

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCT A 300.6-MEGAWATT WIND FACILITY**

Docket No. EL19-

**DIRECT TESTIMONY AND EXHIBITS
OF SARAH SAPPINGTON**

July 9, 2019

1 **INTRODUCTION AND QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 **A.** My name is Sarah Sappington. I am employed by SWCA Environmental Consultants and am based
4 in the Bismarck, North Dakota office at 116 North 4th Street, Suite 200, Bismarck, North Dakota,
5 58501.

6 **Q. WHAT IS YOUR JOB AND WHAT ARE YOUR JOB RESPONSIBILITIES?**

7 **A.** I am the Director of the Bismarck SWCA Office. My team is responsible for environmental
8 permitting and regulatory compliance for many industries and states in the Midwest, including the
9 state of South Dakota for renewable energy projects.

10 **Q. PLEASE DESCRIBE YOUR BACKGROUND AND QUALIFICATIONS?**

11 **A.** I received my M.A. and B.A. in Anthropology with an emphasis in Archaeology from Brigham
12 Young University in 2003 and 2001, respectively. I am a registered professional archaeologist in
13 the United States and work in the West and Midwest as a federal and state permitted archaeologist.
14 I have 16 years of experience in environmental consulting and manage all aspects of energy
15 development projects in the Midwest, including environmental permitting, and cultural and natural
16 resource management. I have worked with federal and state agencies and local communities
17 regarding environmental projects and permitting over the course of my career. My resume is
18 attached as Exhibit SS-1.

19 **Q. HAS THIS TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT**
20 **SUPERVISION?**

21 **A.** Yes.

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE SOUTH DAKOTA PUBLIC**
2 **UTILITIES COMMISSION?**

3 **A.** Yes, in Docket No. EL19-003.

4 **PURPOSE OF TESTIMONY**

5 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.**

6 **A.** The purpose of my testimony is to provide an overview of the environmental studies conducted for
7 Crowned Ridge Wind II, LLC (“CRW II”) at the Crowned Ridge II Wind Energy Project in
8 Codington, Deuel, and Grant Counties, South Dakota (“the Project”).

9
10 **ENVIRONMENTAL STUDIES**

11 **Q. WHAT WAS THE OVERALL APPROACH TO ENVIRONMENTAL ANALYSIS OF THE**
12 **WIND FACILITY SITE?**

13 **A.** CRW II completed desktop analyses and site-specific field studies to determine the potential for
14 presence of sensitive natural resources. Surveys were designed to adhere with applicable regulations
15 and guidelines, including the U.S. Fish and Wildlife Service (“USFWS”) Land-based Wind Energy
16 Guidelines, USFWS Eagle Conservation Plan Guidance, state cultural resource protection laws, and
17 relevant water resource protection regulations (e.g., Clean Water Act). Data collected during these
18 analyses and surveys informed an iterative process of refined infrastructure micro-siting, whereby
19 CRW II refined the Project configuration over a period of several months. The current Project site
20 layout is compatible with existing land use, utilizes the wind resource in an efficient manner, and
21 avoids and minimizes impacts to natural (e.g., wetlands, wildlife) and cultural (e.g., cairns, stone
22 circles) resources.

1 **Q. DISCUSS THE ENVIRONMENTAL SURVEYS AND/OR STUDIES CONDUCTED FOR**
 2 **THE WIND FACILITY.**

3 A. The environmental studies and field surveys conducted for the Project, the dates of those
 4 studies/surveys, and the status of each are provided in the table below.

Environmental Studies and Surveys for the Project		
Study	Dates	Status
Raptor nest aerial surveys	April and May 2017; Spring 2018	Complete
Avian point count surveys	April – November 2017	Complete
Bat desktop habitat assessment	September 2018	Complete
Bat acoustic monitoring	April – November 2017	Complete
Dakota skipper/Poweshiek skipperling adult survey	June – July 2018	Complete
Whooping crane desktop habitat assessment	Summer 2018	Complete
Sound level modeling	2018 – 2019	Complete
Shadow flicker modeling	2018 – 2019	Complete
Level I cultural resources records search	May 2018	Complete
Level III intensive cultural resources survey	June – December 2017; April – November 2018; April – July 2019	Ongoing
Wetland and stream delineation	Fall 2018 – July 2019	Ongoing

5
 6 Additionally, numerous other wildlife studies were conducted for earlier iterations of the Project
 7 Area during the last decade and during the process of refining the Project location. Those studies
 8 are listed in the table below.

