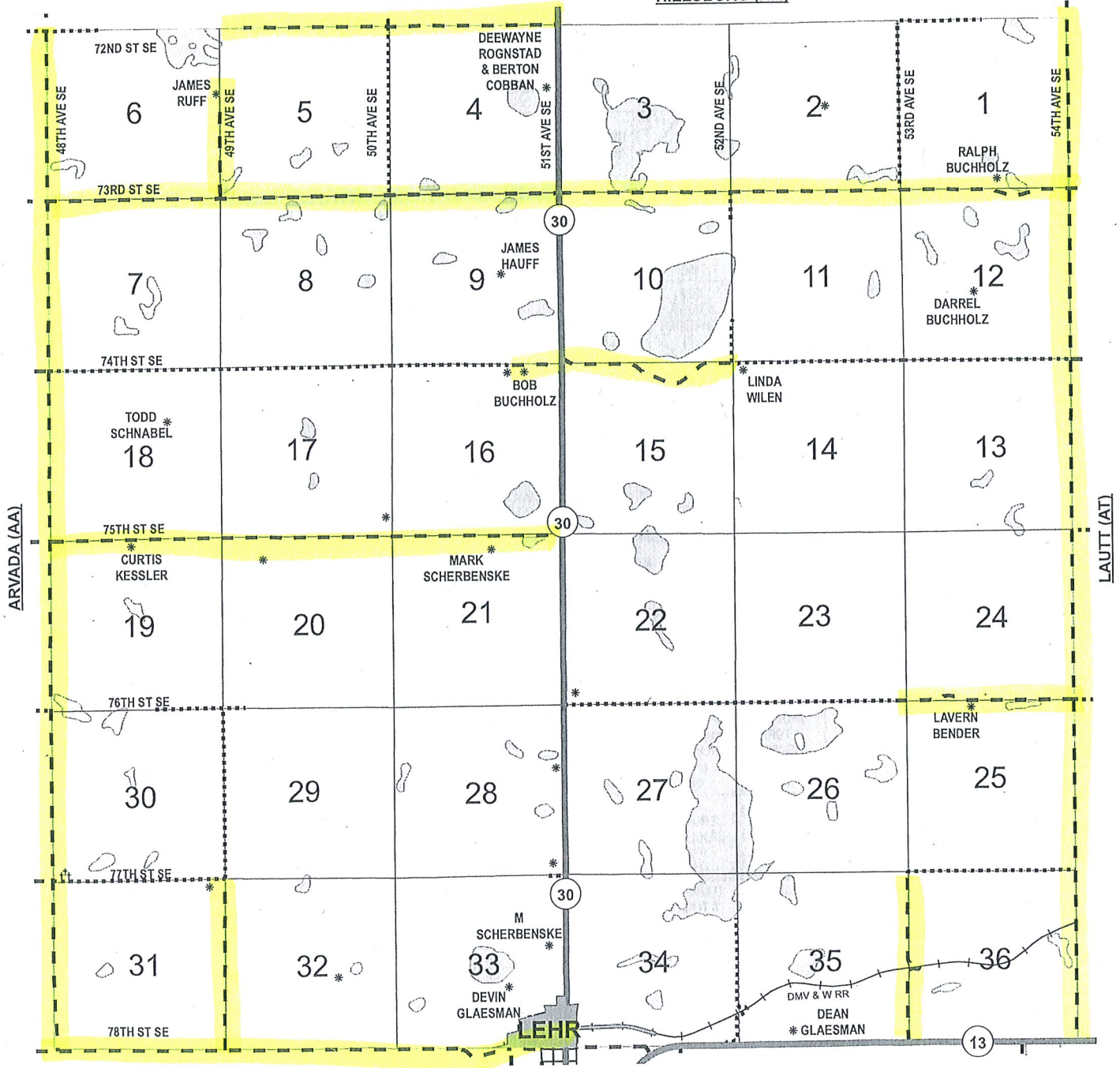
KOEPLIN DIRECTORY

T133N

CODE: AR

R69W

HILLSBURG (AM)



	R73W	R72W	R71W	R70W	R69W	R68W	R67W
T136N	AZ	AH	AD	AG	AB	AW	AF
T135N	AS	AC	AE	AI	AQ	AU	AJ
T134N	BB	BA	AX	AN	AM	AV	AO
T133N	AY	AL	AP	AA		AT	AK

LOGAN COUNTY
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From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: RE: ND Badger Wind - Logan Wind Energy Facility Siting Permit
Date: Friday, September 17, 2021 4:23:08 PM
Attachments: [image001.png](#)

June:

Wanted to take the time to attempt to answer some of the questions you had in your September 9th email.....

You ask whether Logan County has jurisdiction over all sections lines within the County (or does the township have jurisdiction)?. The only organized Township that you may be working with is Red Lake Township, and as far as jurisdiction over all section lines in the unorganized townships, I don't know if I can give you a legal answer, but I have always been taught that the landowners pay the taxes right up to the center of the section lines, and the County has no jurisdiction other than an obligation to address any safety concerns in the section lines. In all other cases, where the section lines are unimproved, the public has a right to access that section line as long as it isn't officially closed to the public. The adjoining landowners are entitled to any crop or hay that be growing within the section lines.

Your next question deals with whether section lines without maintained roads are considered as "pubic roads", and I would have to give an off the cuff opinion and say that they are considered as pubic roads as the county has a right to improve those section lines for future use, if any.

I will attempt to provide you with a Wind Energy Facility Siting Permit Application (along with a copy of from the Emmons-Logan Wind Project in a separate email attachment.

Sincerely,

Blanche

From: June Marie Gray <XJUMG@orsted.com>
Sent: Thursday, September 9, 2021 6:07 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: RE: ND Badger Wind - Logan Wind Energy Facility Siting Permit

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Hi Commissioner Schumacher,

I hope you are doing well. I'm just checking in to see if you have had time to look into the questions below.

Thank you,

June Gray

From: June Marie Gray
Sent: Wednesday, August 25, 2021 5:42 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: RE: ND Badger Wind - Logan Wind Energy Facility Siting Permit

Dear Commissioner Schumacher,

It was really nice speaking with you last week. Thank you for the time. A lot has happened since we last spoke in regards to the layout and potential project boundary. On the call, I mentioned I would like to meet everyone and introduce details of the project at your September meeting. I may have to push the intro meeting to October to make sure that we do not have a bunch of changes a short time later. I will keep you updated and will make sure to reach out to Ms. Fisher once we are ready to present at the commissioners court meeting. A few follow-up questions/items:

- Can you please provide a map that shows the county maintained roads on the section lines? Let me know if you would like me to send you our preliminary project area (far south Logan Co, north of Wishek)? Since the section lines are all public access ways, we are unsure which roads on section lines are county roads.
- Do you have a map of the townships within the county? I believe our project is in unorganized West Logan Township, but I have found a few maps of the townships that are different, so want to confirm.
- Does Logan County have jurisdiction over all section lines within the county (or does the township have jurisdiction)? If the township has jurisdiction, would this apply to unorganized West Logan?
- Variance - I mentioned on the call that our preferred turbine model did not meet the county zoning clearance height (65' instead of 75'). We have determined over the last few days that there is a better turbine model for this site and that it meets the county ordinance ground clearance requirement. Therefore, we do not currently need a variance for ground clearance.
- The Logan Co zoning ordinance says "each wind turbine shall be set back from the nearest public road or above ground communication and electrical lines at a distance not less than two hundred (200) feet..." Are section lines without maintained roads considered "public roads"? We are trying to determine if we need to stay 200 ft away from all section lines (even the section lines that do not have roads) since they are public access ways. The definition of "Public Roadway or Public Way" sounds like we may have a setback of 200ft from the section line even if there is not a road, but it is not clear. Can you please confirm?
- Please provide the Wind Energy Facility Siting Permit application template you would like us to use. I believe you said on the call that you might have something we should work off of, but if not I can put together our own template.

I look forward to meeting you in person in September or October.

Best regards,
June Marie Gray
Development 1

Onshore

Ørsted

Tel. +15126369618

From: Schumacher, Blanche A. <blschumacher@nd.gov>

Sent: Tuesday, August 17, 2021 10:28 AM

To: June Marie Gray <XJUMG@orsted.com>

Subject: RE: ND Badger Wind - Logan Wind Energy Facility Siting Permit

June:

Thanks for the correspondence—I should be available on Wednesday between 1 and 2 pm. Sorry I couldn't respond sooner as I have been quite tied up with other obligations. I will be waiting for your call. Please contact me at 701-321-1544.

Sincerely,

Blanche Schumacher,
Logan County Commission Member

From: June Marie Gray <XJUMG@orsted.com>

Sent: Monday, August 16, 2021 4:19 PM

To: Schumacher, Blanche A. <blschumacher@nd.gov>

Subject: RE: ND Badger Wind - Logan Wind Energy Facility Siting Permit

******* CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *********

Dear Commissioner Schumacher,

I hope you had a great weekend. As I mention below, I am working on the Badger Wind project. Jon Baker is currently on paternity leave so I am taking over some of his responsibilities while he is out of the office. Do you have a few minutes for an introductory call? I am available tomorrow 9-11am, 1-2pm and Wednesday before 10am and any time after 1pm.

I look forward to speaking with you.

Best regards,
June Marie Gray
Development 1
Onshore

Ørsted

Tel. +15126369618

From: June Marie Gray

Sent: Thursday, August 5, 2021 9:42 PM

To: baschuma@nd.gov

Cc: Francesca Martella <FRKEH@orsted.com>

Subject: ND Badger Wind - Logan Wind Energy Facility Siting Permit

Dear Commissioner Schumacher,

I hope you are doing well. My name is June Gray and I work on the Orsted development team. We are pulling together the information for the Facility Siting Permit for the Badger Wind project. Is there an application form you prefer we use or should we draft our own application template? I have reviewed the Logan County Zoning Regulations and understand that we need to answer the questions and provide the information listed in Section 6.11.3.1, but want to make sure we are submitting the application on the appropriate form.

I look forward to working with you on this project.

Best regards,

June Marie Gray

Development 1

Onshore

Tel. +15126369618

xjumg@orsted.com



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Austin, TX 78701

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From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: FW: Message from "LoganAuditorMPC2504"
Date: Thursday, November 18, 2021 12:42:51 PM
Attachments: [20211118114847564.pdf](#)

June:

Attached you will find a copy of the USDA-NRCS guidelines setting forth the setbacks for trees and shelterbelts which Logan County has incorporated into their Logan County Zoning Regulations.

Blanche

From: loganauditor.copier@nd.gov <loganauditor.copier@nd.gov>
Sent: Thursday, November 18, 2021 10:49 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Message from "LoganAuditorMPC2504"

Trapping of snow outside the primary windbreak in Major Land Resource Areas 53, 54, and 58 should be planned with caution, since the removal of snow moisture from the root zone of the main windbreak may adversely impact the life and effectiveness of the windbreak.

All areas needing protection should be located within the 10H - 15 H zone on the leeward side of the windbreak. Estimates of 20-year heights of trees and shrubs needed to calculate areas of protection can be found in Expected 20-Year Tree Heights.

Field windbreaks designed for snow spreading may be spaced up to 20 H apart.

Secondary Windbreaks

Secondary windbreaks are located on the leeward sides, usually the south and east, of the area protected by the primary windbreak.

Secondary windbreaks usually consist of shrubs or short trees to stop the rare snowstorm from the south or east while allowing summer breezes to penetrate the protected area.

Setbacks

All Windbreaks

Windbreaks shall be located no closer than 16 feet away from any property line unless a signed agreement between both owners exists that would permit a closer planting.

According to North Dakota Century Code, no trees or shrubs may be placed within 33 feet of a section line unless written permission has first been secured from the county commissioners or township supervisors.

No trees shall be placed within the easement area of overhead transmission lines unless permission has been secured from the appropriate utility company.

As per international treaty, no trees or shrubs shall be planted in a location where the foliage, at maturity, will encroach upon the 20' wide (10' each side) line-of-site vista along the Canada-USA border.

Windbreaks that are adjacent to, or cross, legal and private drainage ways should be set back at least 100' to prevent snow and ice buildup that will restrict spring drainage.

In all cases, if local units of government have established more restrictive setback distances, then the more restrictive regulations will apply.

Primary Windbreaks

For windbreaks north and/or west of the area needing protection, the most windward row must be at least 200 feet from the area to be protected. See Figure 1.

When measuring from roadways, the measurement should begin at the edge of the road surface nearest to the proposed windbreak. See Figure 2. The most

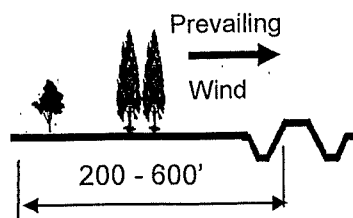


Figure 2

windward row of a snow trap can be used for setback measurement purposes. This setback distance also applies to the ends of windbreaks that are perpendicular to roads and areas needing protection.

The setback distances may be reduced by 50 feet if topography, healthy field windbreaks upwind, reduced fetch distances, or long term crop management practices can be expected to remove 50

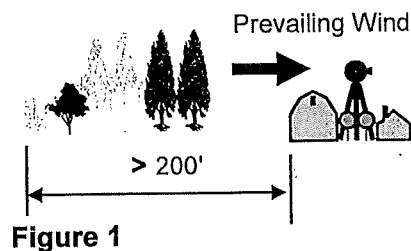


Figure 1

percent or more of the typical snow load before it reaches the main windbreak.

Leeward rows of primary windbreaks, located to the north or west of a road, even with the minimum 200-foot setback to the windward row, should be no closer than 100 feet to the nearest traveled portion of a public road. See Figure 3.

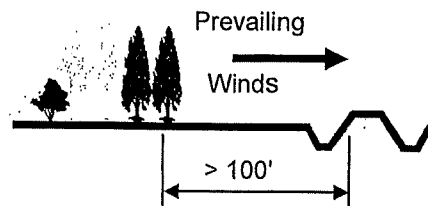


Figure 3

For snow control, windbreaks should not be placed farther from the area needing protection than 35 times the expected 20-year height of the tallest species to be planted or 600 feet, whichever is smaller.

Windbreaks planted to the south or east of roadways shall be located no closer to the road than 5 times (5H) the mature heights of the trees and/or shrubs in order to reduce upwind snow deposition and shading problems. Refer to Tree and Shrub Characteristics for mature plant heights. When measuring from roadways, measurements begin at the portion of the road surface nearest the proposed planting. See Figure 4.

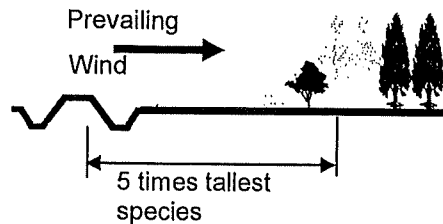


Figure 4

Secondary Windbreaks

In North Dakota, secondary windbreaks are usually located to the south and east of the areas needing protection. Secondary windbreaks should be located far enough away from the area needing protection to allow snow deposition where it won't be a problem and to provide year-round accessibility in and around the area protected.

The inside tree or shrub row in windbreaks on the south and east of areas needing protection shall not be any closer than 100 feet. Where solar gain during the winter is important, windbreaks on the south side of a building site shall be no closer than 3 times the mature height of the tallest plant. Exercise caution in utilizing tall trees in secondary windbreaks that may restrict summer breezes.

WINDBREAK DESIGN

General Information

Windbreak tree species shall be selected that are compatible with the soils on which they will be planted. Refer to the Expected 20-Year Tree Heights, located in FOTG – Section II – Windbreaks and Forest, to determine which plants will grow on which soils. Most soil map units contain small percentages of minor soil components. See Windbreak Suitability Groups by County in Section II FOTG to determine component soils within each map unit. Ensure that the species selected are compatible with these minor components as well. Changes in soil properties within the planting site may require a species change within the row. If there is any doubt, select species appropriate for the most limiting soil condition.

Unless otherwise noted, 20-year plant heights will be used to determine setback distances and the extent of protected areas. Expected 20-year heights of trees and shrubs, under good management, can be found in Expected 20-Year Tree Heights.

Maximum snow depth can be expected within 2-5 H from the tallest tree or shrub row, under normal winter conditions. The deepest part of the snowdrift will be closest to dense windbreaks and will be located progressively farther away from the windbreak as windbreak density decreases.

Zones of protection will vary, depending upon density and height of the windbreak. Generally, the denser the windbreak the greater the wind speed reduction and the smaller the zone of protection.

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Cc: [Fischer, Brenda K.](#)
Subject: FW: Message from "LoganAuditorMPC2504"
Date: Tuesday, November 23, 2021 3:11:02 PM
Attachments: [20211123121156682.pdf](#)

June:

Attached you will find a copy of the Petition for Conditional Use Permit filed by Emmons-Logan Wind Energy Center. I did not find a Building Permit, as the Conditional Use Permit Process was a bit unclear whether a Building Permit was needed—the project was approved after the Petition for Conditional Use Permit was approved by the County Commission. It does, however, make sense that a Building Permit should be issued and that is perhaps the route that we should be taking going forward.

Sincerely,

Blanche Schumacher

From: loganauditor.copier@nd.gov <loganauditor.copier@nd.gov>
Sent: Tuesday, November 23, 2021 11:12 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Message from "LoganAuditorMPC2504"

LOGAN COUNTY ZONING COMMISSION

PETITION FOR CONDITIONAL USE PERMIT

The undersigned, owner(s) of, (agent) for the property described below, do hereby petition to receive a conditional use permit for:

EMMONS LOGAN WIND ENERGY CENTER
LOGAN COUNTY, NORTH DAKOTA

Legal description of property and number of acres:

LISTED IN CUP APPLICATION BOOK

Describe briefly the purpose for this use:

LISTED IN CUP APPLICATION BOOK

Describe or list the uses within 1/2 mile of this site (attach a drawing from the latest plat book):

PROVIDED IN CUP APPLICATION BOOK

Describe the layout of the land, access point and the utilities on or near the site:

PROVIDED IN CUP APPLICATION BOOK

I further state that if this request is granted, I will abide by all conditions set forth by the Zoning Commission. Site plan and documents and other information required are attached.

Existing zoning: AG Existing use of property: AG

Signature of Applicant [Signature] 4/3/18

Action of Zoning Commission:

X
Approval

Denial

Date

5-8-18

[Signature]
Chairperson of Zoning Commission

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: FW: Message from "LoganAuditorMPC2504"
Date: Tuesday, November 23, 2021 5:37:43 PM
Attachments: [20211123163039209.pdf](#)

June—I noticed that the map was not attached to the last email that I sent you, so here it is.

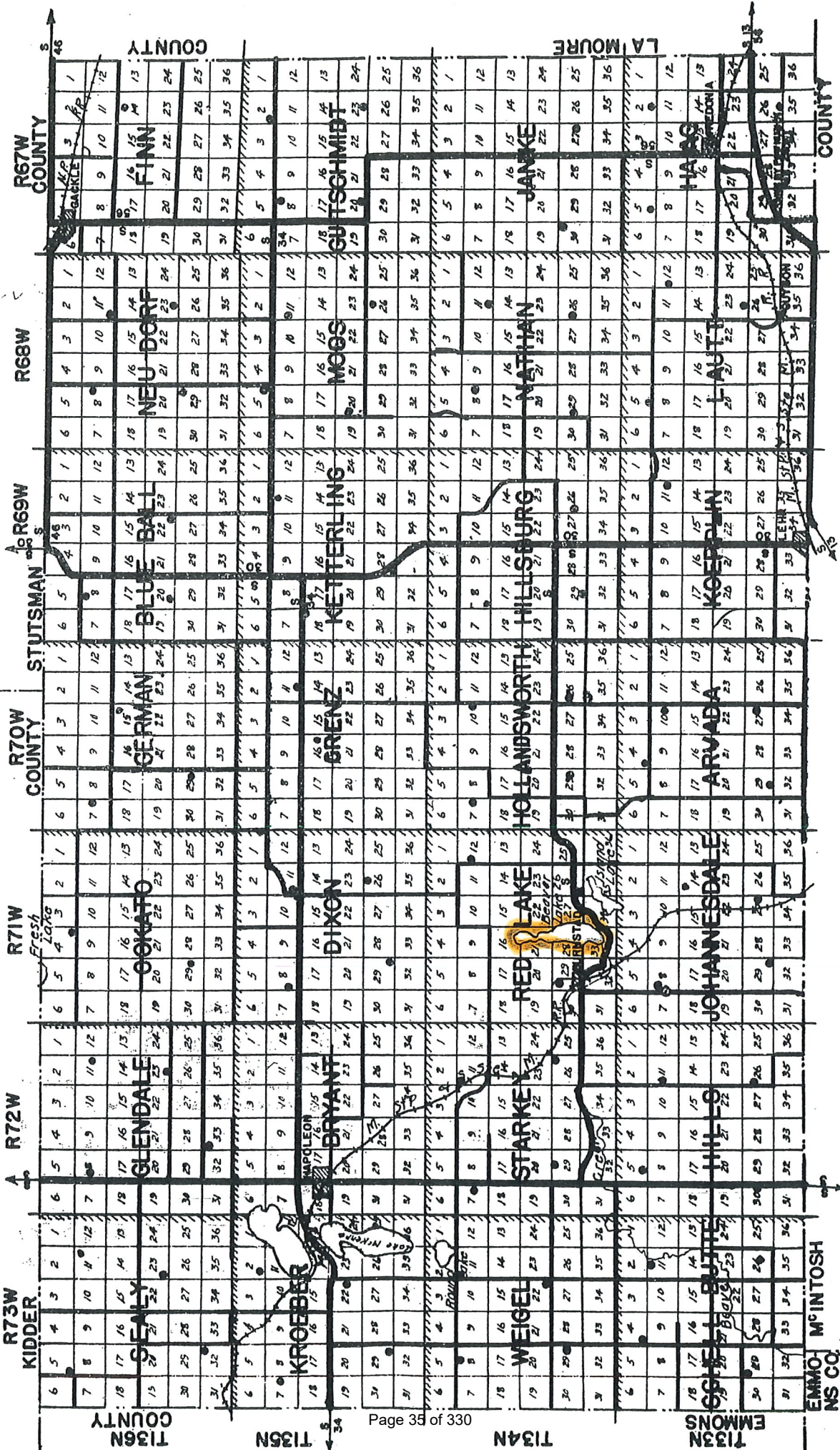
From: loganauditor.copier@nd.gov <loganauditor.copier@nd.gov>
Sent: Tuesday, November 23, 2021 3:31 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Message from "LoganAuditorMPC2504"

LOGAN COUNTY HIGHWAY MAP

NORTH DAKOTA
— 1960 —

- US STATE HIGHWAYS
- COUNTY HIGHWAYS
- RURAL SCHOOLS

COUNTY MAP NO. 24
KUEHN'S
HURON S. DAK



MAP KEY: [] Residential Zone (All areas within 500 feet of the ordinary high water mark adjacent to Beaver Lake).

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Cc: [Fischer, Brenda K.](#)
Subject: RE: Badger - Thank you and Follow-up Items
Date: Tuesday, November 23, 2021 12:31:15 PM
Attachments: [image003.png](#)

June:

After visiting with the Logan County States Attorney, I believe we have a few more answers to some of the questions that you have presented in your October 31st email.

(1) You asked how Badger Wind should address the possibility of a size decrease, etc.—the answer is to communicate with us so that we may collectively discuss it at an upcoming county commission meeting.

(2) In reviewing the Logan County Zoning Ordinances, we are of the opinion that a Conditional Use Permit would be the only permit that will be required.

(3) The CUP would be issued for all components of the project—there would be no separate process for overhead transmission lines, etc.

(4) The County Code Administrator is the Logan County Auditor, Brenda Fischer, and I have copied her on this email so you may also communicate directly with her.

(5) The Logan County Comprehensive Plan was forwarded to you last week.

(6) The NRCS guidelines for trees and shelterbelts was forwarded to you last week.

(7) The zoning district map was also forwarded to you last week—please inform us if you did not receive any of the requested documents.

(8) We will send you, in a separate email, a copy of the Emmons-Logan Wind Energy Facility Application.

Thank you for your inquiry and for your continued patience with us in providing you with this information.

Sincerely,

Blanche Schumacher,
Logan County Commission Chairperson

From: June Marie Gray <XJUMG@orsted.com>
Sent: Sunday, October 31, 2021 10:55 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Badger - Thank you and Follow-up Items

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Dear Commissioner Schumacher,

It was really nice meeting you in person. Thank you for taking the time to meet with us before the dinner and attending the landowner dinner. Below please find the items I had in my notes that you are checking on:

- How should Badger Wind address the possibility of a size decrease in Logan Co (ex. provide

range of turbines and MW, etc) - More turbine locations than needed are being evaluated. Locations will not shift, but may be reduced. Our plan is to permit all possible locations, but want to make sure this is ok with the county.

- Is a Wind Energy Facility (WEF) Siting Permit issued and/or a Conditional Use Permit (CUP) issued? From our research, it looks like the Emmons-Logan project received a CUP and not a WEF Siting Permit.
- Is the WEF Siting Permit/CUP issued for all components of the project or is there a separate process (ex. building permit, separate CUP, etc) for the overhead transmission line, Operations and Maintenance building, access roads, collection lines, and/or any other project equipment other than turbines?

Also, I forgot to ask about the following:

- Who is serving as the County Code Administrator?
- Can you please provide the following documents:
 - Logan Co Comprehensive Plan
 - Guidelines from the USDA-NRCS Offices, referenced in Section 3.8 (tree planting and shelterbelts near roads)
 - Zoning district map
 - Copy of Emmons-Logan Wind Energy Facility and transmission line (if separate) application

Please let me know if you have any questions and/or need any additional information on Badger Wind.

Thank you again.

Best regards,
June Marie Gray
Development 1
Onshore

Tel. +15126369618
xjumg@orsted.com



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Austin, TX 78701

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From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: FW: Message from "LoganAuditorMPC2504"
Date: Monday, November 29, 2021 12:30:10 PM
Attachments: [20211129111509165.pdf](#)

June:

Attached is a map of Logan County with the organized townships highlighted in orange. As of right now, we have eight organized townships, and as of January 1st, we will have seven. Sealy Township, in the upper left hand corner, voted to dissolve at the end of this year.

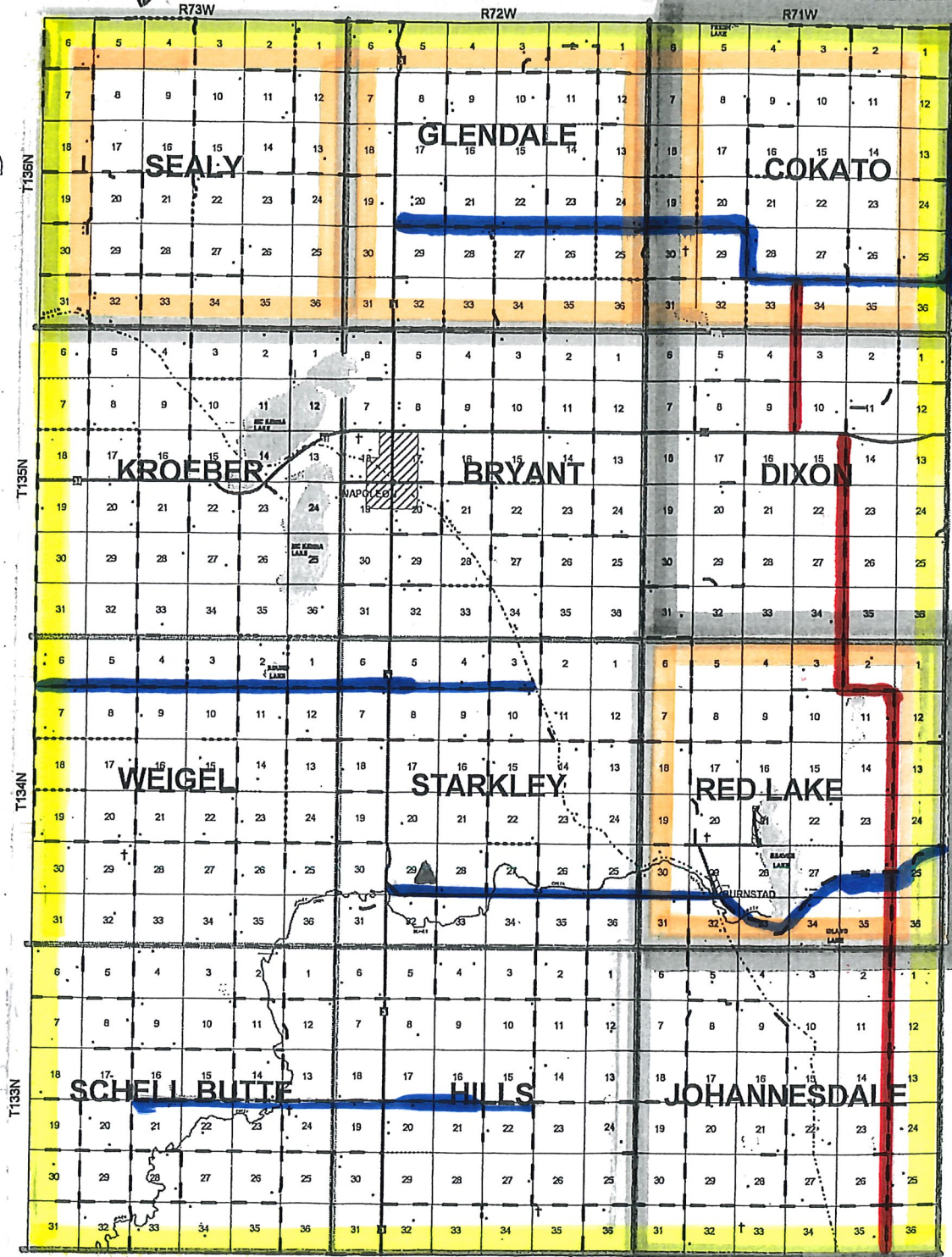
Blanche

From: loganauditor.copier@nd.gov <loganauditor.copier@nd.gov>
Sent: Monday, November 29, 2021 10:15 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Message from "LoganAuditorMPC2504"



NAPOLEON AREA

LOGAN COUNTY



LEGENDS

- PAVED ROAD
 - - - GRAVEL ROAD
 - DIRT ROAD
 - RAILROAD
- NO REPRESENTATION MADE AS TO COMPLETE ACCURACY

ORGANIZED TOWNSHIPS

FARM TO MARKET ROADS

FEDERAL AID ROADS

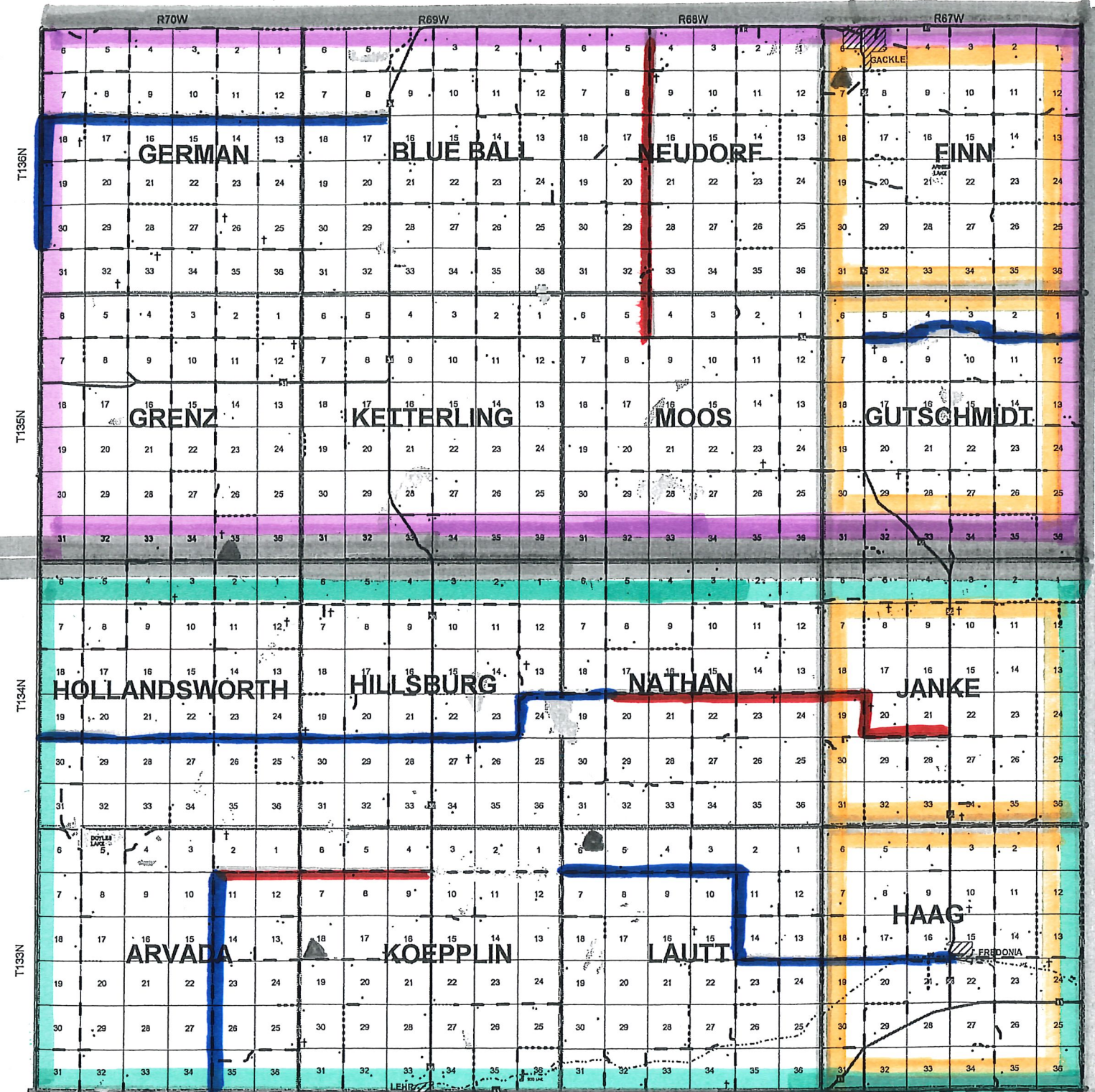
COUNTY GRAVEL PITS

FORMER COMMISSIONER DISTRICT NO. 1 (GACKLE AREA)

FORMER COMMISSIONER DISTRICT NO. 2 (LEHR AREA)

FORMER COMMISSIONER DISTRICT NO. 3 (NAPOLEON AREA)

GACKLE AREA



LEHR AREA

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: RE: Badger - Township question
Date: Wednesday, December 1, 2021 11:15:59 AM

June:

To the best of my knowledge, Red Lake Township has no separate zoning regulations, and when the county zoning ordinances were adopted in 2006, if the townships did not have their own separate ordinances, I believe they were informed that they would have to follow the county's. In the event that you would like to contact one of their officers, I would recommend that you contact Charles Fettig, whose phone number is 701-452-2813.

Sincerely,

Blanche Schumacher

From: June Marie Gray <XJUMG@orsted.com>
Sent: Monday, November 29, 2021 3:21 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Badger - Township question

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Commissioner Schumacher,

One of the layouts we are considering has a few turbines (up to 3 turbines) located in the southwest portion of Red Lake Township. All other turbine locations are outside of an organized township. Do you know what requirements (ex. permits, setbacks, etc) we would need to meet if we were to place turbines in this township or who I might speak with about these locations?

Best regards,
June Marie Gray
Development 1
Onshore

Ørsted
Tel. +15126369618

From: June Marie Gray
Sent: Monday, November 29, 2021 11:57 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: RE: Message from "LoganAuditorMPC2504"

Received. This is perfect. Thanks!

Best regards,
June Marie Gray
Development 1
Onshore

Ørsted
Tel. +15126369618

From: Schumacher, Blanche A. <blschumacher@nd.gov>
Sent: Monday, November 29, 2021 11:30 AM
To: June Marie Gray <XJUMG@orsted.com>
Subject: FW: Message from "LoganAuditorMPC2504"

June:

Attached is a map of Logan County with the organized townships highlighted in orange. As of right now, we have eight organized townships, and as of January 1st, we will have seven. Sealy Township, in the upper left hand corner, voted to dissolve at the end of this year.

Blanche

From: loganauditor.copier@nd.gov <loganauditor.copier@nd.gov>
Sent: Monday, November 29, 2021 10:15 AM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Message from "LoganAuditorMPC2504"

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Subject: RE: Badger - CUP Template
Date: Tuesday, January 18, 2022 3:51:00 PM

Hi June—

Yes, I did have a great week-end. The temperatures here in ND reached right around forty degrees (above zero) yesterday, but today the winds are blowing at the rate of 50+ miles per hour, we are experiencing snow squalls where the snow comes and goes, and the wind chill is probably around minus 20. What a difference a day makes in “Good old North Dakota!!!!!!”

Your January 11th email was discussed at the January 14th meeting of the Board of Logan County Commissioners, and I will attempt to answer your questions in the order in which they were presented.

1. You asked about our Zoning Ordinance 3.1 “permitted uses”, along with Section 5.1.2.13, which lists a Wind Energy Facility as a “permitted use” subject to the provisions of Section 6.11, and you inquired whether the issuance of building permits for a Wind Energy Facility would follow the “permitted uses” building permit process. Our answer is “yes”, a Wind Energy Facility would follow the “permitted uses” building permit process (subject to the provisions of Section 6.11 which allows the Zoning Commission to review the application, **and in its discretion**, to hold a public hearing on the application within no more than 45 days from receipt of the application...).)
2. Your second question was what the process is to obtain a building permit for a permitted use and how does this differ from other types of uses. The process to obtain a permit for a permitted use is one where an individual requests a permit to construct some type of building , etc. and the County Zoning Administrator asks a number of questions, and after due diligence and inquiry, determines that all zoning regulations have been complied with, the set-backs from property lines and from roads is sufficient, no Variance or Conditional Use Permit hearing is required, and may thereafter issue the Permit, subject to the approval of the Board of County Commissioners at their next regular meeting.
3. Your third question was whether one building permit would be issued for the entire wind energy facility, and I believe in our November 23rd email, we had stated that the Conditional Use Permit would be issued for all components and there would be no separate process for overhead transmission lines, etc. (as this is partially the purpose for conducting the Conditional Use Hearing).

Sincerely,

Blanche Schumacher,
Logan County Commission Chairperson

From: June Marie Gray <XJUMG@orsted.com>
Sent: Tuesday, January 18, 2022 12:12 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Cc: Francesca Martella <FRKEH@orsted.com>
Subject: RE: Badger - CUP Template

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Commissioner Schumacher,

I hope you had a great weekend. I'm checking in to see how the discussion with the commissioners went last week and if you have any additions to the Condition Use Permit application template.

Best regards,
June Marie Gray
West Regional Development
Onshore

Ørsted
Tel. +15126369618

From: June Marie Gray
Sent: Tuesday, January 11, 2022 4:11 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Cc: Francesca Martella <FRKEH@orsted.com>
Subject: RE: Badger - CUP Template

Commissioner Schumacher,

Thank you for discussing the template with the other commissioners. We are expecting the project to be 252MW located in both Logan and McIntosh counties. We are still unsure of the number of MWs that will be in Logan County, but are planning on permitting up to 52 wind turbines in Logan County (includes alternate locations). I hope to be able to provide a good estimate of the size that will be in Logan County when we submit the application. The plan is to still submit the application to Logan county at the end of Jan/early Feb.

Please find below some questions our legal team has on the building permit (I believe you mentioned we would likely need one in addition to the Conditional Use Permit):

- Zoning Ordinance, Section 3.1 references different procedures for building permits issued for "permitted uses" as compared to other uses. In Zoning Ordinance, Section 5.1.2.13, a Wind Energy Facility is listed as a "permitted use" subject to the provisions of Section 6.11. Is it accurate, then, that the issuance of building permits for a Wind Energy Facility would follow the "permitted uses" building permit process?
- Zoning Ordinance, Section 3.1 states that the County Code Administrator issues building permits for permitted uses, but the specific process isn't outlined in the ordinance. What is the process to obtain a building permit for a permitted use? How does the process differ for other types of uses?

- Will one building permit be issued for the entire wind energy facility? If not, which structures will require building permits? Will each structure (e.g., turbine, MET tower, etc.) require a separate building permit?

Best regards,
June Marie Gray
West Regional Development
Onshore

Ørsted
Tel. +15126369618

From: Schumacher, Blanche A. <blschumacher@nd.gov>
Sent: Thursday, January 6, 2022 3:24 PM
To: June Marie Gray <XJUMG@orsted.com>
Cc: Isaac Zimmerman <Isaac@zlawnd.com>; jcwald@bektel.com; charlesjohs@yahoo.com; Fischer, Brenda K. <bkfischer@nd.gov>
Subject: RE: Badger - CUP Template

June:

Thank you for your December 28th email. I have reviewed the template that you sent and am going to forward a copy to our States Attorney as well as forwarding copies to Commissioners John Wald and Charlie Johs, and we can then discuss it at our January 12th meeting. Following that meeting, I will let you know if anyone has any comments or suggestions about changes, additions, etc.

Sincerely,

Blanche Schumacher,
Logan County Commissioner

From: June Marie Gray <XJUMG@orsted.com>
Sent: Tuesday, December 28, 2021 2:29 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Cc: Francesca Martella <FRKEH@orsted.com>
Subject: Badger - CUP Template

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Commissioner Schumacher,

I hope you are having a happy holiday. Please find attached the template for the Badger Wind Logan County permit application we are planning on using. Please let me know if you notice anything missing

and/or have a different template you would like us to use. We are planning on submitting the application at the end of January.

Best regards,

June Marie Gray

West Regional Development

Onshore

Ørsted

Tel. +15126369618

From: [Schumacher, Blanche A.](#)
To: [June Marie Gray](#)
Cc: [Fischer, Brenda K.](#)
Subject: RE: Badger- Logan Co Permit Fees
Date: Thursday, January 27, 2022 1:07:02 PM
Attachments: [image003.png](#)

June:

Thank you for your email. I will attempt to answer your questions in the order in which they were presented.

1. The maximum permit fee of \$10,000.00 can be made payable to Logan County Auditor—(our Zoning Code Administrator);
2. You may also provide a Conditional Use Permit Fee in the amount of \$100.00, also made payable to Logan County Auditor;
3. You do not need to include a check for \$25.00 + \$10.00 for each \$100K valuation for the building permit, as we had earlier determined that there was no need for both a Conditional Use Permit Fee plus the Building Permit fee, (plus we are following past practices where only a Conditional Use Permit fee was requested and not both the CUP and Building Permit Fee).
4. We would prefer that you submit your Application before the County Commission meeting, because I believe the Zoning Administrator will need some time to do a certain amount of research, she needs to set up a public hearing on the Conditional Use Permit and needs ample time to send out notice to the landowners. The Conditional Use Permit will then be voted on and issued after the public hearing. (We would, however, invite you to attend any one of our forthcoming meetings, even before you file your CUP Application, to visit with us and to explain your project.

Sincerely,

Blanche Schumacher, Chairperson
Logan County Zoning Commission

From: June Marie Gray <XJUMG@orsted.com>
Sent: Wednesday, January 26, 2022 12:10 PM
To: Schumacher, Blanche A. <blschumacher@nd.gov>
Subject: Badger- Logan Co Permit Fees

******* CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *********

Commissioner Schumacher,

I hope you are doing well. We are requesting the check(s) for the Logan County Wind Energy Facility Site Permit/Conditional Use Permit/Building Permit for the Badger Wind project. Can you please confirm that the following check(s) are correct/needed:

- Wind Energy Facility Site Permit Fee - \$10,000 check made out to “Logan County Zoning Commission”
- Conditional Use Permit (CUP) Fee – Should we also provide a \$100 check for the CUP. If so, should this check be made out to “Logan County Zoning Commission”?
- Building permit Fee – Should we also provide a Check for \$25 + \$10 for each \$100k valuation for the building permit? If so, should this check be made out to “Logan County Zoning Commission”?

Also, do we need to submit the application at (or before) a formal commissioners court meeting or can we submit it at any time for the application to be voted on after review at a formal meeting?

Best regards,

June Marie Gray

West Regional Development

Onshore

Tel. +15126369618

xjumg@orsted.com



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812 San Antonio St., STE 500

Austin, TX 78701

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Appendix D

Agency Correspondence

McIntosh County, North Dakota

Communication Log

To: Gina Ketterling
McIntosh County Auditor

DATE: January 14, 2020
PROJECT: Badger Wind

JOB #: 19000785
VIA: Phone

REMARKS:

Griffin Fraser contacted Gina Ketterling, the McIntosh County Auditor, to inquire whether McIntosh County had any specific zoning ordinances or regulations regarding wind energy development. Topics of discussion included the following:

- Ms. Ketterling stated that McIntosh County does not have any zoning ordinances or regulations regarding wind energy development
- Ms. Ketterling stated that the county defers to state regulations.

FROM: Griffin Fraser

From: [Francesca Martella](#)
To: devindeile@butltermachinery.com; gketterl@nd.gov
Cc: [Charles Smith](#); [June Marie Gray](#); [Lucas Buseck](#)
Subject: Badger Wind - McIntosh Road Use Agreement
Attachments: [image002.png](#)
[Badger County Road Use Agreement 12 2 2021 JMG.docx](#)

Dear Gina and Devin,

Please find here attached the draft Road Use Agreement we have prepared for Badger Wind. Note that the attached agreement includes 3 question for your review:

1. Does McIntosh County have a separate driveway permit process?
2. Does McIntosh County have a separate approval process for collection system cabling?
3. Could McIntosh County provide the rate sheet?

If you have any questions, don't hesitate to reach out. We look forward to working together on Badger Wind.

Thank you,

Best regards,
Francesca Martella
Project Developer
West Regional Development
Onshore

Tel. +13475220931
frkeh@orsted.com



Learn more at us.orsted.com

401 N Michigan Ave., Suite 501
Chicago, IL 60611

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MCINTOSH COUNTY PROCEEDINGS

May 12, 2021

9:00 am

The meeting was called to order by Chairman Neil Meidinger. Present were Devin Deile, Perry Turner and Tony Bender of the Wishek Star.

The Pledge of Allegiance was recited by all.

The agenda was reviewed. Patricia Smith replaced Jesse Smith on the agenda to talk about 62nd Ave. Devin Deile moved to approve the agenda with the changes, Perry Turner seconded. Motion carried.

The minutes of the April meeting were read. Perry Turner moved to approve the minutes as presented, Devin Deile seconded. Motion carried.

Jonathan Baker, representing Orsted Onshore North America LLC, met with the Board to discuss the potential wind farm that is being looked at for Logan and McIntosh Counties. Lincoln Energy was acquired by Orsted two years ago. In 2018 they started leasing land. Both Neil Meidinger and Perry Turner have lease contracts with Orsted. Mr. Baker discussed things in regard to roads, permits, etc. Road Use Agreements were discussed. The commissioners stated that we need a better one that what we had with EDF Renewable Energy.

Patricia Smith, Tax Director, met with the Board to discuss the following:

- Property tax assessment notice requirements were discussed. Certain percent increases are allowed by law.
- She showed the Board the ND Century Code and process of the Equalization meeting. The Cities and townships are notified of the meeting. They are not required to attend.
- Reviewed the Agricultural Value Per Acre report for the 2021 assessment.
- She presented a report that showed all the increases and decreases caused by using the breakpoint method. Some of the changes were also caused from the updating of the soils.

Chris Opsahl, Highway Superintendent, met with the Board on the following matters:

- Joe Fregien wants an approach where he wants to have a lake lot development. He needs is wide enough for 80' trailers. Perry feels that it is going into a development so the county should put it in. Perry Turner moved to put in the approach, up to 10 loads, Devin Deile seconded. Discussion: Chris stated that the county doesn't put in approaches. Commissioner Turner and Commissioner Deile feel that because its going into a development, it is okay. Motion carried.
- Patricia Smith met with the Board to discuss 62nd Avenue. She wanted to know who is responsible for maintaining it. She showed pictures of 62nd Ave. south of 91st St. and also 65th St. Board stated that at this time, the EDF Renewable Energy is responsible. She also asked about the part of 62nd Ave. that is underwater. She mentioned that she has talked to some taxpayers and they don't have a problem paying higher taxes if they can see improvements to the roads. Commissioner Turner stated that he has been discussing this with Jesse Smith for over a year and its foolish to put dirt into water. The Postal Service will not redraw the route so the patrons have to drive to other locations to get their mail. Board stated that they will contact EDF Renewable Energy.
- Chris discussed the wind farm roads. They are not getting maintained. Chris got call from a construction company that Wanzek, Inc. asked them to blade. Chris stated that our blade is out there right now. Commissioner Deile stated that the county should bill Wanzek, Inc. \$250/hr. Devin Deile moved to charge Wanzek, Inc. \$250/hr. for blading work. Perry Turner seconded. Motion carried. Board wants State's Attorney to write a letter.
- The bridge on 25th Ave. was discussed. It collapsed. It had a wooden deck. Board discussed possible using metal decking. Chris will check into this and the Auditor will get information for wood planking.
- Log sheets were discussed. Chris visited with Barnes County and got a copy of what they use. Its's a lot easier to use. Perry Turner moved to use this for the blading for 60 days, Devin Deile seconded. Motion carried
- Dale Nagel from KEM Electric met with the Board to discuss our Utility Permits. He asked if there was any way that these permits for new service could be approve prior to a meeting because sometimes the contractor is in the area and it can be done right away. Devin Deile moved to allow for this for this season, Perry Turner seconded. Motion carried. The Board also reviewed a Utility Permit from KEM Electric to burrow through a road. Devin moved to approve said permit, Perry Turner seconded. Motion carried.
- Board also reviewed the pre-approved Utility Permits from KEM Electric and they were satisfied with them.
- The bids for propane tanks and heating system were as follows:
 - Westside Heating & A/C – 6 – 1,000 gallon LP Tanks - \$19,200.00
 - 24 – cement block - \$60.00

Next meeting will be June 9, 2021, starting at 12:00 p.m. The Board of Equalization meeting will be 1:00 p.m.

There being no further business, Devin Deile moved to adjourn, Perry Turner seconded. Motion carried. Meeting adjourned.

Neil Meidinger, Board Chairman

ATTEST: _____
Gina Ketterling, County Auditor

SPECIAL MCINTOSH COUNTY PROCEEDINGS

October 21, 2021

2:00 pm

The meeting was called to order by Chairman, Neil Meidinger. Also present were Perry Turner, and Devin Deile. June, Gray, Charlie Smith and Francesca Martella of Orsted were also in attendance.

The meeting was requested by representatives of Orsted for the purpose of meeting the Board of Commissioners and to discuss road maintenance agreements and such for the proposed wind farm that Orsted is looking to build. Orsted held an open house and landowner meeting in Wishek on October 20th to let the landowners know where they are on the project, now they are here to discuss and answer any questions the commission may have for them. Orsted is in the advance stage of development and are working on environmental studies, etc. They are shooting for a Quarter 3, 2022 construction date.

For the road maintenance agreement, Devin Deile told them that he does not want the county to touch the roads until the project is completed. Neil Meidinger wants the contracts to follow the project, for example, if Orsted sells it, the road maintenance agreement goes to the next owner, and so on and so on. Devin Deile stated he would also like 2” of gravel put on the roads after construction is completed.

The representatives will take this information back with them.

There being no further business, Devin Deile moved to adjourn, Perry Turner seconded. Motion carried. Meeting adjourned.

