Conditional Use Permit Application for the Crowned Ridge Wind Collector Substation with a Battery Energy Storage System as an Accessory Use, Codington County, South Dakota

FEBRUARY 2024

PREPARED FOR

Crowned Ridge Wind, LLC, and
Crowned Ridge Energy Storage I, LLC

PREPARED BY

SWCA Environmental Consultants

CONDITIONAL USE PERMIT APPLICATION FOR THE CROWNED RIDGE WIND COLLECTOR SUBSTATION WITH A BATTERY ENERGY STORAGE SYSTEM AS AN ACCESSORY USE, CODINGTON COUNTY, SOUTH DAKOTA

Prepared for

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SWCA Project No. 81714

February 2024

February 22, 2024

Luke Muller
Codington County Planning & Zoning
1910 West Kemp Avenue
Watertown, South Dakota 57201

Re: Codington County – Conditional Use Permit Application for Crowned Ridge Wind Collector Substation with a Battery Energy Storage System as an Accessory Use

Dear Luke Muller:

Crowned Ridge Wind, LLC, and Crowned Ridge Energy Storage I, LLC respectfully request your review and consideration of the enclosed application for the Crowned Ridge Wind Collector Substation with a Battery Energy Storage System as an Accessory Use, in Codington County, South Dakota.

Enclosed with this application is a project overview and information required for submittal pursuant to Chapter 3.04.02 Conditional Uses requirements of the Codington County Zoning Ordinance.

Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,

Adam Gracia
Senior Project Manager, Development
Crowned Ridge Wind, LLC, and Crowned Ridge Energy Storage I, LLC
Adam.Gracia@nexteraenergy.com

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COMPLETENESS CHECKLIST

Authority	Application Section(s)
Codington County Ordinance, Section 4.05.01. Powers and Jurisdiction Relating to Conditional Uses	
(6) The granting of any conditional use by the Board of Adjustment shall be based upon written findings certifying compliance with the specific rules governing individual conditional uses and that satisfactory provisions and arrangements have been made concerning the following, where applicable.	–
(a) Access	–
(i) The roads providing access to the property shall be determined to be adequate to meet the transportation demands of the proposed condition use. The Board of Adjustment may require the applicant to enter written contract with the applicable road authority regulating the upgrading and continued maintenance of any roads used for conditional use required prior to issuance of a Conditional Use Permit.	4.3.1
(ii) Reasonable provisions have been made for safe vehicular and pedestrian entrance and exit of the property for daily and emergency traffic.	4.3.1
(b) Parking and internal traffic	–
(i) The parking areas and driveways will be covered in material appropriate for the internal traffic generated by the use.	4.3.1; 5.5
(ii) The number of parking spaces is appropriate for the proposed use of the property.	4.3.1
(c) Utilities and refuse	–
(i) The manner by which electricity, water, sewer, natural gas, and other utilities will be provided has been described.	4.3.7
(ii) Consideration has been given to the location of refuse and service areas and manner for disposing of trash, junk, or other debris.	4.3.7; 9.2
(d) Screening, buffering, and open space	–
(i) The type, dimensions, and character of any fences, walls, hedges, or other materials used for screening; and/or open space is appropriate for the proposed use in reference the specific property	4.2.4.1; 4.4
(e) Lighting	–
(i) Lights associated with the use will not create a nuisance nor distract traffic.	4.3.4
(ii) Brightness, intensity, glare of lights will be similar to lighting which would be customarily used for permitted uses in the applicable zoning district	4.3.4
(f) General compatibility with adjacent properties and other property in the district	–
(i) Any use listed as a Conditional Use is generally compatible in the district it is listed in	3

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1 INTRODUCTION

Crowned Ridge Wind, LLC (CRW) and Crowned Ridge Energy Storage I, LLC (CRES), wholly owned, indirect subsidiaries of NextEra Energy Resources, LLC (NextEra Energy Resources), propose to operate the Crowned Ridge Wind Collector Substation (Substation), with a 120-megawatt (MW) Battery Energy Storage System (BESS) as an accessory use, in Codington County, South Dakota (Project). Figure 1 shows the location of the existing Substation and the proposed BESS. The BESS will be located on approximately 15.4 acres within the existing Crowned Ridge I Wind Energy Facility project area, approved by the Codington County Planning Commission/Board of Adjustment on July 16, 2018, and by the South Dakota Public Utilities Commission (Commission) on July 26, 2019 (Commission Docket No. EL 19-003). The BESS will connect to the Substation via an approximately 1,355-foot collection line, and will be located on property for which the applicants have executed a lease with purchase option agreement.