Environmental Studies and Surveys for previous iterations of the CRW II Project		
Study	Dates	Survey Area
Avian use survey (spring)	March 2007 – June 2008	Earlier iteration of Project Area
Dakota skipper habitat delineation	June 2008	Earlier iteration of Project Area
Avian use survey (fall)	August – November 2008	Earlier iteration of Project Area
Dakota skipper habitat delineation	June – July 2009	Earlier iteration of Project Area
Avian use survey (fall)	August – November 2014	Earlier iteration of Project Area
Eagle survey	March – November 2014; November – March 2015	Earlier iteration of Project Area
Dakota skipper habitat evaluation	2015	Earlier iteration of Project Area
Bat habitat assessment	Summer 2015	Nearby study area

Bat acoustic monitoring	August – October 2015	Earlier iteration of Project Area
Raptor nest survey	March – April 2016	Earlier iteration of Project Area
Lek survey	April – May 2016	Earlier iteration of Project Area
Bat acoustic monitoring	April – October 2016	Earlier iteration of Project Area
Dakota skipper/Poweshiek skipperling habitat assessment	September 2016	Earlier iteration of Project Area
Avian use survey	April 2016 – February 2017	Earlier iteration of Project Area

1

2 **Q. IS THERE ANY ENVIRONMENTAL STUDY WORK YET TO BE COMPLETED FOR**
3 **THE WIND FACILITY?**

4 A. Generally, surveys are complete for the Project. Limited surveys will continue as needed to review
5 any final design adjustments needed for project constructability.

6 **Q. DOES THE REMAINING ENVIRONMENTAL STUDY WORK NEED TO BE**
7 **COMPLETED IN ORDER TO DETERMINE WHETHER THE WIND FACILITY**
8 **COMPLIES WITH STATE SITING REQUIREMENTS?**

9 A. No, the remaining survey work is not anticipated to affect the environmental analysis set forth in
10 the Application, or the conclusion that the Project will meet all applicable State permitting
11 requirements. Additionally, the Project has been designed (and will operate in a manner) so that
12 remaining desktop analysis and in-field survey work will not affect the Project's ability to comply
13 with other local and Federal permitting requirements.

14

ENVIRONMENTAL SITE ANALYSIS

15 **Q. PLEASE PROVIDE A GENERAL OVERVIEW OF THE WIND FACILITY SITE FROM**
16 **A LAND USE PERSPECTIVE?**

17 A. The Project is located entirely on private land, which includes undeveloped rural areas, agricultural
18 lands, and residential farmsteads. The predominant land cover type within the Project Area is
19 agricultural (67.21% of total area) followed by grass/pasture (25.93% of total area). The

1 predominant land cover type in the Project Construction Easement is agricultural (73.79% of total
2 area) followed by grass/pasture (21.82% of total area). Two active sand and gravel pits are present
3 in the Project Area. Additionally, rural residence and farmsteads are located within the Project
4 Construction Easement. For additional details see Sections 11.1 and 13.1 of the Application.

5 **Q. WHAT STEPS WILL CRW II TAKE TO AVOID, MINIMIZE, AND/OR MITIGATE**
6 **IMPACTS TO THE EXISTING LAND USES?**

7 A. The Project is compatible with existing land use and is not anticipated to result in sizable permanent
8 impacts to the surrounding land, including agricultural operations. Temporary impacts will occur
9 from construction and installation of other ancillary features, such as collection and communication
10 lines, or from crane walks and temporary access. Where temporary impacts occur, the land will be
11 returned to pre-construction conditions. Long-term operation of the Project is not expected to
12 adversely impact rural lifestyles or create hardships for rural residents. The Project will contribute
13 to rural lifestyles by improving road conditions and access through the Project Area. Because
14 operation of the Project is a compatible land use, the additional easement income for the agricultural
15 landowners is expected to facilitate continued farming and ranching of the lands in agricultural
16 production. Landowners also will be compensated for crop damage during Project construction and
17 operations that impact agricultural lands.