Neil Meidinger, Board Chairman

ATTEST: _____
Gina Ketterling, County Auditor

**McIntosh
County
112 1st St. NE
PO Box 39
Ashley, ND 58413**



BOARD OF COUNTY COMMISSIONERS:

Neil Meidinger
Devin Deile
Perry Turner

AUDITOR: Gina Ketterling

TREASURER: Lanette Blumhardt

STATE'S ATTORNEY: Mary DePuydt

SHERIFF: Laurie Heupel

CLERK OF COURT/COUNTY RECORDER: Carol Fey

TAX DIRECTOR: Patricia Smith

VETERANS SERVICE OFFICER: Douglas Olson

DISASTER EMERGENCY MANAGER: Neil Meidinger

December 1, 2021

Mr. Charlie Smith
Badger Wind, LLC
401 N. Michigan Ave
Suite 501
Chicago, IL 60611

Re: Badger Wind Project

Dear Mr. Smith:

Based on prior conversations with you and your colleagues, the McIntosh County Board of Commissioners ("Board") understands that Badger Wind, LLC ("Badger Wind") is proposing to develop a wind energy conversion facility and associated 230 kilovolt transmission line in McIntosh and Logan Counties, North Dakota (the "Project"). Badger Wind has asked the Board to provide this letter regarding McIntosh County's permitting requirements for the Project.

McIntosh County has not enacted a zoning ordinance. As such, the Project does not need to obtain any zoning permits from McIntosh County. Additionally, the only township in McIntosh County that has enacted a zoning ordinance is Roloff Township, and it is the Board's understanding that the Project will not be located in Roloff Township.

Badger Wind has indicated it will enter into a road use agreement with McIntosh County and applicable townships (as necessary) regarding the use, improvement, and restoration of local roads in connection with Project construction. It is also the Board's understanding that Badger Wind will comply with all applicable federal, state, and local laws and regulations when constructing and operating the Project, including but not limited to the North Dakota Public Service Commission's permitting requirements and the McIntosh County Highway Department's road use (i.e., overweight/oversized load) permitting requirements.

If you have any questions, please let me know.

Sincerely,

Neil Meidinger, Chairman
McIntosh County Board of Commissioners

Appendix D

Agency Correspondence

North Dakota Aeronautics Commission/Minot Airforce Base

From: [Sarah Aftergood](#)
To: [Dillin, Adam](#)
Cc: [June Marie Gray](#)
Subject: RE: Wind Farm Project Comments
Attachments: [image003.png](#)

Hi Adam

Thank you for the response. We are actively working through the FAA process which will include the Wishek Airport so I imagine more will come out of the process. We are currently working to finalize the layout for the state permitting process so once I know the location of our Met towers locations I will be more than happy to share with you. Let me know if you have any questions in the meantime. Have a good Thursday.

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

Ørsted
Tel. +15122302148

From: Dillin, Adam <adillin@nd.gov>
Sent: Monday, October 18, 2021 2:07 PM
To: Sarah Aftergood <SARAF@orsted.com>
Subject: Wind Farm Project Comments

Good afternoon,

My name is Adam Dillin, and I am the North Dakota Aeronautics Commission airport planner for eastern North Dakota. Wind power is increasingly important to our state and it should be a welcome benefit to see another wind farm added to our energy infrastructure. I have two brief comments to offer as the project moves forward.

First, while I'm sure that Badger Wind has factored aircraft operations in the area into the design of the farm, I would like to specifically mention that Wishek Municipal Airport lies just outside of the development area as identified in the letter recently sent to our office. At the North Dakota Aeronautics Commission, our top priority is the safety of aircraft and the communities from which they operate and we would like to make sure that the airport airspace protections outlined in Federal Aeronautical Regulations Part 77 and North Dakota Administrative Code Chapter 6-02-03.1 are followed to prevent safety hazards to aviation. Additionally, while North Dakota does not regulate private airstrips in our state and none were identified within the boundaries of the proposed wind farm as of our last statewide system plan in 2014, we ask that potential impacts to private airstrips in/near the area be considered when siting turbines and towers.

Second, Aeronautics requests that the locations of all MET towers be reported to us for inclusion in the map we have posted on our website at <https://aero.nd.gov/maps/>. This serves as a safety resource to help pilots, particularly our agricultural spraying aircraft, avoid potential collisions. To

report MET tower locations, please contact Mike McHugh at mmchugh@nd.gov or (701)328-9653.

Please feel free to reach out to me if you have any question. Thank you.

Adam Dillin, C.M., A.C.E.

Airport Planner

North Dakota Aeronautics Commission

Tel: (701) 328-9657 Email: adillin@nd.gov Website: <https://aero.nd.gov>



Appendix D

Agency Correspondence

North Dakota Aeronautics Commission

From: Dillin, Adam <adillin@nd.gov>
Sent: Monday, October 18, 2021 2:07 PM
To: Sarah Aftergood <SARAF@orsted.com>
Subject: Wind Farm Project Comments

Good afternoon,

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First, while I'm sure that Badger Wind has factored aircraft operations in the area into the design of the farm, I would like to specifically mention that Wishek Municipal Airport lies just outside of the development area as identified in the letter recently sent to our office. At the North Dakota Aeronautics Commission, our top priority is the safety of aircraft and the communities from which they operate and we would like to make sure that the airport airspace protections outlined in Federal Aeronautical Regulations Part 77 and North Dakota Administrative Code Chapter 6-02-03.1 are followed to prevent safety hazards to aviation. Additionally, while North Dakota does not regulate private airstrips in our state and none were identified within the boundaries of the proposed wind farm as of our last statewide system plan in 2014, we ask that potential impacts to private airstrips in/near the area be considered when siting turbines and towers.

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Please feel free to reach out to me if you have any question. Thank you.

Adam Dillin, C.M., A.C.E.

Airport Planner

North Dakota Aeronautics Commission

Tel: (701) 328-9657 Email: adillin@nd.gov Website: <https://aero.nd.gov>



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Appendix D

Agency Correspondence

North Dakota Department of Commerce

Caitlin Cyrus

Subject: FW:

> Sarah,

>

> We received this at our office and I am reaching out to see if there is anything that we can do to help from the Dept. of Commerce perspective.

>

> Looking forward to hearing from you,

> Josh

>

> -----Original Message-----

> From: Heick, Tammy A. <theick@nd.gov>

> Sent: Tuesday, October 19, 2021 1:57 PM

> To: Teigen, Joshua L. <jlteigen@nd.gov>; Garman, Rich W. <rgarman@nd.gov>

> Subject: FW:

>

> We received this in the mail today ---

>

> -----Original Message-----

> From: COM6053@nd.gov <COM6053@nd.gov>

> Sent: Tuesday, October 19, 2021 12:44 PM

> To: Heick, Tammy A. <theick@nd.gov>

> Subject:

>

> -----

> TASKalfa 6053ci

> [00:17:c8:88:fa:e2]

> -----

Appendix D
Agency Correspondence
National Telecommunications and Information Administration

Alan Plumeau

To: Alan Plumeau
Subject: FW: **Turbine Response Letter** Badger Project, LLC: Logan & McIntosh Counties, ND
Attachments: Digital Final_Badger Project LLC_ORSTED_no concerns.pdf

From: Henry, Joyce <JHenry@ntia.gov>
Sent: Wednesday, December 22, 2021 8:16 AM
To: Francesca Martella <FRKEH@orsted.com>
Cc: faslist <faslist@osmmail.ntia.doc.gov>
Subject: **Turbine Response Letter** Badger Project, LLC: Logan & McIntosh Counties, ND

Good Morning, Francesca:

Please see attached the **digitally signed** Final NTIA Response Letter for the Badger Wind Project, LLC, located in Logan and McIntosh Counties, North Dakota.

After a 45+ day period of review, we received responses from **DOA (Agriculture)**, **CG (Coast Guard)**, **DOC (Commerce)**, **DOE (Energy)**, **DOJ (Justice)**, and **DON (Navy)**, stating **No Harmful Interference Anticipated (NHIA)**.

In the event that an agency *has* expressed concerns, we encourage you to work with the agency representatives directly to resolve all issues.

Joyce C. Henry
DOC/NTIA/OSM HQ
Admin
240-381-5789 (cell)
202-482-2215 (office)
jhenry@ntia.gov

"It's about living while you're alive" – Thomas Rhett

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UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, D.C. 20230

December 21, 2021

Francesca Martella
Project Developer
Development 2
Onshore
Ørsted

Re: Badger Project, LLC: Logan & McIntosh Counties, ND

Dear Ms. Martella:

In response to your request on November 1, 2021, the National Telecommunications and Information Administration provided to the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC) the plans for the Badger Wind Project, LLC, located in Logan and McIntosh Counties, North Dakota.

After a 45+ day period of evaluation, no reviewing agencies had issues with turbine placement in this area.

While the IRAC agencies did not identify any concerns regarding radio frequency blockage, this does not eliminate the need for the wind energy facilities to meet any other requirements specified by law related to these agencies. For example, this review by the IRAC does not eliminate any need that may exist to coordinate with the Federal Aviation Administration concerning flight obstruction.

Thank you for the opportunity to review these proposals.

Sincerely,

JOHN
MCFALL

John R. McFall

Deputy Chief, Spectrum Services Division
Office of Spectrum Management

Digitally signed by
JOHN MCFALL
Date: 2021.12.22
09:02:02 -05'00'

Appendix D

Agency Correspondence

North Dakota Department of Trust Lands

Alan Plumeau

From: Sarah Aftergood <SARAF@orsted.com>
Sent: Thursday, October 21, 2021 5:59 AM
To: Humann, Michael T.
Subject: RE: Badger Wind Farm
Attachments: AOI_New.zip

Hi Michael,

Please find an attached kmz of the Area of Analysis for our project. Let me know if you have any questions!

Thank you and talk soon.

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

Ørsted
Tel. +15122302148

From: Humann, Michael T. <mhumann@nd.gov>
Sent: Tuesday, October 19, 2021 10:05 AM
To: Sarah Aftergood <SARAF@orsted.com>
Subject: Badger Wind Farm

Sara,

Received your memo regarding the proposed Badger Wind Energy Center in McIntosh and Logan Counties in North Dakota. Please send a kmz or shape file of the area of Analysis for the Badger Wind Farm so that we are able to determine the State Trust Lands within the project area. The map attached to the memo is too small of scale to determine acreage. We would like to send you a letter informing you of State Trust Lands within the project area. We would also appreciate receiving a mailing address as it was not shown in the memo we received. Thank you

Michael Humann
Surface Division Manager

701.328.1917 • 701.527.3376 (m) • mhumann@nd.gov • land.nd.gov



From: Humann, Michael T. <mhumann@nd.gov>
Sent: Thursday, October 28, 2021 8:14 AM
To: Sarah Aftergood <SARAF@orsted.com>
Cc: Smith, Jodi <jodi.smith@nd.gov>; Spangelo, Kayla <kspangelo@nd.gov>; Spencer, Lynn <lyspencer@nd.gov>
Subject: Badger Wind Project

Sarah,,

The attached letter is being sent to you in response to your letter dated October 14, 2021 which was received by the North Dakota Department of Trust Lands on October 18, 2021.

Michael Humann
Surface Division Manager

701.328.1917 • 701.527.3376 (m) • mhumann@nd.gov • land.nd.gov



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October 28, 2021

SARA AFTERGOOD
DIRECTOR, ENVIRONMENTAL PERMITTING
ORSTED ONSHORE
812 SAN ANTONIO ST, STE 500
AUSTIN TX, 78701

RE: Badger Wind 252-megawatt Wind Farm in McIntosh and Logan Counties, ND

Dear Ms. Aftergood,

We received your letter dated October 15, 2021, regarding a request for information on the proposed Badger Wind250-megawatt Wind Farm in McIntosh and Logan Counties, North Dakota. Please be aware that an easement must be obtained for any trust lands included in the project.

To obtain an easement across trust Lands, an on-line application form must be completed. This application can be found at: <https://www.land.nd.gov/SurfaceROW/RowApplicationForm>. Any proposed towers or lines would be subject to review by the surface division staff and approval by the Land Commissioner on behalf of the Board of University and School Lands.

The following items may be considered in the review of an easement application:

1. Financial benefit to the trusts.
2. Availability of alternate encumbrance site or route.
3. The least environmentally damaging site or route regardless of property ownership.
4. Physical stability of the landscape.
5. Other potential future uses for the trust lands, including urban development.
6. Potential mineral and other material development including oil, gas, coal, cement materials, sodium sulfate, sand and gravel, road material, building stone, chemical substances, metallic ores, uranium ores, colloidal, or other clays.
7. Feasibility for reclamation.
8. Maintenance of existing wetlands and water flows.
9. Any cultural, historical, archeological, and paleontological resources.
10. Federally listed threatened and endangered species.
11. Location of the proposed route or site in relation to section lines, quarter section lines and corridors.
12. Potential liability to the trusts.
13. Applicant's past encumbrances on trust lands.
14. Applicant's financial stability; and
15. Any other information relevant to the application which would assist in the determination.

There are school trust surface and mineral interests that are managed by the North Dakota Department of Trust Lands on behalf of the Board of University and School Lands which are located within or near the proposed project area. These surface and mineral interests are listed on the attached Exhibit 1. There are no active Coal Leases on school trust lands within the project area.

Please be advised the Board of University and School Lands will not move forward on Wind Projects until site inspection and review have been completed and all local and state approvals have been obtained.

If you have any questions, feel free to contact our office at 701-328-2800.

Sincerely,



Michael Humann
Surface Division Manager

Jodi A. Smith COMMISSIONER

1707 North 9th Street | P.O. Box 5523 | Bismarck, ND 58506-5523

PHONE: 701-328-2800 | FAX: 701-328-3650 | <https://land.nd.gov>

Township	Range	Section	Subdv	Estate	Mineral Interest	Mineral Net Acres
134	71	32	SW4	Mineral	0.5	80
133	71	4	W2SE4, E2SW4	Mineral	0.5	80
133	71	6	LOTS 1,2, SW4SE4, LOT 3, SE4SW4, LOTS 6,7	Mineral	0.5	148.42
133	71	16	NE4, NW4, SE4, SW4	Surface & Mineral	1	640
133	71	29	NE4	Mineral	0.5	80
133	71	31	SE4	Mineral	0.5	80
133	71	32	SE4	Mineral	0.5	80
133	71	36	NE4, NW4, SE4, SW4	Mineral	0.5	320
133	70	6	SW4NE4, LOTS 1,2,8, SE4, E2SW4, LOT 7	Mineral	0.5	206.45
133	70	16	NW4	Mineral	1	160
133	70	16	SW4	Mineral	0.5	80
133	70	17	SW4	Mineral	0.5	80
133	70	18	NE4, SE4	Mineral	0.5	160
133	70	29	NE4, NW4, SE4, SW4	Mineral	0.5	320
132	70	6	LOT 3, NE4SW4	Mineral	0.5	34.01
132	70	6	E2SE4, NW4SE4	Mineral	1	120
132	71	6	LOTS 1,2,3,4, SE4	Mineral	0.5	119.79
132	71	7	E2NW4, LOTS 1,2, E2SW4, LOTS 3,4	Mineral	0.5	162.32
132	71	9	NE4 EAST OF RR R/W	Mineral	0.05	6.18
132	71	21	NE4, NW4	Mineral	0.5	160
132	72	2	LOTS 1,2, SE4	Mineral	0.5	97.37
132	72	12	E2NE4, E2SE4, SW4SE4, SE4SW4	Mineral	0.5	120
132	72	13	NE4	Mineral	0.5	80
132	72	25	NE4, NW4	Mineral	0.5	160
132	72	28	NE4, NW4, SW4	Mineral	0.5	240
132	72	34	N2NE4, SW4, N2NW4	Mineral	0.5	160
132	72	35	SW4	Mineral	0.5	80
132	72	36	NW4, SW4	Mineral	0.5	160
131	72	2	S2NW4, LOTS 3,4, SW4	Mineral	0.5	158.12
131	72	3	SE4, SW4	Mineral	0.5	160

Appendix D

Agency Correspondence

North Dakota Department of Environmental Quality

October 27, 2021

Sarah Aftergood
Director
Orsted Onshore North America LLC
812 San Antonio St. Ste 500
Austin, TX 78701

Re: Proposed Badger Wind Energy Center in Logan, McIntosh Counties

Dear Ms. Aftergood:

The North Dakota Department of Environmental Quality has reviewed the information concerning the above-referenced project received at the department on October 19, 2021 with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
2. Projects disturbing one or more acres are required to have a permit to discharge stormwater runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the stormwater permit may be obtained from the department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local stormwater management considerations are addressed.

A total maximum daily load (TMDL) allocation for fecal coliform bacteria has been developed for the unnamed tributary on the south side of Beaver Lake. Storm water runoff from the project should not contribute to the impairment if the appropriate practices are in place to manage sanitary waste.

3. The proposed construction project may include individual projects located within Logan and McIntosh Counties. It is possible that some projects may be located over defined glacial drift aquifers, sensitive groundwater areas, or within wellhead or source water protection areas. Care should be taken to avoid spills of any materials that may have an adverse effect on

918 East Divide Avenue | Bismarck ND 58501-1947 | Fax 701-328-5200 | deq.nd.gov

Director's Office
701-328-5150

Division of
Air Quality
701-328-5188

Division of
Municipal Facilities
701-328-5211

Division of
Waste Management
701-328-5166

Division of
Water Quality
701-328-5210

Division of Chemistry
701-328-6140
2635 East Main Ave
Bismarck ND 58501

groundwater quality. All spills must be immediately reported to this Department and appropriate remedial actions performed.

4. All solid waste materials must be managed and transported in accordance with the state's solid and hazardous waste rules. Appropriate efforts to reduce, reuse and/or recycle waste materials are strongly encouraged. As appropriate, segregation of inert waste from non-inert waste can generally reduce the cost of waste management. Further information on waste management and recycling is available from the department's Division of Waste Management at (701) 328-5166.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glatt, P.E., Director
North Dakota Department of Environmental Quality

LDG:csc
Attach.

Facility Report

Latitude and Longitude within 0.25 mile(s) of 47.774657 and -99.945201

Tuesday, October 26, 2021

Facility ID	Facility	Address	City	Region	Facility Type	Latitude	Longitude	Status
481	Farmers Union Oil Company	2574 25th St NE	Harvey	1	Gas Station	47.775742	-99.948042	Inactive
524	Little Mart C-Store	708 Hwy 52 W	Harvey	1	Gas Station	47.775964	-99.948694	Active
Number of Records		2						

Construction and Environmental Disturbance Requirements

The following are the minimum requirements of the North Dakota Department of Environmental Quality for projects that involve construction and environmental disturbance in or near waters of the State of North Dakota. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect waters of the state. All projects must be constructed to minimize the loss of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion and sediment loss using erosion and sediment controls. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, and land resources must be prohibited against compaction, vegetation loss and unnecessary damage.

Surface Waters

All construction must be managed to minimize impacts to aquatic systems. Follow safe storage and handling procedures to prevent the contamination of water from fuel spills, lubricants, and chemicals. Stream bank and stream bed disturbances must be contained to minimize silt movement, nutrient upsurges, plant dislocations, and any physical chemicals, or biological disruption. The use of pesticides or herbicides in or near surface waters is allowed under the department's pesticide application permit with notification to the department.

Fill Material

Any fill material placed below the ordinary high-water mark must be free of topsoil, decomposable materials, and persistent synthetic organic compounds; including, but not limited to, asphalt, tires, treated lumber, and construction debris. The department may require testing of fill material. All temporary fills must be removed. Debris and solid waste must be properly disposed or recycled. Impacted areas must be restored to near original condition.

Appendix D
Agency Correspondence
North Dakota Geological Survey

From: Anderson, Fred J. <fjanderson@nd.gov>

Sent: Friday, October 22, 2021 10:23 AM

To: Sarah Aftergood <SARAF@orsted.com>

Subject: North Dakota Geological Survey Comments: Proposed Badger Wind Energy Center Logan and McIntosh Counties North Dakota

Hello Sara-

Please find attached to this message our comments on the Badger Wind Energy Center Project.

These comments would be in response to your mailings to the North Dakota Geological Survey, North Dakota Industrial Commission, and ND Transmission Authority.

Regards,

Fred J. Anderson

Geologist, North Dakota Geological Survey

701.328.8000 (Survey Main Office) • 701.328.8037 (Office Direct) • fjanderson@nd.gov • www.dmr.nd.gov/ndgs (-> protect2.fireeye.com)



701.328.8020 (Front Office) • oilandgasinfo@nd.gov • www.dmr.nd.gov (-> protect2.fireeye.com) • 600 E
Boulevard Ave, Dept. 405 • Bismarck, ND 58505

October 22, 2021

Ms. Sara Aftergood
Orsted
812 San Antonio St., Ste. 500
Austin, TX 78701

Re: Proposed Badger Wind Energy Center in McIntosh and Logan Counties, North Dakota

The North Dakota Geological Survey appreciates the notification and opportunity to review and provide comment on the proposed energy development project. We reviewed the proposed project boundaries in south-central Logan and north-central McIntosh Counties and would not note any geologic concerns at this time. The project area is located within glacial sediments of the Missouri Coteau in the northeast and Coteau Slope in the southwest.

Available geologic mapping information shows this area to be free of landslides with no mineable coal or abandoned mine lands occurring within the project area boundaries. Available shallow drilling records and bedrock geologic mapping information suggest that the project area may be underlain by a relatively thin layer of 50 to 100 feet of clayey glacial till (boulder clay) which mantles sedimentary sandstone bedrock of the Fox Hills and Hell Creek Formations. In the northeast portion of the project area shallow sandstone bedrock of the Fox Hills Formation may be found at the surface.

All recently completed geologic, landslide area, and LiDAR maps are available on our website at:
<https://www.dmr.nd.gov/ndgs/landslides/>

If there are any additional questions or comments, please contact us at (701) 328-8000.

Sincerely,

North Dakota Geological Survey:

A handwritten signature in black ink, appearing to read "Fred Anderson".

Fred Anderson
Geologist

fjanderson@nd.gov

FJA\

Appendix D

Agency Correspondence

North Dakota Game and Fish Department



DRAFT MEETING MINUTES

Project: **Badger Wind**
Logan and McIntosh counties, ND
Ørsted Onshore North America, LLC

Host/Organizer: Elisha Mueller, North Dakota Game and Fish Department (NDGF)

Meeting Date: January 28, 2020

Purpose: **Project Introduction Meeting**

Attendees

- Drew Becker, Deputy Field Supervisor, North Dakota and South Dakota Field Offices, U.S. Fish and Wildlife Service (USFWS)
- Heidi Riddle, Fish and Wildlife Biologist, USFWS
- Steve Dyke, Conservation Supervisor, North Dakota Game and Fish Department (NDGF)
- Elisha Mueller, Conservation Biologist, NDGF
- Sandra Johnson, Conservation Biologist, NDGF
- Kevin Kading, Private Lands Section Lead, NDGF
- Renae Schultz, Private Lands Biologist, NDGF (remote)
- Jon Baker, Sr. Development Director, Ørsted Onshore North America, LLC (Ørsted)
- Emily Cooper, Sr. Project Manager, Atwell, LLC (Atwell)
- Chris McCreedy, Sr. Environmental Consultant, Atwell

Agenda Item 1: Introductions

Attendees introduced themselves and stated their organization and title.

Agenda Item 2: Project Overview

J. Baker introduced Ørsted Onshore and Badger Wind, and the Badger Wind project, including project location, timeline (targeting construction in 2022 or 2023), and proposed interconnection point. He confirmed that there is no power purchase agreement (PPA) at this stage, but that

Ørsted is comfortable proceeding and even operating some of their wind farms without a PPA in hand.

Agenda Item 3: Studies Completed to Date

C. McCreedy presented results of desktop and field studies completed to date.

Topics included: land cover within the project area, grassland and wetland easement data provided by the USFWS, Information for Planning and Consultation (IPaC) resource report results (Whooping Cranes, northern long eared bats, Piping Plovers, Red Knots), nesting raptor survey, Sharp-tailed Grouse lek survey, eagle and avian use surveys, bat habitat assessment, and bat acoustic monitoring survey.

Agenda Item 4: Questions and Discussion

Following the presentation, a discussion occurred focusing on habitat and unbroken prairie considerations for project development.

- S. Dyke said that NDGF is moving away from its emphasis on a species-based approach and the Species of Greatest Conservation Need and toward a habitat-based approach. The NDGF is focused on grasslands, wetlands, and woodlands habitat. Their goal is to minimize impacts on these habitats. Recommended that the project look at the Ruso, Southern, Burke County, and North Divide applications in the docket for guidance.
- S. Dyke emphasized as an example, the grouse lek survey is not something they are looking for at this stage. S. Johnson added that lek surveys will never find all of the leks, since grouse move lek locations all of the time; E. Mueller noted that furthermore, studies need to demonstrate 5 years of non-use for a lek to be confirmed as abandoned. In lieu of lek surveys, NDGF staff advised the project to identify potentially suitable habitat (i.e., unbroken prairie) and avoid that habitat to the extent possible.
- C. McCreedy asked how they are handling setbacks from leks in the absence of surveys. NDGF responded that they do not have a lot of confidence that surveys can find all of the leks, and that the NDGF would rather that a turbine be located within a setback or at an unknown distance from a lek but within cropland than located outside a setback but within grassland.
- D. Becker noted that wind farms can have negative impacts on these habitats and consequently on wildlife; therefore, the emphasis should be on minimizing impacts to habitat. NDGF agreed.
- Atwell asked to confirm the current definition of unbroken grassland, since the terminology and definitions have been evolving. NDGF replied that the definition they are using is that unbroken grassland is grassland that has not been plowed. They are discouraging efforts to try to classify “high quality” or “native” grassland as not

worthwhile, and are focusing instead on the unbroken classification as the conservation priority.

- NDGF confirmed that spatial data are available for unbroken grassland; Atwell to request the current dataset from S. Johnson. NDGF noted that ground truthing and discussions with landowners will be needed to verify spatial data and confirm history of use at any particular location.
- Atwell asked if there is still a contiguous patch size threshold of 160 acres for grassland. NDGF replied that they are not using a threshold approach at this time. Projects should try to avoid unbroken grassland to the extent possible, regardless of patch size.

Easements and Designated Lands

- D. Becker brought up wetland and grassland easements; he noted that the USFWS has invested in these easements. In addition to avoiding direct impacts to established USFWS easements, he noted that turbine placement near easements may diminish the value of the easements.
- K. Kading mentioned that there are private land easements under state management as well (Private Land Open to Sportsmen [PLOTS]); he echoed D. Becker's comment that turbine placement close to these areas may affect hunting / recreational use.

Offsets

- S. Dyke said that the most recent projects have quantified development effects on grasslands and wetlands in order to offset the impacts.
- D. Becker suggested including the offset package in the Bird and Bat Conservation Strategy (BBCS) for the project.
- NDGF explained that offset packages have ranged significantly in size / value by project, with some very small offset packages and some very large ones. There are no habitat banks in place in North Dakota and developers are not being asked to find and directly purchase habitat offsets. At this time, the agency is using third party vendors like Ducks Unlimited to identify offset projects. Most of the emphasis has been on rehabilitating equivalent habitat rather than acquiring and protecting habitat. North Dakota does not require mitigation monitoring.

Additional Studies

- The agencies did not identify any other studies beyond the ones discussed at the meeting that they would expect to see. They confirmed that Whooping Crane and unbroken grassland habitat studies would both be recommended, and that the eagle use and raptor nest studies underway should be continued.

- S. Dyke noted that NDGF is not requiring post-construction mortality monitoring (PCM) studies at this time. E. Mueller asked if Ørsted conducts PCM studies; J. Baker responded that they are used on a case by case basis.

Other Resources

- D. Becker mentioned the Shaffer and Buhl 2015 paper (Effects of wind-energy facilities on breeding bird distributions) on wind effects on grassland birds.
- Heidi Riddle mentioned that the project should consider new Whooping Crane studies produced by Dr. Neimuth, Dr. Loesch, and the USFWS Habitat and Population Evaluation Team (HAPET).

Action Items

- Atwell to call S. Johnson and confirm list of available data to use for desktop and habitat analyses for the site, including raptor nests, native prairie layers, and Whooping Crane information. Data sharing agreement may be needed for some or all of this data.
- Atwell and Ørsted to continue to familiarize themselves with the dockets for existing projects and maintain communication with the agencies as studies for 2020 and beyond are planned.

Alan Plumeau

From: Chris McCreedy
Sent: Tuesday, February 18, 2020 5:41 PM
To: 'Johnson, Sandra K.'
Subject: RE: data sharing agreement/data layers from NDGF
Attachments: 19000785_ProjectArea.cpg; 19000785_ProjectArea.dbf; 19000785_ProjectArea.prj; 19000785_ProjectArea.sbn; 19000785_ProjectArea.sbx; 19000785_ProjectArea.shp; 19000785_ProjectArea.shp.xml; 19000785_ProjectArea.shx

Here are those attachments :)

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC
602.513.3950 Mobile (best)
480.218.8831 x2503 Tel
480.830.4888 Fax
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: Chris McCreedy
Sent: Tuesday, February 18, 2020 3:08 PM
To: 'Johnson, Sandra K.' <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

Hi Sandra,

Shapefiles of the Badger project area attached. I will call tomorrow. I think most of my questions revolved around the desktop Whooping Crane stopover risk assessment. Thanks again!

Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC
602.513.3950 Mobile (best)
480.218.8831 x2503 Tel
480.830.4888 Fax
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Tuesday, February 18, 2020 7:13 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: data sharing agreement/data layers from NDGF

I'm pretty busy today, tomorrow would work better for me. Or just email me the list and I can reply if we have that specific data or not.

Sandy

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 18, 2020 7:59 AM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Sure thing! I hope it was a good meeting, I could use a good conference just about now. May I call you later today with a handful of questions? I had a small list for you but I could use some time to track down that list and refresh it in my mind so that I do not omit anything.

Chris

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From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Tuesday, February 18, 2020 6:54 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: data sharing agreement/data layers from NDGF

Hi Chris,
I was attending the ND Chapter of the Wildlife Society Conference last week and did not have a chance to respond to emails. Please send me a shapefile of the latest project boundary and I will query our database for known eagle nests, leks, and other data we discussed during the meeting.
Note: do NOT zip the shapefile, our state email deletes zip files. Either send the shapefile not zipped or if you do zip it, change the extension to ".piz"
Thanks,
Sandy

Sandra Johnson
Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Friday, February 14, 2020 12:39 PM

To: Johnson, Sandra K. <sajohnson@nd.gov>

Subject: RE: data sharing agreement/data layers from NDGF

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Sandra,

I wanted to check on this and I can call if that is more convenient. In summary, we are looking to find out more about the data layers that NDGF can help us with and how we go about setting up a data sharing agreement with your office. Thank you again for your help, it is really appreciated.

Sincerely,
Chris

Chris McCreedy

Senior Environmental Consultant

ATWELL, LLC

602.513.3950 Mobile (best)

480.218.8831 x2503 Tel

480.830.4888 Fax

4700 E. Southern Avenue | Mesa, AZ 85206

www.atwell-group.com

From: Chris McCreedy

Sent: Wednesday, February 12, 2020 4:36 PM

To: 'sajohnson@nd.gov' <sajohnson@nd.gov>

Subject: data sharing agreement/data layers from NDGF

Hi Sandra,

As I wrote yesterday I enjoyed meeting everyone at the meeting for the Badger Wind Project last month. It was such a beautiful day after the meeting and I managed to sneak over to Fort Abraham Lincoln SP across the river in the afternoon and found a Townsend's Solitaire!

During the meeting, we discussed various data layers NDGF has developed that will help us at this stage of the project. Bald Eagle nests, other raptor nests, leks (if lek data were available), waterfowl, unbroken grassland/native prairie, and perhaps Whooping Crane data come to mind. Are there others that I am missing that you believe we should be thinking about?

I believe the next step would be for us to create a data sharing agreement with your agency, is that correct? I suspect that you will need spatial data files of the project boundary from us, and can you let me know what else I can provide to you to help get that process rolling?

Thank you,
Chris McCreedy

Chris McCreedy

Senior Environmental Consultant

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Alan Plumeau

From: Chris McCreedy
Sent: Tuesday, February 25, 2020 11:19 AM
To: 'Johnson, Sandra K.'
Subject: RE: data sharing agreement/data layers from NDGF
Attachments: NDGF GIS Data Sharing_Atwell_Feb2020_fully executed.pdf

Hi Sandra,

I have attached the signed data sharing agreement. Please note that my supervisor Chris Rutledge signed the agreement to more appropriately represent the company. Thank you for all of your help with this and please let me know if you have additional questions.

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC
602.513.3950 Mobile (best)
480.218.8831 x2503 Tel
480.830.4888 Fax
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Tuesday, February 25, 2020 8:03 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: data sharing agreement/data layers from NDGF

Chris,

Attached is a data sharing agreement for bald eagle nests within 10 miles of the project. Please sign and email to me, then I will share the data.

We do not have a sharp-tailed grouse census block in this area, therefore do not have any leks documented in our database. However, that does not imply there are not leks within the project area, we simply haven't conducted surveys there in the past.

We are currently awaiting the release of a new native grassland product that the USFWS has developed. It should be available sometime in March. In the meantime, you can reference this layer for native grassland <https://gishubdata.nd.gov/dataset/micro-native-grassland-range>. Again, we will recommend turbines not be sited on native prairie. Particularly, the northern portion of your project area contains large tracts of native prairie, which is habitat for grouse, grassland birds, etc. For example, grassland bird models developed by Niemuth et al. 2017 indicate this area has a high occurrence of Chestnut-collared Longspurs, which is a Level I Species of Conservation Priority for North Dakota.

For whooping crane, we suggest using the spatial layer from Niemuth et al. 2018 and consult with the USFWS, since they have primary authority over endangered species.

I have also attached the manuscripts we are using for impact assessment and recommendations for offsets. The tools are available from USFWS HAPET.

Sandra Johnson
Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 25, 2020 8:02 AM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

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Hi Sandy, I hope all is well. I am checking in on the data request for the Badger Wind Project in Logan and McIntosh counties, not least of which to make sure you received the spatial files of the project boundary (I did not zip them).

For the Whooping Crane desktop, I am looking to confirm that the method at Ruso (and I believe Aurora as well, if I remember correctly) is sufficient. They compared the project area's stopover habitat resources (using Niemuth and The Watershed Institute) to GIS-generated comparison project boundaries in each cardinal direction.

Thanks for your help with this.

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
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480.830.4888 Fax
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Subject: RE: data sharing agreement/data layers from NDGF

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Sandra Johnson
Conservation Biologist

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Chris McCreedy

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Sent: Wednesday, February 12, 2020 4:36 PM

To: 'sajohnson@nd.gov' <sajohnson@nd.gov>

Subject: data sharing agreement/data layers from NDGF

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Chris McCreedy

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GIS DATA SHARING AGREEMENT NORTH DAKOTA GAME AND FISH DEPARTMENT

CRA

CRA

This is to serve as a formal agreement with: ~~Chris McGreevy~~, ATWELL, LLC, ~~Mesa, AZ~~.

The data includes: Bald eagle nest sites within 10 miles of a proposed wind project in Logan and McIntosh Counties.

This data will be used for: To minimize impacts to sensitive species during project development.

It is agreed that:

1. Access to this data or web services will be restricted to the individuals or groups listed in this document.
2. All data provided or access to the web services will be used for these purposes only, and will not be given or sold to anyone not affiliated with these purposes. The information contained hereon is intended for the user and may not be copied, duplicated, or redistributed in any way, in whole or in part, without the written consent of the North Dakota Game and Fish Department. Confidentiality of information continues beyond the term of this agreement, or any extensions or renewals of it.
3. The North Dakota Game and Fish Department provides no guarantee, express or implied, as to the accuracy and/or completeness of the information contained hereon.
4. The user shall provide results of wildlife surveys conducted for the specified project, including on known or newly discovered wildlife features (e.g. golden eagle nest status, sharp-tailed grouse leks), to the North Dakota Game and Fish Department upon project completion. Spatial information must be compatible with ESRI ArcGIS formats.

Signed: [Signature]
North Dakota Game and Fish Department

Date: 2-25-2020

Signed: [Signature]

Date: 2/25/2020

Chris Rutledge
Vice President, Atwell, LLC

Alan Plumeau

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Wednesday, February 26, 2020 7:51 AM
To: Chris McCreedy
Subject: RE: data sharing agreement/data layers from NDGF
Attachments: BaldEagleStatus_Jan2020.shx; BaldEagleStatus_Jan2020.dbf; BaldEagleStatus_Jan2020.prj; BaldEagleStatus_Jan2020.sbn; BaldEagleStatus_Jan2020.sbx; BaldEagleStatus_Jan2020.shp; NDGF Eagle Database Definitions_Jan2020.docx

Good morning,

I think the nest within the project boundary is the nest you discovered last year during your aerial surveys. If you have additional information on this nest to share with me at this time, I would appreciate it.

Let me know if you have any questions.

Thanks!

Sandy

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 25, 2020 12:19 PM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Sandra,

I have attached the signed data sharing agreement. Please note that my supervisor Chris Rutledge signed the agreement to more appropriately represent the company. Thank you for all of your help with this and please let me know if you have additional questions.

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC
602.513.3950 Mobile (best)
480.218.8831 x2503 Tel
480.830.4888 Fax
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Tuesday, February 25, 2020 8:03 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: data sharing agreement/data layers from NDGF

Chris,

Attached is a data sharing agreement for bald eagle nests within 10 miles of the project. Please sign and email to me, then I will share the data.

We do not have a sharp-tailed grouse census block in this area, therefore do not have any leks documented in our database. However, that does not imply there are not leks within the project area, we simply haven't conducted surveys there in the past.

We are currently awaiting the release of a new native grassland product that the USFWS has developed. It should be available sometime in March. In the meantime, you can reference this layer for native grassland <https://gishubdata.nd.gov/dataset/micro-native-grassland-range>. Again, we will recommend turbines not be sited on native prairie. Particularly, the northern portion of your project area contains large tracts of native prairie, which is habitat for grouse, grassland birds, etc. For example, grassland bird models developed by Niemuth et al. 2017 indicate this area has a high occurrence of Chestnut-collared Longspurs, which is a Level I Species of Conservation Priority for North Dakota.

For whooping crane, we suggest using the spatial layer from Niemuth et al. 2018 and consult with the USFWS, since they have primary authority over endangered species.

I have also attached the manuscripts we are using for impact assessment and recommendations for offsets. The tools are available from USFWS HAPET.

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Chris McCreedy <cmccreedy@atwell-group.com>

Sent: Tuesday, February 25, 2020 8:02 AM

To: Johnson, Sandra K. <sajohnson@nd.gov>

Subject: RE: data sharing agreement/data layers from NDGF

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--

Hi Sandy, I hope all is well. I am checking in on the data request for the Badger Wind Project in Logan and McIntosh counties, not least of which to make sure you received the spatial files of the project boundary (I did not zip them).

For the Whooping Crane desktop, I am looking to confirm that the method at Ruso (and I believe Aurora as well, if I remember correctly) is sufficient. They compared the project area's stopover habitat resources (using Niemuth and The Watershed Institute) to GIS-generated comparison project boundaries in each cardinal direction.

Thanks for your help with this.

Sincerely,
Chris

Chris McCreedy

Senior Environmental Consultant

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From: Johnson, Sandra K. [<mailto:sajohnson@nd.gov>]
Sent: Tuesday, February 18, 2020 7:13 AM
To: Chris McCreedy
Subject: RE: data sharing agreement/data layers from NDGF

I'm pretty busy today, tomorrow would work better for me. Or just email me the list and I can reply if we have that specific data or not.
Sandy

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 18, 2020 7:59 AM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

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--

Sure thing! I hope it was a good meeting, I could use a good conference just about now. May I call you later today with a handful of questions? I had a small list for you but I could use some time to track down that list and refresh it in my mind so that I do not omit anything.

Chris

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From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Tuesday, February 18, 2020 6:54 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: data sharing agreement/data layers from NDGF

Hi Chris,

I was attending the ND Chapter of the Wildlife Society Conference last week and did not have a chance to respond to emails. Please send me a shapefile of the latest project boundary and I will query our database for known eagle nests, leks, and other data we discussed during the meeting.

Note: do NOT zip the shapefile, our state email deletes zip files. Either send the shapefile not zipped or if you do zip it, change the extension to ".piz"

Thanks,
Sandy

Sandra Johnson
Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Friday, February 14, 2020 12:39 PM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

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--

Hi Sandra,

I wanted to check on this and I can call if that is more convenient. In summary, we are looking to find out more about the data layers that NDGF can help us with and how we go about setting up a data sharing agreement with your office. Thank you again for your help, it is really appreciated.

Sincerely,
Chris

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www.atwell-group.com

From: Chris McCreedy
Sent: Wednesday, February 12, 2020 4:36 PM
To: 'sajohnson@nd.gov' <sajohnson@nd.gov>
Subject: data sharing agreement/data layers from NDGF

Hi Sandra,

As I wrote yesterday I enjoyed meeting everyone at the meeting for the Badger Wind Project last month. It was such a beautiful day after the meeting and I managed to sneak over to Fort Abraham Lincoln SP across the river in the afternoon and found a Townsend's Solitaire!

During the meeting, we discussed various data layers NDGF has developed that will help us at this stage of the project. Bald Eagle nests, other raptor nests, leks (if lek data were available), waterfowl, unbroken grassland/native prairie, and perhaps Whooping Crane data come to mind. Are there others that I am missing that you believe we should be thinking about?

I believe the next step would be for us to create a data sharing agreement with your agency, is that correct? I suspect that you will need spatial data files of the project boundary from us, and can you let me know what else I can provide to you to help get that process rolling?

Thank you,
Chris McCreedy

Chris McCreedy
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Alan Plumeau

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, February 26, 2020 11:36 AM
To: Chris McCreedy
Subject: RE: Badger Wind Project - Jan 28 Meeting Minutes Draft

Hi Chris,

After some internal discussions, the Department does still feel it is of value to recommend developers do lek surveys, especially when a project boundary includes a noteworthy amount of unbroken habitats (as the Badger project does). We are happy to discuss this further as the project develops, but I wanted to send this in to make sure the meeting minutes reflects this recommendation correctly.

Thanks!

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 25, 2020 4:51 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov
Cc: Kading, Kevin J. <kkading@nd.gov>; Schultz, Renae J. <rjschultz@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Jon Baker <jbaker@lincolnclean.com>; Emily Cooper <ecooper@atwell-group.com>; drew_becker@fws.gov
Subject: RE: Badger Wind Project - Jan 28 Meeting Minutes Draft

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Hi everyone,

I would like to send out a last call for edits and comments on the Badger Wind Project's draft January 28 meeting minutes, which I have re-attached for your convenience. I would like to finalize the minutes by Thursday Feb. 27th and will send them to all recipients in a .pdf file at the end of the day Thursday.

Thank you again,
Chris

Chris McCreedy
Senior Environmental Consultant
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From: Chris McCreedy
Sent: Tuesday, February 11, 2020 9:13 PM

To: 'Mueller, Elisha K.' <ekmueller@nd.gov>; 'heidi_riddle@fws.gov' <heidi_riddle@fws.gov>
Cc: 'kkading@nd.gov' <kkading@nd.gov>; Schultz, Renae J. <rjschultz@nd.gov>; 'sajohnson@nd.gov' <sajohnson@nd.gov>; 'Jon Baker' <jbaker@lincolnclean.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: Badger Wind Project - Jan 28 Meeting Minutes Draft

Elisha and Heidi,

Thank you again for taking the time to host our project introduction meeting for Badger Wind. It was useful for us to have the opportunity to hear your suggestions and concerns, and we are grateful.

I have attached a draft of the meeting minutes for your review. I am hopeful to get your comments on the draft back by Friday, February 21, and I will deliver the final version back to you shortly afterward. If I may ask, would you please forward the draft minutes to Steve and Drew as well? I do not appear to have their addresses and I want to make sure that they also receive the draft minutes.

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
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Alan Plumeau

From: Chris McCreedy
Sent: Thursday, February 27, 2020 7:18 AM
To: 'Johnson, Sandra K.'
Subject: RE: data sharing agreement/data layers from NDGF
Attachments: Badger Wind 2019 Bald Eagle and Ferruginous Hawk Nest Locations.xlsx

Hi Sandy, thanks for sending this information. It does look to be the same Bald Eagle nest. I have attached the coordinates and status for the Bald Eagle nest that we found, as well as four Ferruginous Hawk nest locations. Each was in-use with an adult that was incubating or perhaps brooding small chicks, we did not flush the adults to view nest contents.

Thank you again,
Chris

Chris McCreedy
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From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Wednesday, February 26, 2020 7:51 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: data sharing agreement/data layers from NDGF

Good morning,
I think the nest within the project boundary is the nest you discovered last year during your aerial surveys. If you have additional information on this nest to share with me at this time, I would appreciate it.
Let me know if you have any questions.
Thanks!
Sandy

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 25, 2020 12:19 PM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

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Hi Sandra,

I have attached the signed data sharing agreement. Please note that my supervisor Chris Rutledge signed the agreement to more appropriately represent the company. Thank you for all of your help with this and please let me know if you have additional questions.

Sincerely,
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Chris McCreedy

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From: Johnson, Sandra K. <sajohnson@nd.gov>

Sent: Tuesday, February 25, 2020 8:03 AM

To: Chris McCreedy <cmccreedy@atwell-group.com>

Subject: RE: data sharing agreement/data layers from NDGF

Chris,

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We do not have a sharp-tailed grouse census block in this area, therefore do not have any leks documented in our database. However, that does not imply there are not leks within the project area, we simply haven't conducted surveys there in the past.

We are currently awaiting the release of a new native grassland product that the USFWS has developed. It should be available sometime in March. In the meantime, you can reference this layer for native grassland <https://gishubdata.nd.gov/dataset/micro-native-grassland-range>. Again, we will recommend turbines not be sited on native prairie. Particularly, the northern portion of your project area contains large tracts of native prairie, which is habitat for grouse, grassland birds, etc. For example, grassland bird models developed by Niemuth et al. 2017 indicate this area has a high occurrence of Chestnut-collared Longspurs, which is a Level I Species of Conservation Priority for North Dakota.

For whooping crane, we suggest using the spatial layer from Niemuth et al. 2018 and consult with the USFWS, since they have primary authority over endangered species.

I have also attached the manuscripts we are using for impact assessment and recommendations for offsets. The tools are available from USFWS HAPET.

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 25, 2020 8:02 AM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

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Hi Sandy, I hope all is well. I am checking in on the data request for the Badger Wind Project in Logan and McIntosh counties, not least of which to make sure you received the spatial files of the project boundary (I did not zip them).

For the Whooping Crane desktop, I am looking to confirm that the method at Ruso (and I believe Aurora as well, if I remember correctly) is sufficient. They compared the project area's stopover habitat resources (using Niemuth and The Watershed Institute) to GIS-generated comparison project boundaries in each cardinal direction.

Thanks for your help with this.

Sincerely,
Chris

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From: Johnson, Sandra K. [<mailto:sajohnson@nd.gov>]
Sent: Tuesday, February 18, 2020 7:13 AM
To: Chris McCreedy
Subject: RE: data sharing agreement/data layers from NDGF

I'm pretty busy today, tomorrow would work better for me. Or just email me the list and I can reply if we have that specific data or not.
Sandy

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Tuesday, February 18, 2020 7:59 AM
To: Johnson, Sandra K. <sajohnson@nd.gov>
Subject: RE: data sharing agreement/data layers from NDGF

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Chris

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From: Johnson, Sandra K. <sajohnson@nd.gov>

Sent: Tuesday, February 18, 2020 6:54 AM

To: Chris McCreedy <cmccreedy@atwell-group.com>

Subject: RE: data sharing agreement/data layers from NDGF

Hi Chris,

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Note: do NOT zip the shapefile, our state email deletes zip files. Either send the shapefile not zipped or if you do zip it, change the extension to ".piz"

Thanks,

Sandy

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Chris McCreedy <cmccreedy@atwell-group.com>

Sent: Friday, February 14, 2020 12:39 PM

To: Johnson, Sandra K. <sajohnson@nd.gov>

Subject: RE: data sharing agreement/data layers from NDGF

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Hi Sandra,

I wanted to check on this and I can call if that is more convenient. In summary, we are looking to find out more about the data layers that NDGF can help us with and how we go about setting up a data sharing agreement with your office. Thank you again for your help, it is really appreciated.

Sincerely,
Chris

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From: Chris McCreedy

Sent: Wednesday, February 12, 2020 4:36 PM

To: 'sajohnson@nd.gov' <sajohnson@nd.gov>

Subject: data sharing agreement/data layers from NDGF

Hi Sandra,

As I wrote yesterday I enjoyed meeting everyone at the meeting for the Badger Wind Project last month. It was such a beautiful day after the meeting and I managed to sneak over to Fort Abraham Lincoln SP across the river in the afternoon and found a Townsend's Solitaire!

During the meeting, we discussed various data layers NDGF has developed that will help us at this stage of the project. Bald Eagle nests, other raptor nests, leks (if lek data were available), waterfowl, unbroken grassland/native prairie, and perhaps Whooping Crane data come to mind. Are there others that I am missing that you believe we should be thinking about?

I believe the next step would be for us to create a data sharing agreement with your agency, is that correct? I suspect that you will need spatial data files of the project boundary from us, and can you let me know what else I can provide to you to help get that process rolling?

Thank you,
Chris McCreedy

Chris McCreedy

Senior Environmental Consultant

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Alan Plumeau

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Friday, March 20, 2020 7:27 AM
To: Chris McCreedy
Cc: Johnson, Sandra K.
Subject: RE: status of ND grassland habitat decision support tool

Hi Chris,

Due to the circumstances, we, as well as many of our partners, have been working remotely, making coordination quite difficult.

I have cc'ed Sandy on this email, she will be able to get in touch with you when she is able to share the layer.

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, March 19, 2020 6:14 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Subject: RE: status of ND grassland habitat decision support tool

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Hi Elisha,

I am just checking in on the grassland tool. I apologize on asking so frequently for it, you guys must be slammed trying to negotiate scheduling and logistics and heavens knows what else because of the virus.

Thanks for your help!

Chris

Chris McCreedy
Senior Environmental Consultant
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www.atwell-group.com

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Thursday, March 12, 2020 9:39 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: status of ND grassland habitat decision support tool

Hi Chris,

We had expected to have it sooner but Sandy just recently received the file. We will need to discuss how we are able to share and will be back in touch with you as soon as we learn more.

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Wednesday, March 11, 2020 1:34 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Subject: status of ND grassland habitat decision support tool

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Hi Elisha,

I hope you are doing well. I am checking in on the grassland habitat tool, do you have an update on its availability?

Thanks!

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

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CALL SUMMARY

Project: **Badger Wind**
Logan and McIntosh counties, North Dakota
Ørsted Onshore North America, LLC (formerly Lincoln Clean Energy)

Host/Organizer: Chris McCreedy, Atwell LLC (Atwell)

Meeting Date: April 3, 2020

Purpose: **Aerial Survey Safety Discussion**

Attendees

- Elisha Mueller (EM), Conservation Biologist, North Dakota Game and Fish Department (NDGF)
- Heidi Riddle (HR), Fish Wildlife Biologist, U.S. Fish and Wildlife Service (USFWS)
- Emily Cooper (EC), Senior Project Manager, Atwell
- Chris McCreedy (CM), Senior Environmental Consultant, Atwell

Call Summary

The second year of aerial nesting raptor and Sharp-tailed Grouse lek surveys are scheduled to be conducted at the Badger Wind project from April 17-20, 2020. Given a) health concerns regarding transmission and spread of the COVID-19 virus and b) safety concerns stemming from recent fatalities that occurred during nesting raptor surveys at wind facilities in nearby states, Atwell requested NDGF and USFWS input on whether a hybrid aerial survey and ground-based survey approach in 2020 could adequately meet the goals and expectations for year 2 pre-construction raptor nest and lek surveys for Badger Wind.

HR noted that safety is highest priority and should be taken into consideration while considering survey approaches. HR noted that recent survey guidance released by the USFWS Region 6 places safety at the top of the list.