CRW and CRES are submitting this application for a Conditional Use Permit (CUP) under the Codington County Zoning Ordinance, Chapter 3.04: "A" Agricultural Land District; Section 3.04.02: Conditional Uses; No. 11 – Public utility and public service structure including transmission lines, substations, gas regulator stations, pipelines, community equipment buildings, pumping stations, and reservoirs. Section 3 of this application presents the information required by Codington County Zoning Ordinance, Chapter 4.05: Procedures for Conditional Uses, Variances, and Zoning Amendments; Section 4.05.01: Powers and Jurisdiction Relating to Conditional Uses.

2 APPLICANTS

The Project developers and applicants for the Codington County CUP are

Crowned Ridge Wind, LLC (for the Crowned Ridge Wind Collector Substation)
c/o NextEra Energy Resources, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Crowned Ridge Energy Storage I, LLC (for the Battery Energy Storage System as an accessory use)
c/o NextEra Energy Resources, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

The developer contact for the Project is

Adam Gracia
Senior Project Manager, Development
Crowned Ridge Wind, LLC, and Crowned Ridge Energy Storage I, LLC
(561) 797-5048
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Currently, NextEra Energy Resources owns or operates approximately 31% of the nation's installed wind energy capacity, 31% of the nation's universal energy storage, and 12% of the nation's solar energy capacity. NextEra Energy Resources' distributed battery portfolio consists of 36 projects representing more than 730 MW of operating assets in 10 states as of March 2022.

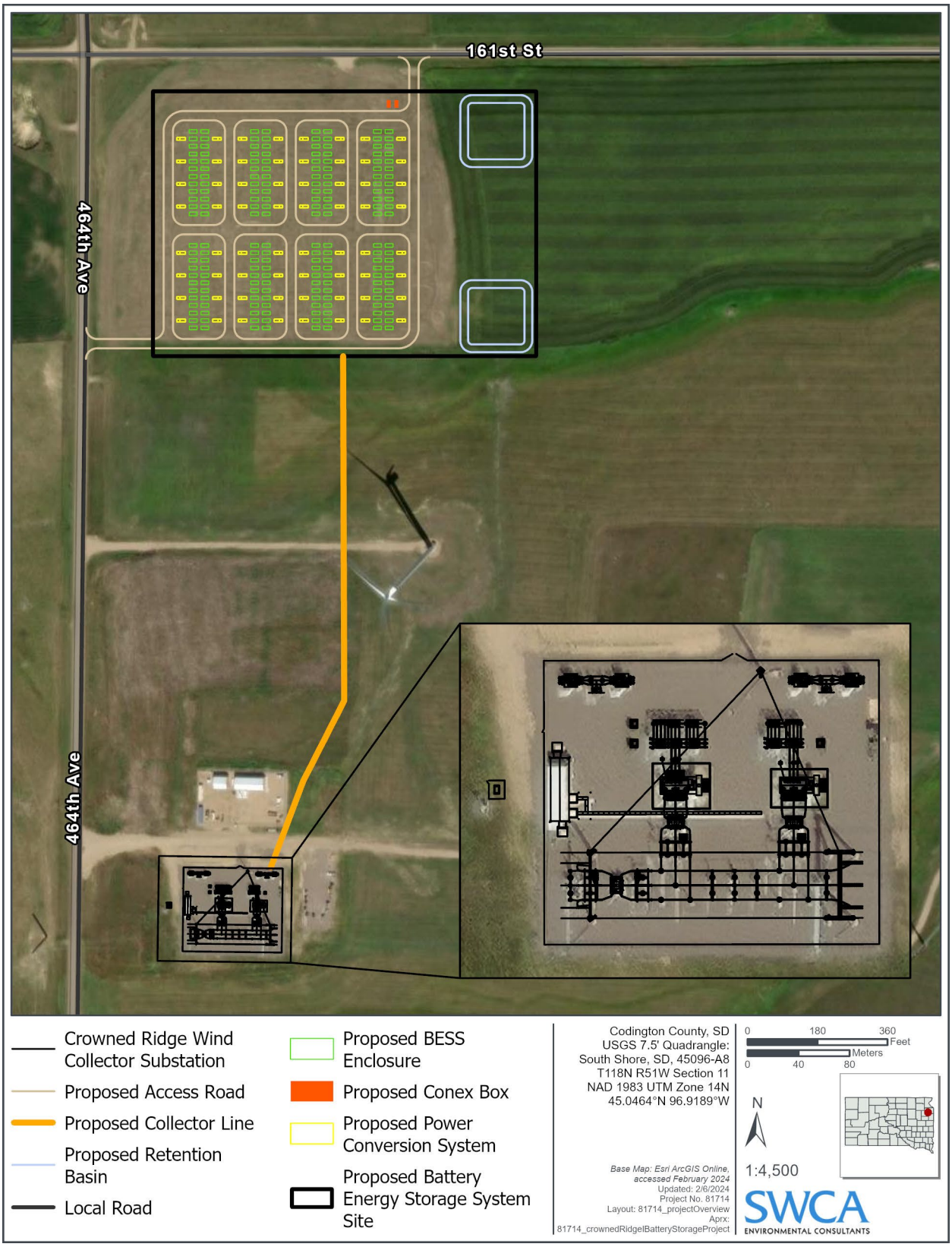


Figure 1. The Crowned Ridge Wind Collector Substation and the Proposed Crowned Ridge I Battery Energy Storage System.