18 **Q. DISCUSS THE EXISTING GEOLOGICAL AND SOIL RESOURCES, SEISMIC RISKS,**
19 **AND SUBSIDENCE POTENTIAL IN THE WIND FACILITY AREA.**

20 A. The unconsolidated geologic materials within the Project Area are composed of glacial till
21 consisting of ground moraine, end moraine, stagnation moraine, and undifferentiated moraine that
22 generally are of low permeability, although sand and gravel glacial outwash deposits and aeolian

1 dusts and sands are present in these materials. Compiled information indicates that economically
2 valuable mineral deposits, such as sand and gravel, occur in two locales in the Project Area.

3 One-hundred-twenty-four (124) soil associations were identified in the Project Area, while
4 82 soil associations were identified in the Project Construction Easement. Of the 82 soil associations
5 in the Project Construction Easement, 45 have an increased potential for erosion. Prime farmland
6 comprises 66.5% of the Project Area and farmland of statewide importance comprises 11.8% of the
7 Project Area.

8 Risk of seismic activity in the Project Area is considered low. No known subsidence
9 potential or slope instability problems exist within the Project Area.

10 **Q. WHAT STEPS WILL CRW II TAKE TO AVOID, MINIMIZE, AND/OR MITIGATE**
11 **POTENTIAL IMPACTS TO GEOLOGIC AND SOIL RESOURCES?**

12 A. As discussed in Section 9.1.2 of the Application, the geological conditions, including geological
13 formations, seismic risk, and subsidence potential, within the Project Area are not anticipated to be
14 impacted by the construction and operation of the Project.

15 To reduce adverse effects to soils, the Project will develop and implement a Storm Water
16 Pollution Prevention Plan (“SWPPP”) and use best management practices (“BMP”) during
17 construction to protect topsoil and minimize soil erosion. Soil areas disturbed during construction
18 will be decompacted and returned to pre-construction contours to the extent practicable and in
19 accordance with landowner agreements. The goal is to have all surfaces drain naturally, blend in
20 with the undisturbed natural terrain, and be left in a condition to facilitate re-vegetation, provide for
21 proper drainage, and prevent erosion. Construction laydown areas and temporary travel paths will
22 be restored in accordance with landowner agreements and the SWPPP.

1 **Q. DISCUSS THE HYDROLOGIC RESOURCES, INCLUDING SURFACE AND**
2 **UNDERGROUND RESOURCES, PRESENT WITHIN THE WIND FACILITY AREA.**

3 A. Section 10.0 of the Application describes the following types of hydrological resources within the
4 Project Area.

5 Groundwater. Most groundwater resources in the Project Area occur in deposits of sand and gravel
6 or the Dakota Formation that are generally at depths greater than 100 feet below the land surface.
7 The Antelope Valley Aquifer is in a northwest/southeast-trending belt in northwestern Deuel
8 County and southwestern Grant County, while northwest/southeast-trending outwash deposits are
9 present in the western and west-central portions of the Project Area which are associated with the
10 Prairie Coteau Aquifer. Additionally, shallow groundwater occurs in the soils within the Project
11 Area at depths ranging from 0 inches at the soil surface to greater than 80 inches.

12 Surface Water. The Project is in one hydrologic region (the Missouri), intersects four major
13 watersheds within Hydrologic Unit Code (HUC) 10 (e.g., Willow Creek, Hidewood Creek, Stray
14 Horse Creek, and City of Watertown – Big Sioux River), and includes seven sub-watersheds (HUC
15 12), as defined by the USGS. Two named streams and multiple unnamed tributaries to these streams
16 are located within the Project Area. According to the National Wetland Inventory (NWI) data, most
17 wetlands within the Project Area are freshwater emergent and comprise 1,522.6 acres of the Project
18 Area. Electronic FEMA floodplain data indicates that two water bodies within the Project
19 Construction Easement contain 100-year-floodplains. USFWS-managed wetland easements and
20 South Dakota Game, Fish, and Parks-managed waterfowl production areas are present within the
21 Project Area. There are no National Park Service Nationwide Rivers Inventory-designated stream
22 or river segments. Willow Creek intersects the Project Area and is impaired for e. coli and dissolved
23 oxygen from the Big Sioux River to Section 7, Township (T) 117 North (N), Range (R) 50 West
24 (W) (see Application, Section 10.2).