EM seconded the importance of safety and added that Atwell should consider safety first and follow guidelines the best it can under these circumstances. HR and EM voiced acceptance of a hybrid survey that would utilize a ground-based approach combined with a scaled-back aerial survey strategy, with the aerial survey focusing on areas within the survey area that lack roads,

and which cannot be easily accessed during ground-based surveys. EC remarked that given that it is April already Atwell will not have time to send a study plan to the agencies prior to this month's surveys, but that Atwell will share the study plan as quickly as it can. EM and HR accepted this and reiterated that the project team should do their best to collect the best data they can under these unusual circumstances.

From: [Chris McCreedy](#)
To: ["Mueller, Elisha K.";](#) ["heidi_riddle@fws.gov";](#) [Chris McCreedy](#)
Cc: [Emily Cooper;](#) [Johnson, Sandra K.](#)
Subject: Badger Wind: Aerial Survey Safety Call

Call to discuss safety concerns for aerial raptor nest surveys at the Badger Wind project. Dial in and passcode above.

Chris

From: [Riddle, Heidi L](#)
To: [Chris McCreedy](#); [Mueller, Elisha K.](#)
Cc: [Emily Cooper](#)
Subject: RE: [EXTERNAL] for your review - Badger Wind Apr 3 survey safety call summary
Date: Tuesday, April 7, 2020 2:00:02 PM

Looks good to me. Thanks for scheduling the call on this.

Heidi

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Monday, April 6, 2020 6:52 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Emily Cooper <ecooper@atwell-group.com>
Subject: [EXTERNAL] for your review - Badger Wind Apr 3 survey safety call summary

Heidi and Elisha,

Thank you again for joining us on the call last week to discuss safety concerns for our pre-construction surveys at Badger Wind. We are grateful for your perspective and for making time for the call on short notice. I have attached a call summary for our phone meeting for your review, and I would be happy to incorporate your comments if my notes are incomplete.

Chris

Chris McCreedy
Senior Environmental Consultant
[ATWELL, LLC](#)

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From: [Riddle, Heidi L](#)
To: [Chris McCreedy](#)
Subject: RE: [EXTERNAL] Safety precautions for aerial surveys this spring at Badger Wind
Date: Thursday, April 2, 2020 12:59:51 PM

Hi Chris,

I could be available most times tomorrow afternoon from 1-5.

Thank you,
Heidi

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, April 2, 2020 11:13 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>
Subject: [EXTERNAL] Safety precautions for aerial surveys this spring at Badger Wind

Elisha, Sandy, and Heidi,

Good morning. I suspect that like us you may be working at home. I am writing to request if you can attend a group call this afternoon or if necessary tomorrow to discuss the items below. Please feel free to suggest a few times, I will gladly make myself available at any time you suggest and once I have suggestions I will send out an invite.

We are working through circumstances regarding safety concerns for our aerial nesting raptor and lek surveys and I would be grateful for your input. The first revolves around corona virus; the need to fly in an enclosed space for several hours with our pilot is a health concern given the corona virus outbreak's spread and transmission. It is something that we have been preparing for and working through as we approach the survey window. A second concern is there have been recent accidents during aerial nesting raptor surveys. I am aware of two, one last month in Illinois and one this week in Iowa. The second incident has prompted us to take step back and evaluate these concerns.

We completed the project's first year of aerial nesting raptor surveys last spring and located 1 occupied active BAEA nest during the surveys. Our biologist that has been conducting ongoing eagle use point count surveys on the ground is already aware that the BAEA pair is present and is constructing a new nest nearby this spring. He was also able to locate multiple Ferruginous Hawks last year just in the course of his point count surveys and already knows of two this spring. For leks, we conducted an aerial survey of the entire project last year. After some discussion on the need for aerial lek surveys in 2020 we decided on flying focus areas with higher probability of leks.

Given ongoing safety concerns we are interested in your views on using a ground-based approach this April for our second year of surveys. I want to emphasize that we are prepared to conduct aerial surveys if needed; we have a pilot ready to go and are tentatively scheduled to fly our surveys in the April 17-20 window this month.

Also, Sandy, Sean Fields sent us the PUDL spatial data last night – thanks!

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

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From: [Mueller, Elisha K.](#)
To: [Chris McCreedy](#); heidi_riddle@fws.gov
Cc: [Emily Cooper](#)
Subject: RE: for your review - Badger Wind Apr 3 survey safety call summary
Date: Tuesday, April 7, 2020 9:53:11 AM

Hi Chris,

It looks good to me. Thanks for sharing.

Stay safe & healthy!

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Monday, April 6, 2020 6:52 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov
Cc: Emily Cooper <ecooper@atwell-group.com>
Subject: for your review - Badger Wind Apr 3 survey safety call summary

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Heidi and Elisha,

Thank you again for joining us on the call last week to discuss safety concerns for our pre-construction surveys at Badger Wind. We are grateful for your perspective and for making time for the call on short notice. I have attached a call summary for our phone meeting for your review, and I would be happy to incorporate your comments if my notes are incomplete.

Chris

Chris McCreedy
Senior Environmental Consultant
[ATWELL, LLC](#)

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file with Atwell and can be provided upon request.

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From: [Mueller, Elisha K.](#)
To: [Chris McCreedy](#)
Subject: RE: Safety precautions for aerial surveys this spring at Badger Wind
Date: Thursday, April 2, 2020 12:36:40 PM

Hi Chris,

The Department is supportive of ground based lek surveys, which typically produce a more accurate count than aerial surveys anyways. As for eagle nests, we would support any decision USFWS makes on the matter.

I am able to join in on a call tomorrow if you get a conference call set up. Just send over the time & call-in information.

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, April 2, 2020 11:13 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; heidi_riddle@fws.gov
Subject: Safety precautions for aerial surveys this spring at Badger Wind

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Elisha, Sandy, and Heidi,

Good morning. I suspect that like us you may be working at home. I am writing to request if you can attend a group call this afternoon or if necessary tomorrow to discuss the items below. Please feel free to suggest a few times, I will gladly make myself available at any time you suggest and once I have suggestions I will send out an invite.

We are working through circumstances regarding safety concerns for our aerial nesting raptor and lek surveys and I would be grateful for your input. The first revolves around corona virus; the need to fly in an enclosed space for several hours with our pilot is a health concern given the corona virus outbreak's spread and transmission. It is something that we have been preparing for and working through as we approach the survey window. A second concern is there have been recent accidents during aerial nesting raptor surveys. I am aware of two, one last month in Illinois and one this week in Iowa. The second incident has prompted us to take step back and evaluate these concerns.

We completed the project's first year of aerial nesting raptor surveys last spring and located 1 occupied active BAEA nest during the surveys. Our biologist that has been conducting ongoing eagle use point count surveys on the ground is already aware that the BAEA pair is present and is constructing a new nest nearby this spring. He was also able to locate multiple Ferruginous Hawks last year just in the course of his point count surveys and already knows of two this spring. For leks, we conducted an aerial survey of the entire project last year. After some discussion on the

need for aerial lek surveys in 2020 we decided on flying focus areas with higher probability of leks.

Given ongoing safety concerns we are interested in your views on using a ground-based approach this April for our second year of surveys. I want to emphasize that we are prepared to conduct aerial surveys if needed; we have a pilot ready to go and are tentatively scheduled to fly our surveys in the April 17-20 window this month.

Also, Sandy, Sean Fields sent us the PUDL spatial data last night – thanks!

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
[ATWELL, LLC](#)

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Travis Apfel

From: Maureen O'Shea-Stone
Sent: Friday, November 6, 2020 7:53 PM
To: Mueller, Elisha K.; heidi_riddle@fws.gov; Johnson, Sandra K.; Dyke, Steve R.; Link, Greg W.
Cc: Tara Corbett; Chris McCreedy; Emily Cooper
Subject: Badger Wind Project - Grassland Assessment and Project Update

Elisha:

Thank you for meeting with us via Zoom on Friday, October 30, 2020, as well as providing your feedback to this memo on Monday, November 2, 2020 (incorporated in text, below). Sandra Johnson provided a link to the download a file named NDGF Grassland Analysis.zip (the description of the file is as follows: NDGF Native/Unbroken Grassland Analysis. Base Raster Layers 2008 and 2014).

Your feedback and information provided are most helpful. We are providing the following list of understanding points from our conversations, as well as action items we will complete to address this issue.

Understanding Points:

- 1) The Public Service Commission (PSC) requests input on wind projects from approximately 30 different state and federal agencies, including NDGF. NDGF evaluates the impacts of a wind project on wildlife and wildlife habitat using grassland nesting birds and waterfowl as indicator species.
- 2) You kindly provided us with contact information for Chuck Loesch, USFWS HAPET, to obtain the Local Siting Decision Support Tool (DST) used in the wetland/waterfowl impact analysis.
- 3) The grassland bird analysis depends on a quantitative estimate of impacts to unbroken grassland based on Shaffer et al. 2013 and Shaffer et al. 2019. This category of grassland includes pasture lands and hayfields, as long as they are unbroken.
- 4) The NDGFD's native grassland range datasets, based on the native grassland layer, will be the basis for the estimated impacts to grassland birds. The focus of the analysis will be impacts to unbroken grassland.
- 5) Evidence of tillage (breaking) can be integrated into the delineation of unbroken grassland. This evidence would comprise rock piling, visible furrows, or other physical indications of tilling. Land use history, in terms of past cropping in specific areas can also be collected and presented.

Given this, we propose the following action items:

- 1) Re-run the grassland assessment analysis, integrating our understanding of what types of grasslands can be considered unbroken, in order to provide additional information regarding tilling (breaking) in specific land areas within the preliminary construction easement for the project.

- 2) The grassland analysis will be conducted as a progressive discrimination exercise starting with the NDGF native grassland layer (raster layer obtained from Sandra Johnson on , over-laid with the Prairie Pothole Joint Venture PUDL dataset (which we understand from our previous meeting is considered a more refined delineation of unbroken grassland). We will then overlay this with our aerial photography interpretation analysis of the PUDL dataset. Finally, the results of our field verification effort, in terms of visible evidence of tillage will be overlaid on these results. The ultimate goal would be to provide you with additional information regarding past tilling to add to your delineation of unbroken grassland.
- 3) The results of this analysis will be forwarded to you for review. We anticipate we will be able to complete this and return to you next week.
- 4) We propose we convene for a conversation about the data and potential updates to what is considered unbroken (untilled) grassland in the proposed project area. Hopefully this can occur soon after your review our analysis.
- 5) Upon your acceptance, or editing, of this dataset, we will run a draft impact analysis as you described: using the Schaffer paper methods to estimate impacts to grassland birds as well as integrating the results of the Local Siting Decision Support Tool (DST) for estimating impacts to waterfowl. This will be forwarded for your review.
- 6) We anticipate a meeting can then be joined to discuss potential impacts, potential siting changes, and potential offset calculations and details, prior to your delivery of the impact assessment report to PSC.

Thank you again for your time and most helpful explanations.

All the best,
Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: [Emily Cooper](#)
To: [Maureen O'Shea-Stone](#); [Tara Corbett](#)
Cc: [Chris McCreedy](#)
Subject: FW: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling
Date: Wednesday, October 28, 2020 4:17:32 PM

Maureen, Tara –

Chris sent the grassland report today – sorry; we had a miscommunication about who would be in copy so we were not included, but he got a reply.

Please see Elisha's reply below.

Emily Cooper

ATWELL, LLC

3000 Center Green Drive | Suite 210 | Boulder, CO 80301
978.273.3275 Tel

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Wednesday, October 28, 2020 4:13 PM
To: Emily Cooper <ecooper@atwell-group.com>
Subject: FW: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

fyi

Chris McCreedy
Senior Environmental Consultant
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4700 E. Southern Avenue | Mesa, AZ 85206
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From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, October 28, 2020 1:27 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>; Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

Hi Chris,

I have not gone through your document with a fine tooth comb, but would like to point out that unbroken grasslands are grasslands that **have not been plowed**. Undesirable species nor haying and grazing mean the grassland is disturbed. Actually quite the contrary, as our grasslands have evolved

with and are dependent upon defoliation (grazing, fire, etc.). The majority of pasture in North Dakota is unbroken grassland. Per the notes from our January 28, 2020 meeting, *"Atwell asked to confirm the current definition of unbroken grassland, since the terminology and definitions have been evolving. NDGF replied that the definition they are using is that unbroken grassland is grassland that has not been plowed. They are discouraging efforts to try to classify "high quality" or "native" grassland as not worthwhile, and are focusing instead on the unbroken classification as the conservation priority."* This report appears to do the exact opposite of what was discussed. We indicated at that meeting there is a considerable amount of native prairie/unbroken grassland in the northeast portion of the project area and it appears that is where numerous turbines will be sited. As currently presented, the Department has large concerns and recommends re-visiting this analysis based on the information provided in the January meeting.

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Wednesday, October 28, 2020 1:18 PM
To: Riddle, Heidi L <heidi_riddle@fws.gov>; Mueller, Elisha K. <ekmueller@nd.gov>
Subject: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

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Hi Elisha and Heidi,

It has been a strange year, I hope you are hanging in there. My grandparents live in Grand Forks, and I definitely worry about them with the high Covid infection rate I am hearing about up there. I hope that you and your families are safe and healthy.

Our studies have continued and are going well. Please find attached the results of the Grassland Assessment undertaken for the Badger Wind Project. If possible, we would like to schedule a remote meeting with you to provide an update on the project and to discuss findings of studies undertaken for the project to date. These include ongoing avian studies as well as the attached grassland assessment. We would especially like to get your feedback on the grassland assessment and discuss how this pertains to project siting. Would the NDGF and USFWS be available for a conference call in the coming weeks? At the moment, our team has availability the weeks of November 9 and November 16, with the exception of November 17th and 18th. I can generate a Doodle poll again if that is your preferred way to schedule a call.

Sincerely,
Chris McCreedy

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

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From: [Mueller, Elisha K.](#)
To: [Chris McCreedy](#)
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling
Date: Friday, October 30, 2020 7:48:50 AM

Hi Chris,

I would have time to jump on a call today before 1pm.

Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, October 29, 2020 4:25 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>; Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

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Elisha –

Thank you for the quick response. This is incredibly helpful feedback. We collected the data we need to analyze in order to adjust the report and address your concerns effectively. I am adding our lead botanist, Maureen, into copy as well. Would you by any chance be available for a brief call this week with Maureen and I, so that we can confirm we are on the right track before we start adjusting the report?

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

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From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, October 28, 2020 1:27 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>; Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W.

<glink@nd.gov>

Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

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Elisha

From: Chris McCreedy <cmccreedy@atwell-group.com>

Sent: Wednesday, October 28, 2020 1:18 PM

To: Riddle, Heidi L <heidi_riddle@fws.gov>; Mueller, Elisha K. <ekmueller@nd.gov>

Subject: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

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Hi Elisha and Heidi,

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Our studies have continued and are going well. Please find attached the results of the Grassland Assessment undertaken for the Badger Wind Project. If possible, we would like to schedule a remote meeting with you to provide an update on the project and to discuss findings of studies undertaken for the project to date. These include ongoing avian studies as well as the attached grassland assessment. We would especially like to get your feedback on the grassland assessment and discuss how this pertains to project siting. Would the NDGF and USFWS be available for a conference call in the coming weeks? At the moment, our team has availability the weeks of November 9 and November 16, with the exception of November 17th and 18th. I can generate a Doodle poll again if that is your preferred way to schedule a call.

Sincerely,
Chris McCreedy

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From: [Mueller, Elisha K.](#)
To: [Chris McCreedy](#); [Maureen O'Shea-Stone](#)
Subject: RE: Badger Wind grassland assessment call
Date: Friday, October 30, 2020 1:19:34 PM

Hi folks,

Chuck Loesch, USFWS HAPET, would be your best contact for moving forward with a wetland/waterfowl impact analysis. The model I mentioned is their Local Siting Decision Support Tool (DST) and he should be able to provide that for you. He can be reached at chuck_loesch@fws.gov.

Elisha

-----Original Appointment-----

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Friday, October 30, 2020 10:52 AM
To: Mueller, Elisha K.; Maureen O'Shea-Stone
Subject: Badger Wind grassland assessment call
When: Friday, October 30, 2020 12:00 PM-12:30 PM (UTC-06:00) Central Time (US & Canada).
Where: Microsoft Teams Meeting

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Call to discuss Badger Wind Project's grassland assessment report. 12 Central/11 Mountain/10 AZ.

Elisha, I have set up a Microsoft Teams meeting (see link below). Please let me know if the Teams platform will not work and I can track down a conference phone line. Thank you again for speaking to us on short notice.

Chris

[Join Microsoft Teams Meeting](#)

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From: [Mueller, Elisha K.](#)
To: [Maureen O'Shea-Stone](#); heidi_riddle@fws.gov; [Johnson, Sandra K.](#); [Dyke, Steve R.](#); [Link, Greg W.](#)
Cc: [Tara Corbett](#); [Chris McCreedy](#); [Emily Cooper](#)
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling
Date: Monday, November 2, 2020 9:35:59 AM

I made a few edits below. Sandy Johnson is our GIS guru though, and if there is anything I may have missed on the GIS/impact analysis, she may jump in.

Thanks.

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Friday, October 30, 2020 7:29 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

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Elisha:

Thank you so much for your time this morning. Your feedback and information are most helpful. We are providing the following list of understanding points and action items from our discussion, just to make sure we adjourned our call on the same page.

Understanding Points:

1. NDGFD is responsible for conducting an analysis of the potential impacts of the project on wetland/waterfowl species, as well as grassland birds, and reports these results to the PUC.

The Public Service Commission (PSC) requests input on wind projects from approximately 30 different state and federal agencies, including NDGF. We evaluate the impacts of a wind project on wildlife and wildlife habitat using grassland nesting birds and waterfowl as indicator species.

2. You kindly provided us with contact information for Chuck Loesch, USFWS HAPET, to obtain the Local Siting Decision Support Tool (DST) used in the wetland/waterfowl impact analysis.
3. The grassland bird analysis depends on a quantitative estimate of surface impacts to unbroken grassland based on Shaffer et al. 2013 & Shaffer et al. 2019. This category of grassland includes pasture lands and hayfields, as long as they are unbroken.

4. The NDGFD's native grassland range datasets, based on the native grassland layer, will be the basis for the estimated impacts to grassland birds. The focus of the analysis will be impacts to unbroken grassland.
5. Evidence of tillage (breaking) can be integrated into the delineation of unbroken grassland. This evidence would comprise rock piling, visible furrows, or other physical indications of tilling. Land use history, in terms of past cropping in specific areas can also be collected and presented.

Given this, we propose the following action items:

1. Re-run the grassland assessment analysis, integrating our understanding of what types of grasslands can be considered unbroken, in order to provide additional information regarding tilling (breaking) in specific land areas within the preliminary construction easement for the project.
2. The grassland analysis will be conducted as a progressive discrimination exercise starting with the NDGFD native grassland layer, over-laid with the Prairie Pothole Joint Venture PUDL dataset (which we understand from our previous meeting is considered a more refined delineation of unbroken grassland). We will then overlay this with our aerial photography interpretation analysis of the PUDL dataset. Finally, the results of our field verification effort, in terms of visible evidence of tillage will be overlaid on these results. The ultimate goal would be to provide you with additional information regarding past tilling to add to your delineation of unbroken grassland.
3. The results of this analysis will be forwarded to you for review. We anticipate we will be able to complete this and return to you next week.
4. Upon your acceptance, or editing, of this dataset, we will run a draft impact analysis as you described: using the Schaffer paper methods to estimate impacts to grassland birds as well as integrating the results of the Local Siting Decision Support Tool (DST) for estimating impacts to waterfowl. This will be forwarded for your review.
5. We anticipate a meeting can then be joined to discuss potential impacts, potential siting changes, and potential offset calculations and details, prior to your delivery of the impact assessment report to PSC.

Thank you again for your time and most helpful explanations.

All the best,

Maureen

Maureen O'Shea-Stone

Botanist/Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Mueller, Elisha K. <ekmueller@nd.gov>

Sent: Wednesday, October 28, 2020 1:27 PM

To: Chris McCreedy <cmccreedy@atwell-group.com>; Riddle, Heidi L <heidi_riddle@fws.gov>

Cc: Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>

Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

Hi Chris,

I have not gone through your document with a fine tooth comb, but would like to point out that unbroken grasslands are grasslands that **have not been plowed**. Undesirable species nor haying and grazing mean the grassland is disturbed. Actually quite the contrary, as our grasslands have evolved with and are dependent upon defoliation (grazing, fire, etc.). The majority of pasture in North Dakota is unbroken grassland. Per the notes from our January 28, 2020 meeting, *"Atwell asked to confirm the current definition of unbroken grassland, since the terminology and definitions have been evolving. NDGF replied that the definition they are using is that unbroken grassland is grassland that has not been plowed. They are discouraging efforts to try to classify "high quality" or "native" grassland as not worthwhile, and are focusing instead on the unbroken classification as the conservation priority."* This report appears to do the exact opposite of what was discussed. We indicated at that meeting there is a considerable amount of native prairie/unbroken grassland in the northeast portion of the project area and it appears that is where numerous turbines will be sited. As currently presented, the Department has large concerns and recommends re-visiting this analysis based on the information provided in the January meeting.

Elisha

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Alan Plumeau

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Monday, November 2, 2020 9:55 AM
To: Mueller, Elisha K.; Maureen O'Shea-Stone; heidi_riddle@fws.gov; Dyke, Steve R.; Link, Greg W.
Cc: Tara Corbett; Chris McCreedy; Emily Cooper
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling
Attachments: RE: data sharing agreement/data layers from NDGF

Please reconsider the attached email I sent to Chris McCreedy in Feb 2020.

I currently cannot access my desktop computer but hopefully tomorrow I can send our base raster layer for native prairie (a.k.a. unbroken grassland). Note the native prairie micro layer (per attached email) is a product of our base raster layer and is publicly available on the GIS Hub.

Thanks,
Sandy

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Monday, November 2, 2020 10:35 AM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdylke@nd.gov>; Link, Greg W. <glink@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

I made a few edits below. Sandy Johnson is our GIS guru though, and if there is anything I may have missed on the GIS/impact analysis, she may jump in.

Thanks.

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Friday, October 30, 2020 7:29 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdylke@nd.gov>; Link, Greg W. <glink@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

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Elisha:

Thank you so much for your time this morning. Your feedback and information are most helpful. We are providing the following list of understanding points and action items from our discussion, just to make sure we adjourned our call on the same page.

Understanding Points:

- 1) NDGFD is responsible for conducting an analysis of the potential impacts of the project on wetland/waterfowl species, as well as grassland birds, and reports these results to the PUC.
The Public Service Commission (PSC) requests input on wind projects from approximately 30 different state and federal agencies, including NDGF. We evaluate the impacts of a wind project on wildlife and wildlife habitat using grassland nesting birds and waterfowl as indicator species.
- 2) You kindly provided us with contact information for Chuck Loesch, USFWS HAPET, to obtain the Local Siting Decision Support Tool (DST) used in the wetland/waterfowl impact analysis.
- 3) The grassland bird analysis depends on a quantitative estimate of ~~surface~~ impacts to unbroken grassland based on Shaffer et al. 2013 & Shaffer et al. 2019. This category of grassland includes pasture lands and hayfields, as long as they are unbroken.
- 4) The NDGFD's native grassland range datasets, based on the native grassland layer, will be the basis for the estimated impacts to grassland birds. The focus of the analysis will be impacts to unbroken grassland.
- 5) Evidence of tillage (breaking) can be integrated into the delineation of unbroken grassland. This evidence would comprise rock piling, visible furrows, or other physical indications of tilling. Land use history, in terms of past cropping in specific areas can also be collected and presented.

Given this, we propose the following action items:

- 1) Re-run the grassland assessment analysis, integrating our understanding of what types of grasslands can be considered unbroken, in order to provide additional information regarding tilling (breaking) in specific land areas within the preliminary construction easement for the project.
- 2) The grassland analysis will be conducted as a progressive discrimination exercise starting with the NDGFD native grassland layer, over-laid with the Prairie Pothole Joint Venture PUDL dataset (which we understand from our previous meeting is considered a more refined delineation of unbroken grassland). We will then overlay this with our aerial photography interpretation analysis of the PUDL dataset. Finally, the results of our field verification effort, in terms of visible evidence of tillage will be overlaid on these results. The ultimate goal would be to provide you with additional information regarding past tilling to add to your delineation of unbroken grassland.
- 3) The results of this analysis will be forwarded to you for review. We anticipate we will be able to complete this and return to you next week.
- 4) Upon your acceptance, or editing, of this dataset, we will run a draft impact analysis as you described: using the Schaffer paper methods to estimate impacts to grassland birds as well as integrating the results of the Local Siting Decision Support Tool (DST) for estimating impacts to waterfowl. This will be forwarded for your review.
- 5) We anticipate a meeting can then be joined to discuss potential impacts, potential siting changes, and potential offset calculations and details, prior to your delivery of the impact assessment report to PSC.

Thank you again for your time and most helpful explanations.

All the best,
Maureen

Maureen O'Shea-Stone

Botanist/Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Mueller, Elisha K. <ekmueller@nd.gov>

Sent: Wednesday, October 28, 2020 1:27 PM

To: Chris McCreedy <cmccreedy@atwell-group.com>; Riddle, Heidi L <heidi_riddle@fws.gov>

Cc: Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>

Subject: RE: Badger Wind Project - Grassland Assessment and Project Update Meeting Scheduling

Hi Chris,

I have not gone through your document with a fine tooth comb, but would like to point out that unbroken grasslands are grasslands that **have not been plowed**. Undesirable species nor haying and grazing mean the grassland is disturbed. Actually quite the contrary, as our grasslands have evolved with and are dependent upon defoliation (grazing, fire, etc.). The majority of pasture in North Dakota is unbroken grassland. Per the notes from our January 28, 2020 meeting, *"Atwell asked to confirm the current definition of unbroken grassland, since the terminology and definitions have been evolving. NDGF replied that the definition they are using is that unbroken grassland is grassland that has not been plowed. They are discouraging efforts to try to classify "high quality" or "native" grassland as not worthwhile, and are focusing instead on the unbroken classification as the conservation priority."* This report appears to do the exact opposite of what was discussed. We indicated at that meeting there is a considerable amount of native prairie/unbroken grassland in the northeast portion of the project area and it appears that is where numerous turbines will be sited. As currently presented, the Department has large concerns and recommends re-visiting this analysis based on the information provided in the January meeting.

Elisha

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From: sajohnson@nd.gov
To: [Chris McCreedy](#)
Cc: [Maureen O'Shea-Stone](#); [Tara Corbett](#); [Emily Cooper](#)
Subject: Invitation to Download a File
Date: Wednesday, November 4, 2020 7:42:22 AM

Sandra K. Johnson from the Game and Fish Dept has invited you to download a file named NDGF Grassland Analysis.zip. The description of the file is as follows: NDGF Native/Unbroken Grassland Analysis. Base Raster Layers 2008 and 2014..

You can download the file using the following link: <https://apps.nd.gov/itd/filetransfer/downloadByInvitation.htm?id=1-e6efbcf014be2754fffd8725ecc709fc>

NDGF Base Raster layers for native/unbroken grassland and a pdf describing the methods. Neighborhood statistics layers publicly available on ND GIS Hub.

For security reasons, please do not forward this email to other persons. Doing so may allow unauthorized persons the ability to download the file as well.

This is an automated message. We are not able to respond to messages sent to this address. Please do NOT 'reply' to this message.

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From: [Maureen O'Shea-Stone](#)
To: [Johnson, Sandra K.](#); [Mueller, Elisha K.](#); [Dyke, Steve R.](#); [Riddle, Heidi L.](#); drew_becker@fws.gov
Cc: [Jonathan Baker](#); [Emily Cooper](#); [Tara Corbett](#); [Chris McCreedy](#)
Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020
Date: Monday, December 14, 2020 8:14:11 AM
Attachments: [image001.png](#)

Sandy,

Thank you so much for getting back to us. We certainly appreciate your efforts and look forward to the additional information and guidance.

Best,
Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Monday, December 14, 2020 7:26 AM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Mueller, Elisha K. <ekmueller@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov
Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

Hi Maureen,

I will work on describing the approach we use to evaluate grassland at a local scale. I can't guarantee it will be before the Holidays but will try.

Thanks,
Sandy

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Sent: Wednesday, December 9, 2020 3:22 PM

To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

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On behalf of the Badger Wind Ørsted and Atwell teams, thank you all for your time and engagement in our interesting discussion yesterday. Your input and guidance will prove most helpful for building next-steps for the project.

We appreciate the offer made by Steve Dyke to put-together a formal communication describing the tools and approach you will consider acceptable for evaluating/categorizing grassland habitat in the project vicinity. This will be essential to support project siting refinements. This will also be a critical understanding as to what data source will ultimately be used by NDGF to assess impacts of the proposed project. If this could be provided before the winter holidays, it would be much appreciated.

All the best,
Maureen

Maureen O'Shea-Stone

Project Director

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3000 Center Green Drive | Suite 210 | Boulder, CO 80301

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From: [Mueller, Elisha K.](#)
To: [Emily Cooper](#); [Maureen O'Shea-Stone](#); [Johnson, Sandra K.](#); [Dyke, Steve R.](#); [Riddle, Heidi L.](#); drew_becker@fws.gov
Cc: [Jonathan Baker](#); [Tara Corbett](#); [Chris McCreedy](#)
Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020
Date: Friday, December 18, 2020 9:21:05 AM
Attachments: [image001.png](#)

Hi Emily,

The following edits should be made:

1. The Department recommended using all available tools for analysis. In January, we did not have the PUDL dataset, so we provided our grassland layer in an email from Sandy. (Second bullet on page 2)
2. The Department did not say proof of tillage could be provided by pointing it out on aerials exclusively. Aerial photography can be used as a tool to show discrepancy, but not all cases can be proven broken based on aerial photography alone. The Department brought this issue up on the call, stating there are areas that Atwell identified as broken prairie that the Department does not agree with and further proof would be needed. (Second to last bullet on page 3)
3. The Department has never said any amount of turbines on native prairie is too much or that there is a threshold on how many will be allowed. The Department only makes recommendations. It is the Public Service Commission that permits a project and it is them who decides whether a project has too many environmental impacts. The Department did share major concerns with the number of turbines placed on native prairie, concerns which we will share with PSC prior to a hearing. The Department also shared an estimate of the number of turbines that have broken native prairie over the last few years (approximately 5, with most projects moving all turbines off native prairie). (Top of page 4).

Thanks!
Elisha

From: Emily Cooper <ecooper@atwell-group.com>
Sent: Monday, December 14, 2020 5:03 PM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Johnson, Sandra K. <sajohnson@nd.gov>; Mueller, Elisha K. <ekmueller@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov
Cc: Jonathan Baker <JONBA@orsted.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

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Hi everyone –

Seconding Maureen's thanks – that will be a big help and we appreciate the guidance.

I am attaching draft meeting notes from the December 8 meeting. Please let us know if you have any edits or additions you would like us to incorporate.

Thank you!

Emily

Emily Cooper

ATWELL, LLC

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

978.273.3275 Tel

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Sent: Monday, December 14, 2020 8:14 AM

To: Johnson, Sandra K. <sajohnson@nd.gov>; Mueller, Elisha K. <ekmueller@nd.gov>; Dyke, Steve R. <sdylke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

Sandy,

Thank you so much for getting back to us. We certainly appreciate your efforts and look forward to the additional information and guidance.

Best,

Maureen

Maureen O'Shea-Stone

Project Director

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From: Johnson, Sandra K. <sajohnson@nd.gov>

Sent: Monday, December 14, 2020 7:26 AM

To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Mueller, Elisha K.

<ekmueller@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

Hi Maureen,

I will work on describing the approach we use to evaluate grassland at a local scale. I can't guarantee it will be before the Holidays but will try.

Thanks,

Sandy

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Sent: Wednesday, December 9, 2020 3:22 PM

To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

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All the best,

Maureen

Maureen O'Shea-Stone

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Alan Plumeau

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Thursday, January 7, 2021 3:30 PM
To: Chris McCreedy; Maureen O'Shea-Stone; Emily Cooper
Cc: Johnson, Sandra K.; Dyke, Steve R.; Riddle, Heidi L
Subject: Guidance and Clarification
Attachments: Badger guidance letter.pdf; NDGF Approach to Identifying Grassland_Dec2020_DRAFT (002).pdf

Hi folks,

Attached to this email you will find some further guidance and clarification. I hope this is helpful & answers the questions you had brought to us at our last meeting.

Please feel free to reach out with any questions.

Elisha Mueller

Conservation Biologist

701.328.6348 • ekmueller@nd.gov • gf.nd.gov



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"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

GOVERNOR Doug Burgum

DIRECTOR, Terry Steinwand

DEPUTY, Scott A. Peterson

January 5, 2021

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

RE: Badger Wind Project, Logan and McIntosh counties, ND

Dear Mr. McCreedy:

Thank you for your continued coordination with the North Dakota Game and Fish Department (Department) on the proposed Badger Wind Project. Based on recent conversations, the Department would like to use this opportunity to provide clearer guidance.

Native prairie (prairie that has not been plowed or broken in any way) is the most endangered ecosystem in North Dakota and, as we are a grassland state, the majority of our native species are linked to prairie. Disturbance, fragmentation, and loss of native prairie have adversely impacted a wide variety of species and these negative impacts will only continue to compound as more development takes place on the landscape. The remaining tracts of unbroken prairie are becoming more and more vital to many declining bird and pollinator species. This habitat supports 30 or more of the 115 Species of Conservation Priority identified in the North Dakota State Wildlife Action Plan (Dyke et. al 2015) and for species of conservation priority, such as the Chestnut-collared Longspur (Model, Attachment 1) which has declined 86% or the Loggerhead Shrike which has declined 74% since 1974 (Rosenberg et. al 2016), the loss and fragmentation of native prairie in the project area may further negatively impact these declining species.

Wetlands are another productive wildlife habitat in North Dakota, supporting 54 Species of Conservation Priority, as well as a considerable number of waterfowl, shorebirds and cranes throughout the year. Though the project area includes only a small number of wetlands, the resources they provide are still of value to many of our native species. The USFWS's Habitat and Population Evaluation Team (HAPET) has developed a Local

Siting Decision Support Tool (DST) to estimate the number of duck pairs that are displaced based on research conducted in the Dakotas (Loesch et al. 2013, Loesch 2016). We highly recommend Atwell contact HAPET office to request the DST to evaluate project impacts on wetland resources.

Finally, though the Department believes the best way to protect our species of conservation priority is by taking a habitat-focused approach, we would also like to reiterate the following species-specific concerns.

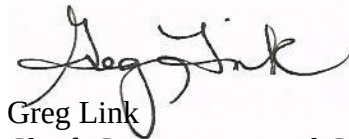
- Nearly 31% of the entire Sharp-tailed Grouse population falls within North Dakota and declines to the state's population will likely lead to range-wide population declines. Sharp-tailed Grouse are a high-valued upland game bird, and because research indicated that prairie grouse may be adversely affected by energy development, it is vital that lek surveys be conducted to understand the risk associated with development.
- Bats are long-lived, reproduce slowly, and migrate long distances, making them particularly susceptible to wind development. Acoustic surveys should begin at a minimum two years pre-construction to assess the risk the project poses to local bat populations.
- The Whooping Crane's migration corridor centers along the east side of the Missouri River. The project falls within the 75% core migration corridor and the northwest corner is considered to be core stopover habitat. A considerable number of Whooping Cranes have been observed along the river to the west of the project and at Long Lake to the north and it is possible they use resources within the project boundary as well. Contact the US Fish and Wildlife Habitat and Population Evaluation Team (HAPET) in Bismarck to request the Whooping Crane model of predicted use of landscapes.
- The Bald Eagle population and number of nest sites is increasing significantly in North Dakota. The number of nest sites has increased from 10 known sites in the year 2000 to more than 300 in the year 2017. Due to the continual increase and selection of non-traditional nest sites, it is possible that Bald Eagle nests may be found anywhere across the state where large trees are present. Therefore, it is recommended that Atwell conduct searches for raptor nests during the breeding season to understand the risk associated with development.

The Department has a number of resources available for the benefit of the developer and consultant, including maps and information on native habitats (see Native Prairie Model, Attachment 2), priority areas, and sensitive species. Core native habitat layers are available via Esri REST Services <https://gf.nd.gov/maps/data> then selecting North Dakota Game and Fish Department Species Range and Habitats. The Department also recommends working with the U.S. Fish and Wildlife Service, as any state recommendations do not relieve the developer of its obligations to comply with any applicable federal regulations.

As we continue to address the challenges of stemming the decline of our state's most sensitive species, we cannot endorse or consent to the disturbance, fragmentation, and loss of the remaining high value habitats essential to Species of Conservation Priority without recommending that suitable replacement or offsets be applied back onto the landscape. Ensuring these habitats remain on the landscape is the only way to stem the decline of these species and prevent listings through the Endangered Species Act, which could impact both the state and its citizens. The Department has stressed the importance of following the best available science in determining impacts and voluntary offsets. The best science addressing North Dakota resources are Loesch et al. 2013 and Shaffer and Buhl 2016; these papers should be used to help guide Atwell in understanding impacts and developing a voluntary offset package, if one is deemed appropriate. For Further clarification on estimating grassland impacts, the Department is working on developing a guidance document which will also be shared.

As Orsted moves forward with this project, the Department requests to remain informed. To accurately analyze the project and provide valuable feedback to the PSC, it is important that the Department receives all documents, including wildlife surveys, spatial data, and any voluntary offsets being proposed 100 days prior to the hearing date.

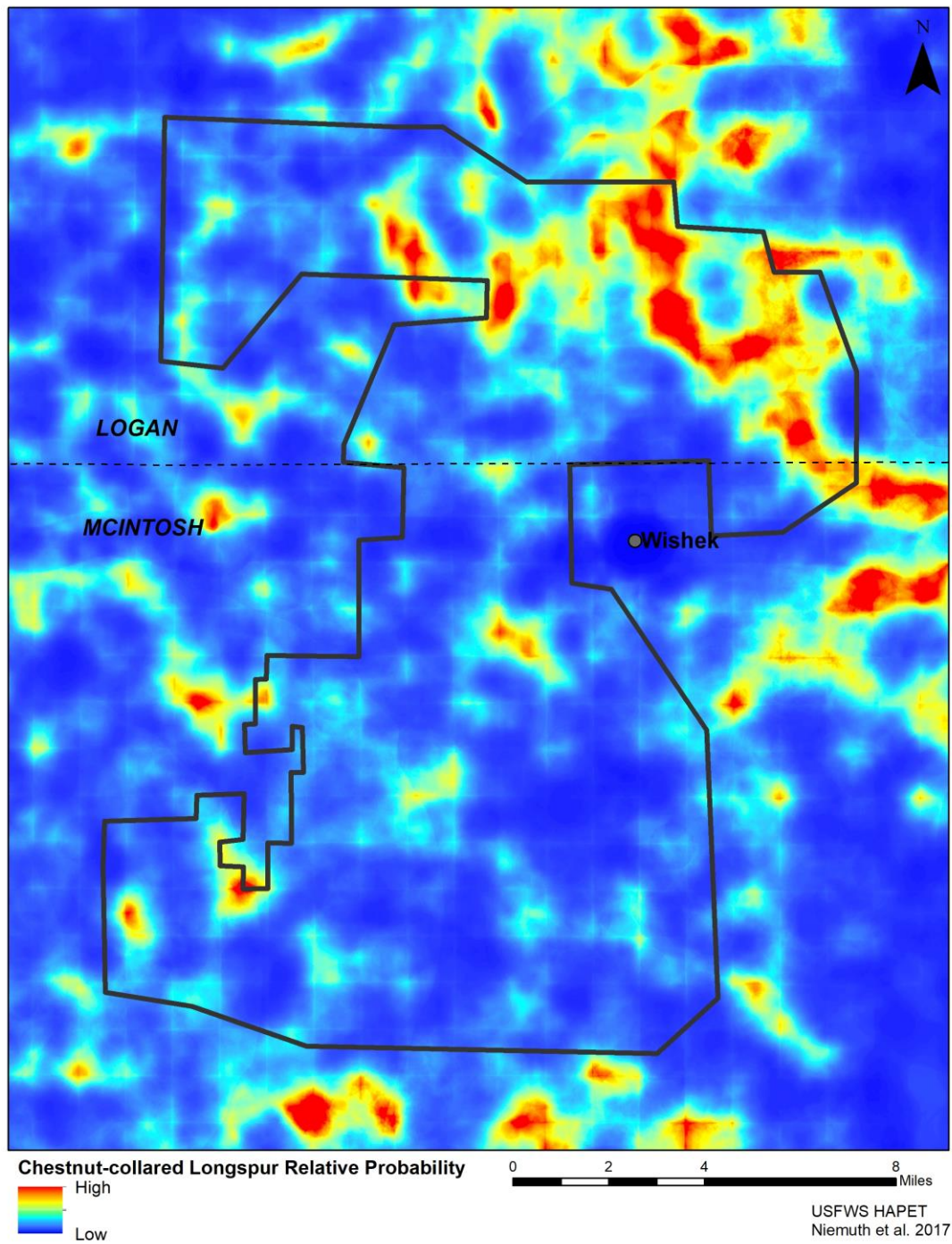
Sincerely,

A handwritten signature in black ink, appearing to read "Greg Link", is written over a light gray rectangular background.

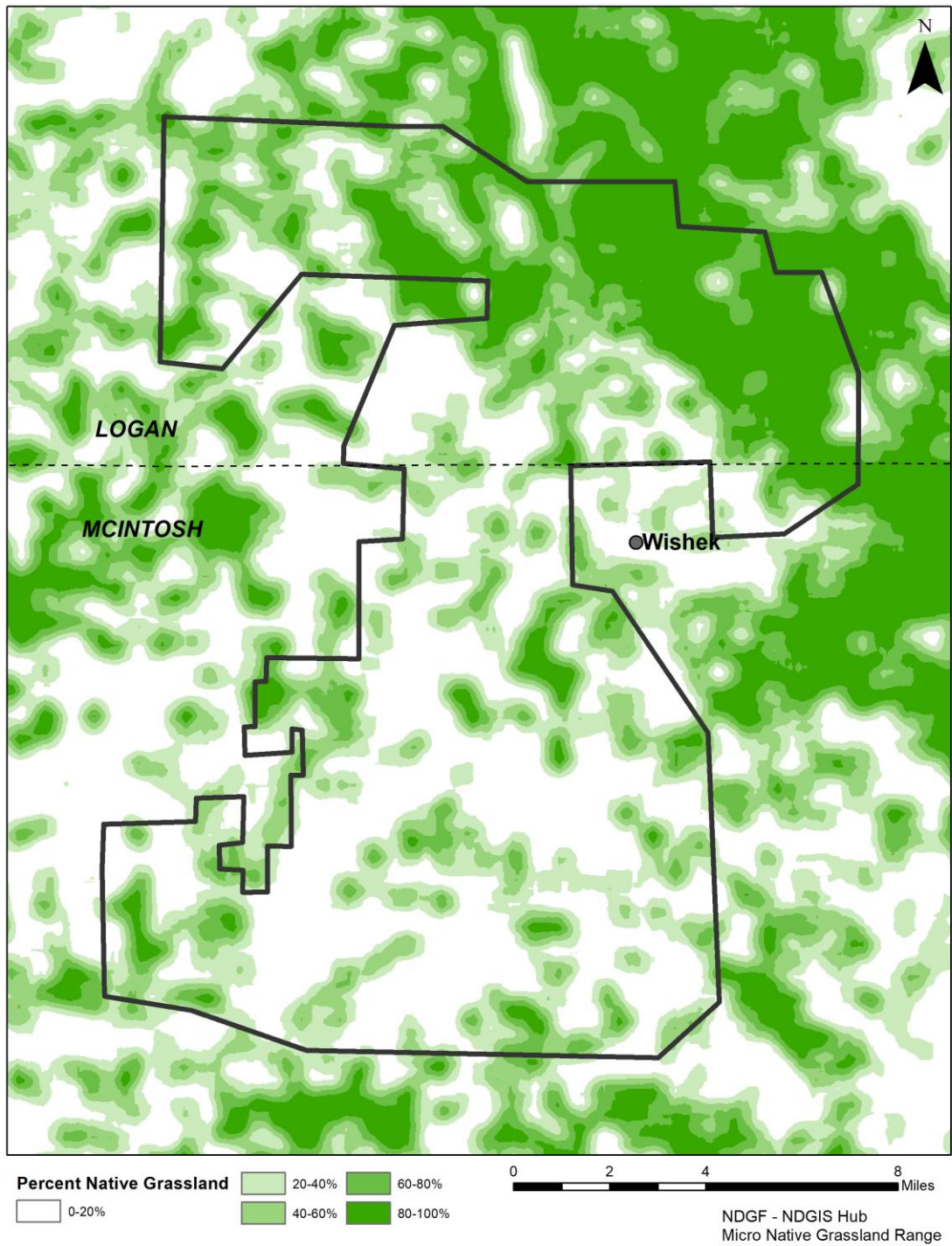
Greg Link
Chief, Conservation and Communications Division

Cc: Drew Becker, US Fish and Wildlife Service
ND Public Service Commission

Attachment 1. Chestnut-collared Longspur Model



Attachment 2. Native Prairie Model



Assessing Grassland at Various Scales

A Desktop Approach to Avoid and Minimize Impacts to Grassland

North Dakota Game and Fish Department

Draft December 21, 2020

INTRODUCTION

North Dakota's natural habitat was predominantly prairie – large open areas that have few trees and covered in grasses and forbs. Consequently, numerous grassland endemic wildlife species are dependent upon prairie to complete their life cycle. Over the past 150 years, the landscape of North Dakota has changed dramatically. Nearly 75% of the prairie has been converted for cropland, urban development, energy development, roads, and other human uses. Since 48 species of conservation priority and myriad other wildlife in North Dakota depend on grasslands to complete their full annual life cycle, it is important to identify where native prairie, or unbroken grassland, remains on the landscape. Recognize these analyses do not provide an assessment of habitat quality. Grasslands are a dynamic ecosystem, with vegetation composition, height, density and ground cover varying greatly from year to year depending on climate conditions and land use. Regardless of the visual quality or if it is invaded with nonnative or noxious species, limiting further unbroken grassland destruction and preventing additional fragmentation is essential to sustain North Dakota wildlife and species of conservation priority for the future.

There are numerous spatial products that can help determine extant unbroken grassland on the landscape. The NDGF has identified extant unbroken grassland by merging grassland classifications from land cover datasets, then subtracting cultivated land and CRP data to produce a base raster 30X30 meter pixel size of unbroken vs. broken grassland. **This layer will be considered by the NDGF to be the fundamental layer identifying native unbroken grassland (native prairie) unless demonstrated otherwise.** Recognizing there is some inaccuracy and inconsistency among datasets, a desktop approach can result in a vector dataset that may be more current and a more refined assessment of grassland at a local scale.

GRASSLANDS DEFINED

Prairie or grassland (used interchangeably herein) is usually described as tallgrass, mixed-grass or short-grass. However, this grassland assessment is intended to identify extant prairie, or prairie that has not been converted from its natural state to another landcover (cropland, roads, etc.). The result should be 3 types of grassland:

- 1) **Unbroken Grassland** – also referred to as “native prairie.” This is grassland that, according to best available spatial information, has not been converted to another land type or land cover (e.g. cropland, developed, roads).
 - May be composed of native and/or non-native grasses and forbs.
 - May be heavily invaded with nonnative species such as Kentucky bluegrass or smooth brome, but it is still considered unbroken/native prairie if there is no cultivation history.

- May be grazed or otherwise “disturbed” with animals, hayed, or burned. Appropriate grazing can be very beneficial to grasses and forbs.
- May be fenced, contain structures (e.g. old homesteads, water tanks), or two-track roads (i.e. with grass between the tire ruts).
- May contain patches of shrubs (e.g. buffaloberry, chokecherry, silverberry bush) or woody draws.
- May contain natural wetlands or created (e.g. stock dams).

2) Restored Grassland – planted or reconstructed grassland. This typically occurs on previously cultivated land (broken prairie that was then used for crop production for several years). The most common type of restored grassland is CRP but other natural resource agencies operate grassland restoration programs.

- May be planted with native or non-native grass and/or forb species.
- May be grazed or otherwise “disturbed” with animals, hayed, or burned.
- May contain tree rows.
- May contain natural wetlands or created (e.g. stock dams).
- Enrolled land in restoration programs may remain in a grassland state after the contract has expired.

3) Unspecified or Inconclusive Grassland – may be unbroken or restored grassland, but spatial layers do not present a definitive answer.

- May be “go-back” prairie, where the land had been partially or totally converted from prairie to farmed land, but farming ceased, and the land naturally return to a vegetated state.
- May be previously cultivated land but could be enrolled in a grassland restoration program for which no spatial data is available.

All three types of grassland are important for wildlife. The NDGF, first and foremost, recommends that project development avoid siting on unbroken grassland. Impacts to other grassland types should be minimized or avoided to the extent possible.

PURPOSE

The purpose of this document is to describe three scales of grassland assessment (statewide, regional, and local) that can be used to minimize impacts to this important habitat during development projects. An example is included to illustrate how various raster and vector spatial layers may be utilized to refine and on-screen digitize the current extent of grassland types within a select project area. This is the process and categories used by the NDGF to produce a vector dataset of unbroken, restored, and unspecified or inconclusive grassland.

STATEWIDE SCALE ASSESSMENT

PHASE 1: *Use the Key Native Wildlife and Habitat Areas (item A) to help identify a project location with minimal impacts. Or, if general project area is known, use KNWHA to adjust specific project location to avoid and minimize impacts.*

(A) KEY NATIVE WILDLIFE AND HABITAT AREAS

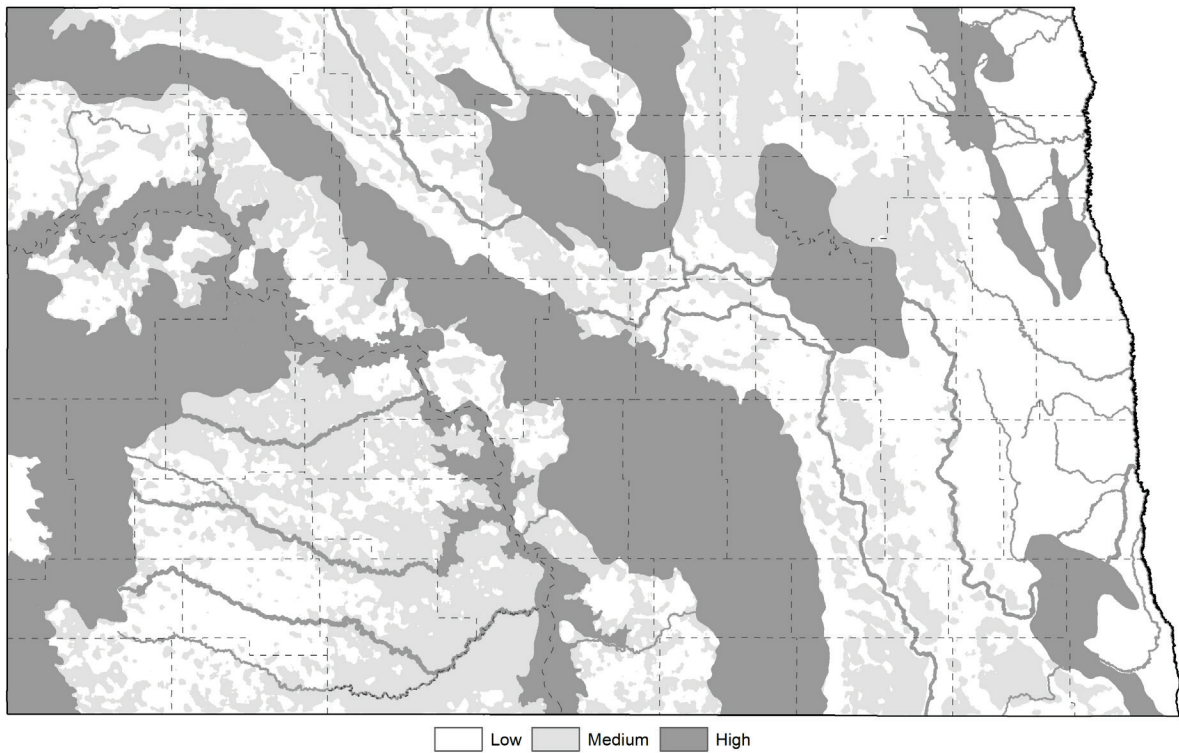
The Key Native Wildlife and Habitat Areas layer was developed using the ND State Wildlife Action Plan Focus Areas, areas where unbroken grassland is $\geq 40\%$ within a 4 square mile area, and areas where the accessibility for breeding duck pairs per square mile is greater than 60 ("Thunderstorm Map").

These areas do not represent complete avoidance or exclusion areas for development. Rather, the high and medium categories contain "*areas where animal or plant species that are unique or rare to this state would be irreversibly damaged*" (see PSC Administrative Rule). The map can be used as an initial scoping tool for project siting in areas where impacts to native wildlife and habitat will be minimized.

- Low Impact Native Wildlife and Habitat Areas – This spatial area represents lands that are primarily broken or disturbed land; land that has been converted from its native state to other uses, such as cropland and developed areas, and is a highly fragmented landscape. Offsets for impacts to wildlife and habitat are relatively low, but appropriate siting could often result in little to no impacts. Approximately 37% of the state is in the low category. Project development in the low category will have the least impact to key native wildlife and habitat.
- Medium Impact Native Wildlife and Habitat Areas – This spatial area represents lands that are partially broken or disturbed. These areas may encompass tracts that have or have not been converted from its native state to other uses, such as cropland and developed areas, therefore it is a more fragmented landscape. Offsets for impacts to wildlife and habitat may be of moderate nature, but appropriate siting can result in minimal impacts. Approximately 25% of the state is in the medium category. Project development in the medium category will have a higher likelihood of impacting key native wildlife and habitat than projects in the low impact areas.
- High Impact Native Wildlife and Habitat Areas – This spatial area represents a mostly intact and undisturbed landscape. These areas contain large tracts of land that have not been converted from their native state to other uses, such as cropland and developed areas, and are therefore a less fragmented landscape. Offsets for impacts to wildlife and habitat would be at their highest, but appropriate siting can result in moderate to minimal impacts. Approximately 37% of the state is in the high category. Project development in the high category will have the greatest impact to key native wildlife and habitat.

Spatial Data Access: *insert link, need to upload map and metadata to GIS Hub.*

Key Native Wildlife and Habitat Areas (KNWHA).



DRAFT

REGIONAL SCALE ASSESSMENT

PHASE 2: Use grassland spatial products (item B) to help identify core tracts of grassland within the project area that were not depicted in the statewide KNWHA spatial product. Avoid and minimize siting project components within grassland tracts.

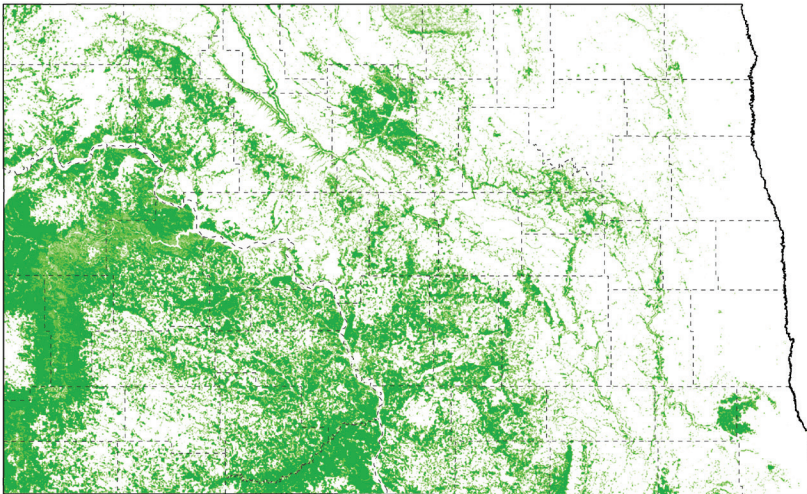
(B) MICRO NATIVE GRASSLAND RANGE

This product is derived from the NDGF Base Raster Native Grassland Layer. The purpose is to identify the distribution of core native grassland habitats in North Dakota. This product is not to be interpreted as a landuse/landcover classification. This dataset quantifies the amount of native grassland in a 160 acre neighborhood at each focal point of the native grassland dataset. Various thresholds were utilized to identify core native grassland, primary and secondary habitat, or fixed intervals of the percent of native grassland on the landscape.

Spatial Data Access:

- 2008 product: <https://gishubdata.nd.gov/dataset/micro-native-grassland-range>
- need to upload 2014 product and metadata to GIS Hub

Micro Native Grassland Range



LOCAL SCALE ASSESSMENT

PHASE 3: Use the NDGF Base Raster Grassland as the foundation (Item D) and additional spatial products (items E, F, G, H, I) to perform a desktop analysis of the current extant grassland within the project area. This is the process used by the NDGF to produce a vector dataset of unbroken, restored, and unspecified or inconclusive grassland.

(D) BASE RASTER GRASSLAND (NDGF 2008 and 2014 products)

These products are representative of extant unbroken prairie (uncultivated, native prairie). Grassland vegetation classes were extracted from foundation layers, reclassified and merged to create one raster layer identifying native grassland. NASS Cultivated Layers and FSA CRP polygons were used to subtract cells potentially misclassified as grassland to prevent overestimation and a representation of unbroken, native grassland. The final product is 30X30 meter raster layer.

Spatial layers available: *insert link when available*

(E) OTHER LANDCOVER

Numerous landcover products classify grassland differently. Consider examining all the following datasets to confirm consistencies or inconsistencies of grassland classification. Consistencies in grassland occurrence over time and over numerous landcovers suggest it may be unbroken grassland or restored (“go-back”) grassland, even if landcovers use different classification terminology (e.g. herbaceous, potentially undisturbed, disturbed grass, native vegetation, introduced vegetation, non-cultivated).

- National Land Cover Database. The U.S. Geological Survey (USGS), in partnership with several federal agencies, has developed and released four National Land Cover Database (NLCD) products over the past two decades: NLCD 1992, 2001, 2006, and 2011. These products provide spatially explicit and reliable information on the Nation’s land cover and land cover change. The NLCD 2016 design aims to provide innovative, consistent, and robust methodologies for production of a multi-temporal land cover and land cover change database from 2001 to 2016 at 2–3-year intervals.
- World Wildlife Fund Plowprint Report. The Plowprint identifies remaining intact habitat and tracks grassland loss across the Great Plains region of the US and Canada.
- Grassland Assessment of North American Great Plains Migratory Bird Joint Ventures (2019). The goal of this assessment was to provide explicit planning and conservation delivery datasets to assist JV partnerships to stem grassland losses and avian population declines. We used recent time-series landcover data to spatially identify potentially undisturbed lands (PUDL) defined as grass/shrub/wetland complexes with no history of agricultural cultivation or development.
- USDA National Cultivated Layer. The Cultivated Layer is based on the most recent five years (2015-2019) of cultivated land.
- USDA-NASS North Dakota Cropland Data Layers. The USDA, NASS Cropland Data Layer (CDL) is a raster, geo-referenced, crop-specific land cover data layer. The CDL is produced using satellite imagery.
- USGS 2005 and 2010 GAP Landcover. This dataset combines the work of several different projects to create a seamless data set for the contiguous United States. Data from four regional Gap Analysis Projects and the LANDFIRE project were combined to make this dataset.
- USFWS 1996 and 2002 Landcover. Land classification to map upland waterfowl nesting cover in the North and South Dakota and northeast Montana portion of the Prairie Pothole Region. The

updated classification contains 9 classes and imagery dates range from the late 90's through 2002.

(F) FSA DATA PRODUCTS

USDA Farm Service Agency maintains farm and crop history data. Note: this information may not be readily available to the public.

- Conservation Reserve Program. CRP is a land conservation program administered by FSA. In exchange for a yearly rental payment, farmers enrolled in the program agree to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality. Contracts for land enrolled in CRP are 10-15 years in length. The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat. In 2007, more than 3.3 million acres were enrolled in North Dakota and in 2020 about 1.2 million acres.
- Common Land Unit. CLU is the smallest unit of land that has a permanent, contiguous boundary, a common land cover and land management, a common owner and a common producer in agricultural land associated with USDA farm programs. CLU boundaries are delineated from relatively permanent features such as fence lines, roads, and/or waterways.

(G) AERIAL IMAGERY

Numerous aerial imagery products are available for North Dakota.

- National Agriculture Imagery Program (various years, 2003-2020). NAIP acquires aerial imagery during the agricultural growing seasons in the continental U.S. A primary goal of the NAIP program is to make digital ortho photography available to governmental agencies and the public within a year of acquisition.
- Other State Imagery. FSA Aerial Photography 1957-1962, USGS Aerial Photography 1995-1998, and various other state or regionally collect aerial imagery for various years. See 'imagery' on the GIS Hub Data Portal or the ND State Water Commission Aerial Imagery Map Service.

(H) LiDAR

LiDAR-Derived Elevation Data, ND State Water Commission.

(I) GRASSLAND BIRD CONSERVATION AREAS

The USFWS Habitat and Population Evaluation Team (HAPET) developed a conceptual model for Grassland Bird Conservation Areas (GBCAs). Maps of GBCAs were created to be decision support tools to be used by managers to target future conservation at the largest grassland patches with the smallest perimeter to area ratio (the greatest "blockiness") to efficiently benefit area sensitive grassland bird species.

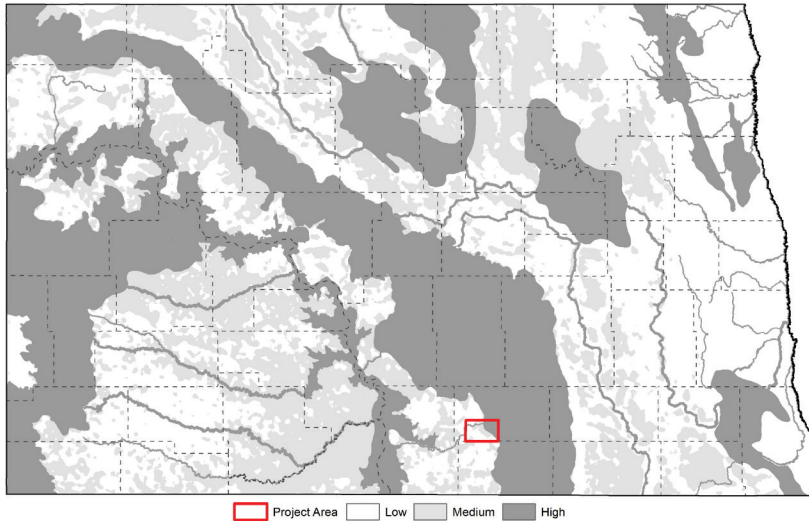
- Type III Grassland Bird Conservation Areas are used in the Avian-Impact Offset Method. All grassland is represented in the model, including CRP.
 - Shaffer, J. A., Loesch, C. R., and Buhl, D. A. 2019. Estimating offsets for avian displacement effects of anthropogenic impacts. *Ecological Applications* 29(8):e01983 [10.1002/eap.1983](https://doi.org/10.1002/eap.1983)
 - Rex R. Johnson, R. R., Granfors, D. A., Niemuth, N. D., Estey, M. E., and Reynolds, R. E. 2010. Delineating Grassland Bird Conservation Areas in the U.S. Prairie Pothole Region. *Journal of Fish and Wildlife Management* 1 (1): 38–42. doi: <https://doi.org/10.3996/JFWM-022>

Spatial Data Access: contact HAPET office in Bismarck

GRASSLAND ASSESSMENT EXAMPLE

PHASE 1: Statewide Scale

a) The red outline represents a proposed wind energy project. The total project area is 85,000 acres but the final turbine layout will not span the entire project area.

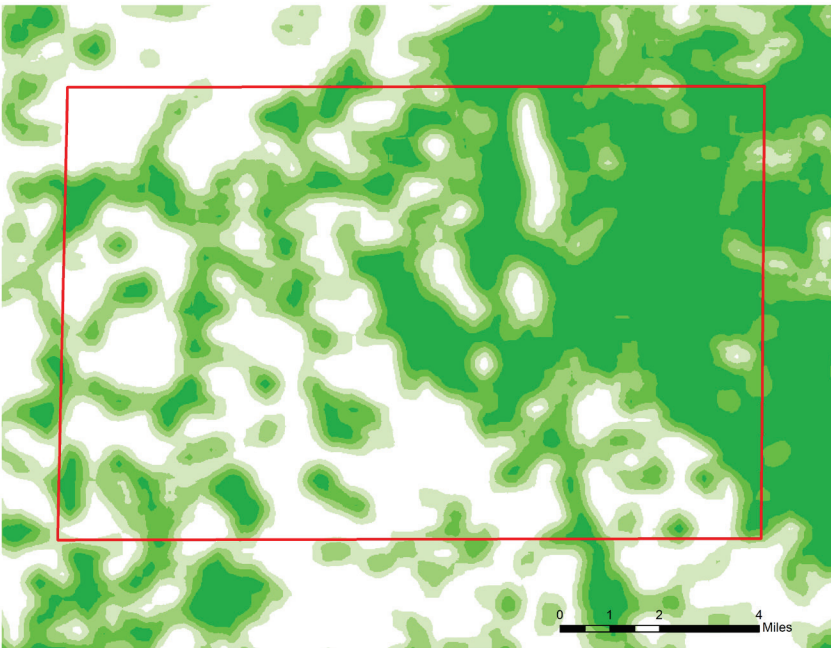


b) The project area includes similar spatial amount of all 3 categories of Key Native Wildlife and Habitat Areas.

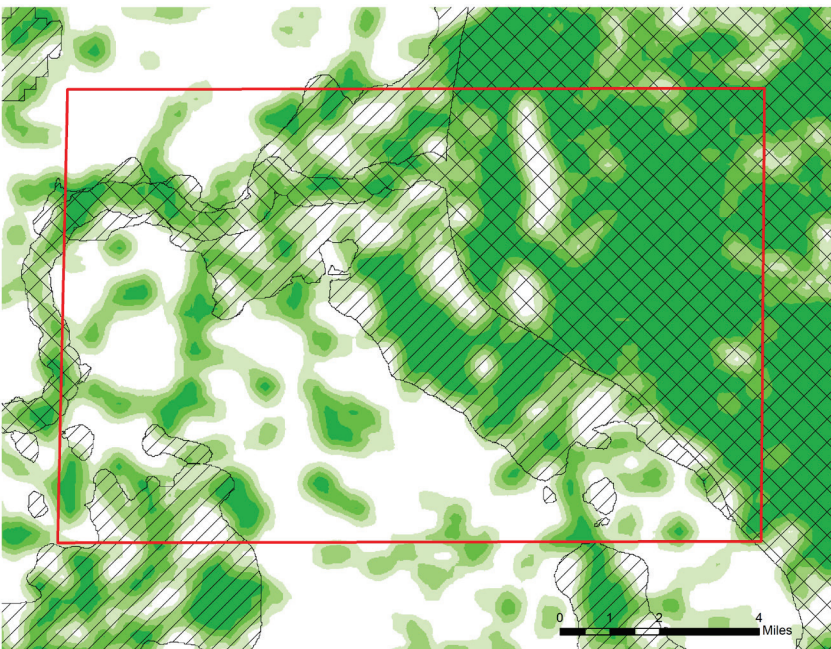


PHASE 2: Regional Scale

a) Micro Native Grassland Range shows a large area of relatively contiguous unbroken grassland in the northeast portion of the project area.

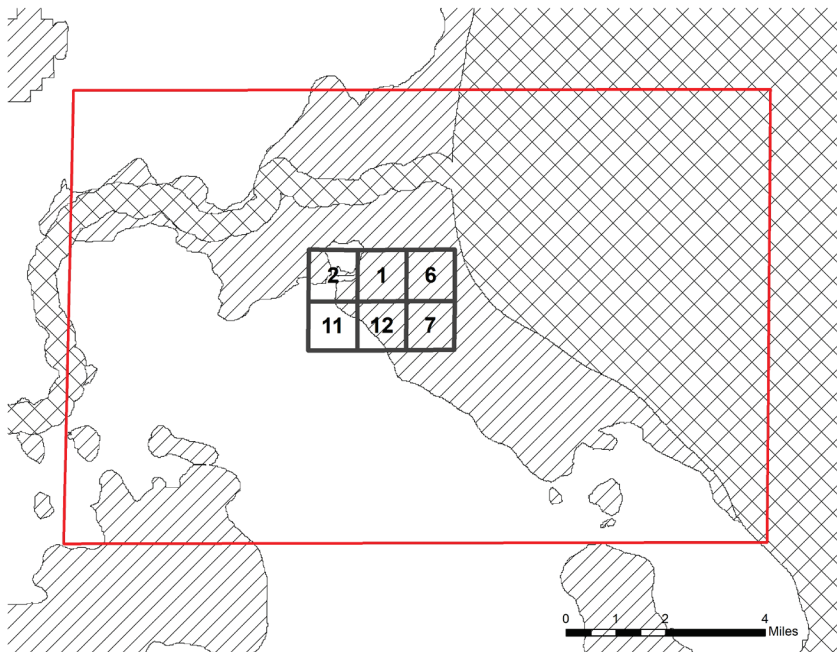


b) Cross hatch represents High KNWHA. Diagonal lines represent Medium KNWHA. Areas with no lines represent Low KNWHA.



PHASE 3: Local Scale

a) Digitize extant grassland within the project area using additional data layers. For this example, six contiguous sections (2X3 miles) were selected in the center of the project area.

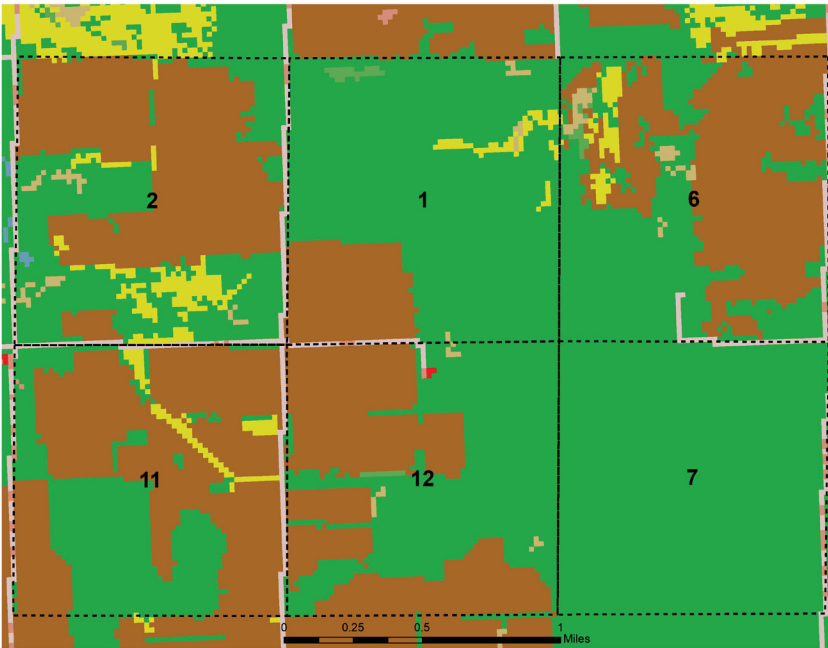


b) The fundamental layer is the NDGF Grassland Base Raster. This is what the NDGF identifies as unbroken grassland, unless the grassland assessment demonstrates otherwise.

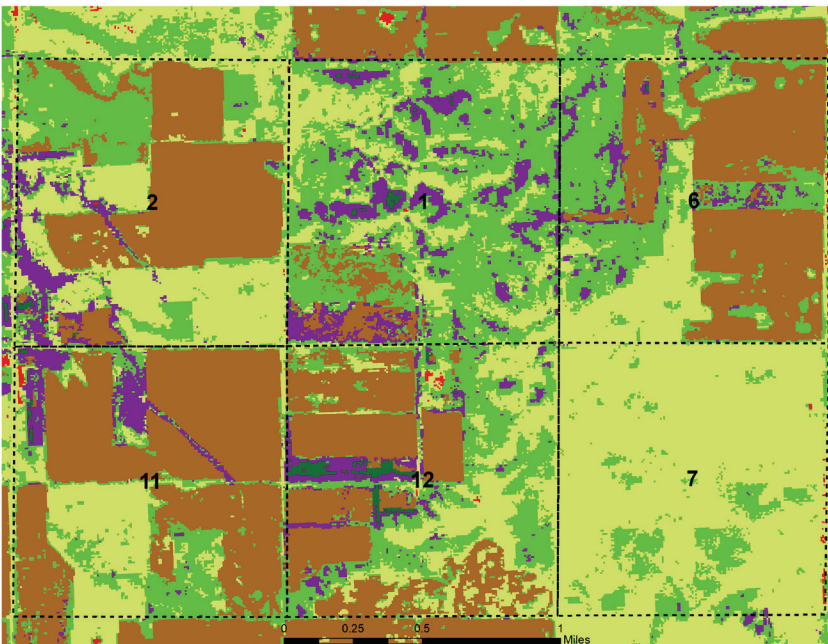


c) Examine other landcovers. Consistencies in grassland occurrence over time and over numerous landcovers suggest it may be unbroken grassland or possibly restored (“go-back”) grassland, even if landcovers use different classifications (e.g. herbaceous, potentially undisturbed, disturbed grass, native vegetation, introduced vegetation, non-cultivated).

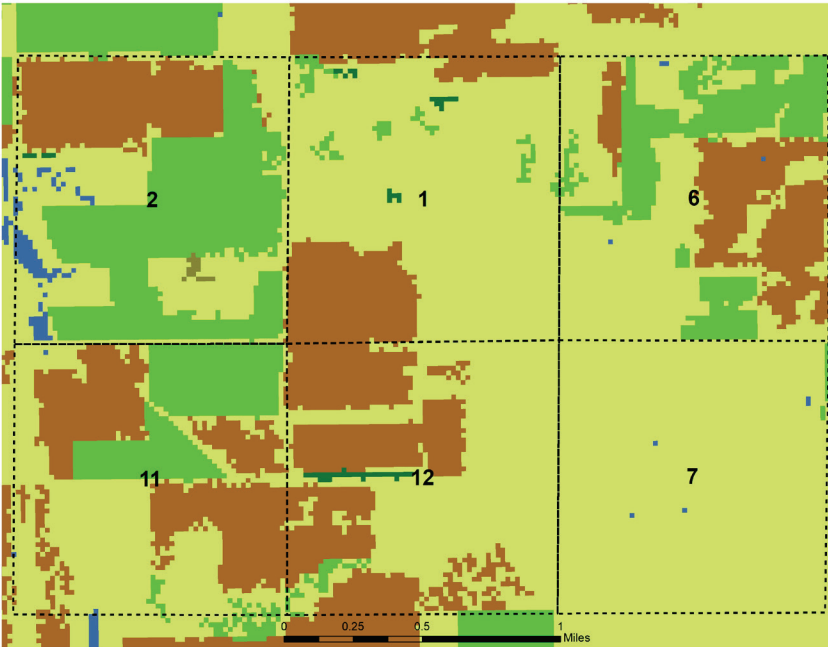
(i) NLC 2016. Green is herbaceous (grassland), yellow is hay/pasture, brown is cultivated crop.



(ii) PUDL. Light green is potentially undisturbed grass, dark green is disturbed grass, purple is shrub, brown is cultivated crop.



(iii) USFWS 2002. Light green is native vegetation, dark green is introduced vegetation, brown is cropland.

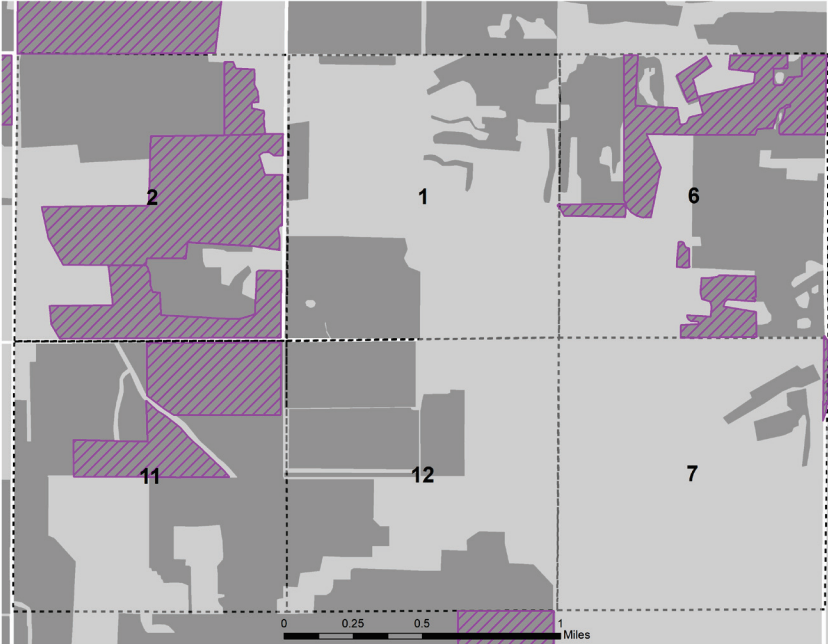


(iv) National Cultivated Layer 2019. Green is non-cultivated and brown is cultivated.



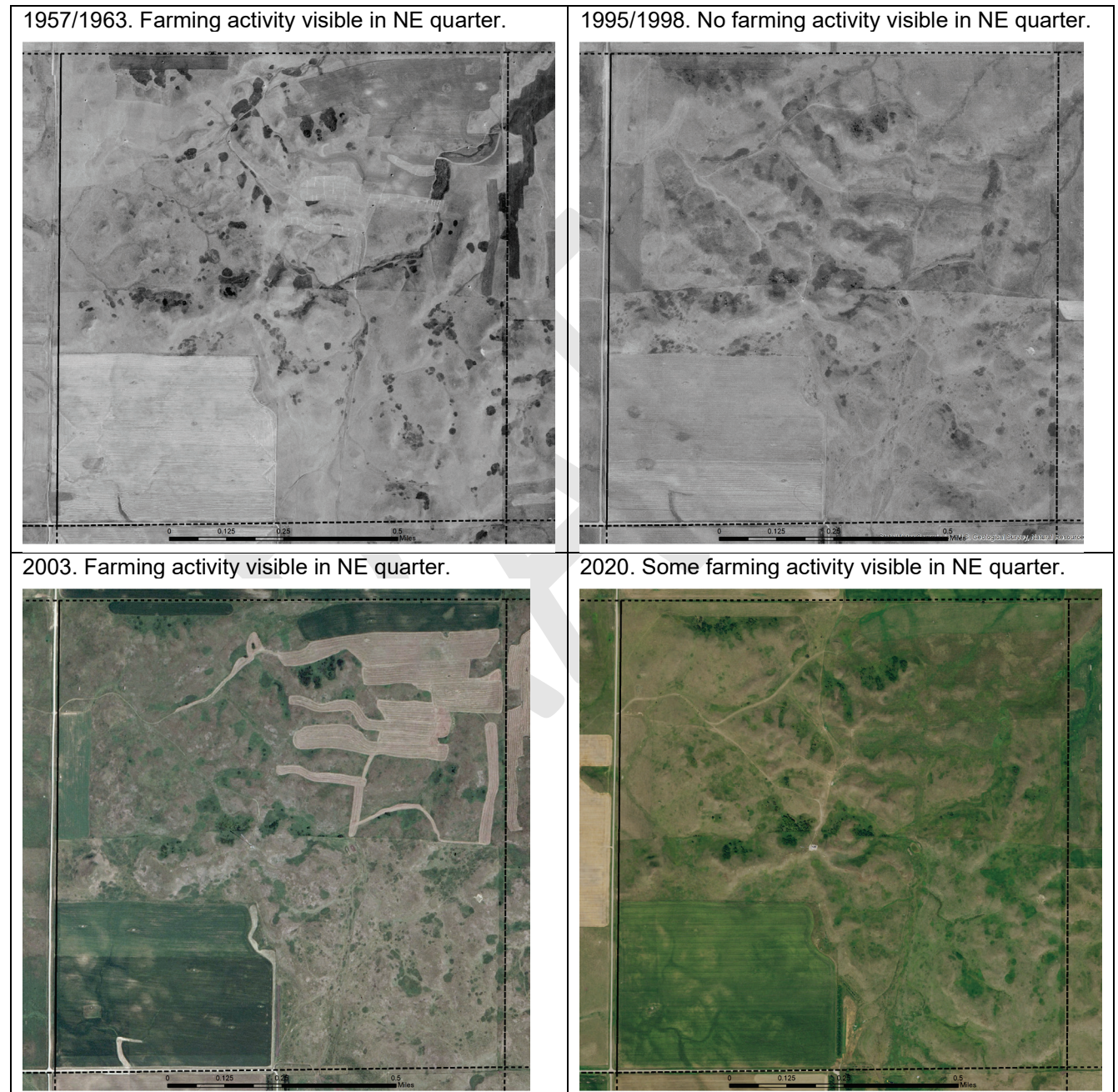
d) Use other polygon datasets such as CRP determine if grassland areas have a cropping history.

Purple diagonal line is CRP. Dark gray may have a cropping history, light gray is undetermined and therefore may not have a cropping history.

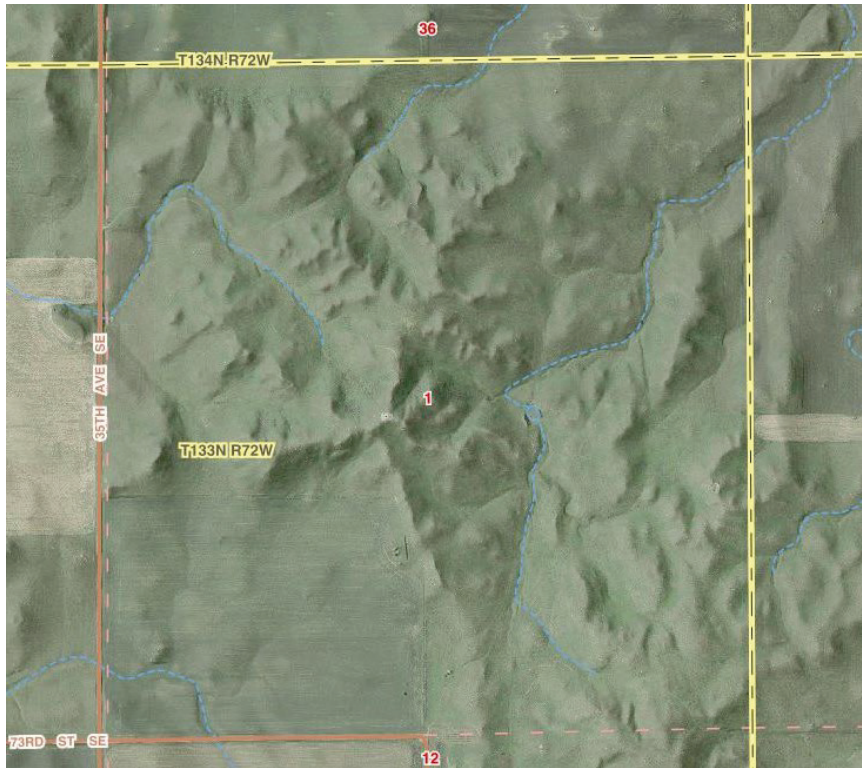


e) Use aerial imagery and LiDAR to examine areas with inconsistencies.

(i) Example: There are inconsistencies in Section 1. The NDGF Grassland Base raster, and some other landcovers, classify the NE quarter as unbroken prairie. The Cultivated Layer classifies it as non-cultivated, but some landcover (PUDL) and the CLU database indicates it may have been cultivated or disturbed at some point in time.

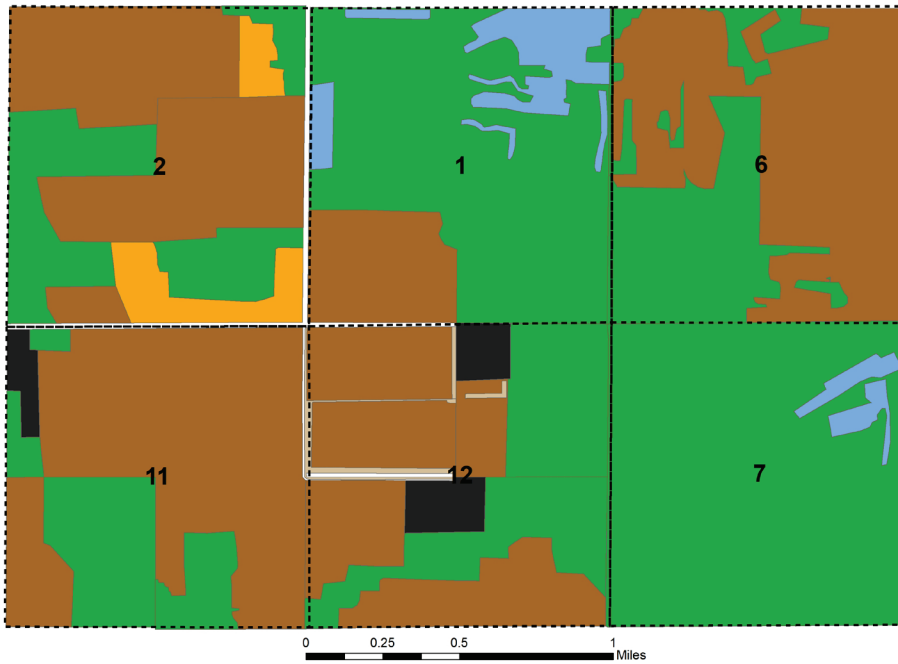


(ii) LiDAR

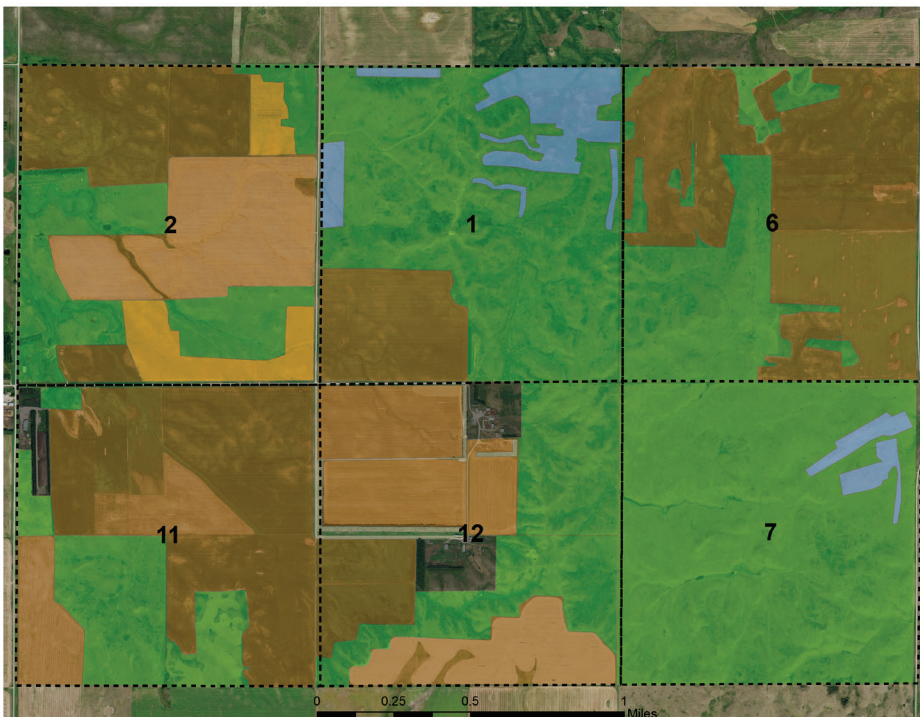


GRASSLAND ASSESSMENT FINAL PRODUCT

The result of the desktop exercise is a vector dataset of unbroken grassland (green), restored grassland (orange), unspecified or inconclusive grassland (blue), active cropland (brown), and farmsteads (black).



Grassland assessment overlaid on 2020 aerial imagery.



From: [Maureen O'Shea-Stone](#)
To: [Mueller, Elisha K.](#); heidi_riddle@fws.gov; [Johnson, Sandra K.](#); [Dyke, Steve R.](#); [Link, Greg W.](#); drew_becker@fws.gov
Cc: [Tara Corbett](#); [Chris McCreedy](#); [Emily Cooper](#)
Subject: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes
Date: Monday, January 11, 2021 1:48:00 PM
Attachments: [20201208_NDGF_USFWS_Badger_Wind_Meeting_Notes_Revised_1-11-2021.pdf](#)

Elisha,

Attached please find the meeting notes from our December 8, 2020 meeting about the Badger Wind project. These have been revised to integrate comments you forwarded on 12-18-2020.

We would be happy to arrange for another meeting to review the non-grassland surveys and results that have been conducted to-date.

I am sure we will be in touch soon as we process the guidance your forwarded on January 7, 2021.

Best,
Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301



MEETING NOTES

Project: **Badger Wind Project**
Ørsted Onshore North America

Host/Organizer: Emily Cooper, Atwell

Meeting Date: December 8, 2020

Purpose: **NDGF/ USFWS Badger Wind Project Update and Grassland Discussion**

Attendees and Introductions

Maureen O'Shea-Stone, Atwell Botanist	Elisha Mueller, NDGF Wind Projects Coordinator
Emily Cooper, Atwell Project Manager	Steve Dyke, NDGF Conservation Biologist
Chris McCreedy, Atwell Biologist	Sandra Johnson, NDGF Biologist
Tara Corbett, Atwell Permitting	Heidi Riddle, North Dakota Ecological Services, Biologist USFWS
Sam Lodge, Ørsted Wind Analyst	
Jon Baker, Ørsted Project Developer	Drew Becker, North Dakota Ecological Services Supervisor, USFWS
Nicki Lindsey, Ørsted Wind Analyst	

Meeting Summary

J. Baker provided an overview of the project.

- Project area has been modified to include where Ørsted has been able to obtain land agreements with enough connectivity between lands to allow for a viable project.
- Interconnection queue position is for 250 MW. Anticipating between 60-90 turbines, depending on turbine model selected.
- Anticipating close to final MISO results in early 2021 and planning to begin construction as early as Spring of 2022.

- Planning to submit PSC application in late Spring/ early Summer in 2021.

E. Cooper provided an overview of project study planning considerations and indicated the meeting's focus would be on the grassland analysis.

C. McCreedy provided an overview of non-grassland biology studies completed to-date and indicated that another meeting could be held at the request of the agencies to go over the results of other biology studies completed, if desired.

M. O'Shea-Stone provided a summary of Atwell's grassland assessment:

- Geospatial analysis was conducted using time-series aerial photographs and LandFire data. The aerial imagery analysis results were compared to the NDGF grassland dataset and the PPJV PUDL dataset.
- PUDL is based on spectral criteria of a satellite time-series dataset from 2008 to 2018. PUDL accuracy for grasslands is estimated to be 54 to 75 percent. The initial project layout was planned to try to avoid undisturbed areas to the degree feasible using PUDL as a basis.
- The aerial imagery analysis identified and removed active croplands first. The primary signature used to determine croplands was the presence of large numbers of narrow, parallel furrows.
- The historic record was then evaluated using with older imagery to distinguish broken and unbroken grasslands further. Roads, rock piles, and furrows were also identified to indicate evidence of tillage. Field verification was then completed to confirm evidence of tillage. There are places where the aerial analysis results for unbroken grassland disagreed with PUDL results.
- The results of the analysis indicate that in the study area, the PUDL dataset and the aerial analysis had high fidelity (82%) between grasslands generally, but less fidelity between what is considered broken and unbroken grasslands.
- The analysis identified 376 acres of unbroken grassland and 499 broken grassland in the study area.
- The study area used included a 300-foot buffer around turbines, 200-foot buffer around access roads and transmission line, and 150-foot buffer around crane path and collection lines.

Discussion:

- S. Johnson noted NDGF looks at a 300-meter buffer on turbines for indirect impacts from grasslands for birds. Roads are considered direct impacts but don't get evaluated for indirect impacts. The indirect impacts of 300 meters are based on the Shaeffer papers. Sandra is curious about northeast part of project and is interested in the intermingling of disturbed and undisturbed categories in the PUDL dataset. She wants to further discuss it with the PUDL developers. M. O'Shea-Stone indicated the initial analysis was completed to understand the relationship of different datasets to estimate the extent of broken/unbroken grassland.
- S. Johnson indicated the NDGF dataset overestimates unbroken grasslands but thinks PUDL underestimates.
- D. Becker joined and asked about habitat quality and if any assessment or evaluation was conducted. M. O'Shea-Stone indicated field verification efforts included collecting habitat data including information about livestock grazing, crop types, predominant plant species, and estimation of weed presence. She indicated NDGF had asked the focus of the analysis be on broken and unbroken verifications. S. Dyke indicated that in previous projects where there was a quality focus put on grasslands, they found it isn't always the best indicator, as different years can yield very different results. So, NDGF has moved to an approach to use "unbroken, native prairie" as the best surrogate and focus.
- E. Mueller said that there may be a need to look at small patch areas. Will have to drive in and verify what is unbroken. If things have no tillage history, rock piles aren't always the best indicator of tillage.
- E. Cooper indicated feedback is needed regarding what approach to use so that the project can move forward. E. Mueller said maybe there are a few areas where differences arise. S. Dyke said he was not aware of comparisons previously completed. S. Johnson thinks other tools could be used. NDGF staff recommended using all available tools for this analysis.
- S. Dyke said it's incumbent on the NDGF staff to get back to the Ørsted team about what to do.
- E. Mueller said they would look at the final project and then S. Johnson can look at resources and then they could come to an agreement. Proof of tillage could be provided by aerial interpretation and other information. Aerial photography is a tool that can be used to show discrepancies, but not all cases where there are discrepancies can be proven by aerial photography alone. NDGF staff specifically noted disagreement with some areas

identified in the aerial photography analysis as broken prairie and that further proof of tillage would be required.

- E. Cooper asked for clarification about what tool or tools will be used to assess the project and mitigation? NDGF said that regardless of what tools are used, all tools are going to show that the northeast area of the project has a lot of grassland (broken and unbroken).
- While NDGF staff shared that other wind projects recently permitted in North Dakota have had an average of five wind turbines placed in broken grasslands and that most projects have avoided wind turbine placement in native (i.e. unbroken) prairie, they noted there is no threshold on how many turbines may be allowed in unbroken grassland. [NDGF had noted in a previous call (10-30-2020) that their responsibility is limited to recommendations to the Public Service Commission (PSC) that permits a project. PSC alone decides whether a project has too many environmental impacts.] NDGF expressed concerns with the number of turbines (16) in the preliminary layout located in grasslands, with some in what appeared to be unbroken prairie, and that these concerns would be shared with PSC prior to a hearing, should revised project plans retain this turbine layout.
- S. Dyke indicated NDGF should regroup internally and then provide a formal correspondence to Ørsted, putting NDGF input on paper. NDGF recognizes that they need to provide clearer input about what tools to use so that the project has clearer guidance.
- H. Riddle wanted to make sure USFWS easements have been considered and E. Cooper confirmed the project has taken easements into account.
- J. Baker indicated another turn of layout will be forthcoming and will incorporate comments of this call and follow-up guidance.

The meeting adjourned.

From: [Mueller, Elisha K.](#)
To: [Maureen O'Shea-Stone](#); heidi_riddle@fws.gov; [Johnson, Sandra K.](#); [Dyke, Steve R.](#); [Link, Greg W.](#); drew_becker@fws.gov
Cc: [Tara Corbett](#); [Chris McCreedy](#); [Emily Cooper](#)
Subject: RE: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes
Date: Wednesday, January 13, 2021 10:25:11 AM

Hi Maureen

In the minutes you have:

"While NDGF staff shared that other wind projects recently permitted in North Dakota have had an average of five wind turbines placed in broken grasslands..."

I cannot tell if there is still confusion or if this wording is just a little unclear. As I mentioned in the meeting and in my last email– the estimation of 5 turbines in native prairie is what we have seen **all together** over the past few years, over several different projects. That number is not an average. Further, I believe you meant unbroken (rather than broken).

Please feel free to call if there is still any confusion.

Elisha

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Monday, January 11, 2021 2:48 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>; drew_becker@fws.gov
Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

******* CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *********

Elisha,

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We would be happy to arrange for another meeting to review the non-grassland surveys and results that have been conducted to-date.

I am sure we will be in touch soon as we process the guidance your forwarded on January 7, 2021.

Best,
Maureen

Maureen O'Shea-Stone

Project Director

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Alan Plumeau

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Friday, January 15, 2021 11:56 AM
To: Maureen O'Shea-Stone
Subject: RE: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

Hi Maureen,

I can discuss today before 3. Feel free to give me a call.

Elisha

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Friday, January 15, 2021 12:38 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Subject: RE: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

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Hi Elisha,

Thanks for the note below. Honestly, this is obviously an on-going point of confusion on our part, based on the notes that we took during our December 8 call.

I wonder if you have time to discuss later today, or next week? Would also welcome some additional guidance on the materials you forwarded on January 7.

Best,
Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, January 13, 2021 10:25 AM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>; drew_becker@fws.gov
Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper

[<ecooper@atwell-group.com>](mailto:ecooper@atwell-group.com)

Subject: RE: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

Hi Maureen

In the minutes you have:

“While NDGF staff shared that other wind projects recently permitted in North Dakota have had an average of five wind turbines placed in broken grasslands...”

I cannot tell if there is still confusion or if this wording is just a little unclear. As I mentioned in the meeting and in my last email– the estimation of 5 turbines in native prairie is what we have seen **all together** over the past few years, over several different projects. That number is not an average. Further, I believe you meant unbroken (rather than broken).

Please feel free to call if there is still any confusion.

Elisha

From: Maureen O’Shea-Stone <moshea-stone@atwell-group.com>

Sent: Monday, January 11, 2021 2:48 PM

To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>; drew_becker@fws.gov

Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>

Subject: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

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Elisha,

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We would be happy to arrange for another meeting to review the non-grassland surveys and results that have been conducted to-date.

I am sure we will be in touch soon as we process the guidance your forwarded on January 7, 2021.

Best,
Maureen

Maureen O’Shea-Stone

Project Director

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Participants:

Maureen O'Shea, Atwell

Elisha Mueller, North Dakota Game and Fish (NDGF)

- 1) Elisha clarified a NDGF comment in the 12-8 meeting: approximately five turbines have been sited in unbroken prairie by other permitted wind projects in the last few years. NDGF requests avoidance of native prairie.
- 2) Guidance letter issued on 1-7-2021 was forwarded because NDGF was never asked for input on the proposed project boundary.
- 3) Data sources for determining unbroken grassland: NDGF native prairie dataset probably overestimates, the PUDL dataset likely underestimates.
- 4) Would be willing to workshop on next preliminary project layout to determine grassland status for infrastructure siting
- 5) Stated that the NDGF would never declare conclude a project has too many impacts to mitigate; will always offer voluntary offsets.
- 6) NDGF will do an impact analysis for notification to PSC. Will use these impact to, and near, native prairie. Urged Atwell to do the same for the project and include the results with submission of the proposed project layout
- 7) USFWS prefers to have voluntary offset summarized in BBCS, which needs to be final by the hearing.
- 8) NDGF not interested in calculating cost of voluntary impacts. Will agree to the area of impacts with developer and sign an MOU with third-party to restore X acres of habitat. MOU is part of PSC permit application.
- 9) No mitigation banks in ND. Potential third-party administrators of mitigation = Natural Resources Trust; Magnolia; Ducks Unlimited.
- 10) Developer can do restoration in-house. Elisha will forward draft documents with offset recommendations. Don't usually consider on-site mitigation. Must be at least 0.5 mile from project. Preferences to local landowners.
- 11) Stated NDGF goal of no offsets because no turbines on native prairie

Participants:

Maureen O'Shea, Atwell

Elisha Mueller, North Dakota Game and Fish (NDGF)

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From: [Maureen O'Shea-Stone](#)
To: [Mueller, Elisha K.](#); heidi_riddle@fws.gov; [Johnson, Sandra K.](#); [Dyke, Steve R.](#); [Link, Greg W.](#); drew_becker@fws.gov
Cc: [Tara Corbett](#); [Chris McCreedy](#); [Emily Cooper](#)
Subject: RE: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes
Date: Friday, January 15, 2021 5:53:42 PM
Attachments: [20201208_NDGF_USFWS_Badger_Wind_Meeting_Notes_Revised_1-15-2021.pdf](#)

Elisha,

Thank you for your time this afternoon to discuss the confusion you noted in your previous email. We have revised the meeting notes with this understanding and attach here.

Best,
Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, January 13, 2021 10:25 AM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; heidi_riddle@fws.gov; [Johnson, Sandra K.](#) <sajohnson@nd.gov>; [Dyke, Steve R.](mailto:sdyke@nd.gov) <sdyke@nd.gov>; [Link, Greg W.](mailto:glink@nd.gov) <glink@nd.gov>; drew_becker@fws.gov
Cc: [Tara Corbett](mailto:tcorbett@atwell-group.com) <tcorbett@atwell-group.com>; [Chris McCreedy](mailto:cmccreedy@atwell-group.com) <cmccreedy@atwell-group.com>; [Emily Cooper](mailto:ecooper@atwell-group.com) <ecooper@atwell-group.com>
Subject: RE: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

Hi Maureen

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"While NDGF staff shared that other wind projects recently permitted in North Dakota have had an average of five wind turbines placed in broken grasslands..."

I cannot tell if there is still confusion or if this wording is just a little unclear. As I mentioned in the meeting and in my last email– the estimation of 5 turbines in native prairie is what we have seen **all together** over the past few years, over several different projects. That number is not an average. Further, I believe you meant unbroken (rather than broken).

Please feel free to call if there is still any confusion.

Elisha

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Monday, January 11, 2021 2:48 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; heidi_riddle@fws.gov; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Link, Greg W. <glink@nd.gov>; drew_becker@fws.gov
Cc: Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: Badger Wind Project - Revised Grassland Assessment and Project Update Meeting Notes

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Elisha,

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We would be happy to arrange for another meeting to review the non-grassland surveys and results that have been conducted to-date.

I am sure we will be in touch soon as we process the guidance your forwarded on January 7, 2021.

Best,
Maureen

Maureen O'Shea-Stone

Project Director

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From: [Mueller, Elisha K.](#)
To: [Emily Cooper](#); [Maureen O'Shea-Stone](#); [Johnson, Sandra K.](#); [Dyke, Steve R.](#); [Riddle, Heidi L.](#); drew_becker@fws.gov
Cc: [Jonathan Baker](#); [Tara Corbett](#); [Chris McCreedy](#)
Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020
Date: Friday, December 18, 2020 9:21:05 AM
Attachments: [image001.png](#)

Hi Emily,

The following edits should be made:

1. The Department recommended using all available tools for analysis. In January, we did not have the PUDL dataset, so we provided our grassland layer in an email from Sandy. (Second bullet on page 2)
2. The Department did not say proof of tillage could be provided by pointing it out on aerials exclusively. Aerial photography can be used as a tool to show discrepancy, but not all cases can be proven broken based on aerial photography alone. The Department brought this issue up on the call, stating there are areas that Atwell identified as broken prairie that the Department does not agree with and further proof would be needed. (Second to last bullet on page 3)
3. The Department has never said any amount of turbines on native prairie is too much or that there is a threshold on how many will be allowed. The Department only makes recommendations. It is the Public Service Commission that permits a project and it is them who decides whether a project has too many environmental impacts. The Department did share major concerns with the number of turbines placed on native prairie, concerns which we will share with PSC prior to a hearing. The Department also shared an estimate of the number of turbines that have broken native prairie over the last few years (approximately 5, with most projects moving all turbines off native prairie). (Top of page 4).