1 **Q. WHAT MEASURES WILL CRW II EMPLOY TO AVOID, MINIMIZE, AND/OR**
2 **MITIGATE POTENTIAL IMPACTS TO HYDROLOGIC RESOURCES?**

3 A. If construction dewatering is anticipated, the Applicant will follow the SWPPP and implement
4 appropriate BMPs, as needed. The potential drawdown effects of any dewatering activity will be
5 local and temporary. Permanent impacts to groundwater from construction dewatering activities
6 and/or structure placement in the shallow groundwater flow regime is not expected.

7 Project facilities have been sited to avoid both temporary and permanent impacts to wetlands
8 and waterbodies to the extent possible. Through avoidance measures, the Applicant has limited
9 impacts to wetlands and waterbodies to minimal areas associated with access roads. Impacts to
10 wetlands and waterbodies that may result because of access road construction are minor and would
11 be authorized under United States Army Corps of Engineers (“USACE”) Nationwide Permit
12 (“NWP”) 12 for utility lines and associated facilities in waters of the U.S. Some authorized,
13 permanent impacts to wetland areas may remain beyond the Project’s operational lifetime, if written
14 request is made by the landowner requesting access roads be retained. All other disturbed surfaces
15 would be restored as nearly as possible to their preconstruction conditions during Project
16 decommissioning.

17 Collection lines will be sited to avoid intersecting wetland or other waterbodies to the extent
18 practical. Where collection lines must intersect wetlands or other waterbodies, the Applicant will
19 bore under these features to the extent practical to minimize impacts to these resources.

20 To limit impacts to hydrological resources caused by soil erosion, groundwater
21 contamination, or stormwater runoff, CRW II will obtain a South Dakota General Permit for Storm
22 Water Discharges Associated with Construction Activity (SDR100000), develop and implement a
23 SWPPP, and use BMPs to reduce impacts during construction. As required by SDR100000 and the

1 SWPPP, any vehicle fueling within the Project Area will employ appropriate BMPs and will occur
2 at an appropriate distance from waterways determined by site-specific conditions, such as ground
3 cover, slope, and soil type.

4 **Q. ARE AQUATIC ECOSYSTEMS PRESENT IN THE WIND FACILITY SITE AND, IF SO,**
5 **WHAT MEASURES WILL CRW II EMPLOY TO AVOID, MINIMIZE, AND/OR**
6 **MITIGATE POTENTIAL IMPACTS?**

7 A. As discussed above, wetlands and waterbodies are present within the Project Area, but impacts have
8 been avoided and minimized to the extent practicable. The primary potential for impact to any
9 aquatic ecosystem would be as a result of increased sediment or total suspended solids in aquatic
10 resources due to construction-related soil erosion. Where activities must occur in or near wetland
11 areas, standard construction BMPs will be implemented to minimize impacts. Impacts resulting
12 from the construction of access roads would be minor and authorized under the USACE NWP 12
13 for utility lines and associated facilities in waters of the U.S. Minimal authorized, permanent
14 impacts to wetland areas may remain beyond the Project's operational lifetime, if written request is
15 made by the landowner requesting access roads be retained. Temporary impacts resulting from
16 disturbed surfaces would be restored to nearly as possible to their preconstruction conditions during
17 Project decommissioning. Based on current species information, no federally- or state-listed aquatic
18 species would be impacted by the Project.

19 **Q. WHAT VEGETATION IS PRESENT WITHIN THE WIND FACILITY AREA, AND HOW**
20 **WILL IMPACTS BE AVOIDED, MINIMIZED, OR MITIGATED?**

21 A. As presented in Section 11.1 of the Application, the predominant land cover type in the Project
22 Construction Easement is agricultural (73.79% of total area) followed by grass/pasture (21.82% of
23 total area). Wooded areas are limited (<0.01% of total area) within the Project Construction

1 Easement. Sixteen species of noxious weeds regulated within Codington, Deuel, and/or Grant
2 Counties have the potential to occur.

3 Project components have been sited to avoid treed and native prairie areas to the extent
4 practicable. In areas where impacts cannot be avoided, temporary impacts would be minimized
5 through construction BMPs as described in the Project SWPPP. Where temporary impacts occur,
6 the land will be returned to pre-construction conditions. Additionally, to avoid the spread of noxious
7 weeds, CRW II will use native vegetation (weed-free) seed mixtures to revegetate disturbed areas
8 where feasible and pending landowner preferences.

9 **Q. ARE ANY FEDERALLY-LISTED SPECIES, FEDERALLY-DESIGNATED CRITICAL**
10 **HABITAT, OR STATE-LISTED SPECIES PRESENT WITHIN THE WIND FACILITY**
11 **SITE?**

12 A. Presence/absence surveys for Dakota Skippers were completed in accordance with the 2018 Dakota
13 Skipper Survey Protocol (USFWS 2018) and no Dakota skippers or Poweshiek skipperlings were
14 observed. Habitat assessments for the Project area were completed in 2017 and 2018 and provided
15 to the USFWS in January 2019 (Appendix F). No critical habitat is present for any federally listed
16 species within the Project Area. For more information see Section 11.3 of the Application.

17 **Q. IS THE WIND FACILITY ANTICIPATED TO IMPACT FEDERALLY-LISTED**
18 **SPECIES, FEDERALLY-DESIGNATED CRITICAL HABITAT, OR STATE-LISTED**
19 **SPECIES?**

20 A. No impacts to federally listed species or critical habitat are expected because no federally listed
21 species have been detected in the Project Area and no critical habitat is present. Potential impacts
22 to state-listed aquatic species that may occur in streams within the Project Area have been avoided
23 and minimized and impacts are not expected.

1 **Q. DISCUSS THE ANALYSIS CONDUCTED OF EAGLE USE OF THE WIND FACILITY**
2 **AREA.**

3 A. Several avian use and raptor nest surveys have been completed for nearby study areas, for earlier
4 iterations of the Project Area, and for the current Project Area. In the spring and fall of 2008, avian
5 surveys were conducted for an earlier iteration of the Project in Grant, Codington, Deuel, and
6 Brookings Counties. In 2015, studies in a nearby study area were conducted, in which a total of 453
7 hours of survey were conducted over all four seasons. Most recently, large bird use surveys were
8 completed for the current Project Area from April through November 2017, in which a total of 232
9 surveys across 29 points were completed. Additionally, eagle nest aerial surveys were conducted
10 within the Project Area and a 10-mile buffer in 2017 and 2018.

11 Surveys have observed bald eagles within the current Project Area. Surveys indicate the
12 presence of golden eagles in the Project Area vicinity, but none have been observed in the current
13 Project Area. In 2008, three golden eagles and no bald eagles were observed in the study area. In
14 2015, four bald eagles and no golden eagles were observed. In 2017, six observations of bald eagles
15 were made within the Project Area; no golden eagles were observed within the current Project Area.
16 Aerial surveys documented no bald eagle nests in the current Project Area. The nearest occupied
17 bald eagle nest is approximately 3,274 feet from the Project Area boundary and all turbines are
18 located 1.5 miles away or farther.

19 **Q. IS THE WIND FACILITY ANTICIPATED TO IMPACT BALD AND GOLDEN**
20 **EAGLES?**

21 A. No impacts to golden eagles are anticipated from the Project. No turbines have been sited within
22 1.5 miles of a known occupied bald eagle nest and no eagle use concentration areas have been
23 detected within the Project Area. This buffer is comparable to the 1.6 mile buffer recommended by

1 the USFWS in the Region 3 Midwest Wind Multi Species Habitat Conservation Plan (HCP) for
2 Wind released in April 2016. Potential impacts to bald eagles could include collisions with
3 structures and degradation of water quality which could affect prey sources. Impacts to water
4 sources will be avoided and minimized where practical. Where temporary impacts to water from
5 construction activities may occur, such impacts will be minimized using BMPs and implementation
6 of a SWPPP. See Sections 15.2 and 16.2 of the Application for more details.

7 **Q. WHAT MEASURES WILL CRW II IMPLEMENT TO AVOID, MINIMIZE, OR**
8 **MITIGATE IMPACTS TO WILDLIFE SPECIES?**

9 A. The following avoidance, minimization, and mitigation measures have been developed by CRW II
10 to avoid, minimize, or offset potential adverse impacts to wildlife from the Project.