Thanks!
Elisha

From: Emily Cooper <ecooper@atwell-group.com>
Sent: Monday, December 14, 2020 5:03 PM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Johnson, Sandra K. <sajohnson@nd.gov>; Mueller, Elisha K. <ekmueller@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov
Cc: Jonathan Baker <JONBA@orsted.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>
Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

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Hi everyone –

Seconding Maureen's thanks – that will be a big help and we appreciate the guidance.

I am attaching draft meeting notes from the December 8 meeting. Please let us know if you have any edits or additions you would like us to incorporate.

Thank you!

Emily

Emily Cooper

ATWELL, LLC

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

978.273.3275 Tel

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Sent: Monday, December 14, 2020 8:14 AM

To: Johnson, Sandra K. <sajohnson@nd.gov>; Mueller, Elisha K. <ekmueller@nd.gov>; Dyke, Steve R. <sdylke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

Sandy,

Thank you so much for getting back to us. We certainly appreciate your efforts and look forward to the additional information and guidance.

Best,

Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

720.937.1359 Mobile

720.557.2918 Ext. 4224 Tel

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Johnson, Sandra K. <sajohnson@nd.gov>

Sent: Monday, December 14, 2020 7:26 AM

To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Mueller, Elisha K.

<ekmueller@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: RE: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

Hi Maureen,

I will work on describing the approach we use to evaluate grassland at a local scale. I can't guarantee it will be before the Holidays but will try.

Thanks,

Sandy

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Sent: Wednesday, December 9, 2020 3:22 PM

To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; drew_becker@fws.gov

Cc: Jonathan Baker <JONBA@orsted.com>; Emily Cooper <ecooper@atwell-group.com>; Tara Corbett <tcorbett@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: NDGF/ USFWS Badger Wind Project Update and Grassland Discussion 12-8-2020

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On behalf of the Badger Wind Ørsted and Atwell teams, thank you all for your time and engagement in our interesting discussion yesterday. Your input and guidance will prove most helpful for building next-steps for the project.

We appreciate the offer made by Steve Dyke to put-together a formal communication describing the tools and approach you will consider acceptable for evaluating/categorizing grassland habitat in the project vicinity. This will be essential to support project siting refinements. This will also be a critical understanding as to what data source will ultimately be used by NDGF to assess impacts of the proposed project. If this could be provided before the winter holidays, it would be much appreciated.

All the best,

Maureen

Maureen O'Shea-Stone

Project Director

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MEETING NOTES

Project: **Badger Wind Project**
Ørsted Onshore North America

Host/Organizer: Emily Cooper, Atwell

Meeting Date: December 8, 2020

Purpose: **NDGF/ USFWS Badger Wind Project Update and Grassland Discussion**

Attendees and Introductions

Maureen O'Shea-Stone, Atwell Botanist	Elisha Mueller, NDGF Wind Projects Coordinator
Emily Cooper, Atwell Project Manager	Steve Dyke, NDGF Conservation Biologist
Chris McCreedy, Atwell Biologist	Sandra Johnson, NDGF Biologist
Tara Corbett, Atwell Permitting	Heidi Riddle, North Dakota Ecological Services, Biologist USFWS
Sam Lodge, Ørsted Wind Analyst	
Jon Baker, Ørsted Project Developer	Drew Becker, North Dakota Ecological Services Supervisor, USFWS
Nicki Lindsey, Ørsted Wind Analyst	

Meeting Summary

J. Baker provided an overview of the project.

- Project area has been modified to include where Ørsted has been able to obtain land agreements with enough connectivity between lands to allow for a viable project.
- Interconnection queue position is for 250 MW. Anticipating between 60-90 turbines, depending on turbine model selected.
- Anticipating close to final MISO results in early 2021 and planning to begin construction as early as Spring of 2022.

- Planning to submit PSC application in late Spring/ early Summer in 2021.

E. Cooper provided an overview of project study planning considerations and indicated the meeting's focus would be on the grassland analysis.

C. McCreedy provided an overview of non-grassland biology studies completed to-date and indicated that another meeting could be held at the request of the agencies to go over the results of other biology studies completed, if desired.

M. O'Shea-Stone provided a summary of Atwell's grassland assessment:

- Geospatial analysis was conducted using time-series aerial photographs and LandFire data. The aerial imagery analysis results were compared to the NDGF grassland dataset and the PPJV PUDL dataset.
- PUDL is based on spectral criteria of a satellite time-series dataset from 2008 to 2018. PUDL accuracy for grasslands is estimated to be 54 to 75 percent. The initial project layout was planned to try to avoid undisturbed areas to the degree feasible using PUDL as a basis.
- The aerial imagery analysis identified and removed active croplands first. The primary signature used to determine croplands was the presence of large numbers of narrow, parallel furrows.
- The historic record was then evaluated using with older imagery to distinguish broken and unbroken grasslands further. Roads, rock piles, and furrows were also identified to indicate evidence of tillage. Field verification was then completed to confirm evidence of tillage. There are places where the aerial analysis results for unbroken grassland disagreed with PUDL results.
- The results of the analysis indicate that in the study area, the PUDL dataset and the aerial analysis had high fidelity (82%) between grasslands generally, but less fidelity between what is considered broken and unbroken grasslands.
- The analysis identified 376 acres of unbroken grassland and 499 broken grassland in the study area.
- The study area used included a 300-foot buffer around turbines, 200-foot buffer around access roads and transmission line, and 150-foot buffer around crane path and collection lines.

Discussion:

- S. Johnson noted NDGF looks at a 300-meter buffer on turbines for indirect impacts from grasslands for birds. Roads are considered direct impacts but don't get evaluated for indirect impacts. The indirect impacts of 300 meters are based on the Shaeffer papers. Sandra is curious about northeast part of project and is interested in the intermingling of disturbed and undisturbed categories in the PUDL dataset. She wants to further discuss it with the PUDL developers. M. O'Shea-Stone indicated the initial analysis was completed to understand the relationship of different datasets to estimate the extent of broken/unbroken grassland.
- S. Johnson indicated the NDGF dataset overestimates unbroken grasslands but thinks PUDL underestimates.
- D. Becker joined and asked about habitat quality and if any assessment or evaluation was conducted. M. O'Shea-Stone indicated field verification efforts included collecting habitat data including information about livestock grazing, crop types, predominant plant species, and estimation of weed presence. She indicated NDGF had asked the focus of the analysis be on broken and unbroken verifications. S. Dyke indicated that in previous projects where there was a quality focus put on grasslands, they found it isn't always the best indicator, as different years can yield very different results. So, NDGF has moved to an approach to use "unbroken, native prairie" as the best surrogate and focus.
- E. Mueller said that there may be a need to look at small patch areas. Will have to drive in and verify what is unbroken. If things have no tillage history, rock piles aren't always the best indicator of tillage.
- E. Cooper indicated feedback is needed regarding what approach to use so that the project can move forward. E. Mueller said maybe there are a few areas where differences arise. S. Dyke said he was not aware of comparisons previously completed. S. Johnson thinks other tools could be used. NDGF staff recommended using all available tools for this analysis.
- S. Dyke said it's incumbent on the NDGF staff to get back to the Ørsted team about what to do.
- E. Mueller said they would look at the final project and then S. Johnson can look at resources and then they could come to an agreement. Proof of tillage could be provided by aerial interpretation and other information. Aerial photography is a tool that can be used to show discrepancies, but not all cases where there are discrepancies can be proven by aerial photography alone. NDGF staff specifically noted disagreement with some areas

identified in the aerial photography analysis as broken prairie and that further proof of tillage would be required.

- E. Cooper asked for clarification about what tool or tools will be used to assess the project and mitigation? NDGF said that regardless of what tools are used, all tools are going to show that the northeast area of the project has a lot of grassland (broken and unbroken).
- NDGF staff estimate that other wind projects permitted in North Dakota in the last few years have located approximately five turbines in unbroken grassland. Most projects have avoided wind turbine placement in native (i.e. unbroken) prairie. There is no threshold on how many turbines may be allowed in unbroken grassland. [NDGF had noted in a previous call (10-30-2020) that their responsibility is limited to recommendations to the Public Service Commission (PSC) that permits a project. PSC alone decides whether a project has too many environmental impacts.] NDGF expressed concerns with the number of turbines (16) in the preliminary layout located in grasslands, with some in what appeared to be unbroken prairie, and that these concerns would be shared with PSC prior to a hearing, should revised project plans retain this turbine layout.
- S. Dyke indicated NDGF should regroup internally and then provide a formal correspondence to Ørsted, putting NDGF input on paper. NDGF recognizes that they need to provide clearer input about what tools to use so that the project has clearer guidance.
- H. Riddle wanted to make sure USFWS easements have been considered and E. Cooper confirmed the project has taken easements into account.
- J. Baker indicated another turn of layout will be forthcoming and will incorporate comments of this call and follow-up guidance.

The meeting adjourned.

Alan Plumeau

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Tuesday, January 19, 2021 3:12 PM
To: Maureen O'Shea-Stone
Subject: RE: our call last Friday
Attachments: Wetland Restoration for Energy Offsets_draft.docx; Grassland Reconstruction for Energy Offsets_draft ek.m.docx

Follow Up Flag: Follow up
Flag Status: Completed

Hi Maureen,

Thank you for the reminder email. It has been on my list of to-do's but I have been in and out of meetings all day.

These are draft documents we have provided to companies assisting with other voluntary offsets in the state. These would likely be the same recommendations we would make if the developer for this project chooses to provide voluntary offsets for impacts to wildlife.

Elisha

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Tuesday, January 19, 2021 3:00 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>
Subject: our call last Friday

***** **CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *****

Elisha,

Thank you again for your time and our most helpful conversation last Friday. Was following-up to see if you could forward those two guidance documents we discussed?

Best,
Maureen

Maureen O'Shea-Stone

Project Director

ATWELL, LLC

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Wetland Restoration for Energy Development Offsets

Background

North Dakota is a top producer of coal, oil and gas, and wind energy. Increased demand for energy causes stress on the state's wildlife resources from direct and indirect impacts to habitat. Voluntary offset measures by energy developers can help alleviate these impacts. This document outlines the parameters of a wetland restoration program for offsetting impacts to wetlands as a result of energy development. Delivery of wetland restoration will be accomplished through funding assistance provided to willing landowners and is completely voluntary.

Wetland Restoration Parameters

Wetland restoration is defined as the return of a wetland and its functions to close approximation of its original condition as it existed prior to disturbance on a former or degraded wetland site. This would include, in most cases, restoring the natural hydrologic conditions by excavation and/or repair of a drained, ditched or tiled wetland basin. Because the wetlands are restored to offset for impacts resulting from an energy development project, the wetland will need to stay intact for the life of the specific development project.

I. Administrative Parameters

1. Eligible vendors:
 - a. Registered with the North Dakota Secretary of State.
 - b. Deliver all aspects of wetland restoration, including locating willing private landowners, execute and enforce the lease agreement(s), oversee contractors or excavators, and distribute payments.
2. Geographic constraints:
 - a. Preference to local landowners within general vicinity of impact, but not within 0.5 miles of direct impact.
 - b. Priority flowchart:
 - i. Within county of impact, within same geological feature (i.e. Missouri Coteau)
 - ii. Within county of impact, within different geological feature
 - iii. Adjacent county, within same geological feature
 - iv. Adjacent county, within different geological feature
 - v. Non-adjacent county, within same geological feature
3. Lease agreements:
 - a. Commensurate with projected length of impact.
 - b. Notice of Agreement recorded on title.
4. Reporting requirements:
 - a. For all candidate restorations, a written summary for plans and specifications, including but not limited to worksheets detailing the acreage and depth of each restored wetland, seeding list, management plan, and a map showing the project location and wetland boundaries must be submitted to NDGF for approval.

5. Monitoring requirements:
 - a. Verification the restoration was completed in year 1 and that it is not compromised in following years is required. See attachment 1 for the form that will be submitted during monitoring.
 - b. Monitoring will take place between May and September. The two monitoring schedules are:
 - i. Remote monitoring: Can include current year's aerial imagery verification or with photos submitted by landowner.
 1. Photo points will be designated by NDGF and photos will have to be submitted to both the third-party vendor and NDGF in years 3, 10, and 20.
 - ii. Field monitoring: In-person field verification performed by third party or NDGF and photos will be submitted to both the third-party vendor and NDGF in years 1, 5, 15, and 25.

II. Biological Parameters

1. Size/Hydrology constraints:
 - a. Minimum basin size: 1 acre
 - b. Maximum basin size: 10 acres
 - c. Wetlands within the 1-3-acre range should be prioritized.
 - d. Restorations should be of temporary and seasonal wetlands (0.5-2.5 feet deep) only.
2. Location constraints:
 - a. Prioritize wetlands within grasslands, but wetlands within croplands should not be omitted.
 - i. Native grass/forb buffers are encouraged around wetlands within croplands but are not required. Interested landowners should contact NRCS to pursue buffer creations.
3. Wetland restoration criteria:
 - a. Refer to and follow *NRCS Wetland Restoration Standard – 657*
 - b. Additional useful information can be found in *Minnesota Wetland Restoration Guide – Blocking and Filling Surface Drainage Ditches*
4. Planning considerations:
 - a. Refer to and follow *NRCS ND Wetland Restoration Workbook*, with the addition “Ditches will be filled for their entire length or 300 feet, whichever comes first. The fill will not exceed the elevation of the natural wetland sill, allowing 10 percent overfill for settling. Borrow material may be taken from the wetland basin but must be accomplished in a manner which does not compromise the wetland seal” per the (ND) United States Fish and Wildlife Service’s Partners for Wildlife program.
 - i. Recommend using Ditch Plug design only.

III. Landowner/Operator Parameters

1. Privately owned land only.

2. Public access encouraged but not required.
3. Commitment to a wetland management plan (required):
 - a. Mowing allowed during the first three years for weed control.
 - b. Grazing prohibited the first four years of contract to allow vegetation establishment
 - c. Managed grazing may occur after the first four years.
 - d. No physical alteration permitted.
4. Offset payments:
 - a. 100% cost-share for excavation work, seed mix, site preparation, seeding, and management treatments.
5. Buyout option:
 - a. If an agreement is exited, landowner must make a prorated repayment to account for remaining agreement services no longer provided. The vendor must determine a new offset site to replace the remaining services of the previous agreement.
6. Agreement extensions or alternatives to provide additional environmental benefits and services past the term of the original agreement are optional based on mutual consent of both parties or other conservation program providers.

IV. Ineligible Practices

1. Permanent easements.
2. Land acquisition.
3. Restoration on public land.

V. Resources

USDA Natural Resources Conservation Service Wetland Restoration Standard

https://efotg.sc.egov.usda.gov/references/public/ND/ND_657_Standard.pdf

USDA Natural Resources Conservation Service ND Wetland Restoration Workbook

https://efotg.sc.egov.usda.gov/references/public/ND/ND_Wetland_Restoration_Workbook.xls

USDA Natural Resources Conservation Service Web Soil Survey

<https://websoilsurvey.nrcs.usda.gov/app/>

Minnesota Wetland Restoration Guide – Blocking and Filling Surface Drainage Ditches

https://bwsr.state.mn.us/sites/default/files/2019-01/appendix_4a-1_blocking_and_filling_surface_drainage_ditches.pdf

Location Map

R=

2,640 0 2,640

1,320

Scale in Feet

Quarter = 0

Profile (perpendicular to flow) - DESIGN

Maximum X-Section (parallel flow) - DESIGN

CHECKOUT - Profile (perpendicular to flow)

TRACT # 0
FIELD # 0
WETLAND # 0
CONTRACT # 0

Checkout Date _____
Checked By _____

Contractor _____
Completion Date _____

CHECKOUT - Max. X-Section (parallel flow)

TBM1 Elevation = 100.00
Description:
1X2 hub 5" southeast of structure on the south rim of the wetland

Ditch Plug Checkout

DITCH PLUG PLAN
SECTION , TOWNSHIP , RANGE

County ND

Designed:	Date	Approved By:	Date
	Jan-00		
Drawn:		Title:	
Traced:			
Checked:	Jan-00	Title:	

U.S. DEPARTMENT OF AGRICULTURE - NATURAL RESOURCES CONSERVATION SERVICE

DRAW NO.: _____

SHEET NO. 1 OF _____

Wetland Restoration Monitoring Form

Wetland Latitude/Longitude:

Checked by:

Date:

Approved by:

Date:

Brief description of current wetland condition:

Additional notes:

*****Submission of photos from designated photo sites required with this form.***

Grassland Reconstruction for Energy Development Offsets

Background

North Dakota is a top producer of coal, oil and gas, and wind energy. Increased demand for energy causes stress on the state's wildlife resources from direct and indirect impacts to habitat. Voluntary offset measures by energy developers can help alleviate these impacts. This document outlines the parameters of a grassland reconstruction program for offsetting impacts to native grassland as a result of energy development. Delivery of grassland reconstruction will be accomplished through funding assistance provided to willing landowners and is completely voluntary.

Grassland Reconstruction Parameters

Grassland reconstruction is considered the reestablishment of native grassland habitat in key areas important to declining wildlife where it has been lost due to conversion. This would include, in most cases, planting cropland back to a diverse native grass/forb planting specifically designed for the soils, topography, precipitation, and other characteristics of the local area. A management plan is required to be implemented by the owner/operator on the newly established grassland acres. The reestablished grassland is intended to be utilized as working lands in a haying or grazing operation and not remain idle indefinitely. Because this grassland is reconstructed to offset for impacts resulting from an energy development project, the grassland will need to stay intact for the life of the specific development project.

I. Administrative Parameters

1. Eligible vendors:
 - a. Registered with the North Dakota Secretary of State.
 - b. Deliver all aspects of grassland reconstruction, including locating willing private landowners, execute and enforce the lease agreement(s), verify the grassland management plan is being implemented, and distribute payments.
 - i. use the flow chart "Evaluation for Grassland Offset" to prioritize offers
2. Geographic constraints:
 - a. Offset project delivered within county of impact (preferred) or county adjacent to impact (secondary).
 - b. Preference to local landowners within general vicinity of impact, but not within 0.5 miles of direct impact.
3. Lease agreements:
 - a. Commensurate with projected length of impact.
 - b. Notice of Agreement recorded on title.
4. Reporting requirements:
 - a. For all candidate restorations, a written summary for plans and specifications, including but not limited to worksheets detailing the acreage and depth of each restored wetland, seeding list, management plan, and a map showing the project location and wetland boundaries must be submitted to NDGF for approval.

5. Monitoring requirements:
 - a. Verification the restoration was completed in year 1 and that it is not compromised in following years is required. See attachment 1 and 2 for the forms that must be submitted during monitoring.
 - i. Field monitoring: In-person field verification performed by third party or NDGF and photos will be submitted to both the third-party vendor and NDGF in years 1, 3, 15, and 25.
 1. In year 3, stand evaluation must be carried out by third-party and approved by NDGF before restoration can be fully incorporated into operation. (See Attachment 1)
 2. Years 1, 15, and 25 the standard from (Attachment 2) should be used for monitoring.
 - ii. Remote monitoring: Can include NDGF aerial image verification or with photos submitted by landowner.
 1. The standard form, as well as photo from points designated by NDGF will have to be submitted to both the third-party vendor and NDGF in years 5, 10, and 20.

II. Biological Parameters

1. Size/location constraints:
 - a. If the grassland reconstruction is <55 acres, it must be located adjacent to an extant grassland tract so the entire parcel will be ≥55 acres.
 - b. Land tract is adjacent to an extant grassland tract >55 acres (high priority).
 - c. Land tract is within 0.5 miles of an extant grassland tract >55 acres (medium priority).
 - d. Land tract is >0.5 miles from an extant grassland tract >55 acres (low priority).
2. Grassland establishment:
 - a. Refer to and follow *USDA-NRCS Herbaceous Vegetation Establishment Guide*:
 - i. Seeding dates (Part 1)
 - ii. Seedbed preparation (Part 2)
 - iii. Seeding equipment (Part 3)
 - iv. Drill calibration (Part 4)
 - v. Seed requirements (Part 5)
 - vi. Seeding depth (Part 6)
 - vii. Cover and companion crops (Part 7)
 - viii. Management and protection during establishment (Part 8)
 - ix. Procedure for stand evaluation (Part 9)
3. Selecting species and varieties:
 - a. Native grasses and forbs only.
 - b. Mixes designed to mimic the local natural conditions.
 - c. Determine the Ecological Sites from the soils information located in either the *Web Soil Survey* or the county specific soil interpretations (see FOTG, Section II - Soil Information).

- d. Mix must be selected from the Recommended Species by Ecological Site list associated with the MLRA (see FOTG, Section II- Upland and Riparian Ecological Site Descriptions, Range Site Descriptions and Reference Worksheets) of the site.
 - e. Mix must be a ratio of 50-to-50 grasses-to-forbs. However, spiking individual forb seeding rates is encouraged (see *Prairie Reconstruction Guidebook for North Dakota*), as this will promote establishment success.
 - f. The mix must contain a minimum of 6 grass species, 1 sedge, and 15 forbs. More specifically, the mix should include at least:
 - i. 1 cool-season bunch grass
 - ii. 1 cool-season rhizomatous grass
 - iii. 1 warm-season bunch grass
 - iv. 1 warm-season rhizomatous grass
 - v. 1 sedge species
 - vi. 4 forbs with early summer bloom period
 - vii. 4 forbs with mid-summer bloom period
 - viii. 4 forbs with late summer bloom period
 - g. Refer to Table 1 of the *Herbaceous Vegetation Establishment Guide* for recommended species and percent minimums and maximums for the Ecological Site(s).
 - h. Refer to *Herbaceous Vegetation Establishment Guide* for approved named varieties and full seeding rates of native grasses, forbs and shrubs. Use named varieties when available.
 - i. Refer to *ND-CPA-Planning or Data Sheet for Grass and/or Legume Seeding* to determine proper seeding rates (see FOTG, Section II, Ecological Sciences Forms).
4. Planning considerations:
- a. Where water erosion is a concern, all tillage and seeding operations should be performed across the general slope of the fields where appropriate. When seeding into light textured soils, adequate cover is required to prevent excessive erosion.
 - b. For improved germination, scarification of legumes with hard seed coats is recommended. Scarification is especially important with the following species: purple prairie clover, white prairie clover, leadplant and Canada milkvetch.
 - c. Slender wheatgrass and Canada Wildrye are short-lived species but establish rapidly and provides quick cover.
5. Guidelines for stand evaluation:
- a. Stand must have a minimum density of two rhizomatous grass plants per square foot, or four plants per square foot for bunchgrasses or mixtures of bunch and rhizomatous type grasses; or in the case of grass/legume/forb mixtures, two grass plants and one legume or forb plant per square foot.
 - i. See Part 9 of *Herbaceous Vegetation Establishment Guide* for additional guidance on stand evaluation.
 - ii. Stand success must be evaluated prior to fully incorporating restoration into operation.
 - 1. Stand evaluation will be carried out by third-party vendor in year 3 and submitted to NDGF for approval.

III. Landowner/Operator Parameters

1. Privately owned land only.
2. Public access encouraged but not required.
3. Commitment to a grassland management plan (required):
 - a. Grazing prohibited the first three years of contract to allow vegetation establishment
 - b. Managed grazing encouraged after the first three years.
 - i. Refer to *Prescribed Grazing - 528 Specification* for management after establishment.
 - c. Haying/mowing allowed on 1/3 tract annually with timing restrictions.
 - d. Prescribed fire allowed.
4. Offset payments:
 - a. Payment to landowner may be provided in lump sum or periodic disbursements, per landowner and vendor agreement.
 - b. Payments may include up to:
 - i. 100% cost-share for seed mix, site preparation, seeding, and management treatments.
 - ii. Loss of production (foregone revenue) payment for Years 1 - 3 of establishment. Suggest using the 5-year average non-irrigated cropland rental rate for the specified county per North Dakota Trust Lands current county rents and prices.
 - iii. Graduated operational transition payment provided for Years 4+ (declining percentage of full county rental rate/acre).
 - iv. Infrastructure cost-share for fencing and water development.
5. Buyout option:
 - a. If an agreement is exited, landowner must make a prorated repayment to account for remaining agreement services no longer provided. The vendor must determine a new offset site to replace the remaining services of the previous agreement.
6. Agreement extensions or alternatives to provide additional environmental benefits and services past the term of the original agreement are optional based on mutual consent of both parties or other conservation program providers.

IV. Ineligible Practices

1. Permanent easements.
2. Land acquisition.
3. Reconstruction on public land.

V. Resources

USDA Natural Resources Conservation Service Herbaceous Vegetation Establishment Guide
https://efotg.sc.egov.usda.gov/references/public/ND/Herbaceous_Veg_Est_Guide.pdf

USDA Natural Resources Conservation Service Web Soil Survey
<https://websoilsurvey.nrcs.usda.gov/app/>

NRCS Field Office Technical Guide (FOTG)

<https://efotg.sc.egov.usda.gov/#/details>

- Section II
 - *Soil Information*
 - *Upland and Riparian Ecological Site Descriptions, Range Site Descriptions and Reference Worksheets* (MLRA information)
- Section IV
 - Old Section IV
 - Ecological Sciences Forms
 - *ND-CPA-9 Planning or Data Sheet for Grass and/or Legume Seeding*
https://efotg.sc.egov.usda.gov/references/public/ND/ND-CPA-9_Herbaceous_Planting_Workbook.xlsm
 - Ecological Sciences Practices
 - *Herbaceous Vegetation Establishment Guide*
 - *Prescribed Grazing – 528 Prescribed Grazing Specification*
https://efotg.sc.egov.usda.gov/references/public/ND/528_specs_.pdf

Prairie Reconstruction Guidebook for North Dakota

<https://www.ag.ndsu.edu/publications/environment-natural-resources/prairie-reconstruction-guidebook-for-north-dakota>

Prairie Seedling and Seeding Evaluation Guide

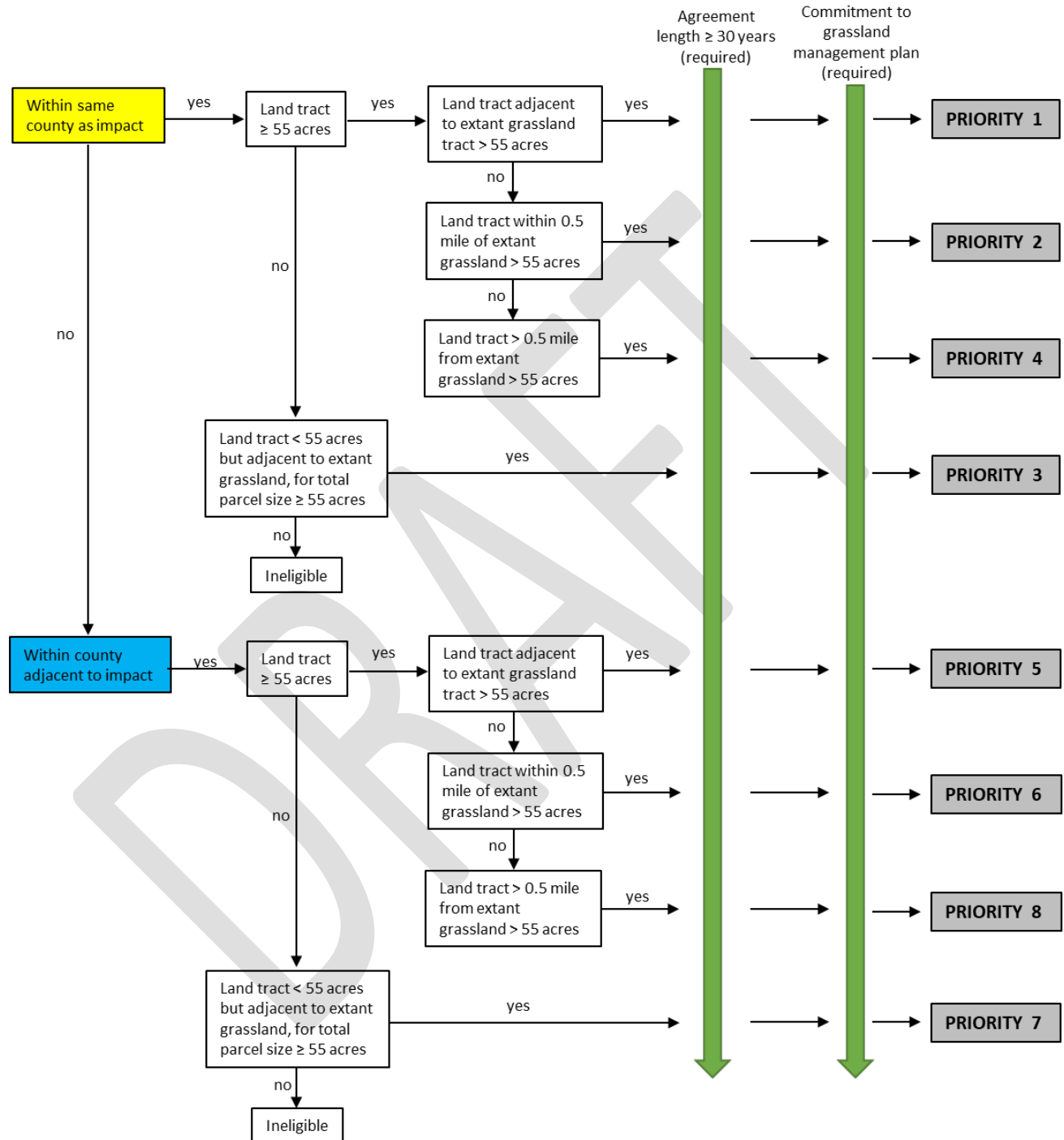
<https://secure.iowadot.gov/lrtf/docs/PrairieSeedlingGuide.pdf>

North Dakota Trust Lands County Rents and Prices North Dakota

<https://www.land.nd.gov/>

Or search for “County Rents and Prices North Dakota” and use current year.

Evaluation for Grassland Offset



Attachment 1.

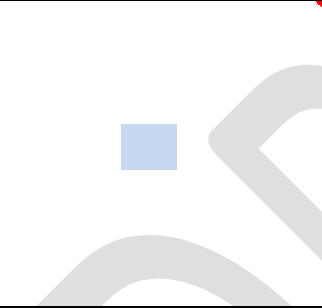
Grass/Legume Stand Evaluation

Name: _____		Clear Worksheet		Date: _____	
Transect No: _____		Tract / Field #: _____			
Completed By: _____		Legal Desc: _____	Sect: _____	Twshp: _____	Range: _____

Species and/or Variety	Plants / Square Foot Plot																									Total	Average Plants/ SqFt	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												

Totals Per Count																												
-------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Indicate how field was sampled:



Seeding Direction: _____

Total Acres: _____

Total number of plots: _____

Average Density (plant/sq. foot): _____

Plant Vigor: ☐ Low ☐ Medium ☐ High

Weed Competition: _____

Comments: _____

Recommendations to Cooperator: _____

Guidelines:

- Sample in a systematic and uniform manner
- Minimum of 10 plots for each 10 acres or less of field size
- Avoid areas that may have been double-seeded
- Sample perpendicular or diagonal to drill rows
- Use a 1 square foot frame (12 in. X 12 in.) or count parallel drill rows:

Recommended Minimum Seeded Species Densities:

Practices 512, 550: (3 - 5 plants per square foot)

Practice 327 : (1 - 2 plants per square foot)

Use the lower limit for rhizomatous species; upper limit for bunch-type or mixtures) Refer to the "Herbaceous Vegetation Establishment Guide" for additional guidance.

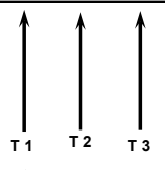
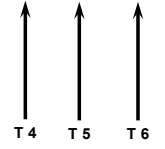
Row spacing	No. of rows	Length
6 inches	2 rows	12.0 inches
7 inches	2 rows	10.3 inches
8 inches	2 rows	9.0 inches

I certify that the above stand evaluation is documented per NRCS practice specifications.

NRCS Evaluator Signature: _____

Date: _____

Click and drag with your mouse the feature you want from the patterns below:

Transect Number & Lines	Field layout
 	

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude:

Checked by:

Date:

Approved by:

Date:

Brief description of current grassland condition:

Additional notes:

*****Submission of photos from designated photo sites required with this form.***

Alan Plumeau

From: Chris McCreedy
Sent: Friday, May 28, 2021 2:45 PM
To: 'Johnson, Sandra K.'
Cc: Mueller, Elisha K.; Riddle, Heidi L; Maureen O'Shea-Stone
Subject: RE: Question on raptor nest removal outside of the nesting season

Hi Sandra,

Thank you for sending this great information, and also thank you for including the link to the report.

Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

602.513.3950 Mobile (best)
480.218.8831 x2503 Tel
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: Johnson, Sandra K. <sajohnson@nd.gov>
Sent: Tuesday, May 25, 2021 6:53 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Cc: Mueller, Elisha K. <ekmueller@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Subject: RE: Question on raptor nest removal outside of the nesting season

Hi Chris,

Per the North Dakota Century Code:

20.1-04-04. Nests and eggs of protected birds protected.

No person, without a permit issued by the director, may take, have in that person's possession or under that person's control, or needlessly break up or destroy, or in any manner interfere with, the nest or the eggs of any kind of bird, the killing of which is prohibited.

In 2013-2014, a comprehensive study of active raptor nests in Logan, McIntosh, and Dickey counties found few Ferruginous Hawks nests: 16 of 181 active raptor nests in 2013 and 14 of 281 active raptor nests (<https://gf.nd.gov/wildlife/swg/project/t-36-r>). We do have concerns with this proposed action of removing a nesting site of a level I Species of Conservation Priority. Ferruginous Hawks were once one of the most common hawks in North Dakota and are now uncommon to rare in many areas of the state. What mitigation actions does Badger Wind propose if this nest site is removed?

We have drafted recommendations for distance and seasonal restrictions for development activities. This information is contained in a BMP document we will be releasing soon.

Common Name	Ability to co-exist? ¹	Spatial Buffer (miles) ²	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Bald Eagle	Mod-High	0.5												
Golden Eagle	Low	0.5												
American Kestrel	Mod-High	0.125												
Broad-winged Hawk	Mod	0.25												
Cooper's Hawk	Mod-High	0.125												
Ferruginous Hawk	Low-Mod	1												
Merlin	Mod-High	0.125												
Northern Harrier	Mod-High	0.25												
*Osprey	High	0.25												
*Peregrine Falcon	Mod	0.5												
Prairie Falcon	Mod	0.5												
Red-tailed Hawk	High	0.33												
Sharp-shinned Hawk	Mod	0.25												
Swainson's Hawk	Mod-High	0.25												
Turkey Vulture	Mod													
Burrowing Owl	Low	0.25												
Eastern Screech-Owl	Mod	0.125												
Great-horned Owl	High	0.125												
Long-eared Owl	Mod	0.125												
*Northern Saw-whet Owl	Mod-High	0.125												
Short-eared Owl	Low-Mod	0.25												

[1] Ability to Co-exist? – Adapted from Table 3 in Demarchi and Bentley (2005), the degree to which the raptors relative ability to co-exist with humans in urban and rural environments.

[2] Spatial buffers adapted from Whittington and Allen (February 2008).

Sandra Johnson

Conservation Biologist

701.328.6382 • sajohnson@nd.gov • gf.nd.gov



From: Chris McCreedy <cmccreedy@atwell-group.com>

Sent: Monday, May 24, 2021 3:18 PM

To: Johnson, Sandra K. <sajohnson@nd.gov>

Cc: Mueller, Elisha K. <ekmueller@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>; Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Subject: Question on raptor nest removal outside of the nesting season

***** **CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *****

Hi Sandra,

We are working on a constraints analysis for the proposed Badger Wind Project in McIntosh and Logan counties. Our question at hand is described in Heidi's message below. She pointed us to the referenced USFWS 2018 memo regarding

removal of Ferruginous Hawk nests outside of the nesting season. Heidi noted that the memo does not supersede or apply to other Federal, State, or Tribal laws and regulation. Heidi indicated we should ask Elisha and Elisha pointed me to you. Does ND have laws or regulations that may supersede the USFWS memo's guidance on removal of a Ferruginous Hawk nest outside of the nesting season? In addition, there is another raptor nest that we have not found to be occupied that is within a few hundred meters of the FEHA nest. It seems that if the FEHA nest was removed it would be prudent to remove this unoccupied raptor nest of unknown species outside of the nesting season as well, to discourage potentially returning FEHA from repurposing the unoccupied nest into a new nest in the following nesting season.

Thank you for your help.

Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

602.513.3950 Mobile (best)
480.218.8831 x2503 Tel
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

Thanks for the message, Heidi.

Chris, you will want to contact Sandra Johnson on this: sajohnson@nd.gov

Elisha

From: Riddle, Heidi L <heidi_riddle@fws.gov>
Sent: Monday, May 24, 2021 2:04 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Mueller, Elisha K. <ekmueller@nd.gov>
Subject: FW: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

***** **CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *****

Chris,

I should have noted that ferruginous hawks are a North Dakota Level 1 Species of Conservation Priority. Per the document, this "memo does not supersede or apply to other Federal, State, or Tribal laws and regulations..". I don't know if ND Game and Fish has any additional policies that may apply here, but I have cc'd Elisha Mueller as well.

From: Riddle, Heidi L
Sent: Monday, May 24, 2021 1:57 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>

Alan Plumeau

From: Sarah Aftergood <SARAF@orsted.com>
Sent: Wednesday, August 25, 2021 11:45 AM
To: Maureen O'Shea-Stone; Tara Corbett
Subject: FW: Badger Wind Farm Project Follow up-Turbine locations and meeting notes
Attachments: Meeting Notes - Atwell - 9 Aug 2021.docx

FYI

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

Ørsted
Tel. +15122302148

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Wednesday, August 25, 2021 12:36 PM
To: Sarah Aftergood <SARAF@orsted.com>; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Charles Smith <CHASM@orsted.com>; June Marie Gray <XJUMG@orsted.com>; Riddle, Heidi L <heidi_riddle@fws.gov>
Subject: RE: Badger Wind Farm Project Follow up-Turbine locations and meeting notes

Hi Sarah,

I did receive your emails, but with vacation followed by field work, I have not yet had a chance to go through any of the supplied materials. Would September 8th or 9th work for you? I am also available August 30th and September 1st, but I don't think we will be able to do a review all of the materials by then. If you would like, we could set up an informal call to discuss any questions you have on the 30th/1st and then meet on the 8th or 9th after we have had time to review the materials.

Also, I made a few edits to the meeting minutes, attached here.

Elisha

From: Sarah Aftergood <SARAF@orsted.com>
Sent: Tuesday, August 24, 2021 9:22 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Dyke, Steve R. <sdyke@nd.gov>; Charles Smith <CHASM@orsted.com>; June Marie Gray <XJUMG@orsted.com>; Riddle, Heidi L <heidi_riddle@fws.gov>
Subject: Badger Wind Farm Project Follow up-Turbine locations and meeting notes
Importance: High

***** **CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. *****

Hi Elisha,

I hope this email finds you well and that you had a well-rested vacation. We've started making some significant changes to the layout in the interest of protecting native grassland and would like to set up another meeting to discuss areas of grassland that are indeed broken and cultivated (I've reattached the materials we sent you on Aug 13th).

Also-I have some questions regarding the new NDGF guidance that has been circulated.

Let me know if you have any availability later this week or early next week. Your time is really appreciated.

@Riddle, Heidi L I will be in touch soon regarding our strategy for Eagles. I'm just reassessing our plan based upon the changes we are currently making.

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

Ørsted
Tel. +15122302148

From: Sarah Aftergood
Sent: Friday, August 13, 2021 3:53 PM
To: Charles Smith <CHASM@orsted.com>; June Marie Gray <XJUMG@orsted.com>; Francesca Martella <FRKEH@orsted.com>; Mueller, Elisha K. <ekmueller@nd.gov>
Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Riddle, Heidi L <heidi_riddle@fws.gov>
Subject: Badger Wind Farm Project Follow up-Turbine locations and meeting notes
Importance: High

Hi Elisha,

Great meeting you Monday. As per the discussions we had, here is a presentation of turbines sites we are looking at on land that is cultivated with photos and turbine numbers that conflicts with the information we have concerning unbroken grassland. I've also attached the meeting notes for your review and confirmation.

Let me know if you need anything else to conduct your review. I will reach out next week to set up a second meeting so we can go through this and work together on this layout.

Thank you and have a great weekend!

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

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saraf@orsted.com



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PRESENTATION NOTES

Project: Badger Wind Farm

Host/Organizer: Sarah Aftergood, Director of Environmental Permitting, Ørsted

Meeting Date: August 9, 2021 (Remote)

Purpose: NDGF/ USFWS Badger Wind Farm – Ørsted Update

Attendees and Introductions:

Elisha Mueller, NDGF Wind Projects Coordinator

Heidi Riddle, North Dakota Ecological Services, Biologist USFWS

Sarah Aftergood, Ørsted Director of Environmental Permitting

Charlie Smith, Ørsted Sr. Director Development

Francesca Martella, Ørsted Project Developer

Maureen O'Shea-Stone, Atwell Project Manager

Chris McCreedy, Atwell Biologist

Tara Corbett, Atwell Permitting

After introductions C. Smith introduced Ørsted, describing Ørsted's growing domestic and international presence. Ørsted is expanding its footprint in several states toward a goal of 5 GW of energy production by 2025.

Ørsted is committed to reducing environmental impacts from its developed projects and is working with state and federal agencies to incorporate grassland habitat considerations in its project siting at Badger.

C. Smith reviewed the Badger Wind Project's history to date and anticipated next steps, including micrositing in 2021, submission of application for siting compatibility certificate in December 2021, signing an interconnection agreement with MDU in June of 2022, construction timeline beginning Q4 of 2022.

C. Smith introduced a project location map with the latest proposed layout version (v6). The layout reflects environmental constraints, aerospace constraints, county permitting constraints, and reflects landowner preferences.

The project will provide approximately \$3 million annually in additional local revenue and 10 permanent jobs.

S. Aftergood then summarized project and planning considerations. Badger Wind has grounded its pre-construction due diligence in USFWS guidelines (WEG and ECPG) as well as the North Dakota SWAP and the NDGF habitat-based approach. Badger Wind has initiated a number of pre-construction studies and they are for the most part completed.

S. Aftergood presented Badger Wind's grassland considerations in its siting design including:

- Integration of landcover spatial data sets
- Data overlay of 2014 micro grassland layer with parcel information and cross-referenced with conversations with landowners.
- Field verification in 2020 and 2021
- Micrositing layouts twice in 2021

Badger Wind has continuously refined its turbine layout to address constraints and is now on version 6. Version 1 was presented at the Dec 2020 meeting and included 38 WTG in grassland. V6 only includes 23 WTG in grassland.

S. Aftergood noted that Badger has identified examples of verified active (or recently active) cropland in areas identified in the 2014 micro grassland layer as grassland. The question is how does Ørsted go forward in working with the agencies to address incongruencies such as these?

E. Mueller answered that this is a difficult topic to answer. There are going to be incongruencies in the grassland layer. She expressed concern that a landowner would till up an area just so a turbine could be placed there. When the question was re-phrased, E. Mueller indicated the following:

E. Mueller indicated that it is important to view the 2014 micro layer as high level on a coarse scale. For micrositing use fine scale aerial imagery, history to establish if the 2014 micro layer has misclassified a turbine location.

S. Aftergood suggested that a follow-up meeting where Ørsted and the NDGF and USFWS review the 23 turbines in grassland together and asked for the NDGF's thoughts on this.

E. Mueller responded that the best-case scenario is that the conversation continues. Twenty-three turbines in grassland is a lot. Recent applicants had a max number of 5 WTG in grassland to her memory. The more NDGF is kept in the loop and appraised of the process, the better. Ørsted can demonstrate if turbine locations have been recently cultivated.

S. Aftergood asked if it is correct that the NDGF will use a 300 m buffer on grassland in its indirect impact calculations.

E. Mueller confirmed this and noted that NDGF uses its most recent science for these calculations, including the Shaffer and Buhl paper and the Loesch paper.

S. Aftergood presented a project layout map illustrating the v1 layout superimposed on the v6 layout to show the reduction from 38 to 23 turbines in grassland. She noted that Ørsted has considered permitting more turbines than it may ultimately build.

S. Aftergood noted that Ørsted hopes for a public hearing in February or March of 2022. After closing with a summary of ongoing and future studies S. Aftergood opened the floor for questions and discussion.

E. Mueller asked for a map of the turbine layout. Reviewing the project layout slide, E. Mueller pointed out that the NDGF's concern is the northeastern portion of the project area, and that looking at the layout map, she suspects it is all uncultivated grassland. Impacting this grassland will impact grassland bird species. If Ørsted can provide NDGF a turbine layout then the NDGF GIS staff will analyze the layout against their various constraints layers, including some data that are not public.

E. Mueller noted that the NDGF needs to deliver their project review letter to the PSC 30 days before the public hearing, and as such, requested that all studies, voluntary offsets, and documents such as a BBCS be provided 100 days prior to the hearing so that NDGF can review all the material and any questions/concerns can be discussed with Ørsted prior to writing that letter.

H. Riddle asked if Ørsted will apply for an eagle take permit for project. USFWS will require time to process the application.

S. Aftergood did not believe so but will discuss this with Atwell.

H. Riddle asked to confirm that the HAPET's Whooping Crane model was used for the WHCR desktop.

C. McCreedy confirmed that it was, and that as suggested Atwell used the WHCR desktop approach of comparing the project area to four surrounding reference areas used by other recent site permit applicants when completing the WHCR desktop for Badger. In addition to the HAPET model the project area was compared to reference areas using Pearse's stopover intensity modeling, past WHCR sightings, and scoring of wetlands as potential stopover locations.

H. Riddle asked if Badger Wind has reached out to the local USFWS wetland conservation district staff. T. Corbett confirmed that Atwell had done this and that she believed that H. Riddle may have been on that call. All sites have been avoided.

H. Riddle indicated that the USFWS will want to see everything compiled into a BBCS, she believes she has shared a BBCS template with Badger Wind and Atwell but can resend it just in case. S. Aftergood asked USFWS to resend it please.

E. Mueller asked if any WTGs had been sited on PLOTs parcels if PLOTs had been considered in turbine siting. Terms of PLOTs contracts may have been violated by project agreements. T. Corbett indicated that Badger Wind is aware of PLOTs parcels as a constraint, but that Atwell would need to evaluate the current layout confirm whether any WTGs were ultimately sited in PLOTs parcels.

S. Aftergood asked if PLOTs easements are tied to deeds. E. Mueller responded that this was a good question and was uncertain of this. There are many different kinds of PLOTs contracts, some contracts are centered on crop management, some may be centered on native habitat preservation.

H. Riddle inquired if USFWS grassland and wetland conservation easements had been obtained from the USFWS Kulm office. T. Corbett confirmed that the easements had been obtained, that coordination with the USFWS Kulm office had occurred, and that the easements were used in the development of the layout.

E. Mueller asked how quickly can Badger Wind provide a project layout and studies?

S. Aftergood indicated that it will not take long and that she will reach out to Ørsted's GIS team to deliver a KMZ when it is ready.

E. Mueller noted to not send zip files for studies, NDGF cannot accept zip files.

M. O'Shea-Stone asked if from a process standpoint might it be more important to internally discuss and potentially refine the layout with 23 WTGs in grassland before sending in the layout to NDGF and USFWS?

S. Aftergood indicated Ørsted will consider this. E. Mueller noted that Badger Wind should put its best foot forward with its submission. If it wants to submit a layout with 23 WTGs in grassland it can, but NDGF will need to analyze the submission. It may be better from the project's standpoint to continue to refine its layout before submission. NDGF simply will analyze what is provided.

S. Aftergood noted that Ørsted can provide demonstration of why some WTGs are in unbroken grassland and check mutual assumptions in a follow-up meeting. E. Mueller agreed.

C. Smith asked if NDGF only uses the 2014 micro grassland layer in its analysis. E. Mueller indicated no; their GIS staff conducts a more complex analysis with several data sources.

F. Martella asked to confirm the status of grazed grassland as broken or unbroken. E. Mueller indicated that grazing is not indicative of broken grassland and that in fact some of the best prairie in North Dakota may be grazed. Broken means tilling or removal of topsoil.

Alan Plumeau

From: Maureen O'Shea-Stone
Sent: Tuesday, September 21, 2021 5:03 PM
To: Sarah Aftergood
Cc: Tanya Johnson
Subject: RE: Notes from call with NDGF, WEST, USFWS
Attachments: Badger_NDGF Meeting Notes_9-20-2021.docx

Sarah,

Attached please find the compiled notes from the 9-20 call with NDGF and USFWS.

Best,
Maureen

Maureen O'Shea-Stone

Project Manager/Botanist

ATWELL, LLC

720.937.1359 Mobile

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

From: Sarah Aftergood <SARAF@orsted.com>
Sent: Monday, September 20, 2021 10:17 AM
To: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Cc: Tanya Johnson <tljohnson@atwell-group.com>
Subject: RE: Notes from call with NDGF, WEST, USFWS

Happy for atwell to compile. I took notes on my side.

Best regards,
Sarah Aftergood
Director of Environmental Permitting
Development 1
Onshore

Ørsted
Tel. +15122302148

From: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Sent: Monday, September 20, 2021 11:04 AM
To: Sarah Aftergood <SARAF@orsted.com>
Cc: Tanya Johnson <tljohnson@atwell-group.com>
Subject: Notes from call with NDGF, WEST, USFWS
Importance: High

Sarah,

Who is compiling these notes?