- 11 • Avoid siting turbines in wetlands or other waterbodies.
- 12 • Avoid placing structures, or conducting any activity, on USFWS grassland or USFWS
13 wetland/grassland combination easements.
- 14 • Site turbines more than 1.5 miles from known occupied bald eagle nests.
- 15 • Timing of construction activities will consider minimization of impacts to grouse leks.
- 16 • Minimize tree clearing.
- 17 • Re-vegetate disturbed areas to as close to pre-construction conditions as possible in coordination
18 with the landowner and per applicable permit conditions and requirements.
- 19 • Conduct pre-construction bird nest clearance surveys or observe seasonal clearing restrictions
20 to minimize impacts to breeding birds, including raptors.
- 21 • Avoid activity in potentially suitable habitat for the Dakota skipper and Poweshiek skipperling
22 where possible.
- 23 • Minimize impacts to Dakota skippers and Poweshiek skipperlings by avoiding construction
24 during the adult flight period (approximately June 15-July 20, weather dependent) to avoid
25 mortality of breeding adults.
- 26 • During revegetation efforts in potentially suitable Dakota skipper and Poweshiek skipperling
27 habitat, use seed mixtures that incorporate vegetation that supports these prairie butterfly
28 species.
- 29 • Implement standard erosion control measures, including temporary sediment barriers, slope
30 breakers, and mulching to avoid sedimentation and runoff to avoid impacts to wetlands and
31 streams.

- 1 • Complete two years of post-construction mortality monitoring and adhere to the Wildlife
2 Response and Reporting System Manual for the life of the project. The Wildlife Response and
3 Reporting System Manual standardizes and prescribes actions taken in response to any wildlife
4 fatalities and/or injuries found within the Project Area boundaries.

5
6 **Q. IS THE WIND FACILITY ANTICIPATED TO IMPACT EXISTING WATER OR AIR**
7 **QUALITY?**

8 A. Limited temporary impacts to water and air quality from construction activities may occur but will
9 be minimized through the use of BMPs and implementation of a SWPPP. See Sections 15.2 and
10 16.2 of the Application for more details.

11 **Q. WITH RESPECT TO CULTURAL RESOURCES, WHAT STEPS HAS CRW**
12 **II TAKEN TO IDENTIFY CULTURAL RESOURCES WITHIN THE WIND**
13 **FACILITY SITE?**

14 A. In accordance with the *Guidelines for Cultural Resource Surveys and Survey Reports in South*
15 *Dakota (For Review and Compliance)* (South Dakota State Historical Society 2005), cultural
16 resources reviews were conducted for an area that includes a 1-mile buffer of the Project
17 Construction Easement. The records search was conducted on May 15, 2018 through the
18 Archaeological Research Center at the South Dakota State Historical Society for the Project Area.
19 Additional background research conducted for the Project Area included review of the historical
20 General Land Office plat maps available online from the Bureau of Land Management and a historic
21 architectural survey reviewed buildings and structures within a 1-mile radius of the turbine
22 locations. This search determined that 22 previously documented archaeological sites, 12
23 previously documented historic bridges, 54 previously documented standing historic structures, and
24 three previously documented cemeteries have been recorded inside and within 1 mile outside of the
25 Project Area.

1 A Level III cultural resources survey of the Project Construction Easement was performed from
2 June to December 2017, April to November 2018, and April to July 2019. Study areas included at
3 least a 300 feet radius around each proposed turbine location center point; this area was expanded
4 to a radius of up to 500 feet around some turbines to allow for an expanded construction area; 200
5 feet width along access routes to turbines; and 100 feet width along collection lines from turbines.
6 The Level III Survey to date has identified over 850 Native American sites and isolated artifacts
7 during Project Construction Easement surveys and identified 24 historic European-American
8 archaeological sites or isolated artifact occurrences, including one previously recorded historic
9 archaeological site. The historic architectural survey further field-checked approximately 982
10 standing building and structure locations within 1 mile but outside of the Project Area (the Project
11 is set back from standing buildings and structures by design). The historic architectural survey
12 focused on those sites where historic setting and feeling may be important and considered the
13 potential visibility of Project turbines.

14 **Q. PLEASE DISCUSS FURTHER CRW II'S CONSULTATION REGARDING POTENTIAL**
15 **TRIBAL RESOURCES WITHIN THE WIND FACILITY AREA.**

16 A. Tribal members from the Sisseton Wahpeton Oyate, Yankton Sioux, and Spirit Lake Nation were
17 selected to represent the applicable tribes in identifying significant tribal resources were an integral
18 part of the survey field team. Tribal members were responsible for identifying site of religious and
19 cultural significance to the tribes, or traditional cultural properties ("TCP"). The Level III Survey
20 identified over 850 Native American sites and isolated artifacts during Project Construction
21 Easement surveys to date. All of the TCPs identified in this investigation are considered and
22 recommended eligible for National Register of Historic Places (NRHP) listing. Although this
23 Project is private and federal permitting requirements do not apply, the criteria used for impact
24 assessment is similar to that employed for federally-regulated projects. The Sisseton Wahpeton

1 Oyate, Yankton Sioux, Rosebud Sioux and Spirit Lake Tribal Historic Preservation Officers and
2 the Project developer have worked together to create a set of avoidance, minimization, and
3 mitigation measures to address these impacts.

4 **Q. WHAT STEPS WILL CRW II TO AVOID, MINIMIZE, AND/OR MITIGATE**
5 **IMPACTS TO CULTURAL AND TRIBAL RESOURCES?**

6 A. The Project has been designed to avoid direct impacts to cultural resources. During Project
7 activities, those sites that are evaluated as eligible for NRHP listing by the participating tribes or by
8 South Dakota State Historic Preservation Office, or of undetermined NRHP eligibility, will be
9 protected by establishing avoidance measures at those portions of the resources that make them
10 eligible for NRHP listing to exclude them from physical impacts from the Project. Indirect
11 secondary effects from the introduction of new visual elements into the setting of NRHP-eligible
12 tribal resources and historic buildings and structures could impact the integrity of these sites.
13 However, regarding potentially affected historic and archaeological sites, state preservation law
14 SDCL 1-19A-11.1 applies to those that are currently listed on the NRHP or the South Dakota State
15 Register of Historic Places (SRHP), not simply those that are eligible for listing. Additionally,
16 Project developers worked together with the consulting tribes and archaeologists to create the
17 avoidance, minimization, and mitigation measures identified for Traditional Cultural Properties
18 (“TCP”) below.

- 19 • Implement standard avoidance or resource protection practices (e.g., barrier fencing, contractor
20 training) where feasible in collaboration with the tribes listed above and the Applicant.
- 21 • Make best effort to identify participating landowners who may be willing to work with the tribes
22 on site preservation, accessibility and protection of TCPs on their property.
- 23 • Conduct site revisits prior to construction.
- 24 • Help facilitate post-construction site revisits for tribes with the landowners.
- 25 • Identify and implement education/interpretation opportunities regarding tribal resource
26 preservation and/or Native American perspectives which may include sensitivity training when
27 needed.

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AGENCY COORDINATION

Q. PROVIDE AN OVERVIEW OF THE FEDERAL AND STATE AGENCY COORDINATION CONDUCTED BY CRW II.

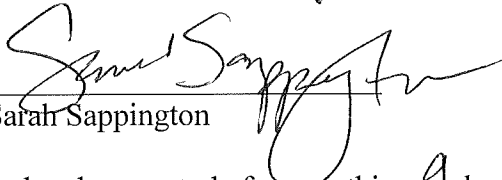
A. Throughout the Project planning process and development, CRW II has coordinated with various Federal, State, Tribal, and local agencies to identify potential concerns regarding the Project. A summary of CRW II’s agency consultation efforts are provided in Section 24.2 and copies of agency correspondence and meeting summaries are included in Appendix B of the Application.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

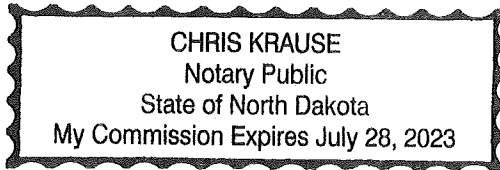
STATE OF ~~TEXAS~~ ^{North Dakota})
) ss
COUNTY OF ~~HARRIS~~ ^{Burleigh})

I, Sarah Sappington, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Sarah Sappington

Subscribed and sworn to before me this 9 day of July 2019.

SEAL




Notary Public

My Commission Expires 07-28-2023