Best,
Maureen

Maureen O'Shea-Stone

Project Manager/Botanist

ATWELL, LLC

720.937.1359 Mobile

3000 Center Green Drive | Suite 210 | Boulder, CO 80301

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Badger Wind Farm – Formal Meeting Follow Up with North Dakota Game and Fish (NDGF)
September 20, 2021 10:00 AM CST – Teams Meeting Call

Attendees:

NDGF: Elisha Mueller

USFWS: Heidi Riddle

Ørsted: Claire Dittrich, Sarah Aftergood, Francesca Martella

WEST: Kurt Smith, Martin Piorkowski

Atwell: Tanya Johnson, Maureen O'Shea-Stone, Chris Rutledge,

- Data relayed to NDGF by Ørsted RE: assessment of grassland for nine proposed turbines
 - E. Mueller: in agreement with the Ørsted assessment for the 9 turbines. But will really come down to the micro-siting. This review to-date is at a large-scale data scale.
 - When they do actual assessment with final layout:
 - Results may look different, this analysis is more intense and comprehensive of other data/information sources
 - Suggested Ørsted send final project layout so they can run through all of it at once. Will dedicate staff to this assessment.
 - Starting into hunting season and staff are out
 - E. Mueller will let Ørsted know what time is best for next meeting
- Avian Species Impact Analysis
 - NDGF uses Shaffer (2016) with 300 meter buffer around turbines and Loesch model to calculate impacts to upland birds and waterfowl, respectively
 - This may catch surface impacts to native grassland at the edges of the buffers
 - Primary goal = no native prairie being plowed up
 - Any impacts to native grassland:
 - Would be used to calculate voluntary mitigation offsets, as noted in BBCS
 - Would recommend new habitat creation. Assumes what is left is at carrying capacity
 - Should Ørsted initiate offset conversation before filing with PSC? Can this be done during their review process?
 - E. Mueller: would like to know as early as possible.
 - Recommends submitting a plan with the CSC application, so NDGF can comment on it as part of their review
 - The offset proposal can then change as the project develops, as the costs will be invoked much later in the process
 - E. Mueller: NDGF must have their comments submitted to PSC 30 day prior to hearing
 - So, need final lay-out and pre-construction surveys as soon as possible, so they can run the Schaffer and Loesch models and calculate impacts
- Sharp-tailed Grouse Leks
 - WEST is doing a sharp-tail grouse habitat assessment
 - K. Smith: Travis in SD developed Sharp-tailed Grouse occurrence model they are using
 - Landscapes dominated by grassland is where most birds are. Surface disturbance is influential in behavioral avoidance
 - Areas that have a lot of agriculture is not expected to be used by Sharp-tailed Grouse
 - Finding that some of the areas within 2 miles of a lek are already impacted
 - Finding areas to site, in order to minimize impacts
 - Will request review of findings by NDGF
 - Expect to use the results in overall project narrative

- E. Mueller: want to be kept in the loop about this assessment. Acknowledges numerous resources/issues and setbacks need to be considered
 - Her focus is on nesting habitat, not lekking habitat
 - She recommends a case-by-case decision
 - Doesn't want a buffer on a lek to push impacts into native grassland
 - Positive can find the best case scenario for the project. Really appreciates the on-going communication about the project.
- Takeaways
 - WEST is continuing to work on lek assessment and grassland mapping. Will share with NDGF for review.
 - Ørsted will send over final project lay-out for concurrence with grassland assessment
 - E. Mueller: other issue would be to check for PLOTS within project boundary. F. Martella noted there are none in current project area.
 - E. Mueller: NDGF would like to see, asap:
 - Final turbine layout
 - BBCS (a working document, doesn't have to be finalized right away) with preconstruction surveys and a voluntary offset proposal
 - Wants to see the project moved out of areas of greatest concern
- Heidi Riddle RE: Federal Trust Resources
 - USFWS input:
 - Defers to NDGF, listening in and using their data in the process
 - Addresses a lot of their concerns as well by avoiding grasslands
 - Will likely make the same, or similar, recommendations to NDGF
 - Federal easements will be another issue of concern, as well as hawk nests and other USFWS jurisdictional mandates
 - S. Aftergood: Ørsted will be in contact shortly with final project layout and schedule call RE: USFWS jurisdictional issues
- Meeting adjourned

Meeting notes by Sarah Aftergood and Maureen O'Shea-Stone

Badger Wind Farm – Formal Meeting Follow Up with North Dakota Game and Fish (NDGF)
December 08, 2021 10:00 AM EST – Teams Meeting Call

Attendees:

NDGF: Elisha Mueller

USFWS: Heidi Riddle

Ørsted: Sarah Aftergood, Francesca Martella, June Marie Grey, Lucas Buseck

Frederickson: Mollie Smith, Bridget Duffus

WEST: Kurt Smith, Martin Piorkowski

Atwell: Tanya Johnson, Chris Rutledge, Alan Plumeau, Caitie Cyrus

- The purpose of this meeting is to update NDGF and USFWS on status of overall project and remaining impacts to resources:
 - Ørsted has made significant progress on the project layout, moving it away from grasslands and other sensitive natural resources. They are at a point where, due to the land that is available, other types of constraints, and the timing of permit submittal, that the turbine layout is solidified. There are 74 turbines and 20 alternate turbine locations presented during the meeting.
 - Turbines in the grassland layer provided by NDGF are identified as being in existing cropland now. The southwest of the Project Area is completely cropland. Parcels are still in negotiations to the south, but the hope is that they can build in the southwest portion of the Project Area and, in turn, can leave the northeast area alone.
 - Present the results of WEST's sharp-tailed grouse lek and grassland surveys.
 - Present the locations of raptor nests within the Project Area.
 - Finish with discussion of the BBCS, recommendations for mitigation, any additional comments.
- West Survey Results Updates-
 - Grasslands
 - Survey was a two-step process beginning with a desktop analysis and followed up with a field validation effort.
 - The desktop assessment focused on using recent imagery and data layers within the General Project area and 1-mile Buffer to produce a first draft that identifies potential grassland parcels.
 - The field validation effort determined the status of grasslands within those identified areas.
 - This survey resulted in identifying 21,000 acres (41% of the project area) of grasslands.
 - 18,000+ acres are unbroken (85%) and 3,000 acres are broken (14%)
 - Figure shared with USFWS and NDGF displayed results, showing broken and unbroken grassland distribution within the Project Area and 1-mile buffer. Figure shows unbroken grassland concentrated in the northeast part of the Project Area, becomes more fragmented moving towards the center and southwest of the Project Area (consistent with description above)
 - Heidi Question: Is bright green areas of unbroken grassland? West: Correct
 - Sharp-tail Grouse (STG) Leaks
 - The objective of this assessment was to use best available science to evaluate STG and their habitat within the Project Area. There are currently no studies evaluating STG in response to wind development but can assess habitat to narrow areas we expect to be low use for STG.
 - Figure 1 - Showed known lek locations; brown area is cultivated crop, yellow is grassland areas.

- Figure 2- Base map shows occurrence models based on Runia et al. (2021). It is a heat map of relative occurrence. Areas in blue and green are predicted to be high occurrence orange/red areas predicted to be low. Corresponds well to grassland layer.
 - Figure 3- Suitable grasslands habitat. Areas of purple predicted to be good habitat. Based on studies done in Montana, 60% or greater grassland within a mile seems to be good habitat for STG.
 - Figure 4- Suitable areas of habitat based on proportion of cropland. Studies pointing with less than 45% cropland as suitable. Areas in southwest are unsuitable using this model because of large expanses of agriculture.
 - Figure 5 – Suitable areas of habitat based on development (<4% development within 0.7mi).
 - Figure 6 – Shows all of the above figures incorporated into a single layer representing suitable habitat for STG. This roughly corresponds to the grasslands layer.
 - As a result of WEST studies, some turbines are still placed within the 2-mile lek buffer, but they are in areas that are cropland.
- Discussion of Surveys and Potential Mitigation Measures
 - Ørsted took all data collected by WEST and sited turbines in areas that avoid grasslands and leks as much as possible. As discussed before, if turbines are in cropland, displacement would be less. Ørsted recognizes NDGF guidance on 2-mile buffer, but if a 2-mile buffer is used it would be detrimental to the Project. Sarah is proposing 1-mile buffer, having moved more down south to help mitigate all turbines outside of grassland. The remaining turbines within a 1-mile buffer of STG leks are in cropland.
 - Because of various constraints, there are still some turbines proposed in the northern portion of the Project Area. However, there are more turbines proposed for permitting than they will build.
 - Ørsted asks what possible mitigation measures for turbines in this area are if we plan on building them
 - Elisha: How many turbines might not get built? How many extra are in the permit application?
 - Sarah: 74 primary; 20 alternates (94 total for permitting)
 - Elisha: If Ørsted gets agreement with landowners in the south, the northern turbines would be taken out?
 - Sarah: Will have to check with development team. If the southern area is accessible, then it would be ideal to remove northeastern turbines. Noted the long collection line going to the northern turbine locations. This is another reason why these northern turbines would likely be the first to be removed from final design.
 - Elisha: NDGF recommendations for mitigation and/or offsets are all in the BMPs. The expectation is that every turbine provided in the permit application should be run through the risk analysis and the impact analysis. Then the offset package should match that.
 - This should be provided before the application is submitted to make PSC's job easier.
 - Elisha: The second trigger is once construction starts because what is committed to in PSC application might change. So when the project goes to construction, we can see what the offsets actually are. Within 5 years we want to see offsets being put back onto the landscape.
 - The impacts are determined using Schaffer and Chuck Loesch papers/models for wetlands and grasslands. There is no scientific model for woodland impact assessments in the area, so we should just use PSC's standard, which is a 2:1 replacement. Recommend reestablishing prairie and wetlands outside of project area as offset for areas lost.

- ND has lost about 75% of native prairie and 60% of wetlands, they have to make the conclusion that the carrying capacity is maxxed out and there is no extra space for animals to go, so we are more than likely losing them instead. The idea is to create extra habitat that they can use as refugia from impacts created by energy development.
- Sarah: Should we come back when we have BMPs and an offset approach to review prior to submitting Application in January?
 - Elisha: The sooner the better. We want to make PSC job easier. There is a step by step on how to evaluate impacts in their BMPs, and Elisha will check to make sure they are online. If not, they will be sent to Ørsted.
 - Heidi: prefer the offset package to be included in the BBCS so it's wrapped up in one place and easier to comment on.
- Sarah: Would you like to see WEST report?
 - Elisha: Yes, that would be great.
- Elisha: The state has a limited toolbox for mitigation because of the political climate. Ducks Unlimited is one of three that can do restoration in the area. The other thing is they get pressure on easements. It upsets politicians and landowners. If you do restoration and wrap it up in protecting those sites for the life of the project, then that is good. Be careful in the language you use because we have to appease all sides of this. It's a win-win if we package it right in a way that's amenable to everyone. Natural Resources Trusts also works on easements and restorations, they have held \$ for offset packages. Magnolia Company also works with a different wind developer with some off-site work. Those are the only 3 groups that can do the offset work in the state as of right now.
 - Sarah: after this, I'll put together information on what I'm also proposing, and some provisions we can add for during construction.
- Raptor Nests
 - Sarah- Reviews Figure with layout showing various raptor nest sites found in Y1 and Y2 surveys. Nest locations identified as active. Displaying hatched inner buffer with old half-mile guidance as well as solid 1-mile buffer for setbacks.
 - In the northeast, Ørsted is away from all eagle nests identified and not near Whooping Crane Stopover Habitat.
 - Further south we have some conflicts
 - Swainson's and Ferruginous Hawks nests are within buffer areas. ¼ mile setback for Swainson's hawk (consistent with former guidance) and within ½ mile for Ferruginous hawk (250 ft away). These nests were discovered late – not in the Year 1 and Year 2 survey efforts, but during micrositeing this year – and we are at a critical point where the turbines cannot be moved (3 turbines impacted).
 - Heidi: Is this the one that came up for discussion on nest removal? There is a legal way to remove the nest. If that is the option would want to see some sort of mitigation. We are open to ideas for mitigation. It gets tricky because the MBTA doesn't say we can't put turbines near nests, but we know it is probably going to have some sort of impact. We would like to see some sort of mitigation and there are ways to work around this. There is no formula for mitigation like this. We would welcome ideas to look at and then Heidi can talk to their migratory bird office. The sooner we can see proposed measures, the better. Better if I have something to react to.
 - Sarah: We want to come up with creative way to protect this nest that can be collaborative. Will do post construction monitoring so can put some measures in then.
 - Heidi: Agreed. Will be helpful if we have something to react to. When thinking about post construction monitoring, that is great because it can give us info we might not otherwise have. What we like to see, in addition, if there turns out to be a major impact – are there things that Ørsted can do to adapt if it those that is an issue (adaptive management

concept)? Not necessarily asking for turbine to be turned off or removed once it has been constructed, but open to other ideas.

- Next Steps
 - Sarah: Is it easier to set up another meeting before the holidays to work through mitigation measures or would you prefer a memo back and forth?
 - Heidi: It is helpful to have something to look at and read to digest. Then we can have a follow-up meeting with questions.
 - Sarah: propose two memos: one for the nests being impacted and one for the leks within a 1-mile buffer, keeping in mind that Ørsted doesn't have the final 74 turbines determined and in case those turbines wind up not getting built, those issues go away. Ørsted will also work on offset package, which will be included in the BBCS. There will need to be more follow-ups as they come up with a final site layout design. Will provide before PSC application is submitted. Anything else you need?
- Elisha requests final turbine layout ASAP because NDGF runs the same analysis on all turbines (including alternates) independently and provides it to PSC.
 - Sarah: Do you also want our data layers for wetlands and grasslands?
 - Elisha: You can provide them, but we do the analysis on our own. If you provide them we can look at discrepancies. For wetlands, do you only look at jurisdictional? We look at all wetlands in our analysis.
- Sarah: We are looking at all wetlands but are sending jurisdictional request to USACE this week.
 - Elisha: When it comes to wetlands we run Chuck Loesch's model (use waterfowl as an umbrella species for anything that may be impacted due to the loss of wetlands). Offset recommendations are based on what that model puts out. Have you been in touch with Chuck on this? Recommend reaching out to them to get that data. Office can provide contact info.
- Sarah: Heidi mentioned a response to raptor memo regarding removal of nests. Atwell, do you have?
 - Chris: We do have the correspondence. We sent out recommendations in memo to Ørsted, including input from Heidi. There was some follow up because the hawks are level 1 SCP for NDGF.
- Heidi: It is easiest in the BBCS to present every turbine as though you are building 94 so that there is info on every single one. Then as turbines fall out, it is easy to pull that information out of the package.
 - Elisha: recommend running an impact analysis on all of the turbines. Run the offset analysis on all of them. The second trigger is when construction is completed and we know what the actual offset might look like after the turbines have been built. In the BBCS it would be great to see all of that.
 - Sarah: in past projects, they true up the actual built versus the assessed level of impact at that time.
- Meeting adjourned

Meeting notes by Sarah Aftergood and Tanya Johnson

Appendix D

Agency Correspondence

North Dakota Parks & Recreation

November 5, 2021

Sarah Aftergood
Orsted

Re: Proposed Wind Turbines near Wishek, North Dakota

Dear Ms. Aftergood,

The North Dakota Parks and Recreation Department (NDPRD) has reviewed the above-referenced wind turbine project near the City of Wishek, North Dakota. NDPRD's scope of authority and expertise covers properties that NDPRD owns, leases, or manages; properties protected under Section 6(f) of the Land and Water Conservation Fund (LWCF); rare plants and ecological communities established through the Natural Heritage Program.

The project does not appear to affect properties that NDPRD owns, leases, or manages.

The project does not appear to affect any properties protected under Section 6(f) of the LWCF.

The North Dakota Natural Heritage biological conservation database has reviewed the project to determine if any current or historical plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we have no known rare species or significant ecological communities documented within or immediately adjacent to the project site. Because the Natural Heritage information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area not represented in the database. The absence of data may indicate that the project area has not been surveyed rather than confirm that it lacks natural heritage resources.

We appreciate your commitment to rare plant, animal, and ecological community conservation, management, and inter-agency cooperation to date. For additional information, please get in touch with Natural Resources Coordinator Kathy Duttonhefner at 701-328-5370, 701-220-3377 (cell), or kgduttonhefner@nd.gov.

Thank you for the opportunity to comment on the proposed project.

Sincerely,



Kathy Duttonhefner, Coordinator/Biologist II
Natural Resources Division

North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

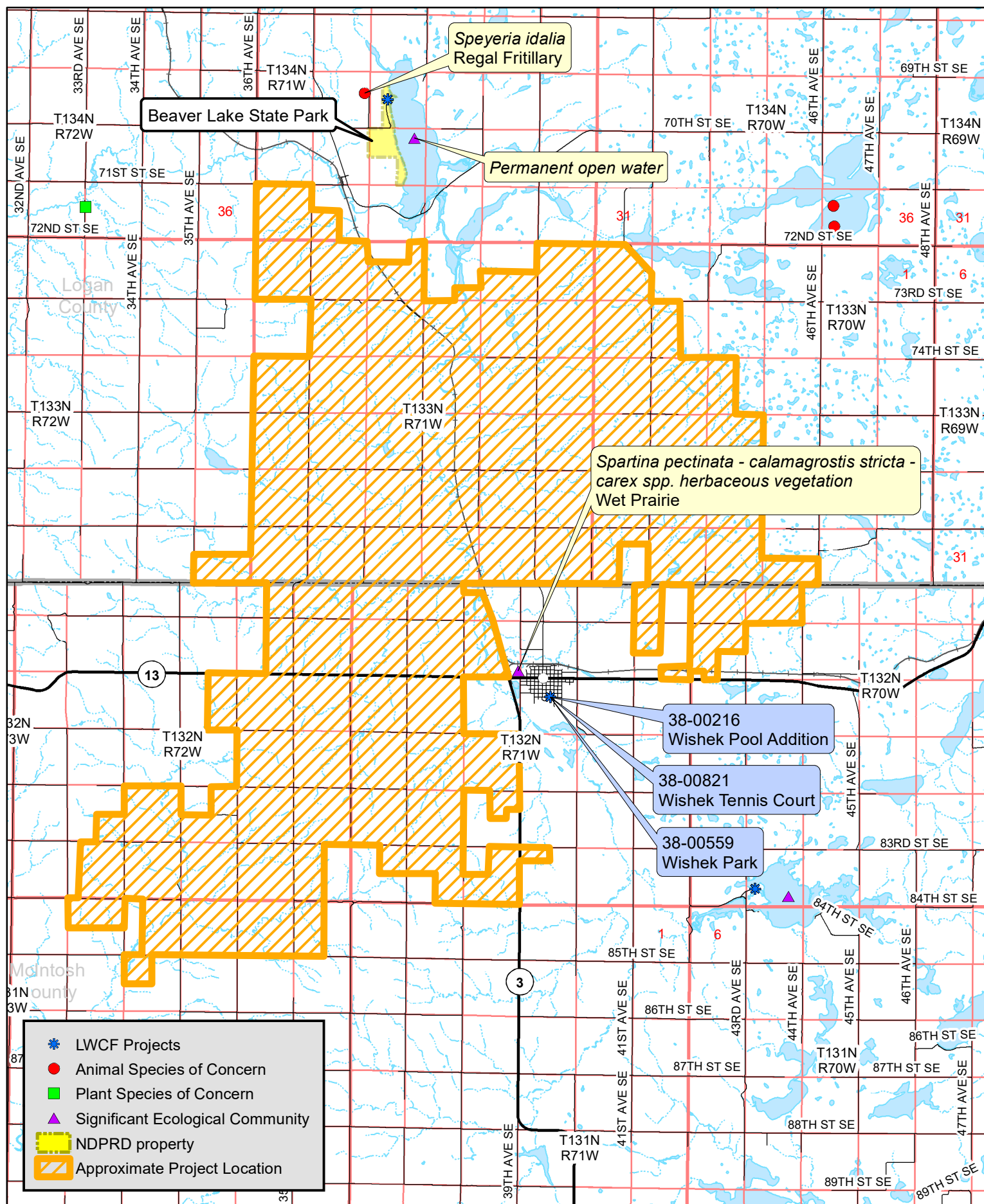
State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
Permanent open water		S2	GNR		134N071W - 28	Logan	1977		S
Spartina pectinata - calamagrostis stricta - carex spp. herbaceous vegetation	Wet Prairie	S2S3	GNR		132N071W - 09; 132N071W - 10	McIntosh	1985-06-14		S
Speyeria idalia	Regal Fritillary	S2	G3?		134N071W - 20	Logan	1991-08-08		S

Land and Water Conservation Fund Projects

<u>Project Name</u>	<u>Project Number</u>
Wishek Park	38-00559
Wishek Pool Addition	38-00216
Wishek Tennis Court	38-00821

North Dakota Parks and Recreation Department

North Dakota Natural Heritage Inventory



Appendix D

Agency Correspondence

North Dakota Public Service Commission



DRAFT MEETING MINUTES

Project: **Badger Wind**
Logan and McIntosh counties, ND
Ørsted Onshore North America, LLC

Host/Organizer: Jerry Lein, PSC

Meeting Date: January 27, 2020

Purpose: **Project Introduction Meeting**

Attendees

- Jerry Lein, Staff Engineer, North Dakota Public Service Commission (PSC)
- John (Jack) Schuh, Commission Counsel, PSC
- Brian Johnson, Attorney, PSC
- Patrick Fahn, Director, Public Utilities Division, PSC
- Jon Baker, Senior Developer, Ørsted Onshore North America (Ørsted)
- Emily Cooper, Senior Project Manager, Atwell
- Chris McCreedy, Senior Environmental Consultant, Atwell

Meeting Summary

The project team provided PSC staff with an introduction to Ørsted and the Badger Wind project and requested feedback on setbacks, permitting requirements, new developments in the permitting process, and any additional guidance and suggestions.

Discussion Topics

- J. Baker introduced Ørsted and the project, including location and size, stage of project development, and status of interconnection processes (project in the queue for MISO and SPP). Targeting start of construction in 2022 or 2023.
- Ongoing developments in wind permitting:
 - Discussions with the Department of Defense (DOD) regarding distance of wind developments from intercontinental ballistic missile (ICBM) sites; DOD requesting 2

miles. J. Baker noted that Ørsted participates in industry groups that are also tracking this issue, since it has come up more broadly.

- Noise – North Dakota is considering revising the requirement from 50 decibels (dB) at 100 feet from an occupied building to 45 decibels (dB) at 100 feet from an occupied building. Still in process – could potentially go even lower, but staff thought 45 dB would be the most likely outcome.
- Nothing else new on the horizon for setbacks.
- Project-specific feedback / thoughts from PSC:
 - Beaver Lake State Park is just north of the project site – recreation, hunting interests.
 - They have seen more resistance to wind from property owners and wildlife groups in the northwest portion of the state. Would not expect to see as much resistance from property owners in McIntosh and Logan counties.
- Permitting
 - Recommendation to have county permits in order or at least in process before the application is submitted to the PSC.
 - If McIntosh County has no zoning regulations, the project should nonetheless confirm there are no township regulations to consider. (Atwell would recommend meeting with the county and obtaining written documentation confirming that no permits required for wind development, including buildings such as an operations and maintenance facility or substation, roads, etc.)
 - PSC staff noted that unbroken prairie is a major focus of the North Dakota Game and Fish's (NDGF's) objective to protect the state's "unique and rare" species. Avoidance is not an issue per se for PSC except as they need to consider recommendations from NDGF.
 - Topic of offset payments for impacts to unbroken prairie (or other priority habitats) was raised. PSC confirmed that many wind farms have utilized offsets to date. NDGF is supportive; PSC less so. Politically speaking, offsets are viewed unfavorably by some parties.
 - PSC acknowledged that offsets may be part of the picture, but technically the Commission will not consider them in their determination. Best strategy is to avoid / minimize impact to the extent practicable.

- A new law was proposed during the last session stating that the PSC cannot consider offsets in granting a permit. PSC staff noted that this essentially formalizes a practice that was already in place.
- Other recommendations:
 - Project will want to consult /involve tribes in development process.
 - Recommendation to review the Emmons-Logan docket, given proximity to the project.

Actions

No specific actions coming out of the meeting, except recommendations for the project to review the docket for recent and nearby wind facilities, and to keep an eye on evolving regulations. PSC staff all offered to answer questions and be a point of contact as the project develops.

Appendix D

Agency Correspondence

North Dakota State Water Commission

November 8, 2021

Sarah Aftergood
Orsted
Email

Dear Ms. Aftergood:

This is in response to your request for a review of the environmental impacts associated with the Badger Wind Energy Center project located in McIntosh and Logan Counties, ND.

The proposed project has been reviewed by Department of Water Resources staff, and the following comments are provided:

- There are no FEMA regulatory floodplains identified and/or mapped where this proposed project is to take place. No permits relative to the NFIP are required based on the current effective FIRM and State minimum standards.
- The Department of Water Resources (DWR) Engineering and Permitting Section reviewed the Project and determined that any changes or effects to ponds, sloughs, or lakes, watercourses, or drainage patterns may require a DWR permit. For more information on these requirements, please visit the Regulation & Appropriation tab on the DWR's website (dwr.nd.gov), or contact the DWR's Regulatory Division at 701-328-2752 or dwrregpermits@nd.gov.
- Initial review indicates the project does not require a conditional or temporary permit for water appropriation. However, if surface water or groundwater will be diverted for construction of the project, a water permit will be required per North Dakota Century Code § 61-04-02. Please consult with the Department of Water Resources Water Appropriation Division if you have any questions at (701) 328-2754 or appropinfo@nd.gov.
- The Department of Water Resources maintains a network of observation wells across the state for monitoring the water levels and quality in glacial and bedrock aquifers. These wells are often installed in road and highway rights-of-way to limit inconvenience to the adjacent landowners. Department of Water Resources observation wells have a yellow protective casing extending between 1 and 3 feet above ground surface, and their locations are marked with a stake. If an observation well is encountered during project activities and must be removed, please contact the Water Appropriation Division. The Department of Water Resources hopes to keep all observation wells, but otherwise will ensure the well is properly abandoned.

Thank you for the opportunity to provide review comments. Should you have further questions, please contact me at 701-328-4970 or stevebest@nd.gov.

Sincerely,



Steven Best
Planner III

SB:dm/1570

Appendix D

Agency Correspondence

North Dakota State Historic Preservation Office



MEETING MINUTES

DRAFT/CONFIDENTIAL

Project: Badger Wind, Wishek, North Dakota
Atwell Project Number: 19000785
Orsted

Host/Organizer: Benjamin Banks, Atwell
405.614.0621 bbanks@atwell-group.com

Meeting Date: October 6, 2020

Purpose: Project Introductory Meeting

Attendees

Andrew Clark, North Dakota SHPO

Lisa Steckler, North Dakota SHPO

Jonathan Baker, Orsted

Ben Banks, Atwell Cultural Lead

Tara Corbett, Atwell Technical Lead

Emily Cooper, Atwell Project Manager

Meeting Summary

Attendee Introductions

Project Introduction:

- Ben Banks introduced the project and shared the project layout and boundary on his screen.
- Badger Wind started leasing land in 2017 and 2018.
- The project design team is starting to prepare a more detailed layout.
- The planned project layout incorporates setbacks and constraints identified via mapping and field studies.

- The interconnect position is for 250 MW of energy and there are 90 turbines in consideration - the project has a lot of alternates at the moment in anticipation that some turbine positions will need to be dropped.
- Planning late Quarter 1 or early Quarter 2 2021 to submit a state siting application through PSC.
- Atwell has been conducting wildlife studies on Badger Wind's behalf.

Proposed Cultural Resources investigations:

- The Atwell team is getting ready to conduct Class III Archeological studies, with architectural history studies to be conducted in early 2021.
- The Town of Wishek is within the 2 miles from an architectural history perspective.
- Class III archaeological studies are planned for the project footprint starting the week of October 19, weather conditions permitting. Proposed impact areas will be used. Using standard North Dakota Class III guidelines. Two field crews expected for approximately one week of survey.

Discussion about contingencies for project re-design:

- SHPO mentioned a concern that report addendums can become confusing. Prefer a single submittal once surveys completed for final site design. Site forms should be as complete as possible.
- Atwell is planning to hold the final cultural resources survey report until design is complete – will plan to provide consolidated report to SHPO that provides field results in a timely manner and clearly shows project impact area.

Discussion on SHPO involvement in PSC process:

- SHPO often does not know about projects until last minute (until they receive a request for concurrence) as part of the overall PSC application process. Appreciate earlier notice that cultural work is planned.
- The full cultural resources report can be included as an addendum to the certificate of site compatibility as long as the report can be redacted so that any archeological sites can be protected. Otherwise simply reference the report and include an executive summary. The report can then be available via SHPO.
- The SHPO typically has a two-week time period for state reviews. Usually try to stay about a week from submittal. Best case is a week.

- Receipt of paper report copies initiates the project into the queue for review.
- The SHPO needs a final hard copy cultural report for their archives but needs electronic files for archives as well. Contractors typically provide a pdf of the cultural report and survey shapefiles via the SHPO's FTP site and then follow up with a hard copy of the report.

Architectural Survey Discussion:

- Class III Architectural Survey planned for early 2021.
- Atwell is planning to partner with an architectural historian out of Bismarck.
- Plan to use the typical 2-mile radius around turbines.
- Regarding survey of Town of Wishek:
 - Architectural historian should be able to use professional judgement regarding what to include in the survey.
 - SHPO suggests a Class II windshield survey to assess and provide a plan for feedback.
 - SHPO stated site lead forms would be sufficient for most resources in Wishek
- Historic railroad bisects the project. Railroads are not generally eligible, sometimes bridges, overpasses, workshops are eligible, but grade itself isn't eligible. Eligible features would need to be more than just a train track passing through the area.

Discussion of potential project Impacts:

- There is a planned bore under the railroad grade. SHPO not too concerned about boring under grade. SHPO has concerns about boring beneath prehistoric sites. Boring is not considered site avoidance.
- SHPO typically recommends a 50-foot avoidance area around sites with fencing and monitoring.
- SHPO would like to review an unanticipated discovery plan to understand responses to unexpected discoveries during construction.

Alan Plumeau

From: Ben Banks <bbanks@atwell-group.com>
Sent: Friday, October 2, 2020 1:51 PM
To: 'andrewclark@nd.gov'; 'lsteckler@nd.gov'; j baker@lincolnclean.com; Emily Cooper; Tara Corbett
Cc: Jonathan Baker
Subject: Badger Wind Project Introduction
Attachments: attachment.ics; 19000785_ProjectArea_20190415.kmz

Thank you everyone for helping to get this call scheduled. This update includes the call in information and also a KMZ of the project location we will be discussing. I look forward to talking with you Tuesday morning.

Preliminary Agenda:

- Project Description
- Planed Fieldwork
 - Archaeological
 - Architectural
- Comments, Questions, and Feedback

[Join Microsoft Teams Meeting](#)

+1 231-674-5592 United States, Grant (Toll)

Conference ID: 892 020 224#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)

Atwell, LLC

Regards,

Ben Banks, RPA

Project Coordinator

Environmental Services

ATWELL, LLC

405.614.0621 Mobile

www.atwell-group.com

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Minutes of meeting to:

Badger Wind Farm, Logan and McIntosh Counties, North Dakota

SHPO Coordination Meeting

Ørsted Onshore North America, LLC

Copied to:

Kimberly Peters, Claire Dittrich, Sarah Aftergood

MoM. No.:

10306372-HOU-R-01-A

From:

DNV Environmental Permitting Services

Date:

21 September 2021

Prep. By:

Gabriel Constantin, DNV

Jennifer Bring, Atwell

For: Badger Wind Farm, located in Logan and McIntosh counties, North Dakota

Subject: Badger Wind Farm Project SHPO coordination

Time/Place: Microsoft Teams virtual meeting, 10:00 am CT

Participants: State Historic Preservation Office (SHPO): Andrew Clark, Lisa Steckler

Ørsted: Sarah Aftergood, Claire Dittrich

DNV: Kimberly Peters, Gabriel Constantin

Cultural Resource Analysts, Inc. (CRA): Liz Heavrin, Robert Ball

Atwell, Inc.: Maureen O'Shea-Stone, Tanya Johnson, Jennifer Bring

Absent: N/A

Agenda:

- Introductions
- North Dakota State Historical Society and State Historic Preservation Office (SHPO)
- Update on Class II Architectural Assessment
- Update on Class III Archeological Assessment
- Questions and Answers (Q&A)

Introduction

Brief introduction of the participants included Andrew Clark (chief archaeologist for state of ND), Lisa Steckler (106 reviewer, standing in for state reviewer) and the members of Ørsted (project developer), DNV (environmental consultant), Atwell (permitting; archaeological consultant) and CRA (architectural consultant).

Sarah Aftergood (Ørsted) indicated that the Badger Wind Farm (the "Project"), a 250 MW wind farm in Logan and McIntosh Counties, with a less-than one mile transmission line, has not changed significantly since the last Project meeting with SHPO other than a reduction in project area and minor movements/micrositing near the town of Wishek. The Project is planning to submit its Certificate of Site Compatibility (CSC) application to ND Public Service Commission (PSC) by the end of December 2021, with expectation of permit issuance in June 2022.

To date, the Project has completed its Class I literature research and has partially completed the Class III Archaeological Assessment in 2020. The items the Project wants to cover for the meeting are as follows:

- What is the role North Dakota State Historical Society and SHPO?
- Project update on Class II Architectural Assessment and ensuring the right methodology is followed
- Project update on Class III Archeological Assessment and ensuring the right methodology is followed
- Address any additional Q&A from SHPO, Ørsted and the consultants as needed.

North Dakota State Historical Society and SHPO

Andrew Clark confirmed that the ND State Historical Society and SHPO are one and the same. SHPO is defined by Section 106 National Historic Preservation Act, and the activities run through the State Historical Society.

Class II Architectural Assessment

Liz Heavrin from CRA confirmed that they will complete their Class II architectural reconnaissance survey within a 2-mile buffer from the Project turbines. All structures of 45 years old or older will be mapped and photographed from public right of way. Reporting will include basic information for ineligible structures (probably in a table format). For structures potentially eligible for listing on the National Register of Historic Places, a thorough description of history and photographs will be provided. Structures in the town of Wishek will be documented in a similar manner to those in rural areas.

Lisa Steckler from SHPO confirmed that this is in line with SHPO expectations for Class II Architectural Assessment and reflected what was discussed in the last meeting.

Class III Archaeological Assessment

Jennifer Bring from Atwell indicated that the Class III archaeological investigation for the Project was initiated and partially completed last year. The Class III surveys will be completed this year based on the latest layout, focusing on new areas. The entire Project area is on private land. Standard ND SHPO guidelines will be followed (pedestrian surveys, shovel testing in identified areas, as needed) and one final and consolidated Class III Archaeological Survey report for all work completed (2020 and 2021 surveys) will be submitted to SHPO.

Andrew Clark from SHPO confirmed that one report is preferred.

Additional Q&A

Timing for Letter of Recommendations

Sarah Aftergood asked about timing of the submission of studies and Letter of Recommendations from SHPO. Andrew Clark from SHPO indicated that they will typically review the archaeological and architectural reports prior to the submission of the CSC application. The Letter of Recommendation is typically issued and submitted to the PSC along with the application.

Qualified Personnel Permits

Sarah Aftergood asked if SHPO had any concerns or additional input for the Project to be aware of. Andrew Clark from SHPO indicated that he had no concerns and that the survey plans put forward are good and in line with expectations. He indicated that Qualified Personnel need to be on permits for each of the consultants conducting cultural resources studies. Maureen O'Shea-Stone confirmed that Atwell has been in contact with SHPO and updated the qualified personnel on their permit for archaeological work. Liz Heavrin from CRA noted that Robert Ball (CRA) was recently added to the ND list for architectural work.

Tribal Consultation

Sarah Aftergood asked SHPO about Tribal Consultation requirements. Andrew Clark indicated SHPO doesn't coordinate that at the state level. Bureau of Indian Affairs handles it, and it is typically initiated with the CSC application submission to PSC.

Site Lead Forms for Inaccessible Sites

Liz Heavrin from CRA asked about where the Site Lead Form for inaccessible architectural structures (access denied) can be obtained. Andrew Clark noted that the form used for site lead is the same as any other regular architectural sites (Architectural Site Form) and it should include any available information. SHPO noted that these sites are identified by an "X" in the site numbers.

Liz Heavrin also asked for guidance on how to assess visual effects on inaccessible properties. Lisa Steckler from SHPO said it is dependent on the site, but photographs and inclusion of any available information that could be helpful for their assessment should be included. For instance, significance of property, how close it is, and any obstructions can be included.

SHPO question

Andrew Clark from SHPO asked if there are some areas that were surveyed in 2020 during the partial Class III Archaeological Assessment that aren't going to be part of the final Project area. Andrew requested that the Project share this information/data for their files and database. Jennifer Bring indicated that the extent to which areas that are now excluded from the Project were surveyed hasn't been determined yet (i.e., the updated layout was finalized just before the meeting and therefore no comparison had been made yet).

From: [Steckler, Lisa L.](#)
To: [Ben Banks](#)
Subject: RE: Badger Project Introduction Call with SHPO
Date: Thursday, September 24, 2020 8:38:12 AM

I am usually happy if I can remember which month it is...lol

From: Ben Banks <bbanks@atwell-group.com>
Sent: Thursday, September 24, 2020 9:27 AM
To: Steckler, Lisa L. <lsteckler@nd.gov>; Clark, Andrew <andrewclark@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: RE: Badger Project Introduction Call with SHPO

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Thanks for that catch Lisa. Yes, I meant October 5th. Honestly, some days I'm lucky if I know what day "today" is.

Ben Banks
ATWELL, LLC
405.614.0621 Mobile
www.atwell-group.com

From: Steckler, Lisa L. [<mailto:lsteckler@nd.gov>]
Sent: Thursday, September 24, 2020 9:24 AM
To: Ben Banks; Clark, Andrew
Cc: Tara Corbett; Emily Cooper
Subject: RE: Badger Project Introduction Call with SHPO

Next week is the week of the 28th. Do you mean the 5th?

From: Ben Banks <bbanks@atwell-group.com>
Sent: Thursday, September 24, 2020 8:56 AM
To: Steckler, Lisa L. <lsteckler@nd.gov>; Clark, Andrew <andrewclark@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: RE: Badger Project Introduction Call with SHPO

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Lisa and Andy,
Thank you for getting back to me so quickly. Would it help if we pushed the call back to the week of September 28th? Some of our questions are specific to the architectural survey, so it would be good to speak to both of you.

Ben Banks

ATWELL, LLC

405.614.0621 Mobile

www.atwell-group.com

From: Steckler, Lisa L. [<mailto:lsteckler@nd.gov>]
Sent: Thursday, September 24, 2020 8:53 AM
To: Clark, Andrew; Ben Banks
Cc: Tara Corbett; Emily Cooper
Subject: RE: Badger Project Introduction Call with SHPO

And I am supposed to have jury duty Wed-Friday.

Please go ahead and meet with Andy whenever he is available. He can fill me in.

From: Clark, Andrew <andrewclark@nd.gov>
Sent: Thursday, September 24, 2020 8:52 AM
To: Ben Banks <bbanks@atwell-group.com>; Steckler, Lisa L. <lsteckler@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: RE: Badger Project Introduction Call with SHPO

Hi Ben,

It was good to talk to you yesterday. Thank you for the follow-up email. I just found out that I won't be available Monday through Thursday next week. The only day I have available is Friday.

Best,

Andy

Andrew Clark, PhD
Chief Archaeologist
Archaeology and Historic Preservation Division
State Historical Society of North Dakota
612 East Boulevard Avenue
Bismarck, North Dakota 58505-0830
701-328-3574

From: Ben Banks <bbanks@atwell-group.com>
Sent: Wednesday, September 23, 2020 3:10 PM
To: Steckler, Lisa L. <lsteckler@nd.gov>; Clark, Andrew <andrewclark@nd.gov>
Cc: Tara Corbett <tcorbett@atwell-group.com>; Emily Cooper <ecooper@atwell-group.com>
Subject: Badger Project Introduction Call with SHPO

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Good afternoon Lisa and Andrew,

Atwell is working on a proposed wind project near Wishek in McIntosh County that will require a Certificate of Site Compatibility from the Public Service Commission. Prior to beginning archaeological fieldwork in the coming weeks, we would like to have a brief meeting with you to introduce the wind project and incorporate any concerns or insights you might have into our field methods. We would also like to discuss the approach for architectural survey as we prepare that scope of work.

If possible, we would like to schedule a Zoom or Microsoft Teams screen share meeting with you sometime next week. I spoke with Andrew this afternoon, and it sounds like Wednesday won't work for him. Would Monday afternoon or a day later in the week work for both of you?

Regards,

Ben Banks, RPA

Project Coordinator

Environmental Services

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From: [Emily Sakariassen](#)
To: [Daan Meens](#)
Cc: [Ben Banks](#)
Subject: Re: FW: Badger Wind Architectural Study Questions
Date: Thursday, December 10, 2020 9:49:50 AM

Sorry to bombard with emails. Do we have an established meeting format? Should I keep my eyes peeled for a meeting invite? Thanks!

On Thu, Dec 10, 2020 at 8:57 AM Daan Meens <dmeens@metcalfarchaeology.com> wrote:
3pm central works for me.

On Thu, Dec 10, 2020 at 7:52 AM Ben Banks <bbanks@atwell-group.com> wrote:

Daan,

Should we try for 3:00 central this afternoon?

Ben Banks
ATWELL, LLC
405.614.0621 Mobile
www.atwell-group.com

From: Steckler, Lisa L. <lsteckler@nd.gov>
Sent: Thursday, December 10, 2020 8:08 AM
To: Ben Banks <bbanks@atwell-group.com>
Subject: RE: Badger Wind Architectural Study Questions

Ben,

I have a meeting today at 1 but otherwise I am free.

Thanks

Lisa Steckler

Historic Preservation Specialist

State Historical Society of North Dakota

701-328-3577

From: Ben Banks <bbanks@atwell-group.com>
Sent: Wednesday, December 9, 2020 4:40 PM
To: Steckler, Lisa L. <lsteckler@nd.gov>
Cc: Emily Sakariassen (esakariassen@metcalfarchaeology.com)
<esakariassen@metcalfarchaeology.com>; Daan Meens
<dmeens@metcalfarchaeology.com>
Subject: Badger Wind Architectural Study Questions

CAUTION: This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Good afternoon Lisa,

Atwell and Metcalf are trying to iron out the architectural history sturdy scope for the Badger Wind project. We would like to ask you a couple of questions about specifics for the study if you have an opening for a brief call tomorrow or Friday. To refresh your memory a bit, Atwell hosted a meeting in October to discuss this project in Logan and McIntosh with you and Andrew Clark.

Regards,

Ben Banks, RPA
Project Coordinator

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--

Emily Sakariassen, M.S. | Architectural Historian

Metcalf Archaeological Consultants, Inc.

701-258-1215 office | 701-220-4014 mobile

metcalfarchaeology.com



"This communication is intended solely for the addressee; it is confidential and not for third party unauthorized distribution."

External Email: Do not click any links or open any attachments unless you trust the sender and know the content is safe.



January 21, 2022

Robert Ball
Cultural Resource Analysts, Inc.
151 Walton Avenue
Lexington, KY 40508

ND SHPO Ref.: 22-0020 Badger Wind in portions of 49 sections in Logan and Mountrail Counties, North Dakota

Dear Mr. Ball,

We reviewed the report for ND SHPO Ref: 22-0020 Badger Wind in portions of 49 sections in Logan and Mountrail Counties, titled "Class I Literature Review and Class II Architectural Reconnaissance Inventory for the Proposed Badger Wind Project in Logan and McIntosh Counties, North Dakota" and find this Cultural Resource Analysts, Inc. report by John Dickerson and Robert Ball not acceptable for the following reasons:

- The portion of the area east of map 2e is missing from the map set.
- The maps include a recommended NRHP boundary but only for one of the sites recommended eligible.
- Appendix A is printed book style so requires constant rotation.
- Site 21 is a large barn with a round arched roof, a very rare type in North Dakota. This site needs to be recorded and evaluated.
- The sites recommended eligible are included in Appendix B.
- Site 331 is a water tower of a vintage fast disappearing in ND and ones with strong integrity are considered eligible. This site needs recorded and evaluated.

Thank you for the opportunity to review this report. If you have any questions, please contact Lorna Meidinger, Historic Preservation Specialist at (701) 328-2089 or lbmeidinger@nd.gov

Sincerely,

for William D. Peterson, PhD
State Historic Preservation Officer
(North Dakota)

22-0020

Appendix D

Agency Correspondence

North Dakota Tribal Nations and Indian Affairs Commission

September 22nd, 2021

Subject: Proposed Badger Wind Energy Center in McIntosh and Logan Counties, North Dakota

Dear Honorable Chairman,

Badger Wind, LLC (“Badger”) is in the process of developing the proposed 250 MW Badger Wind Energy Center (the “Project”) in McIntosh and Logan Counties, North Dakota. Badger is an indirect, wholly owned subsidiary of Orsted Onshore North America, LLC (“Orsted”), which is a large renewable energy developer with more than 4000 megawatts (“MW”) of wind and solar energy in operation or under construction in the United States. The proposed Project is planned to be located on approximately 34,000 acres of private land in western Logan County and western McIntosh County, approximately 40 miles east of the Missouri River and 2 miles northwest of Wishek, ND, as shown below in Figure 2 (shaded area is the “Project Area”). I am reaching out to you on behalf of Badger to inform you about the proposed Project and give you the opportunity to provide input.

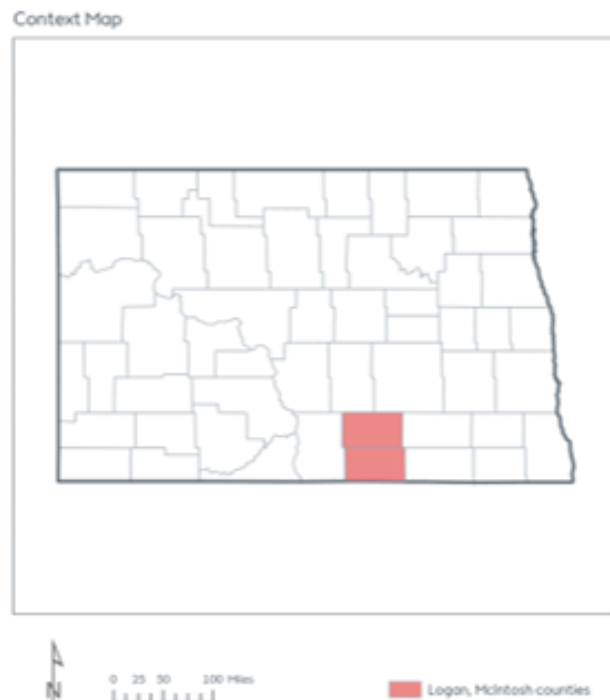


Figure 1: Context map of Project Area in North Dakota.

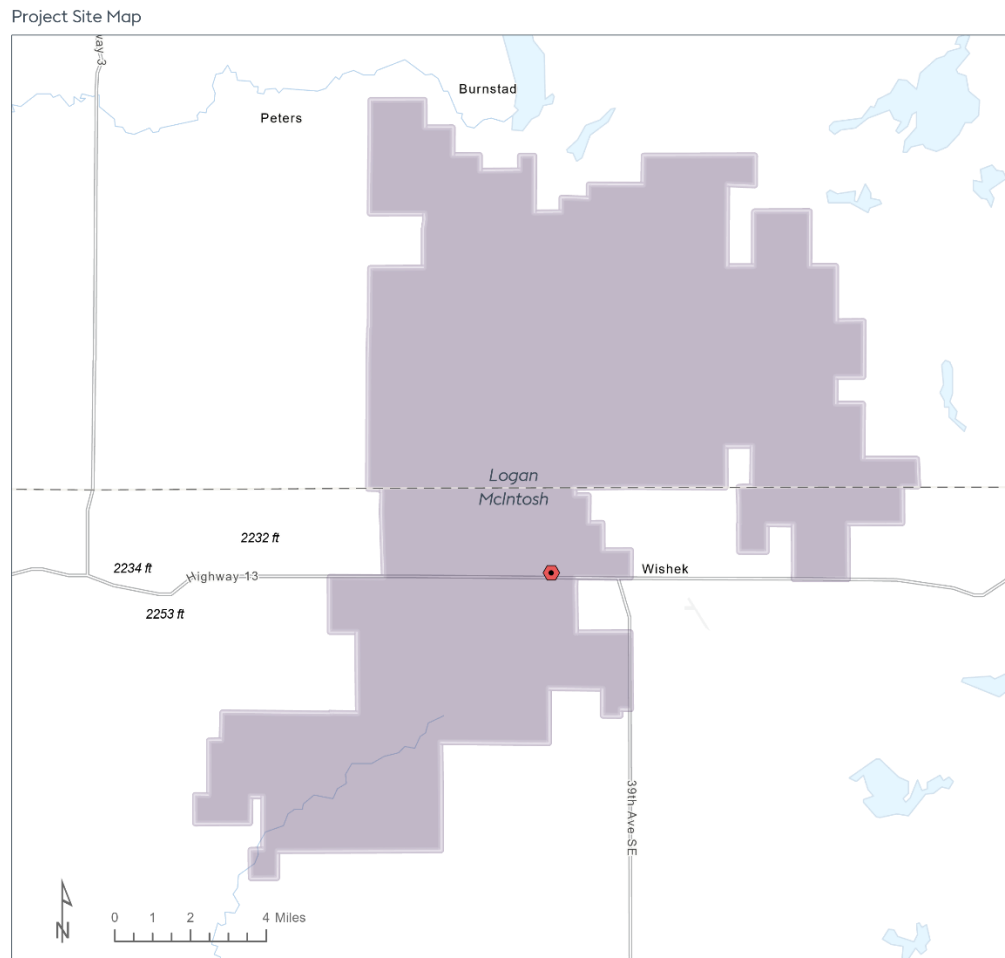


Figure 2: Project Area for Badger Wind Farm

Proposed Project

The proposed Project would consist of an array of wind turbines, each with an associated transformer. Proposed Project facilities would include the following components:

- Approximately 74 wind turbines;
- All-weather access roads to each turbine site;
- One collection substation (approximately 5 acres);
- Underground electrical collection lines and fiber optic cables from each turbine to the collection substation;
- An operations and maintenance (“O&M”) facility (approximately 10 acres);
- A temporary concrete batch plant location (up to 5 additional acres);

- A temporary laydown yard (up to 15 acres);
- Approximately 3 permanent meteorological (“MET”) towers; and
- One generation tie-line that would not exceed 1 mile in length

The Project will have one point of interconnection: Montana-Dakota Utilities’ (“MDU”) 230 kV Wishek substation. There will be one collector substation and one generation tie line totaling less than 1 mile.

Field work is anticipated to take place Fall 2021 with Badger anticipating initiating permitting through the North Dakota Public Service Commission in late 2021, with construction scheduled to start in fall 2022.

If you have an interest in receiving further information about the project, please contact me (512) 230.2148 or via e-mail at saraf@orsted.com

Also please visit our project website at.
<https://badgerwindfarm.com>

Regards, Sarah Aftergood
Director, Environmental Permitting

Sarah Aftergood

Cc: Charles Smith, Orsted
June Marie Gray, Orsted

Appendix D

Agency Correspondence

United States Department of Defense

November 6, 2018

DOD Siting Clearinghouse
3400 Defense Pentagon, Room 5C646
Washington, DC 20301-3400

Sent Via Electronic Mail to:
Osd.dod-siting-clearinghouse@mail.com

To whom it may concern:

Lincoln Clean Energy, LLC develops, owns and operates renewable energy generation projects throughout the United States. We are in the process of developing a utility-scale wind farm called Badger Wind with a footprint of approximately 70,000 acres located in Logan and McIntosh Counties, North Dakota.

Enclosed you will find two aerial images of the proposed layout, which currently consists of 200 – GE 2.5 Megawatt wind turbine generators. Each wind turbine generator has a hub height of 89 meters and a maximum blade tip height of 152.5 meters. Enclosed you will also find an excel spreadsheet with coordinates (DMS) of the same proposed layout for your review.

We look forward to working with you throughout the DOD Clearinghouse Siting process. Please feel free to contact me at (402) 290-6500 should you have any questions or comments to the above or enclosed documents

Best Regards



Charlie Smith

Director of Development
Lincoln Clean Energy, LLC
401 N. Michigan Ave., Suite 501
Chicago, IL 60611
W – (312) 422-1604
C – (402) 290-6500
csmith@lincolnclean.com

Enclosed:

Badger Wind Site Layout (11-6-2018).pdf
Badger Wind Coordinates (11-6-2018).xlsx

Badger Wind Coordinates

Name	Latitude	Longitude
1	46.35657	-99.77
2	46.35657	-99.7541
3	46.35657	-99.7382
4	46.35657	-99.7223
5	46.35657	-99.7064
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McIntosh
Ashley



SUSTAINMENT

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

December 3, 2018

Charlie Smith
Director of Development
Lincoln Clean Energy, LLC
401 N. Michigan Ave., Suite 501
Chicago, IL 60611

Dear Mr. Smith,

As requested, the Military Aviation and Installation Assurance Siting Clearinghouse coordinated within DoD an informal review of the Badger Wind Project. The results of our review indicated that the wind project located in Logan and McIntosh Counties, ND, as proposed, will have minimal impact on military operations conducted in the area.

Please note that this informal review by the DoD Military Aviation and Installation Assurance Siting Clearinghouse does not constitute an action under 49 United States Code Section 44718 and that the DoD is not bound by the conclusion arrived at under this informal review. If you have any questions, please contact me at steven.j.sample4.civ@mail.mil or at 703-571-0076.

Sincerely,

Steven J. Sample
Deputy Director
Military Aviation and Installation
Assurance Siting Clearinghouse

Appendix D
Agency Correspondence
United States Army Corps of Engineers



MEETING MINUTES

DRAFT/CONFIDENTIAL

Project: Badger Wind Project
Badger Wind, LLC

Host/Organizer: Travis Apfel, Atwell, LLC
757-817-6420 tapfel@atwell-group.com

Meeting Date: October 16th, 2020

Purpose: Request for Regulatory Guidance from Bismarck, ND USACE office

Attendees

Travis Apfel, Environmental Consultant, Atwell, LLC

Toni Erhardt, USACE Regulator, Bismarck USACE Regulatory Office

Meeting Summary

I called the USACE regulatory office in Bismarck and tried a few extensions for different regulators until Toni Erhardt answered her line. I asked her some questions regarding how the Bismarck office was regulating wetlands under specific conditions related to what is considered non-jurisdictional compared to jurisdictional under the “2020 New Clean Water Act Rule”. I was vague about the project and only mentioned that it was for a windfarm in the state (did not disclose any project specific details other than project type for her reference). Below is a bulleted list of topics and responses from her:

- 1) I asked if they considered a wetland or intermittent feature to be jurisdictional if it only had a surficial connection to downstream jurisdictional waters through a “non-jurisdictional ephemeral stream channel”
 - a. “...there aren’t too many ephemeral streams in this area, so that is not extremely relevant. Rainstorms don’t generally contribute to the overall hydrology/channel morphology in this area, so the streams aren’t usually formed by incised channels or erosion from heavy rainfall on sloped topography. However, we do have a spring snowmelt effect that tends to provide a seasonal connection between features; snow falls a lot in the Fall/early winter then stops snowing but snow stays around

(snowpack) without melting (2-3 months of snow sitting without melting, and without much additional precipitation). Once spring hits, all the snow melts at once and things become quite flooded. This seasonal melt in the spring is usually what links wetlands with surficial connection by creating seasonal wetland drainages that are only wet in spring/early summer. Wetland vegetation is dominant in these areas during this time and once the snowmelt stops mid-summer, sometimes these areas tend to dry up enough to allow some upland vegetative species to sprout (usually grasses). Thus, there are seasonal (intermittent) connective drainages linking seemingly isolated wetland depressions that are not always accurately delineated in the later months of summer due to dry conditions.”

- b. “If there is enough water in late-summer/drier months to maintain wetlands, then a seasonal (intermittent) connection via spring snowmelt is most likely present early in the year”
 - c. “It is important to describe what you see and think about the waterway/wetland and be totally up front about the feature. Explain/identify features and present anything that is potential no matter how you think the corps will regulate it.”
 - d. “we have these ‘prairie streams’ here that are vegetated slow flowing streams in the spring after snowmelt but then kind of turn into what resembles chains of wetland pockets in the drier months of summer..”
- 2) I also asked her what they look for when they get a report that has certain features labeled or described as “isolated”:
- a. “If there is any channel/drainage/oulet visible on the aerals that looks like a way for water to drain out of the wetland or feature, then we need some supporting evidence for why it was decided that the feature is not connected and that no indication of seasonal connection via snowmelt is a possibility.”
 - b. “If you want to prove something to be isolated, take pictures or data that proves your point instead of giving open-ended data/pics of the area because that will make us scratch our heads and ask more questions..”
 - c. “To determine connectivity, I start at the bottom of the drainage by the jurisdictional channel and then track the channel upstream to the feature. Then locate the spot where it is assumed to terminate it’s seasonal intermittent connection...”



MEETING MINUTES

DRAFT/CONFIDENTIAL

Project: Badger Wind Project
Badger Wind, LLC

Host/Organizer: Travis Apfel, Atwell, LLC
757-817-6420 tapfel@atwell-group.com

Meeting Date: October 28th, 2020

Purpose: Request for Regulatory Guidance from Bismarck, ND USACE office

Attendees

Travis Apfel, Environmental Consultant, Atwell, LLC

Toni Erhardt, USACE Regulator, Bismarck USACE Regulatory Office

Meeting Summary

I was asked to call the USACE Regulatory office in Bismarck again with some additional questions about the project. I was able to reach the same regulator (Toni Erhardt) as I had talked to previously. I had three question topics to ask her:

- 1) Does groundwater count as connection between wetlands? What about in terms of "prairie potholes?"
- 2) Follow up confirmation question; "Are wetlands jurisdictional if they are connected by a drainage swale that becomes flooded during seasonal spring snowmelt?"
- 3) Specific questions about some isolated wetlands within our report without giving details about the project.

Toni's answers:

- 1) "Technically, groundwater (shallow subsurface) connection is no longer considered a significant nexus under the 'New Rule'. So, even though it doesn't make scientific sense, prairie potholes are most likely not considered jurisdictional if they lack a surficial connection..."

- 2) "Features that experience seasonal surficial hydrological connection (via spring snowmelt) are considered to be jurisdictional and to prove that they are not connected, the best way to convince us is to perform surveys in the spring when the snow is melting or just after it melts so you can visually see whether or not the connection is present or not. Otherwise, you will need strong supportive data (soils, pictures of conditions, logical explanation, etc...) to convince us that there is no connection when the delineation was performed in the drier times of the year (late summer)."
- 3) "We have to consider each feature presented within a delineation/permit independently throughout the entire project and do not just write off the entire report if they seem to agree with how the calls were generally made. This is time consuming when there are many isolated features to consider."
 - a. She personally recommended that it's a better approach to air on the side of caution calling something jurisdictional if there is any indication of a potential flowline outside of the survey area. Getting aggressive with the isolated feature calls could cause them to take more time in their review and create more questions that could potentially result in changes to how the data is considered (which could mean having to tell the client that we were wrong and that some "isolated" features need to be changed to jurisdictional)
- 4) Additionally, she explained a lot more about how they do things there at their office and also reiterated the fact that things are still being worked out with the exact direction they are taking on interpretation of the regulations. This is because they spent so much time creating a unified direction and way to regulate WOUS after the 2015 rule (8 months of weekly webinars) and then had to basically drop everything they learned and come up with a new approach based on the sudden "New Clean Water Act" rule in 2020. She said they are basically waiting to see who the new President is because that will determine whether things will go back to what they are used to or if they need to take a stance on how to deal with the New Rule.
 - a. "this new rule was not at all made based on science and the regulations do not make sense because they say one thing then contradict what they said and no one from headquarters is giving guidance for the local offices other than to 'read the regulations' so this is all pretty messed up right now."
 - i. *Hindsight comment (11/09/2020) – Biden won the election so it will most likely revert back to the 2015 rule or something similar, which is what they are used to regulating. So, this all might change now and a new call might

need to be made if the regulations change again.... But this is what we have from them for now

From: Nygard, Jeremy S CIV USARMY CENWO (USA) <Jeremy.S.Nygard@usace.army.mil>
Sent: Monday, November 1, 2021 12:05 PM
To: Sarah Aftergood <SARAF@orsted.com>
Subject: NWO-2021-01889-BIS, Orsted Onshore North America LLC, Badger Wind Energy Center

Hello Sara Aftergood,

Our office has reviewed the information you provided regarding the proposed Orsted Onshore North America LLC, Badger Wind Energy Center project and determined that a U.S. Army Corps of Engineers Section 404 permit may be required for your project. Please see attached letter and blank application form. Thank you,

v/r

Jeremy Nygard
Regulatory Permit Assistant
U.S. Army Corps of Engineers
North Dakota Regulatory Office
3319 University Drive
Bismarck, ND 58504
701-255-0015 ext. 2006

Due to precautions taken in response to the COVID-19 pandemic, email is currently the best way to contact me. I am mostly teleworking from home so if you call my office phone extension and leave a voicemail, I'll receive it via email and I'll respond as soon as possible.

The North Dakota Regulatory office prefers that all submissions are sent electronically to the following email address: CENWO-OD-RND@usace.army.mil instead of a hard copy by mail. Please split large attachments (>25 MB) into multiple emails if needed.

External Email: Do not click any links or open any attachments unless you trust the sender and know the content is safe.

October 29, 2021

NWO-2021-01889-BIS

Orsted Onshore North America
Attn: Ms. Sara Aftergood
812 San Antonio Street, Suite 500
Austin, Texas 78701

Dear Ms. Aftergood:

This is in response to your solicitation letter received on October 20, 2021 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments on the proposed Badger Wind Energy Center project. The proposed project is located on approximately 34,000 acres of private land approximately 40 miles east of the Missouri River in southern Logan County and northern McIntosh County, North Dakota.

U. S. Army Corps of Engineers Regulatory Offices administer Section 404 of the Clean Water Act (Section 404). A Section 404 permit would be required for the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

Based on the information contained in your letter, the Corps has determined that your proposed project may need a Clean Water Act Section 404 permit. The permit application and instructions for completing the application are enclosed and may also be found at: <http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit>. Be sure to accurately describe all proposed work and construction methodology. Once the application is complete, mail it to the letterhead address or to the email address (preferred) below.

Due to precautions taken in response to the COVID-19 pandemic, The North Dakota Regulatory office prefers that all submissions are sent electronically to the following email address: CENWO-OD-RND@usace.army.mil instead of a hard copy by mail. Please split large attachments (>25 MB) into multiple emails if needed.

Please refer to identification number NWO-2021-01889-BIS in any correspondence concerning this project. If you have any questions, please contact Jeremy Nygard at U.S. Army Corps of Engineers, North Dakota Regulatory Office, 3319 University Drive, Bismarck, North Dakota 58504-7565, by email at Jeremy.S.Nygard@usace.army.mil, or telephone at (701) 255-0015, extension 2006. For more information regarding our program, please visit our website at <http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx>.

Sincerely,



Toni R. Erhardt
Senior Project Manager
North Dakota Regulatory Office

Enclosure



MEETING MINUTES

DRAFT/CONFIDENTIAL

Project: Badger Wind Project
Badger Wind, LLC

Host/Organizer: Caitlin Cyrus, Atwell Group
410.693.6829 ccyrus@atwell-group.com

Participant: Amber Inman, USACE Bismarck Regulatory Office
701.255.0015 ext 2009 Amber.L.Inman@usace.army.mil

Meeting Date: November 10th, 2021

Purpose: NWO-2021-01889-BIS
Questions relating to producing an Aquatic Resources Report

Meeting Summary

- *Regulator that spoke with Travis Apfel in 2020: Toni Erhardt, USACE Regulator, Bismarck USACE Regulatory Office*
- Regulator to contact in regards to NWO-2021-01889-BIS:
 - Jeremy Nygard - Jeremy.S.Nygard@usace.army.mil or 701-255-0015 extension 2006
 - I contacted Jeremy the morning of the 10th and he stated that a project manager would need to answer my questions. While most of the team was off today, Amber Inman was available to talk.
- **With the NWPR vacated and interpretation back to the 1986 regulations and Rapanos, how have these items changed since last talking with Travis:**
 - Q: Does groundwater count as a connection between wetlands? What about in terms of prairie potholes?
 - The USACE now has much greater latitude when it comes to determining jurisdictional connections. Almost all wetlands and watercourses in their area have a groundwater influence related to snowmelt, and only very rarely are there ephemeral channels that flow only in response to precipitation. Most things, while appearing isolated during the drier seasons, are likely jurisdictional due to this connection.
 - A prairie pothole will have to be a completely enclosed basin to be considered isolated. A swale, ditch, or drainage, that could connect it to TNWs will make it jurisdictional.
 - Q: Are wetlands jurisdictional if they are connected by a drainage swale that becomes flooded during seasonal spring groundmelt (prairie streams)? If wetlands are considered jurisdictional in the above situation, are manmade barriers to surface water flow (for example, a berm or a road w/ no culverts underneath) enough to make the wetland considered isolated?

- The USACE has greater latitude to claim a nexus to TNWs, and in most cases they will disagree with isolated calls.
 - Anything that looks like a drainage should be presented in the report. Blue line streams should have documentation in the report. It doesn't have to have wetland characteristics to be considered a stream.
 - Be extremely cognizant of all the drainages out there, a lot of times people will call them upland swales or upland drainage features when they are prairie streams that will be flowing in the spring. Put what you know in the report, don't worry so much about what you "think" it is because the USACE will draw their own conclusions anyways.
- Q: Are connectivity flowlines still recommended for determining jurisdictional resources?
 - They are greatly appreciated. Any information that we can provide relating to the site will help facilitate their determination.
- **What is the confirmation process for the Omaha District?**
 - If we decide to pursue an AJD for isolated features, does that mean that every wetland within the Study Area will need to be evaluated, or can we call out specific wetlands that we think are isolated for an AJD and do the rest of the site under a PJD (you can do this in the Norfolk and Wilmington Districts)?
 - Her advice is not to ask for specific items to be isolated – the USACE will usually disagree with our assessment. They will do their own research on the project site and make their own determinations on jurisdictional status.
 - Field investigations should occur in the spring, because snow pack is the largest influence on wetlands. If you perform your field efforts in the fall, they will take this into consideration when determining their assessments because wetlands will look very different at that time.
 - They have done the mix and match approach for DOT, but they prefer to do either a PJD or an AJD for the site.
 - What's the current timeline for receiving a confirmation? For a PJD? For an AJD?
 - For AJD – the target is 60 days for an action, but permit actions take priority over JDs. They have several out of office or just now returning to the office; so you're looking at 60-90 days.
 - For PJD – they can turn these around almost immediately if you need to just get the confirmation done and over with. However, this means they are claiming jurisdiction over everything and will expect mitigation if anything is impacted, even if it would be considered isolated if it had gone through the AJD process.
 - Will you need to perform a site visit for us to receive confirmation?
 - No site visit will be needed in most cases, as they will perform their own desktop assessment. If there is an area that they are truly unsure of, they will not go out until the spring to perform the confirmation.
 - How closely should we follow the template and other guidance materials on the website?
 - She indicated that the minimum standards should be followed and that it is good to follow the report Template guidance as well.

Appendix D

Agency Correspondence

U.S. Department of Agriculture, Natural Resources Conservation Service

Subject: address

Sarah,

We are replying to a proposed wind energy project in North Dakota.

What is your mailing address that I can mail the response. Thanks.

Mary Hirschert
Executive Secretary
U.S. Department of Agriculture
Natural Resources Conservation Service
220 East Rosser Avenue, Rm 278
Bismarck, ND 58501
Phone: (701) 530-2001
mary.hirschert@usda.gov

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Natural Resources
Conservation Service

Bismarck State Office
PO Box 1458
Bismarck, ND
58502-1458

Voice 701.530.2000
Fax 855-813-7556

October 20, 2021

Ørsted

Attn: Sarah Aftergood
812 San Antonio St., Ste. 530
Austin, TX 78701

Dear Ms. Aftergood:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated October 15, 2021 concerning the Proposed Badger Wind Energy Center in McIntosh and Logan Counties, North Dakota.

Farmland Protection Policy Act

NRCS has a major responsibility with the Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide importance and local importance) to non-agriculture use when federal funding is utilized. Your project does not mention a source of federal funding, therefore, FPPA does not apply, and no further action is needed.

Wetlands

The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provide that if a USDA participant converts a wetland for the purpose or to have the effect of making agricultural production possible, loss of USDA benefits could occur. The NRCS has developed the following guidelines for the installation of permanent structures where wetlands occur. If these guidelines are followed the impacts to the wetland will be considered minimal allowing USDA participants to continue to receive USDA benefits. Following are the requirements:

- Disturbance to the wetland must be temporary.
- No drainage of wetland is allowed (temporary or permanent).
- Mechanized landscaping necessary for installation is kept to a minimum and preconstruction contours are maintained.
- Temporary side cast material must be placed in such a manner not to be dispersed in the wetland.
- All trenches must be backfilled to the original wetland bottom elevation.

Potentially impacted USDA participants that wish to request a certified wetland determination can be directed to the USDA Farm Service Agency (FSA) to request a Highly Erodible Land Conservation (HELC) and Wetland Conservation (WC) Certification (AD-1026) or they may contact Neil Schaar, Designated Conservationist, NRCS, Ellendale, North Dakota at (701) 701-349-3653 for information about conservation compliance provisions related to the project.

Helping People Help the Land

An Equal Opportunity Provider, Employer, and Lender

NRCS recommends that impacts to wetlands be avoided.

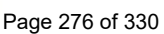
If you have additional questions pertaining to FPPA, please contact Wade Bott, State Soil Scientist, NRCS, Bismarck, North Dakota, at (701) 530-2021 or email to wade.bott@usda.gov.

WADE BOTT

 Digitally signed by WADE BOTT
Date: 2021.10.20 14:43:04 -05'00'

WADE D. BOTT
State Soil Scientist

September 2021



***Heartland Contractor**

Appendix D

Agency Correspondence

United States Fish and Wildlife Service

Alan Plumeau

From: Erickson, Michael <michael_erickson@fws.gov>
Sent: Tuesday, January 14, 2020 6:24 AM
To: Chris McCreedy
Subject: Re: [EXTERNAL] Grassland and wetland easement request for McIntosh and Logan counties
Attachments: Badger1-13-20.pdf

Chris;

Attached is a map showing the locations of our wetland and grassland easements. We should visit to discuss your plans sometime before you get too far in the siting of turbines, roads, cables, gravel needs, etc.

On Fri, Jan 10, 2020 at 4:14 PM Chris McCreedy <cmccreedy@atwell-group.com> wrote:

Mr. Erickson,

We'd like to request USFWS-managed easement data (grassland and wetland easements) for a proposed wind farm in Logan and McIntosh counties, ND. We have attached geospatial files that represent the area of interest currently under consideration for this project. Would you be able to provide us the locations of the easements within this boundary?

Thank you for your help with this request, I would be happy to discuss this further with you if you need more information from us.

Sincerely,

Chris McCreedy

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC
602.513.3950 Mobile
480.830.4888 Fax
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

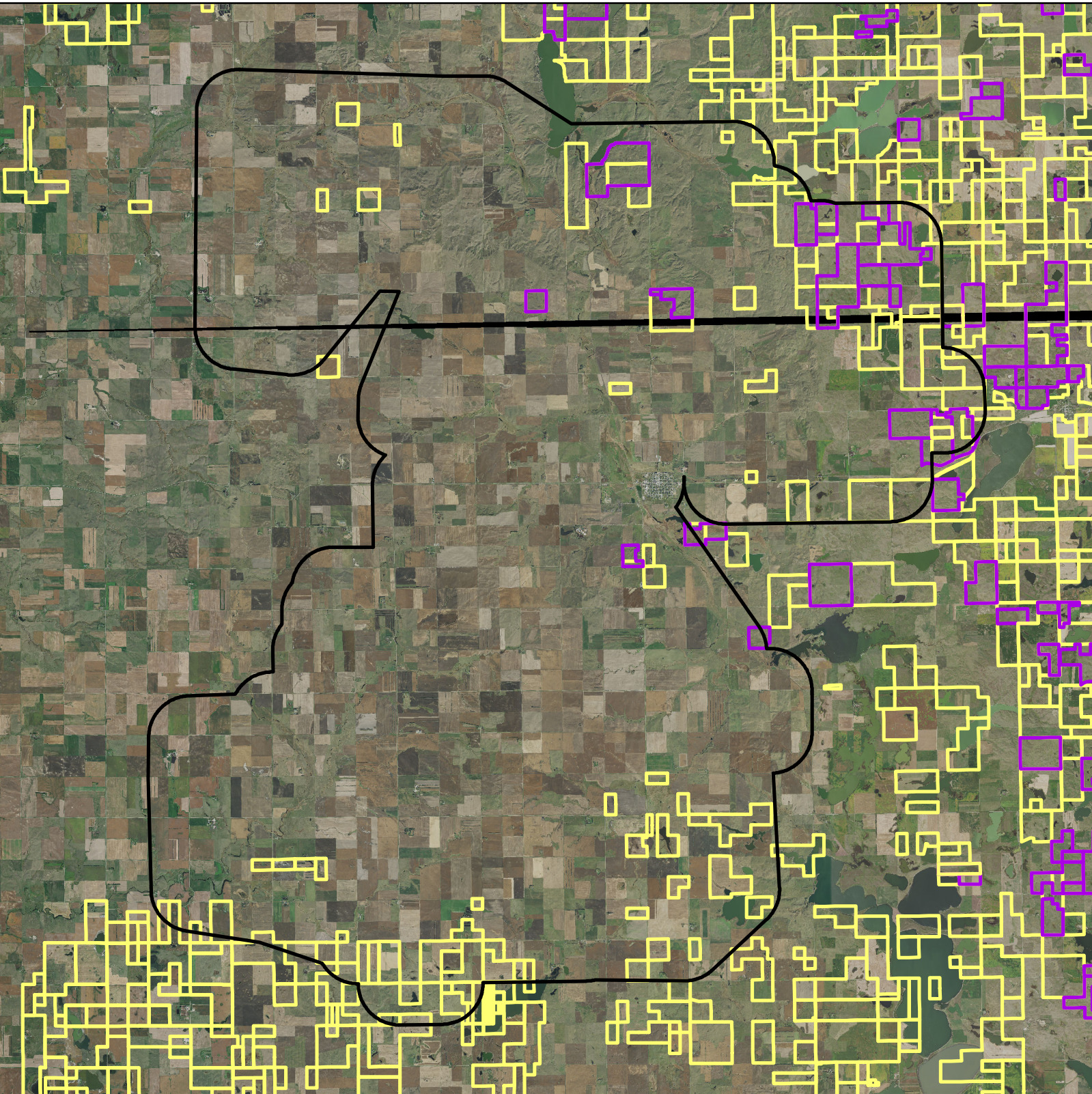
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--

Mick Erickson
Refuge Manager
Kulm Wetland Mgmt District
1 First Street
Kulm, ND 58456
701-647-2866
http://www.fws.gov/refuge/Kulm_WMD

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Badger Wind Farm



-  BadgerWind_ProjectArea_1MileBuffer
-  Wetland Easements
-  Grassland Easement
-  FmHA Easements

0 2.75 5.5 11 Miles



From: [Erickson, Michael](#)
To: [Chris McCreedy](#)
Subject: Re: [EXTERNAL] Grassland and wetland easement request for McIntosh and Logan counties
Date: Tuesday, January 21, 2020 10:32:59 AM

Chris;

Try this link to get the GIS layers of our easements....I have not used this myself but have been told that the USFWS easement layer should be up to date. I will point out that you may have to check the shapefiles to differentiate between wetland easements, grassland easements, FmHA easements, and Waterfowl Production Areas. I think they will all show up as the same color. The pdf I sent earlier should help give you an idea of where our grassland easements and WPA's are located.

https://www.fws.gov/gis/data/CadastralDB/index_cadastral.html

As far as general guidance goes, I am only speaking about USFWS conservation easements. We strongly recommend avoiding our grassland easements. Any disturbance actions that impact the grassland vegetation on grass easements will trigger a federal nexus which will require you to obtain various approvals and permits. The very few grass easements located in your proposed project area makes it fairly easy to avoid these tracts. As far as wetland easements are concerned, as long as your infrastructure (roads, turbine pads, cables, crane walks) avoid any impacts to individual wetlands, then there would be no federal nexus and permits needed from my office. We are in the process of preparing wetland maps for each wetland easement that will show the approximate size, shape and location of all protected basins. If you are considering building on lands with a wetland easement, then contact me and we can provide those maps for your planning efforts.

I would also recommend contacting our USFWS Ecological Services office in Bismarck (701-355-8512 - Drew Becker) and the North Dakota Game and Fish Dept (701-328-6300) for their recommendations on your proposal.

Let me know if you have difficulties in acquiring our easement layers and/or would like to discuss more specifics about our easements.

On Fri, Jan 17, 2020 at 9:51 AM Chris McCreedy <cmccreedy@atwell-group.com> wrote:

Mick,

Thanks so much for providing the information so quickly, it is much appreciated. Is the data available in GIS or KMZ format? Some of the easements are adjacent to each other and it makes it difficult to decipher. We want to make sure we capture the right areas that have easements.

Also, can you clarify whether entire parcels that have easements necessitate avoidance or if only portions of the parcels need to be avoided? Are collection line bores or temporary impacts such as crane walk paths allowed on easement parcels? Any general guidance you

have would be helpful. As we get further in the process, we'd like to further discuss with you. Thanks again.

Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC
602.513.3950 Mobile (best)

480.218.8831 x2503 Tel
480.830.4888 Fax
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: Erickson, Michael <michael_erickson@fws.gov>
Sent: Tuesday, January 14, 2020 6:24 AM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Subject: Re: [EXTERNAL] Grassland and wetland easement request for McIntosh and Logan counties

Chris;

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Mr. Erickson,

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boundary?

Thank you for your help with this request, I would be happy to discuss this further with you if you need more information from us.

Sincerely,

Chris McCreedy

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--

Mick Erickson

Refuge Manager

Kulm Wetland Mgmt District

1 First Street

Kulm, ND 58456

701-647-2866

http://www.fws.gov/refuge/Kulm_WMD

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--

Mick Erickson
Refuge Manager
Kulm Wetland Mgmt District
1 First Street
Kulm, ND 58456
701-647-2866

http://www.fws.gov/refuge/Kulm_WMD

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From: [Riddle, Heidi L](#)
To: [Chris McCreedy](#)
Subject: RE: [EXTERNAL] Safety precautions for aerial surveys this spring at Badger Wind
Date: Thursday, April 2, 2020 12:59:51 PM

Hi Chris,

I could be available most times tomorrow afternoon from 1-5.

Thank you,
Heidi

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, April 2, 2020 11:13 AM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Johnson, Sandra K. <sajohnson@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>
Subject: [EXTERNAL] Safety precautions for aerial surveys this spring at Badger Wind

Elisha, Sandy, and Heidi,

Good morning. I suspect that like us you may be working at home. I am writing to request if you can attend a group call this afternoon or if necessary tomorrow to discuss the items below. Please feel free to suggest a few times, I will gladly make myself available at any time you suggest and once I have suggestions I will send out an invite.

We are working through circumstances regarding safety concerns for our aerial nesting raptor and lek surveys and I would be grateful for your input. The first revolves around corona virus; the need to fly in an enclosed space for several hours with our pilot is a health concern given the corona virus outbreak's spread and transmission. It is something that we have been preparing for and working through as we approach the survey window. A second concern is there have been recent accidents during aerial nesting raptor surveys. I am aware of two, one last month in Illinois and one this week in Iowa. The second incident has prompted us to take step back and evaluate these concerns.

We completed the project's first year of aerial nesting raptor surveys last spring and located 1 occupied active BAEA nest during the surveys. Our biologist that has been conducting ongoing eagle use point count surveys on the ground is already aware that the BAEA pair is present and is constructing a new nest nearby this spring. He was also able to locate multiple Ferruginous Hawks last year just in the course of his point count surveys and already knows of two this spring. For leks, we conducted an aerial survey of the entire project last year. After some discussion on the need for aerial lek surveys in 2020 we decided on flying focus areas with higher probability of leks.

Given ongoing safety concerns we are interested in your views on using a ground-based approach this April for our second year of surveys. I want to emphasize that we are prepared to conduct aerial surveys if needed; we have a pilot ready to go and are tentatively scheduled to fly our surveys in the April 17-20 window this month.

Also, Sandy, Sean Fields sent us the PUDL spatial data last night – thanks!

Sincerely,
Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

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From: [Riddle, Heidi L](#)
To: [Chris McCreedy](#); [Mueller, Elisha K.](#)
Cc: [Emily Cooper](#)
Subject: RE: [EXTERNAL] for your review - Badger Wind Apr 3 survey safety call summary
Date: Tuesday, April 7, 2020 2:00:02 PM

Looks good to me. Thanks for scheduling the call on this.

Heidi

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Monday, April 6, 2020 6:52 PM
To: Mueller, Elisha K. <ekmueller@nd.gov>; Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Emily Cooper <ecooper@atwell-group.com>
Subject: [EXTERNAL] for your review - Badger Wind Apr 3 survey safety call summary

Heidi and Elisha,

Thank you again for joining us on the call last week to discuss safety concerns for our pre-construction surveys at Badger Wind. We are grateful for your perspective and for making time for the call on short notice. I have attached a call summary for our phone meeting for your review, and I would be happy to incorporate your comments if my notes are incomplete.

Chris

Chris McCreedy
Senior Environmental Consultant
ATWELL, LLC

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From: [Chris McCreedy](#)
To: [Emily Cooper](#); [Christopher Rutledge](#)
Subject: WHCR USFWS call update
Date: Wednesday, April 22, 2020 8:22:00 AM

Good morning,

I was able to reach Heidi Riddle at the ND USFWS this morning. She is our local USFWS POC for the project. I mentioned that we observed three WHCR nw of Wishek Apr 15-17 in what looked like unharvested corn, and that I have come across some online sighting submission forms but that I wanted to see if she had a particular preference for how we submit this information, to whom, and if she would prefer a follow up call to discuss the sighting.

She was excited about the sighting and happy that I called her, but otherwise she did not know what to do next and will find out.

Chris

Chris McCreedy
Senior Environmental Consultant
[ATWELL, LLC](#)

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480.218.8831 x2503 Tel
4700 E. Southern Avenue | Mesa, AZ 85206
www.atwell-group.com

From: [Aaron McAlexander](#)
To: heidi_riddle@fws.gov
Cc: ekmueller@nd.gov; [Jon Baker](#); [Emily Cooper](#); [Chris McCreedy](#)
Subject: Badger Wind_ NLEB Bats_5.15.2020
Date: Friday, May 15, 2020 9:51:38 AM
Attachments: [Badger_19000785_BatHabitatAssessment_Binder_20200121.pdf](#)
[19000785_BadgerAcousticReportDraft_4.18.2020_binder_reduced.pdf](#)

Hello Ms. Riddle,

I am a bat biologist with Atwell, LLC and have been working with Badger Wind, LLC in conducting pre-construction bat surveys for the Badger Wind Project in Logan and McIntosh counties, North Dakota. The proposed project is located outside the range of the federally listed Indiana bat, but is within range for the northern long-eared bat (within USFWS WNS Zone).

As we have completed the first year of bat survey work at the site, I am reaching out to provide our findings and request feedback on appropriate next steps to meet USFWS' requirements for northern long-eared bats.

To date, we have completed a Bat Habitat Assessment as well as one year of acoustic monitoring within the project area (see attachments). We have currently initiated our 2nd year of acoustic monitoring (ground based and met towers) at the project.

Based on the findings of the Bat Habitat Assessment, suitable summer habitat for northern long-eared bats is very limited within the project area. Woodlots within the project area are small, ranging from 0.09 to 8.65 acres. We were unable to find records of known maternity roosts within the project area or in North Dakota. In addition, Year 1 acoustic monitoring data only had 4 *Myotis* calls, all of which were manually vetted and confirmed to be little brown bats.

Based on the habitat assessment, it is my opinion that summer potential for northern long-eared bats may be limited within the project area.

The North Dakota Native Wildlife Resources: Guidelines for Reducing Impacts from Wind Energy Development states that USFWS survey protocols should be followed for listed species. We would like your input on whether this project should be concerned with impacts to bats, particularly northern long-eared bats, and if you feel summer presence/probable absence (p/a) surveys (in accordance with the *2020 Range-Wide Indiana Bat Survey Guidelines*) are warranted? Based on current Covid-19 restrictions, it is my understanding that p/a surveys would be limited to an acoustics-only approach until additional updates are provided.

Thank you for your feedback. Please feel free to contact me with any questions.

Have a great day!

Aaron McAlexander

Project Manager

ATWELL, LLC

502.553.9916 Mobile (Preferred)

Bloomington, IN 47403

www.atwell-group.com

From: [Aaron McAlexander](#)
To: heidi_riddle@fws.gov
Cc: ekmueller@nd.gov; [Jon Baker](#); [Emily Cooper](#); [Chris McCreedy](#)
Subject: RE: Badger Wind_ NLEB Bats_5.15.2020
Date: Friday, May 22, 2020 7:28:56 AM

Good morning Heidi,

I just wanted to touch base regarding the prior e-mail and see if you had any questions.

Thank you!

Aaron McAlexander

Project Manager

ATWELL, LLC

502.553.9916 Mobile (Preferred)

Bloomington, IN 47403

www.atwell-group.com

From: Aaron McAlexander

Sent: Friday, May 15, 2020 11:51 AM

To: 'heidi_riddle@fws.gov' <heidi_riddle@fws.gov>

Cc: 'ekmueller@nd.gov' <ekmueller@nd.gov>; 'Jon Baker' <jbaker@lincolnclean.com>; Emily Cooper <ecooper@atwell-group.com>; Chris McCreedy <cmccreedy@atwell-group.com>

Subject: Badger Wind_ NLEB Bats_5.15.2020

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particularly northern long-eared bats, and if you feel summer presence/probable absence (p/a) surveys (in accordance with the *2020 Range-Wide Indiana Bat Survey Guidelines*) are warranted? Based on current Covid-19 restrictions, it is my understanding that p/a surveys would be limited to an acoustics-only approach until additional updates are provided.

Thank you for your feedback. Please feel free to contact me with any questions.

Have a great day!

Aaron McAlexander

Project Manager

ATWELL, LLC

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MEETING MINUTES

Project: **Badger Wind**
Logan and McIntosh Counties, ND
Ørsted Onshore North America, LLC

Host/Organizer: Atwell, LLC

Meeting Date: May 27, 2020 (conference call)

Purpose: **USFWS Wetland Easements in Badger Wind Project Boundary**

Attendees

- Heidi Riddle, Fish and Wildlife Biologist, USFWS
- Michael (Mick) Erickson, Wetland Easement Coordinator, USFWS
- Jon Baker, Sr. Development Director, Ørsted Onshore North America, LLC (Ørsted)
- Emily Cooper, Project Manager, Atwell, LLC (Atwell)
- Tara Corbett, Project Manager, Atwell

Discussion

- **Project Introduction** - J. Baker provided an update on the Badger Wind project. Project location was provided by KMZ prior to the meeting. The Badger project has been active for a couple of years with a second year of avian studies underway. The project team is just getting to the layout stage and the public siting commission application process will likely occur in 2021.
- **Meeting Purpose** - J. Baker explained that the Badger team wanted to understand more about the USFWS wetland easements within the Badger project area. The impetus for the meeting was that a landowner participating in the project told Ørsted that he was recently approached by USFWS to put a wetland easement on land that was under a wind farm agreement for the project. J. Baker wanted to confirm the easement and the wind farm agreement were not in conflict with each other and better understand the easement program.
- **USFWS Introductions** - M. Erickson is the field lead in Kulm, North Dakota responsible for managing the USFWS wetland easements in the vicinity of the Badger project. Heidi Riddle

focuses more on wind farm projects overall and the siting of project infrastructure from a wildlife perspective.

- **Wetland Easement Program Overview** -USFWS wetland easements are contracted, perpetual easements wherein the easement holder agrees to not burn, drain or fill wetland basins present on the property. M. Erickson confirmed that development on other portions of the easement property, outside of wetland basins, can occur, but no burning, dredge, or fill activities are allowed within the basins. Wetland basins are determined much in the same way that wetland delineations are typically done and are based on the vegetation and hydric soils associated with the wetlands. In addition, often the wetland basins are farmed and thus the USFWS uses historic aerial photographs over the past thirty years to observe the extent of wetland areas in wet years. Based on this information, the USFWS is in the process of mapping most of the wetland areas. When wetland delineations for the project are conducted on properties where USFWS wetland easements occur, USFWS can review the delineations via desktop or in the field to determine whether they concur with the delineation or not. The maps provided by USFWS are not exact and should not be used to determine the exact wetland boundaries. M. Erickson recommended confirming boundaries of wetlands early in the process, prior to public siting process permitting.
- **Setbacks** - No setbacks are required from wetland easements. Disturbance to USFWS wetlands is not allowed and would trigger a federal nexus. M. Erickson indicated that allowing disturbance in USFWS wetlands is unprecedented and strictly not recommended. If disturbed, a federal nexus is triggered, and an Environmental Assessment process is needed. M. Erickson indicated that if, during construction, inadvertent fill occurred in a USFWS wetland, it would be a violation and law enforcement issue. Voluntary restoration would be necessary to restore the inadvertent fill back to normal condition over a determined duration.
- **USFWS Grassland Easements** - USFWS grassland easements are handled differently than wetland easements. Grassland easements are typically designated for entire parcels. If disturbed, a federal nexus is triggered and Environmental Assessment process is needed.
- **Easements Underway/ New Easements** - J. Baker inquired if other wetland easements are being actively pursued with landowners in the project area. M. Erickson responded that approximately ten other landowners in Logan County (as a whole) are currently in the process of signing up for wetland easements. Given the project location in western Logan County, aside from those ten landowners, it is unlikely that other easements will develop. M. Erickson offered to review the Badger project boundary once it was further refined through siting to confirm if any other parcels within the boundary were under consideration for easements.
- **Pre-1976 Easements** - M. Erickson explained that all wetland easements established after 1976 have been mapped by USFWS. Those easements established prior to 1976 are mapped as parcel boundaries only, and USFWS is currently reviewing the pre-1976

easement areas to map the wetland boundaries for these parcels using multiple years of aerial imagery. This effort is expected to be completed by the end of September 2020.

- **Action Items** - M. Erickson indicated that he would review the refined Badger project area and confirm whether there are any pre-1976 easements in the project area that are unmapped and that he would also let the team know if any new easement acquisitions were currently underway in the Project Area.

Alan Plumeau

From: Riddle, Heidi L <heidi_riddle@fws.gov>
Sent: Tuesday, February 2, 2021 11:59 AM
To: Chris McCreedy
Cc: glink@nd.gov; Henderson, Wayne; Lundgren, Krista; Dyke, Steve R.; Mueller, Elisha K.
Subject: FWS Response - Badger Wind Project.pdf
Attachments: Badger Wind Project.pdf

Please see attachment.

Heidi Riddle, CWB®
Fish and Wildlife Biologist
USFWS North Dakota Ecological Services Field Office
3425 Miriam Ave
Bismarck, ND 58501
(701) 355-8545
heidi_riddle@fws.gov

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Alan Plumeau

From: Emily Cooper
Sent: Wednesday, February 3, 2021 9:26 PM
To: Jonathan Baker
Cc: Ben Banks; Maureen O'Shea-Stone; Francesca Martella Kehl
Subject: Badger Wind - USFWS Coordination Letter
Attachments: Badger Wind Project.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Hi Jon –

As mentioned on this week's call, USFWS sent a coordination letter on the Badger Project, received this week (though dated last week). A lot of the recommendations in here are fairly standard, but a few things to note:

- The letter revisits both bats and whooping cranes, as well as other listed species. I do think it makes sense for us to circle back with the agencies / schedule a call to update them on the Y2 studies and reassure them that the project is keeping an eye on these things.
 - If you would like us to present the whooping crane analysis, it may make sense to get a jump on updating that analysis for the new project area. I think the faster we can scrub / move away from the old project boundary, the better.
- They double down on the grassland and wetland avoidance recommendation, and recommend the same papers and mitigation calculations provided by NDGF.
- The way that they touch on the topic of acoustic studies and question the coverage of the MET towers is worth keeping an eye on – I think we may need to circle back / present our Y2 bat acoustic findings (report is in draft now) and remind them how little habitat is located on the site.
- They provide contacts for the USFWS wetland and grassland easement programs – this is probably something we should circle back on again now that the design is moving ahead (maybe once we have the next iteration of the array).
- They provide some feedback and standard recommendations on design of transmission lines – worth noting that we haven't really discussed the transmission line with the agencies to date. At a minimum, you may need to consider line marking given the location of the project in the whooping crane corridor.

These are a few initial takeaways. We will go through this in more detail to make sure there are no surprises and that we have accounted for the recommendations in our current studies and planning. Please let me know if you have any other questions upon reviewing.

Thanks,
Emily

Emily Cooper
Sr. Project Manager
ATWELL, LLC

978.273.3275 Tel
3000 Center Green Drive | Suite 210 | Boulder, CO 80301
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United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501
(701) 250-4481, ndfieldoffice@fws.gov

In Reply Refer To:
Badger Wind Project
2020-B-0037

January 29, 2021

Mr. Chris McCreedy
Senior Environmental Consultant
Atwell, LLC

Dear Mr. McCreedy:

Thank you for your continued coordination with the U.S. Fish and Wildlife Service (Service) and for providing information about the proposed Badger Wind Proposal in Logan and McIntosh Counties, North Dakota. You have coordinated two meetings with the Service and the North Dakota Game and Fish Department (Department) in 2020, and provided us with wildlife surveys that have been conducted to date for the project. We appreciate your conveyance of that information and request any future reports that may result from wildlife/habitat studies in/around the project area.

We recognize that you are likely aware of and have been using the voluntary 2012 *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines* (WEG) (available online at: <http://www.fws.gov/windenergy/>) which were developed in consultation with wind industry companies. We recommend close adherence to these guidelines, using the information gathered to first determine whether the project should be placed in the area of interest at all. The WEG invokes a tiered approach in which information is collected with increasing levels of detail in order to evaluate risk posed to habitats and wildlife at potential wind energy sites. Tiers 1-3 each represent a preconstruction decision point to either move forward to development, gather more information and move to the next tier, or to abandon project plans at a given site, thereby avoiding areas where development is precluded or where wildlife impacts are likely to be high and difficult or costly to remedy or mitigate at a later stage. Sites dominated by grasslands with a high component of native prairie may fit that description. If the project is to proceed at the chosen location, then the information gathered per the WEG is used to guide project specifics, such as turbine locations, and any needed mitigation measures. Wind energy facility impacts are incurred to both habitat and wildlife, typically including wildlife collision mortality, loss of habitat due to the footprint of the turbines/roads/other facilities, habitat fragmentation, wildlife displacement, encroachment of invasive weeds, and more. Currently, the best strategy to reduce impacts to wildlife is to develop wind energy facilities within areas dominated by cropland wherever possible to preclude direct impacts to valuable wildlife habitats, and siting turbines away from adjacent wildlife habitat as much as possible to reduce indirect effects. Per our

previous communications, we recommend addressing all Service trust resources and applicable avoidance, minimization, and offset measures in a Bird and Bat Conservation Strategy (BBCS) for our review.

Our first and foremost recommendation to all wind energy development companies in North Dakota is to avoid grasslands and wetlands – two primary types of habitat in the state that support native species. Choosing a project site dominated by cropland greatly increases the potential to avoid and reduce direct/indirect impacts to wildlife habitat and we support efforts toward that end. We recommend referring to the Department’s January 5, 2021, letter and guidance document when estimating impacts to grasslands.

We note that Service easements are located within the project area, as well as Waterfowl Production Areas (WPA) within or near the project area. The presence of Service property interests indicate the high fish and wildlife resource value in these areas. We recommend working closely with the Wetland Management District (WMD) to ensure that appropriate measures are implemented to preclude effects to wildlife using these areas. Please contact Wayne Henderson, wayne_henderson@fws.gov, or Krista Lundgren, krista_lundgren@fws.gov at the Kulm WMD, for more information regarding Service property interests. Overall, we recommend complete avoidance of direct disturbance of remnant grasslands and wetlands.

Despite the potential benefits of directly avoiding habitat, risk to wildlife still exists. Indirect impacts such as wildlife displacement in habitats adjacent to project facilities may occur, and direct impacts such as avian and bat collision mortality are anticipated regardless of the project location. Since grassland nesting birds and waterfowl are known to be displaced by turbines, we recommend buffering proposed wind energy facilities from grasslands and wetlands in the project area as much as possible. Peer-reviewed published literature described in the attached information (Shaffer et al. 2019, Loesch et al. 2013, Shaffer and Buhl 2016, and Leddy et al. 1999) can serve as your guide regarding appropriate distances needed to reduce/avoid this displacement. A buffer between facilities and any forested sites may also be prudent to reduce risk to bats that may use those habitats. Feathering turbine blades and increasing cut-in speeds, are also effective and recommended conservation measures, particularly for bats.

The project area is within the whooping crane migration corridor and whooping cranes have been reported near/within the proposed Badger Wind facility. Wind turbines may pose a collision risk to these birds, or cause displacement if the cranes avoid otherwise suitable habitat. Overhead transmission lines are a known source of mortality for this species. If the project cannot be moved from the whooping crane migration corridor, measures to reduce the collision mortality risks to this species (e.g. active monitoring, turbine shutdowns, line marking devices) should be applied to reduce the risk of unauthorized take of this species under section 9 of the Endangered Species Act (ESA). Without a federal nexus to this project, development of a Habitat Conservation Plan (HCP) is the means by which to ensure ESA compliance (see: <https://www.fws.gov/endangered/what-we-do/hcp-overview.html>).

We note that species of concern including eagles, federally listed species, North Dakota Species of Conservation Priority, Birds of Conservation Concern, and Species of Habitat Fragmentation Concern have either been detected or have the potential to occur in the project area. We recommend adhering closely to the Eagle Conservation Plan Guidance and Region 6 guidance regarding eagles (see attachment). Some impacts to other species of concern may be precluded by the aforementioned avoidance and buffering of grassland and wetland habitats.

Bat acoustic surveys were conducted that may have allowed for detection of the northern long-eared bat at the proposed project site. However, per the report, “evaluating operational mortality risk during normal operations based on the MET tower station with year one data may not adequately depict comparable bat data between the RSZ and ground units within the project area.” As such, the monitoring may not fully represent potentially suitable bat habitat for the northern long-eared bat and the other tree-loving species most likely to occur at the site. Thus, the results of the acoustic bat surveys may be limited in value regarding bat use of the project area. The report also indicates that the BMg4 station increased activity may be due to its location on the “northeast side of the project adjacent to the prairie pothole region”. It may be beneficial to gather more information regarding these questions to obtain a better estimate of risk to bats at this wind facility.

The attached information provides additional information and recommendations regarding important wildlife habitats and Service trust resources including federally listed species, eagles, birds of conservation concern, and other migratory birds that may occur in the project area and vicinity. We have included guidelines and methods to be applied to various components of a wind farm including turbines, meteorological towers, and power lines in order to avoid, minimize, and/or compensate for impacts to trust resources and assist you in achieving compliance with Federal laws.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

Thank you for the opportunity to comment on this project proposal. If you have any additional questions or concerns, please contact Heidi Riddle of my staff, at (701) 355-8545 or heidi_riddle@fws.gov, or you can contact me at (701) 355-8512 or drew_becker@fws.gov.

Sincerely,

Drew Becker
ND Ecological Services Office Supervisor

Enclosure

cc: Greg Link, NDGF, Bismarck, ND
Wayne Henderson, USFWS, Kulm Wetland Management District
Krista Lundgren, USFWS, Kulm Wetland Management District

**Attachment: U.S. Fish and Wildlife Service Additional Information Regarding the
Badger Wind Proposal
Logan and McIntosh Counties, North Dakota
January 26, 2021**

Eagle Guidance

Golden eagles (*Aquila chrysaetos*) are year-round residents in western North Dakota and may be found throughout the state in winter or during migration. Bald eagles (*Haliaeetus leucocephalus*) occur throughout North Dakota in all seasons. These species are protected from a variety of harmful actions via take prohibitions in both the Migratory Bird Treaty Act¹ (MBTA; 16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668–668d). The BGEPA, enacted in 1940 and amended several times, prohibits take of bald eagles and golden eagles, including their parts, nests, young, or eggs, except where otherwise permitted pursuant to federal regulations. Incidental take of eagles from actions such as electrocutions from power lines or wind turbine strikes are prohibited unless specifically authorized via an eagle incidental take permit from US Fish and Wildlife Service (Service). BGEPA provides penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." BGEPA defines take to include the following actions: "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Service expanded this definition by regulation to include the term "destroy" to ensure that "take" also encompasses destruction of eagle nests. Also the Service defined the term disturb which means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Service has developed guidance for the public regarding means to avoid take of bald and golden eagles:

- The 2007 *National Bald Eagle Management Guidelines* serve to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of BGEPA may apply. They provide conservation recommendations to help people avoid and/or minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the BGEPA. <https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>

¹ On December 22, 2017, the Department of the Interior's (DOI) Office of the Solicitor Memorandum M-37050 titled *The Migratory Bird Treaty Act Does Not Prohibit Incidental Take* (<https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>) concludes that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. The MBTA list of protected species includes bald and golden eagles, and the law has been an effective tool to pursue incidental take cases involving eagles. However, the primary law protecting eagles is the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. Code § 668), since the bald eagle was delisted under the Endangered Species Act in 2007. Memorandum-37050 does not affect the ability of the Service to refer entities for prosecution that have violated the take prohibitions for eagles established by the BGEPA.

- The 2013 *Eagle Conservation Plan Guidance, Module 1- Land-based Wind Energy, Version 2* is specific to wind energy development and provides in-depth guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities. Development of an Eagle Conservation Plan per these guidelines may serve as the basis for applying for an eagle incidental take permit for wind energy facilities. Applications for such eagle incidental take permits must include an Eagle Conservation Plan. <https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>

The Service also has promulgated new permit regulations under BGEPA:

- Eagle permit regulations, as allowed under BGEPA, were promulgated by the Service in 2009 (74 FR 46836; Sept. 11, 2009) and revised in 2016 (81 FR 91494; Dec. 16, 2016). The regulations authorize the limited take of bald and golden eagles where the take to be authorized is associated with otherwise lawful activities. These regulations also establish permit provisions for intentional take of eagle nests where necessary to ensure public health and safety, in addition to other limited circumstances.

The revisions in 2016 included changes to permit issuance criteria and duration, definitions, compensatory mitigation standards, criteria for eagle nest removal permits, permit application requirements, and fees in order to clarify, improve implementation and increase compliance while still protecting eagles. <https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf>

The Service's Office of Law Enforcement carries out its mission to protect eagles through investigations and enforcement, as well as by fostering relationships with individuals, companies, industries and agencies that have taken effective steps to avoid take, including incidental take of these species, and encouraging others to implement measures to avoid take. The Office of Law Enforcement focuses its resources on investigating individuals and entities that take eagles without identifying and implementing all reasonable, prudent, and effective measures to avoid that take. Those individuals and entities are encouraged to work closely with Service biologists to identify available protective measures, and to implement those measures during all activities or situations where their action or inaction may result in the take of an eagle(s).

Note that the Service has also developed recommendations for wind developers specific to the Mountain-Prairie Region (Region 6):

- *Region 6 Recommendations for Avoidance and Minimization of Impacts to Golden Eagles at Wind Energy Facilities* –The goal of this document is to contribute to maintaining stable or increasing breeding populations of eagles by recommending conservation measures that will maintain breeding territories and minimize impacts to other important eagle use areas (e.g., eagle nests, foraging areas, and communal roosts). https://www.fws.gov/coloradoes/documents/Final_GOEA_Buffer_Recommendations_AvoidanceMinimization_WindFacilities_April_10_2013.pdf.
- *U.S. Fish and Wildlife Service, Region 6, Recommended Approach for Development and Submission of Eagle Conservation Plans submitted to Region 6, Migratory Management Office in support of an Eagle Incidental Take Permit Application for Wind Energy Projects* – finalized in July 2019, this guidance replaces an earlier outline version of ECP recommendations by the Service's Mountain-Prairie Region (Region 6) entitled "Final

Outline and Components of an Eagle Conservation Plan (ECP) for Wind Development: Recommendations from USFWS, Region 6”. The purpose of the new guidance is to eliminate unnecessary work and expense by permit applicants and shorten/streamline the process of applying for an eagle incidental take permit (EITP). The guidance will reduce the ECP process to only those items necessary for the USFWS to conclude that the ECP is sufficient to support the EITP application, and ensure that we have what we need both for our review of the application and our required NEPA compliance.

We recommend close adherence to the guidelines above, including modeling of eagle data to determine the level of risk posed by the project and possible need for an eagle take permit and we request results of all eagle data collected for this project.

Threatened/Endangered Species

In accordance with section 7(c) of the Endangered Species Act (ESA), as amended, 16 U.S.C. 1531 et seq., we have determined that the following federally listed species may occur in the project area (this list is considered valid for 90 days):

<u>Species</u>	<u>Status</u>	<u>Expected Occurrence</u>
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened	Summer resident, seasonal migrant
Whooping Crane (<i>Grus Americana</i>)	Endangered	Spring and fall migrant
Piping Plover and Critical Habitat (<i>Charadrius melodus</i>)	Threatened	Summer resident, seasonal migrant
Rufa Red Knot (<i>Calidris canutus rufa</i>)	Threatened	Rare seasonal migrant

Northern Long-eared Bat:

The northern long-eared bat is a medium-sized brown bat that roosts singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees in the summer and migrates to hibernacula (often caves) in the winter. White nose syndrome - a fungus affecting hibernating bats - is considered a significant threat to this species, but individuals may be harmed by other activities such as modifications to hibernacula, timber harvest, human disturbance, and collisions with wind turbines. A 4(d) rule has been published that exempts take of Northern long-eared bats at wind facilities that are not located near maternity roosts or hibernacula (see: <https://www.fws.gov/Midwest/Endangered/mammals/nleb/index.html>). At this time, we have not located maternity roosts or hibernacula in North Dakota. The project site is not heavily forested, but riparian corridors within the project area may serve as habitat for the species. We recommend proactive measures to protect individual bats that may be at risk from this development including feathering turbine blades and increasing cut-in speeds to 5 m/s or more to reduce the risk of bat mortality at wind generation facilities. Post-construction mortality studies per the WEG are recommended to determine impacts to bats and inform the need for additional adaptive management strategies.

Whooping Crane:

The proposed Badger Wind project location is within the documented primary migration corridor of the Aransas/Wood Buffalo population of whooping cranes - the only self-sustaining migratory population of whooping cranes in existence. Whooping cranes migrate through North Dakota twice annually on their way to northern breeding grounds and southern wintering areas, occupying numerous habitats such as cropland and pastures; wet meadows; shallow marshes; shallow portions of rivers, lakes, reservoirs, and stock ponds; and both freshwater and alkaline basins for feeding and loafing. Overnight roosting sites frequently require shallow water in which to stand and rest. Use of the proposed project area by sandhill cranes may be indicative of the potential presence of whooping cranes since the two species are often observed utilizing the same habitats and migrating together. Sightings of whooping cranes should be reported to this office. These are large birds with low maneuverability. Line strike mortality is the greatest known threat to fledged whooping cranes. More information on this topic is provided herein (see enclosure: *Region 6 Guidance for Minimizing Effects from Power Line Projects within the Whooping Crane Migration Corridor*, and Power Lines section below). Mortality via turbine strikes may also pose a risk if the birds utilize habitat at/near wind farm sites and loss of stopover habitat in the migration corridor is a concern that may be realized if whooping cranes tend to avoid wind farms. Additionally, should construction occur during spring or fall migration, the potential for whooping crane disturbances (flushing the birds) exists. Disturbance stresses them at critical times of the year and should be avoided.

Potential whooping crane habitat in North Dakota has been modeled by the Service's Habitat and Population Evaluation Team in Bismarck (Neimuth et al. 2018) as a source of information helpful in assessing risks to whooping cranes. The most effective means to reduce the risks posed to this species is to locate the project outside the whooping crane migration corridor.

If a federal nexus exists for this project (i.e. a federal agency is funding, permitting or otherwise authorizing the project), and the federal action agency, or their designated representative determines that the project "may adversely affect" listed species in North Dakota, they should request formal consultation from this office. If a "may affect - not likely to adversely affect" determination is made for this project, they should submit it to us for concurrence. If a "no effect" determination is made, further consultation may not be necessary; however, a copy of the determination should be sent to this office. If no federal agency is involved with the proposed project and take of federally listed species may occur, ESA compliance may be achieved by private entities via coordination with this office and development of a Habitat Conservation Plan (HCP). Our website provides more information on HCPs at: <http://www.fws.gov/endangered/what-we-do/hcp-overview.html>.

Piping Plover

Piping plovers (*Charadrius melodus*), a federally threatened species, have the potential to use areas near the project. In North Dakota, piping plovers begin arriving to their breeding and nesting grounds in early to mid-April and are typically gone by September 1. Construction or maintenance activities during this time period may disturb nesting piping plovers. Piping plovers are sensitive to human disturbances, which can limit reproduction. Within the proposed project area, potential piping plover habitat is near alkali lakes and consists of sparsely vegetated shorelines, sandbars, and islands, salt-encrusted mud flats, gravelly salt flats, and adjacent uplands 200 ft (61 m) above the high water mark of alkali lakes and wetlands. These habitats are used for nesting, foraging, and brood-rearing. The Service recommends a ½ mile no entry buffer around all designated critical habitat and on wetlands with potential or documented plover nesting during the timeframe of April 1-September 1. If you are unable to maintain a ½ mile buffer around all piping plover nesting wetlands, the Service recommends that the project

proponent provide additional protective measures in these areas to avoid the potential take of piping plovers. Critical habitat has been designated for the piping plover and does occur in both Logan and McIntosh counties.

Rufa Red Knot

The rufa red knot is a robin-sized shorebird listed as threatened under the Endangered Species Act (see: <http://www.gpo.gov/fdsys/pkg/FR-2014-12-11/pdf/2014-28338.pdf> for more information). The red knot migrates annually between its breeding grounds in the Canadian Arctic and several wintering regions, including the Southeast United States, the Northeast Gulf of Mexico, northern Brazil, and Tierra del Fuego at the southern tip of South America. Although it is primarily a coastal species, small numbers of rufa red knots are reported annually across the interior United States (i.e., greater than 25 miles from the Gulf or Atlantic Coasts) during spring and fall migration. These reported sightings are concentrated along the Great Lakes. The red knot likely uses North Dakota habitats similar to those of the least tern and piping plover. The species does not breed in this state.

Wetlands

According to National Wetlands Inventory maps, available online at: <https://www.fws.gov/wetlands/>, wetlands exist within the proposed project area. If a project may impact wetlands or other important fish and wildlife habitats, the Service, in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible; then minimization of any adverse impacts; and finally, replacement of any lost acres; in that order. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted and the methods of replacement should be prepared and submitted to the resource agencies for review.

Native Grasslands and Grassland Dependent Birds

Native prairie is a particularly important and imperiled habitat in North Dakota. In addition to the intrinsic value of diverse native prairie plant communities, these areas represent a fraction of the prairie acres that once existed in the state and remaining tracts have become increasingly critical to many declining bird and pollinator species. These habitats harbor numerous native wildlife species, some of which cannot survive outside the native plant community. The North Dakota Game and Fish Department's January 5, 2021, letter regarding this project highlighted that native prairie supports more than 30 of the 115 Species of Conservation Priority (SCP) identified by the state, some of which have experienced population declines of 74% or more.

Some of the State's SCP species are also identified by the Service as Birds of Conservation Concern (BCC) (see below) due to their declining numbers. Further overlap occurs between the list of BCC species and Service-identified avian Species of Habitat Fragmentation Concern in North Dakota. The majority of North American bird species are known to be in decline, incurring a 29% reduction in abundance since 1970, equating to a loss of 2.9 billion birds across almost all biomes (Rosenberg et al. 2019). Among those, grassland birds have experienced the largest magnitude of total population loss: 53%, or more than 700 million breeding individuals across 31 species (Rosenberg et al. 2019). Population level declines begin with local impacts to individuals and/or habitats; development of the Badger Wind project will impact local nesting grassland birds. Birds are important components of the prairie ecosystem and their loss has

cascading effects. Our overarching recommendation to wind energy developers is to avoid grassland habitats to the maximum extent possible by seeking out areas dominated by previously disturbed lands (e.g. cropland) for developments in order to reduce or eliminate impacts to these grassland dependent species.

Also note that while native prairie is considered a conservation priority in the state, lesser-quality grasslands (e.g. grasslands with a high non-native plant component, overgrazed grasslands) can still provide some habitat for wildlife, and we recommend avoidance of these plant communities whenever possible as well. Project impacts should instead be directed toward previously disturbed land (e.g. cropland).

Birds of Conservation Concern

The Migratory Birds Division of the Service has published *Birds of Conservation Concern 2008*, which may be found online at:

<https://www.fws.gov/migratorybirds/pdf/management/BCC2008.pdf>

This document is intended to identify species in need of coordinated and proactive conservation efforts among State, Federal, and private entities, with the goals of precluding future evaluation of these species for ESA protections and promoting/conserving long-term avian diversity. There are 27 species listed in the BCC document that occur within Bird Conservation Region 11 (Prairie Potholes) where the Badger Wind project area is proposed. Direct and indirect effects to these species will occur with establishment of this wind facility. Primary threats impacting grassland species that occur in North Dakota are habitat loss and fragmentation. In accordance with Executive Order 13186 regarding migratory bird protection, we recommend avoidance, minimization, and finally compensation to reduce the impacts to species protected by the MBTA, including BCC species. Compliance with this law may be partially addressed in a Bird and Bat Conservation Strategy (BBCS) (identified within the WEG and explained further below).

Avian Avoidance of Wind Turbines

As indicated in the WEG, wind turbines are known to impact migratory birds directly via collision with turbines, thus post-construction mortality surveys are typically recommended for 1-2 years (or more) to quantify that mortality and compare it with pre-construction risk assessments. Importantly, the WEG also identifies other effects of wind energy facilities such as habitat fragmentation and wildlife avoidance of turbines. While direct mortality can readily be observed and quantified, displacement impacts are more difficult to document/quantify and require more time and effort. The Before-After-Control-Impact (BACI) method for avian studies is recommended in the WEG. This study design is particularly useful in determining indirect effects of wind projects on wildlife, but such studies are rarely conducted typically due to those time/effort constraints. In the absence of robust project-specific research at every wind farm, two relatively recent studies are of particular importance to this issue of quantifying avoidance/displacement: Loesch et al. (2013) and Shaffer and Buhl (2016).

Loesch et al. (2013) evaluated breeding waterfowl pairs on wetlands at existing wind farms and reference sites in the Prairie Pothole Region. Displacement of 18% of pairs, among five waterfowl species was detected within 805 meters (0.5 mile) of wind turbines (C. Loesch, USFWS, pers. comm., 2019).

Similarly, Shaffer and Buhl (2016) evaluated wind farms and reference sites in the Prairie Pothole Region, but their research was on grassland nesting birds and also included pre-

construction data, thus this study applied the BACI method. Their results detected avoidance of turbines by seven species. The average rate of displacement out to 300 meters (0.19 mile) from wind turbines was 53% by the 5th year post construction (J. Shaffer, USGS, pers. comm., 2019). This research also detected a trend: displacement rates of grassland nesting birds continued to increase over time during that 5 years post-construction (J. Shaffer, USGS, pers. comm. 2019).

Both of these peer-reviewed/published studies occurred in North and South Dakota over multiple years, on multiple wind farms, and involved large sample sizes and reference sites that were used for comparison with impacted sites. Many of the species found to be displaced during these studies occur at the Badger Wind project.

In addition to the above recent research, an older study of shorter duration was conducted at a wind facility in Minnesota and also documented avoidance of wind turbines by birds, this time on Conservation Reserve Program (CRP) lands: Leddy et al. (1999). CRP grasslands are areas typically planted with grass species after being cropped. CRP grasslands without turbines and areas located 180 m from turbines supported higher densities (261.0-312.5 males/100 ha) of grassland birds than areas within 80 m of turbines (58.2-128.0 males/100 ha) (Leddy et al. 1999).

If the Badger Wind project proceeds, we recommend using C. Loesch's 18% displacement of waterfowl pairs within ½ mile of turbines to quantify the number of wetlands needed to compensate for waterfowl displacement at the site and develop a plan to achieve those offsets. We also recommend quantifying grasslands within 300 m of turbines and applying the 53% displacement value via Shaffer and Buhl (2016) to determine and disclose anticipated indirect impacts to grassland nesting birds, and adding this to the offset plan. Methods used to obtain appropriate grassland and wetland offsets are described in Shaffer et al. 2019. Finally, if CRP or other non-native grassland habitats will be affected by the Badger Wind project, we recommend using the displacement information in Leddy et al. (1999) to develop appropriate offsets for this impact in the plan as well. This information is needed to adequately develop appropriate compensation for this form of habitat loss and its associated effect on grassland nesting birds and we encourage project developers to provide that plan as part of the project.

Mitigation

The Service's mitigation policy, available online at: https://www.fws.gov/policy/a1npi89_02.pdf, was established in 1981 to help assure consistent and effective mitigation recommendations that help federal action agencies and developers plan for mitigation measures early, avoid delays, and assure equal consideration of fish and wildlife resources with other project features and purposes. Our policy adopts the definition of the term "mitigation" as stated in the NEPA regulations which includes:

“(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments.”

As noted above, loss/degradation of habitats and mortality/displacement of wildlife are known to occur at wind energy facilities. We recommend analysis and quantification of these impacts, followed by application of the above mitigation methods during each step of project

development - but particularly during early planning stages - to help ensure full implementation of any necessary mitigation measures.

Bird and Bat Conservation Strategy

Bird and bat conservation strategies are recommended in the WEG. We have developed a regional document to further assist companies in following our established national guidance on BBCSs: *U.S. Fish and Wildlife Service, Region 6, Mountain-Prairie Region Outline for a Bird and Bat Conservation Strategy: Wind Energy Projects*, available online at: <https://www.fws.gov/coloradoes/documents/Final%20R6%20BBCS%20Outline%20with%20annotation.pdf>. As stated in the introduction of that document: a BBCS "...is a life-of-a-project framework for identifying and implementing actions to conserve birds and bats during wind energy project planning, construction, operation, maintenance, and decommissioning. It is the responsibility of wind energy project developers and operators to effectively assess project-related impacts to birds, bats and their habitats, and to work to avoid and minimize those impacts." A BBCS explains the actions taken by developers as they progress through the tiers of the WEG, describing the analyses, studies, and reasoning implemented with the purpose of mitigating for potential avian and bat impacts. It also addresses post-construction monitoring and habitat impacts. We recommend completion of a BBCS for this proposed energy wind facility.

Meteorological Towers

Meteorological towers associated with Badger Wind project are similar to other communication towers in that they are a known mortality hazard to wildlife, particularly birds. Of primary concern is the risk of avian collision mortality. Communication towers are currently estimated to kill 6.8 million birds per year in the United States and Canada (Longcore et al. 2012). To assist developers in establishing communications towers that are more compatible with wildlife, we have developed our 2018 *Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning*, available online at: <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php>. These recommendations incorporate the state of the science and the 2015 Federal Aviation Administration's *Obstruction Marking and Lighting Advisory Circular AC 70/7460-1L*, online at: https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_70_7460-1L_with_chg_1.pdf. Among the primary concerns addressed within our guidelines are the establishment of new towers on the landscape, the heights of these towers, their lighting scheme, and means of structural support. Collocation of new tower facilities on an existing structure is strongly recommended to avoid any additional impacts to migratory birds. If a new tower is necessary, placement of the new tower near other existing structures is recommended to concentrate the risk posed by the towers to relatively small areas. Minimization of tower height (below 200 feet to preclude the need for Federal Aviation Administration lighting requirements), use of only strobe or flashing lights (avoid steady-burning lights), and avoidance of guy wires (a great deal of avian mortality is a result of collisions with supporting guy wires) are important components intended to minimize potential impacts to migratory birds. The habitat at a tower location and surrounding area can also affect its level of risk to wildlife. Tower placement should occur in degraded sites avoiding ridgelines, coastal areas, wetlands or other bird concentration areas such as staging areas, rookeries, leks, and state or federal refuges. Please see the website provided above for additional information.

Overhead Power Lines

The construction of additional overhead power lines associated with wind farms creates the threat of avian electrocution, particularly for raptors. Thousands of these birds, including endangered species, are killed annually as they attempt to utilize overhead power lines as nesting, hunting, resting, feeding, and sunning sites. The Service recommends the installation of underground, rather than overhead, power lines whenever possible/appropriate to minimize environmental disturbances. For all new overhead lines or modernization of old overhead lines, we recommend incorporating measures to prevent avian electrocutions. The publication entitled *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* includes many measures to reduce risk to birds including pole extensions, modified positioning of live phase conductors and ground wires, placement of perch guards and elevated perches, elimination of cross arms, use of wood (not metal) braces, and installation of various insulating covers. You may obtain this publication by contacting the Edison Electric Institute via their website at: <http://www.eei.org/resourcesandmedia/products/Pages/products.aspx>, or by calling 202-508-5000.

Please note that utilizing just one of the "*Suggested Practices . . .*" methods may not entirely remove the threat of electrocution to raptors. In fact, improper use of some methods may increase electrocution mortality. Perch guards, for example, may be only partially effective as some birds may still attempt to perch on structures with misplaced or small-sized guards and suffer electrocution as they approach too close to conducting materials. Among the most dangerous structures to raptors are poles that are located at a crossing of two or more lines, exposed above-ground transformers, or dead end poles. Numerous hot and neutral lines at these sites, combined with inadequate spacing between conductors, increase the threat of raptor electrocutions. Perch guards placed on other poles has, in some cases, served to actually shift birds to these more dangerous sites, increasing the number of mortalities. Thus, it may be necessary to utilize other methods or combine methods to achieve the best results. The same principles may be applied to substation structures.

Please also note that the spacing recommendation within the "*Suggested Practices . . .*" publication of at least 60 inches between conductors or features that cause grounding may not be protective of larger raptors such as eagles. This measure was based on the fact that the skin-to-skin contact distance on these birds (i.e., talon to beak, wrist to wrist, etc.) is less than 60 inches. However, an adult eagle's wingspan (distance between feather tips) may vary from 66 to 96 inches depending on the species (golden or bald) and gender of the bird, and unfortunately, wet feathers in contact with conductors and/or grounding connections can result in a lethal electrical surge. Thus, the focus of the above precautionary measures should be: a) provide more than 96 inches of spacing between conductors or grounding features, b) insulate exposed conducting features so that contact will not cause raptor electrocution, and/or c) prevent raptors from perching on the poles in the first place.

Additional information regarding simple, effective ways to prevent raptor electrocutions on power lines is available in video form. *Raptors at Risk* may be obtained by contacting EDM International, Inc. at 4001 Automation Way, Fort Collins, Colorado 80525-3479, Telephone No. (970) 204-4001, or by visiting their website at: <https://www.edmlink.com/component/zoo/item/video-raptors-at-risk>.

In addition to electrocution, overhead power lines also present the threat of avian line strike mortality. Particularly in situations where these lines are adjacent to wetlands or where waters exist on opposite sides of the lines, we recommend marking them in order to make them more visible to birds. For more information on bird strikes, please see *Reducing Avian Collisions with*

Power Lines: The State of the Art in 2012 which, again, may be obtained by contacting the Edison Electric Institute via their website at: <http://www.eei.org/resourcesandmedia/products/Pages/products.aspx>, or by calling 202-508-5000.

While marking of power lines reduces line strike mortality, it does not preclude it entirely. Thus, marking of additional, existing, overhead lines is recommended to further offset the potential for avian line strike mortality. As noted above, the whooping crane is particularly susceptible to this type of mortality, and your project occurs within the whooping crane migratory corridor. Marking of existing lines elsewhere in the species' corridor is recommended.

Summary

Below we reiterate items above that are pertinent to the proposed project:

- Wind energy guidelines:
 - *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines*
<http://www.fws.gov/windenergy/>
- Eagle guidance:
 - Bald and Golden Eagle Protection Act (BGEPA)
 - *National Bald Eagle Management Guidelines*
<https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>
 - *Eagle Conservation Plan Guidance, Module 1 – Land-based Wind Energy Version 2*
<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>
 - Eagle take permit
<https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf>
 - *Region 6 Recommendations for Avoidance and Minimization of Impacts to Golden Eagles at Wind Energy Facilities*
https://www.fws.gov/coloradoes/documents/Final_GOEA_Buffer_Recommendations_AvoidanceMinimization_WindFacilities_April_10_2013.pdf
 - *U.S. Fish and Wildlife Service, Region 6, Recommended Approach for Development and Submission of Eagle Conservation Plans submitted to Region 6, Migratory Management Office in support of an Eagle Incidental Take Permit Application for Wind Energy Projects* (enclosed)
- Threatened/endangered species - Endangered Species Act (ESA):
 - Northern long-eared bat
 - Whooping crane
- Wetlands – avoid, minimize, compensate for unavoidable impacts,
 - National Wetlands Inventory: <https://www.fws.gov/wetlands/>
- Native Grasslands and Grassland Dependent Birds – identify, avoid, minimize:
- Birds of Conservation Concern:
 - *Birds of Conservation Concern 2008:*
[fws.gov/migratorybirds/pdf/management/BCC2008.pdf](https://www.fws.gov/migratorybirds/pdf/management/BCC2008.pdf)

- Avian Avoidance of Wind Turbines - compensate for unavoidable indirect impacts:
 - Loesch et al. (2013) – displacement of waterfowl
 - Shaffer and Buhl (2016) – displacement of grassland nesting birds
 - Shaffer et al. (2019) – methods to determine displacement compensation
 - Leddy et al. (1999) – displacement of grassland nesting birds in CRP
- Mitigation:
 - 1981 Service Mitigation Policy: https://www.fws.gov/policy/a1npi89_02.pdf
- Bird and Bat Conservation Strategy:
 - *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines*
 - *U.S. Fish and Wildlife Service, Region 6, Mountain-Prairie Region Outline for a Bird and Bat Conservation Strategy: Wind Energy Projects:*
<https://www.fws.gov/coloradoes/documents/Final%20R6%20BBCS%20Outline%20with%20annotation.pdf>
- Meteorological Towers:
 - *2018 Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning*
<https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php>
 - 2015 Federal Aviation Administration Obstruction Marking and Lighting Advisory Circular AC70/7460-1L, https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_70_7460-1L_with_chg_1.pdf
- Overhead Power Lines:
 - *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, <http://www.eei.org/resourcesandmedia/products/Pages/products.aspx>
 - *Raptors at Risk* video, <https://www.edmlink.com/component/zoo/item/video-raptors-at-risk>
 - *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*, <http://www.eei.org/resourcesandmedia/products/Pages/products.aspx>

Literature Cited

Fargione, J, J. Kiesecker, M. J. Slaats, S. Olm. 2012. Wind and wildlife in the Northern Great Plains: identifying low-impact areas for wind development.

Leddy, K. L, K. F. Higgins, D. E. Naugle. 1999. Effects of wind turbines on upland nesting birds in Conservation Reserve Program grasslands. *Wilson Bulletin* 111(1):100-104.

Loesch, C. R., J. A. Walker, R. E. Reynolds, J. S. Gleason, N. D. Niemuth, S. E. Stephens, and M. A. Erickson. 2013. Effect of wind energy development on breeding duck densities in the Prairie Pothole Region. *Journal of Wildlife Management* 77(3):587-598.

Longcore, T., C. Rich, P. Mineau, B. MacDonald, D.G. Bert, L.M. Sullivan, E. Mutrie, S.A. Gauthreaux, M.L. Avery, R.L. Crawford, A.M. Manville, E.R. Travis, and D. Drake. 2012. An estimate of avian mortality at communication towers in the United States and Canada. *PLoS One* 7(4): 1-17.

Niemuth, N. D., A. J. Ryba, A. T. Pearse, S. M. Kvas, D. A. Brandt, B. Wangler. 2018. Opportunistically collected data reveal habitat selection by migrating whooping cranes in the U.S. Northern Plains. *Condor* 120:343-356.

Shaffer, J. A. and D. A. Buhl. 2016. Effects of wind-energy facilities on breeding grassland bird distributions. *Conservation Biology* 30(1):59-71.

Shaffer, J. A., C. R. Loesch, and D. A. Buhl. 2019. Estimating offsets for avian displacement effects of anthropogenic impacts. *Ecological Applications* 0(0), 2019,e01983. [Online at: <https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.1002/eap.1983>].

Alan Plumeau

From: Riddle, Heidi L <heidi_riddle@fws.gov>
Sent: Thursday, May 20, 2021 1:08 PM
To: Chris McCreedy
Cc: Maureen O'Shea-Stone
Subject: RE: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis
Attachments: USFWS R6 Buffer Recommendations for wind energy projects_ver3.pdf

Hello Chris,

Thank you for following up with this email. I did get your voicemail but I accidentally deleted it and then couldn't get back to it! Sorry about that.

I am attaching the Region 6 wind energy guidance for wildlife buffers, which specifically addresses ferruginous hawks. There are other guidance documents on the R6 page too that you may find helpful. The link is:

<https://www.fws.gov/mountain-prairie/migbirds/index.php>

Scroll down to "Wind Energy Guidance Documents" and click on it. Five other document links will pop up that you can click on.

Hope this helps. Let me know if you have any other questions. As a side note, Tucson is one of my favorite places I've ever been. Would love to retire there someday ☺.

Thanks!

Heidi Riddle, CWB®
Fish and Wildlife Biologist
USFWS North Dakota Ecological Services Field Office
3425 Miriam Ave
Bismarck, ND 58501
(701) 355-8545
heidi_riddle@fws.gov

From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, May 20, 2021 1:34 PM
To: Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Subject: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

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Heidi,

Hello, I hope that this message finds you well. Here in Tucson it is really dry. We have our fingers crossed for good summer rains that hopefully will start in 6 or 7 weeks.

We have been working on a constraints analysis for the proposed Badger Wind project in Logan and McIntosh counties. I have a question on the setback buffers used for Ferruginous Hawk nests at turbines in North Dakota. I have checked the PSC docket to look into the approaches used at other ND projects, and I would appreciate your input on this. I left a phone message as well and I can call at your convenience if that is best.

Thank you,
Chris McCreedy

Chris McCreedy
Senior Environmental Consultant
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U.S. Fish and Wildlife Service (USFWS), Region 6

Wildlife Buffer Recommendations for Wind Energy Projects

March 31, 2021

Version 3.0

Note: The buffer described in these recommendations are minimum distances suggested to be used to separate any of the following features and proposed wind turbine locations, unless otherwise noted below. These USFWS recommendations are for wind energy projects in Region 6 only (Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota, Nebraska, and Kansas). This USFWS Region 6 voluntary guidance includes recommended buffers for a variety of wildlife and wildlife habitat features that may, or may not, be present within the project area for a given wind energy project. We recommend that the following buffer distances be implemented for all wildlife species or wildlife habitat features addressed below and present within the project area.

1. Raptor nest buffers (non-eagle):

Nesting raptor species commonly encountered at proposed wind energy project sites in Region 6 are addressed in this section. We recommend that existing raptor nests documented as occupied through recent pre-construction surveys for the project be buffered as follows: Swainson's hawk 800 meters, ferruginous hawk 1,600 meters, red-tailed hawk 800 meters, great-horned owl 400 meters, peregrine falcon 1,600 meters, and prairie falcon 800 meters. Ferruginous hawk, peregrine falcon, and prairie falcon are all USFWS Birds of Conservation Concern (USFWS 2008) and thus there are additional considerations in conserving their nest sites. If nests for other raptor species, besides those listed here, have also been documented as occupied through recent pre-construction surveys within the wind project area, USFWS Region 6 can provide additional buffer recommendations for them.

2. Greater Sage-Grouse buffers:

The greater sage-grouse is primarily managed by state wildlife and conservation agencies as well as by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) on BLM and USFS-administered lands. Where state-designated greater sage-grouse habitat occurs in the proposed project limits or vicinity, the recommends project coordination with the appropriate state agency(s) regarding any applicable required or recommended compliance with state sage-grouse laws, executive orders, policies, and conservation strategies, including lek and other sage-grouse habitat buffers. Projects with BLM or USFS involvement that are proposed near state, BLM, or USFS-designated sage-grouse habitats should additionally coordinate with the administering BLM or USFS office regarding applicable compliance with sage-grouse elements of governing federal land use plans.

3. Lesser Prairie-Chicken buffers:

We recommend conducting a risk assessment of the project area for lesser prairie-chickens following USFWS guidance documents (USFWS July, 2016 Recommendation for the Characterization of Effects of Wind Energy on the Lesser Prairie-Chicken, and

USFWS December, 2014 Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands). Once the results of the assessment and risk for prairie-chickens in the project area are known, the USFWS can provide further recommendations, if warranted.

4. Greater Prairie-Chicken buffers/ Sharp-tailed Grouse buffers:
Many state Fish and Wildlife Agencies have management recommendations for these species. Hence, we recommend that wind project proponents contact their state Fish and Wildlife Agencies regarding potential recommended buffers for these species in relation to your project.
5. Mountain Plover nest buffers:
Mountain plover is a USFWS Bird of Conservation Concern. We recommend that existing mountain plover nests documented as active through pre-construction surveys be buffered as follows: if the nest is within a prairie dog colony then a buffer of 800 meters should be applied to that colony and if the nest is located outside of a prairie dog colony then apply a buffer of 230 meters should be applied around the documented active nest.
6. Other USFWS Birds of Conservation Concern buffers:
Bird species designated as BCC by USFWS (USFWS 2008). If your wind energy project survey work documents that there are other USFWS BCC birds present and nesting within the project area USFWS, Region 6 may provide other species-specific buffer recommendations for the project.
7. Playas and wetlands:
For playas/wetlands within the project area we recommend applying a buffer of 500 meters. Hence, in general, no wind turbines should be constructed within 500 meters of playas/wetlands that occur within the project area. Adjustments to the size of the buffer may be warranted based on the size, quality, and raptor/avian use of the playa/wetland. For playas/wetlands that are larger, or higher quality, and with greater avian use, a buffer larger than 500 meters may be warranted. For playas/wetlands that are smaller in size, of lower quality, and have less avian use, a buffer less than 500 meters may be appropriate.
8. Native grasslands and prairie:
For areas or blocks of land that protect intact native grassland/prairie habitats, whether they are private lands enrolled in one of several conservation programs or public lands that protect these habitats, our recommendation is to apply a buffer of 500 meters. Hence, in general, no wind turbines should be constructed within 500 meters of native grasslands/prairie habitat that occur within the project area. Lands that consist mostly or completely of native prairie, have greater ecosystem value due to their higher biodiversity. These grassland/prairie habitats are increasingly rare and thus these habitats and should be prioritized for buffers.
9. Setback distances for topographic features such as ridgelines, cliff edges, mesa edges, buttes, (etc):
These topographic features create areas of wind uplift used by many raptor species. Placing wind turbines too close to such topographic features creates risk that raptors will

of collide with wind turbine blades resulting in death or injury. Therefore, we recommend a minimum setback distance (buffer) be applied for all wind turbines from all such topographic features. This recommended minimum setback distance should be equal to the greatest height of the largest wind turbine model used in building the wind energy project (measured from the turbine base to the highest tip of the turbine blade when directly vertical).

10. Burrowing Owl Colonies:

Burrowing owl is a USFWS BCC. For any prairie dog colonies where pre-construction surveys document that burrowing owls are also present, apply a buffer of 800 meters around these colonies.

11. Prairie Dog Colonies:

Prairie dog colonies are foraging areas for many raptor species. Hence, we recommend that all active prairie dog colonies be buffered from wind turbines. For prairie dog colonies we generally recommend applying a buffer of 500 meters. Region 6 overlaps the ranges of the black-tailed, white-tailed, Utah, and Gunnison's prairie dogs. There are ecological differences between these species which include the timing of annual activity and the related risk this may pose to predators (including raptors) that forage on them. Of greatest concern are black-tailed prairie dogs since they are active year round. Region 6 is open to discussions for individual projects per what prairie dog species are present and how our basic buffer recommendations may be adapted based on this.

12. We also recommend that contacting the appropriate state Fish and Wildlife Agency, based on the energy project location, to acquire other state agency- based conservation recommendations for your project.

Alan Plumeau

From: Mueller, Elisha K. <ekmueller@nd.gov>
Sent: Monday, May 24, 2021 1:30 PM
To: Riddle, Heidi L; Chris McCreedy
Cc: Maureen O'Shea-Stone
Subject: RE: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

Follow Up Flag: Follow up
Flag Status: Completed

Thanks for the message, Heidi.

Chris, you will want to contact Sandra Johnson on this: sajohnson@nd.gov

Elisha

From: Riddle, Heidi L <heidi_riddle@fws.gov>
Sent: Monday, May 24, 2021 2:04 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>; Mueller, Elisha K. <ekmueller@nd.gov>
Subject: FW: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

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Chris,

I should have noted that ferruginous hawks are a North Dakota Level 1 Species of Conservation Priority. Per the document, this “memo does not supersede or apply to other Federal, State, or Tribal laws and regulations..”. I don’t know if ND Game and Fish has any additional policies that may apply here, but I have cc’d Elisha Mueller as well.

From: Riddle, Heidi L
Sent: Monday, May 24, 2021 1:57 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>
Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Subject: RE: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

Hi Chris,

See the attached U.S. Fish and Wildlife Service (USFWS), Division of Migratory Bird Management, HQ Office memo on *Destruction and Relocation of Migratory Bird Nest Contents*, dated 14 June, 2018. Per this national 2018 USFWS memo a ferruginous hawk nest can be removed at any time as long as it is inactive (an active nest is one that contains viable eggs and/or chicks - as defined in this memo) and provided the nest is destroyed and not retained. In these cases there is no need for any permit under the Migratory Bird Treaty Act (MBTA) from

USFWS, Region 6. And there is no need for any coordination with USFWS, Region 6 on this matter. This applies to all species of migratory birds protected under MBTA except for eagles and any migratory bird federally listed under the Endangered Species Act (as explained in the attached guidance memo).

If some entity wants to remove or relocate a hawk nest that is active that is treated differently. Such cases would require a MBTA permit from USFWS. Based on your email, your intent is to remove the hawk nest outside the nesting season. Per the above points this is not a problem.

Let me know if you need additional information.

Best,
Heidi

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From: Chris McCreedy <cmccreedy@atwell-group.com>
Sent: Thursday, May 20, 2021 3:35 PM
To: Riddle, Heidi L <heidi_riddle@fws.gov>
Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>
Subject: RE: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

Heidi,

Thank you for sending this and for your quick response. I never get tired of Tucson, I worked across the deserts for many years and after living in some of those desert towns Tucson is Paris!

If I may, I have a follow up question on the potential to remove a Ferruginous Hawk nest outside of the breeding season. If it is possible, what steps of agency coordination are required? Are there best practices that you can forward for this? The nest is in a shelterbelt.

Thank you,
Chris

Chris McCreedy
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From: Riddle, Heidi L <heidi_riddle@fws.gov>
Sent: Thursday, May 20, 2021 12:08 PM
To: Chris McCreedy <cmccreedy@atwell-group.com>

Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Subject: RE: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

Hello Chris,

Thank you for following up with this email. I did get your voicemail but I accidentally deleted it and then couldn't get back to it! Sorry about that.

I am attaching the Region 6 wind energy guidance for wildlife buffers, which specifically addresses ferruginous hawks. There are other guidance documents on the R6 page too that you may find helpful. The link is:

<https://www.fws.gov/mountain-prairie/migbirds/index.php>

Scroll down to "Wind Energy Guidance Documents" and click on it. Five other document links will pop up that you can click on.

Hope this helps. Let me know if you have any other questions. As a side note, Tucson is one of my favorite places I've ever been. Would love to retire there someday ☺.

Thanks!

Heidi Riddle, CWB®
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heidi_riddle@fws.gov

From: Chris McCreedy <cmccreedy@atwell-group.com>

Sent: Thursday, May 20, 2021 1:34 PM

To: Riddle, Heidi L <heidi_riddle@fws.gov>

Cc: Maureen O'Shea-Stone <moshea-stone@atwell-group.com>

Subject: [EXTERNAL] question on Ferruginous Hawk nest setbacks for constraints analysis

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would appreciate your input on this. I left a phone message as well and I can call at your convenience if that is best.

Thank you,
Chris McCreedy

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington D.C. 20240



In Reply Refer To:
FWS/DMBM/AMB/068029

Memorandum

To: Regional Directors

From: Assistant Director, Migratory Birds /sgd/ Jerome Ford 6/14/2018

Subject: Destruction and Relocation of Migratory Bird Nest Contents

The purpose of this memorandum is to clarify the application of the Migratory Bird Treaty Act (50 C.F.R. §§ 703-712; MBTA) to the destruction and relocation of migratory bird¹ nests and provide guidance for advising the public regarding this issue. This Memo replaces Migratory Bird Permit Memorandum MBPM-2 on Nest Destruction (Apr 15, 2003). This memo does not supersede or apply to other Federal, State, or Tribal laws and regulations, including the Endangered Species Act (16 U.S.C. §§ 1531; ESA) and the Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668d; Eagle Act).

BACKGROUND:

The MBTA protects migratory birds, including migratory bird nests, eggs, and chicks. The prohibitions of the MBTA include *possession, transport, import, export, purchase, sale, barter, and take*. The regulatory definition of take, as defined by 50 C.F.R. § 10.12, means to *pursue, shoot, wound, kill, trap, capture, or collect, or attempt thereof*. This memo clarifies the Service's interpretation of how these prohibitions apply to migratory bird nests, eggs, and chicks.

The MBTA does not prohibit the destruction of an inactive² migratory bird nest, provided that no possession occurs during the destruction and no permit or other regulatory authorization is required (see Policy #1 below). Additionally, the Service should make every effort to inform the public of how to

¹ A list of species protected by the MBTA can be found at 50 C.F.R § 10.13

² An active nest is one that contains viable eggs and/or chicks. A nest becomes active when the first egg is laid and remains active until fledged young are no longer dependent on the nest. Nests that are empty, contain non-viable eggs, or are being built but do not yet have an egg in them are considered inactive.

minimize the risk of killing migratory bird species whose nesting behaviors make it difficult to determine occupancy status or continuing nest dependency (e.g., cavity and burrow nesting species).

On December 22 2017, the Department of Interior released M-Opinion 37050 (Opinion) regarding whether incidental take (the taking of migratory birds that results from an activity, but is not the purpose of the activity) is prohibited under the MBTA. The Opinion concludes that “the MBTA's prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control” (M-Opinion, pg. 41). The Opinion clarifies that the MBTA does not prohibit the incidental or unintentional take of migratory birds and/or their active nest contents.

Therefore, an individual or entity may destroy an active nest while conducting any activity where the intent of the action is not to kill migratory birds or destroy their nests or contents. However, because the MBTA specifically protects migratory bird nests, eggs, chicks, and adults from possession and transport without a permit, individuals and entities cannot, in most cases, take reasonable protective actions (such as removing eggs and chicks prior to nest destruction or relocating nests) without first obtaining authorization to do so.

Currently, there are two mechanisms explained in Policy #2 and Policy #3 below for the temporary possession and transport of healthy, unaffected birds for the purpose of removing them from imminent danger (i.e., immediate threat of mortality). Policy #2 explains in more detail the Service’s Good Samaritan provision included in the Rehabilitation regulation (50 C.F.R. § 21.31(a)). Policy #3 outlines the permitting mechanism under the Special Purpose regulation (50 C.F.R. § 21.27) for active nest situations that fall outside the Good Samaritan provision.

POLICY:

1. Inactive Nest Destruction

A permit or other regulatory authorization is not required under the MBTA to destroy an inactive migratory bird nest³, provided no possession occurs during or after the destruction. The MBTA does not authorize the Service to issue permits in situations where the prohibitions of the Act do not apply, such as the destruction of inactive nests.

The public should be made aware that, due to the biological and behavioral characteristics of some migratory bird species, destruction of their nests entails an elevated risk of unknowingly killing them. For example, it is difficult to detect whether or not the nest of a cavity-nesting species, such as a burrowing owl or a bank swallow, is active. Before destroying this type of nest, we recommend consulting with an expert (e.g., USDA-Wildlife Services, Wildlife Professionals, Environmental Consultants, or Rehabilitation experts) who can help determine nest activity.

³ An inactive nest is one that is empty, contains non-viable eggs, or is being built but does not yet have an egg in the nest.

Inactive nests may be protected by federal statutes other than the MBTA, such as nests of bird species federally listed as threatened or endangered under the ESA as well as nests of bald eagles and golden eagles, which are protected under the Eagle Act. State, Tribal, and local laws may also protect inactive bird nests. The Service should make every effort to ensure awareness regarding these possible additional protections and should inform the public of factors that will help minimize the likelihood that bird deaths would occur should nests be destroyed (i.e., when active nesting season normally occurs).

2. Good Samaritan Provision

For active nests, an individual or entity whose activity unintentionally or incidentally destroys an active nest, or is likely to do so, may collect the eggs or chicks and temporarily possess them for the purposes of transport to a federally-permitted rehabilitator under the Good Samaritan authorization in the rehabilitation regulation (50 C.F.R. § 21.31(a)). This Good Samaritan provision states: “Any person who finds a sick, injured, or orphaned migratory bird may, without a permit, take possession of the bird in order to immediately transport it to a permitted rehabilitator” (50 C.F.R. § 21.31(a)). The Service interprets the definition of “finds” to include encountering birds that become sick, injured, or orphaned while conducting activities where the intention is not to kill migratory birds or destroy their nests. “Finds” also applies when a planned activity is likely to cause or is about to cause destruction of an active nest resulting in the death, injury, or orphaning of eggs or chicks because, if nest destruction is imminent, any egg or chick in that nest can be considered orphaned. The Good Samaritan provision applies to the landowner of where the action is taking place and anyone designated to act on their behalf (e.g., wildlife professionals, pest-control contractors, rehabilitators, etc.). The Good Samaritan provision does not apply to regularly re-occurring actions where a single entity purposefully removes nests (e.g., a company that needs to purposefully remove nests from electrical distribution poles). For these situations a permit is recommended (see #3 below).

If the landowner is not comfortable with collecting the eggs or chicks, they may designate someone else to conduct the work on their behalf. After the eggs or chicks are collected, a federally-permitted rehabilitator may accept them as orphaned birds, consistent with their rehabilitation permit. All requirements and conditions of a rehabilitation permit apply. Rehabilitators have discretion as to what they will and will not accept and to determine the fate of any eggs or chicks accepted, including euthanasia. If a rehabilitator is unavailable or will not accept the eggs or chicks, the landowner (or the person acting on their behalf) may take the eggs or chicks to a licensed veterinarian who may temporarily possess, transfer, or euthanize the eggs or chicks without a permit (50 C.F.R. § 21.12(c)).

The Service can provide contact information for federally-permitted rehabilitators. The Service does not maintain or provide information on contractors, such as wildlife professionals, contractors, or pest control companies. Finally, the Service will provide information for voluntary reporting of active nest destruction in our Injury and Mortality Reporting System.

3. Special Purpose Permits

Permits are required to relocate a nest rather than destroy it, as possession of any nest is prohibited under the MBTA without prior authorization. Permits may also be appropriate for entities with ongoing projects that regularly need to intentionally remove or destroy nests. In these cases, permits can authorize possession of nests for various purposes, including active and inactive nest relocation, collection of nest contents for humane disposal, a combination thereof, or other compelling justifications. The Service can issue Special Purpose permits (50 C.F.R. § 21.27) to individuals or entities in these situations. In the case of utilities, authorization to destroy or relocate active and inactive nests is covered by applying for a specific type of special purpose permit: Special Purpose – Utility (<https://www.fws.gov/forms/3-200-81.pdf>).

Biologically, the success of nest relocation varies widely based on a number of factors, such as the distance moved, the presence of chicks, the nesting substrate, and the tolerance of the species and individual birds. Service biologists can provide technical assistance as to whether or not nest relocation is likely to succeed. Nest relocation should only be recommended for consideration when likely to result in success or when there are no other viable alternatives to achieve a conservation outcome. Relocation permit conditions will include short-term monitoring requirements by the person doing the nest relocation to ensure adults return to attend to the nest and an alternative protocol in the event nest abandonment occurs (such as collection and transport to a rehabilitator or veterinarian for euthanasia).

4. Other Permits and Authorizations

Other situations where there is purposeful take of active nests may fall under different permit types or regulatory authorizations. The Service will advise when a different permit or authorization may be appropriate.

Attendees:

USFWS, Kulm Wetland Management District:

Wayne Henderson

Ørsted:

Sarah Aftergood

Nick McIntosh

Amber Minor

Mallorie

Lucas Buseck

Francesca Martella

Francisco Salazar

Wayne Henderson

Katharine Hinton Rosenberg

Fredrickson:

Mollie Smith

Atwell:

Tanya Johnson

Alan Plumeau

Maureen O'Shea-Stone

Amber Minor: First, wanted to go over WPAs, is this more of a third category which could be inclusive of grassland or wetland easements, and are also Exclusion Areas.

Wayne Henderson: WPA – USFWS own outright in fee title. So there's not a whole lot we can do there. I don't know that there's any in this project area, actually there's a couple but I don't think you're impacting them that I know of. I can't get GIS up so can't look from here. Looking at your map,

Amber: Sharing screen

Nick McIntosh: Just to be clear, WPAs is only land that you own, surface fee ownership of the property, those are the only areas designated as WPAs?

Wayne: No that's not correct because our easements say WPA too on the easement contract. We make the distinction between easements and fee title. We call them easements vs. WPAs which are purchased outright as WPAs. If you look at the easement contract, it will say easement for waterfowl production.

Amber: Is the GIS data pertaining to these from Kulm's website and shown on the maps we provided – is this all the datasets we should be aware of?

Wayne: Looking at your map here, you're actually missing our fee title land. I can send the website where you can download all this. You must have this because you have the easement layer.

Amber: Is this up to date?

Wayne: As far as I know, as of August 2021, it's up to date. We have not purchased any new fee title property in this district in the last 12 years. Agrees there are two easements in project area where Badger easements supersede his and have priority. I don't know of any new ones there. I haven't signed any new ones for that project area.

Amber: Is there a way to obtain a redacted copy of these agreements if they are not recorded.

Wayne: They are all recorded. If you can't find one, let me know. All agreements are recorded at county courthouse

Nick: I know there's a couple areas where there's both a waterfowl easement and a grassland easement. Amber, do you know if there's a grassland easement located in the title.

Wayne: There are two contracts: one for wetlands, one for grasslands. So, should be two recorded at the county courthouse.

Nick: We'll follow up with the title company. They probably missed it.

Wayne: If not, give me a call, I have it all in PDF and I'm happy to share it.

Amber: The WPA, does that typically cover a portion of the parcel or the entirety of it?

Wayne: Whatever the legal description is in the contract or the title, that's what's covered. Might be a subset of acres in a section, depends on who sold it to us and how much they owned.

Amber: So for these WPA areas, are we able to bore underneath without having any surface infrastructure on them?

Wayne: Yes, absolutely. If you can bore underneath grassland easements, WPAs. As long as you don't need to put any infrastructure on the land, we're good. In the future if you need to fix something on that land, I can issue a special use permit for temporary disturbance.

Amber: Would that trigger a NEPA review process?

Wayne: No, not if it's temporary. Permanent structure or ROW to cross a grassland easement or WPA, that would trigger NEPA.

Nick: In instances where we would need to bore, since we have not placed anything on the surface of that tract, we would not be triggering NEPA review, is that correct?

Wayne: Correct. As long as you're not disturbing surface area of the grassland easement. That's what we protect, not below it.

Nick: We typically bore pretty deep, but to understand how deep we would need to go, would we need to factor in root zones? Or as long as it's below the surface, we're good?

Wayne: As long as it's below the surface, you're good. We have no minimum depth that you have to be at.

Mollie Smith: One question, you had mentioned if you need a ROW. Knowing that this would be bored, the infrastructure would be bored, they'd still need some sort of legal easement or something to have the infrastructure there, does that agreement trigger anything as far as NEPA?

Wayne: As long as you bore underneath and you don't want a ROW, NEPA is not triggered. If you want a ROW, NEPA is triggered. If you bore underneath, and in the future, you need to fix something, as long as it's a temporary disturbance, NEPA is not triggered. Would be allowed via Special Use Permit.

Mollie: But if you need an easement, some sort of permanent land right, more for documentation purposes, to show that you have the right to go in there without getting the special use permit, that would trigger NEPA.

Wayne: That is correct. If you wanted the right to go in there and not even have to talk to me, that would trigger it.

Nick: To clarify, that would be specific to lands you own in fee, correct? For lands we'd be impacting or boring, it's a third party or a private landowner and you guys have the easement there?

Wayne: If it's a grassland easement, we own the rights to that grassland. So that would trigger NEPA if you wanted a ROW across that. Grassland easement is private lands but convey protection from surface disturbance (accept grazing and haying) entire easement.

Nick: If we were obtain an easement from the landowner, that would be the rights that we would need. If we impact surface, we'd need to go through you guys to get a temporary disturbance permit. In other words, we wouldn't be going through the U.S. to bore there.

Wayne: If you're getting an easement from the landowner to bore underneath, and we have a grassland easement. And it's prior to yours. We have the rights. In wetland easements, only protect delineated wetland within the easement, even if the legal description describes a larger area. In a grassland easement, we protect the entire area. So, can do no surface disturbance whatsoever. If you wanted to buy an easement from that landowner, and USFWS already had a grassland easement on it, it would supersede yours.

Nick: In terms of documentation, if we can show we will only be boring underneath, some type of letter of no objection or something like that, I don't know if an easement would apply there?

Wayne: For us, no. An easement wouldn't apply. I would need from you guys, a letter saying you are going to bore underneath this parcel of land, with a grassland easement, I have no objections.

As long as there's no disturbance to the grasslands in a grassland easement, there's nothing triggered on my end. I see in the spreadsheet Amber sent, there's some temporary impacts in grassland easements. Temporary impacts, I can issue a Special Use Permit, as long as they're repaired, we're good to go. As long as no permanent impacts.

Amber: Could you go over the NEPA review process and estimated time involved from initial involvement to approval.

Wayne: Sorry, no. Don't have a lot of experience in this, but I know it's a long time. We typically try to avoid NEPA.

Amber: That's our intent as well.

Amber: For the WPAs, we would not need a formal agreement with you? We can do something like a letter of no objection, or an email, or would you prefer a formal agreement?

Wayne: No, not a formal agreement. Would like a letter notifying of bore. Will have no objections. If no disturbance to grassland surface, no concerns are triggered. Can issue a temporary use permit for temporary impacts (e.g., if maintenance to a bored line is required). This would not trigger NEPA. To be clear, WPAs are fee title and even though we call our easements WPAs as well, the rights are different. When you say WPAs, I'm thinking fee title that we own outright. Easements, we own certain rights. I don't need a formal agreement on either one. If you are going to put something on a WPA – meaning fee title – that's a big problem. I don't see any in here. I don't remember seeing any in here that you come close to. There are some there.

Nick: I don't believe that there are. We would only place infrastructure in land that we would have leases with private landowners.

Wayne: Right, so I don't think this has changed much since the last time we talked, other than the two easements where you either need to bore under or go over.

Amber: If we find that we could impact a wetland but it's not delineated by USFWS, would we be in the clear here?

Wayne: Yes. If we haven't delineated it. We're in the process of sending out those maps to those landowners, showing wetlands that we protect on their easements. If you need that, let me know. From what I've seen, you aren't impacting wetlands.

Nick: Once we dig into this, any of the areas with the wetland easements, we may reach out and get those maps with those delineated wetlands specific with those easements just to make sure.

Amber: In the event that this occurs, could we get an email or a compliance letter stating that this is acceptable for us to be on here.

Wayne: Yes, can send an email saying I've looked over the map with the plan that you've presented to me saying it's acceptable to the USFWS.

Amber: Thank you. Now looking at the table we sent yesterday to go through by item. Francisco, would you like to go through here and any concerns on our end?

Francisco Salazar: Reviewed lines of excel table. Wayne agreed with all statements

1) no concerns

2) grassland – clip corner – will bore

3) grassland – clip corner – will bore - not WPA, just an easement

Mollie: It mentions Logan County WPA, is that not accurate?

Wayne: The easement contract says WPA in it, but it's actually an easement.

4) Grassland/wetland – will bore

6) grassland/wetland – will bore

7/8) USFWS wetland – parcel with prior lease – can do whatever you want – can trench. If not wetlands, can do whatever you want.

9) USFWS wetland – Nick requests delineated maps for this area. Wayne will send, asked for legal description.

Nick: That's all on our end.

Alan Plumeau: For the WPA easements, do you know if those are considered Exclusion Areas for state permitting or just the fee title areas?

Wayne: Don't know. Don't think they are, but not sure.

Wayne noted he appreciates chance to review and comment on the Project.