3 PROJECT LOCATION

The Substation is located on 1.4 acres east of 464th Avenue and south of 161st Street (see Figure 1). The proposed BESS will be located on approximately 15.4 acres at the southeast intersection of 464th Avenue and 161st Street (see Figure 1). Current land cover within the proposed BESS is shown in Table 1. Detailed site plans are found in Appendix A. Legal descriptions are provided in Appendix B.

Table 1. Existing Land Cover within the Proposed Crowned Ridge I Battery Energy Storage System Site

Land Cover Type	Acres	Percent Cover
Cultivated Crop	15.3	99.4%
Herbaceous	0.1	0.6%
Total	**15.4**	**100.0%**

The land on which the Substation is located, and the BESS is proposed is zoned as agricultural (Agricultural Zoning District) and is part of the Crowned Ridge Wind I Facility project area. The Crowned Ridge I Wind Facility project area and the Substation were reviewed and approved by the Codington County Planning Commission/Board of Adjustment on July 16, 2018, and by the South Dakota Public Utilities Commission (Commission) on July 26, 2019 (Commission Docket No. EL 19-003). Public utilities are considered permissible as a conditional use in the Agricultural Zoning District.

4 PROJECT DESCRIPTION

4.1 Crowned Ridge Wind Collector Substation

All Crowned Ridge Wind I Facility underground electrical collection cables and communication lines terminate at the Substation. The purpose of the Substation is to step up the electricity generated by the Crowned Ridge I Wind Facility at 34.5 kilovolts (kV) to 230 kV so that it may be transmitted along the transmission system. The Substation includes one power transformer—with capacity for a second transformer should one be needed for future build-out—transmission breakers, feeder breakers, disconnect switches, a control house, a metering unit, and a Substation pull-off superstructure. The Substation is monitored at a remote operations center to ensure it is operating safely. The Substation was designed and constructed in accordance with industry standards and is located within a securely fenced area.

To support the proposed BESS, CRW will expand the Substation pad footprint to accommodate two 2,500-ampere breakers. These breakers will accommodate the 120 MW originating from the BESS. The expansion will occur within the current Substation footprint, which is already disturbed (i.e., graveled).

4.2 Crowned Ridge I Battery Energy Storage System

The sections below provide descriptions of the primary components of the proposed BESS.

4.2.1 Batteries

Individual lithium-ion, or similar technology, battery cells form the core of the BESS. Battery cells are assembled either in series or parallel in sealed battery modules. CRES will install battery modules in self-supporting racks that are electrically connected either in series or parallel. Individual self-supporting racks are then connected in series or parallel to deliver the BESS power rating. CRES has not finalized the battery type for the Project and will select the battery type based on the technology available at the time of construction.

4.2.2 Energy Storage System Cabinets and Battery Management Systems

Multiple self-contained energy storage system cabinets will house the batteries and the battery management systems (BMS) (Figures 2a–2c). The BMSs are used in conjunction with the site-wide programmable logic controller (PLC) to monitor battery voltage, current, temperature, charge, discharge, thermal management, fault diagnosis, and more. Together, the BMS and PLC are a multi-level control system designed to provide a hierarchical system of controls for the battery modules and power conversion system (PCS) up to the point of connection with the Substation. The BMS and PLC ensure that the BESS effectively responds to grid emergency conditions and provide a secondary safety system designed to safely shut down the BESS in the event of an emergency. The self-contained energy storage system cabinets also contain the required heating, ventilation, and air conditioning (HVAC) and fire protection systems for operation. The height of an individual cabinet will not exceed 25 feet.

4.2.2.1 HEATING, VENTILATION, AND AIR CONDITIONING

Each self-contained energy storage system cabinet will be equipped with HVAC and liquid cooling or other thermal management systems for thermal management of batteries. Power for the thermal management systems will be provided through excess capacity in the batteries when charging and discharging or via the grid when idle.

Figure 2a. Example self-contained energy storage system cabinet.

Figure 2b. Example self-contained energy storage system cabinet.

Figure 2c. Example self-contained energy storage system cabinet.

4.2.2.2 FIRE DETECTION AND PROTECTION SYSTEMS

CRES will incorporate fire detection systems into the BESS design in accordance with National Fire Protection Association safety standards, adopted Codington County requirements, and codes as applicable to stationary energy storage.

4.2.3 Power Conversion System

The PCS will be located in the BESS and consists of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, and a connection cabling system. Electric energy is transferred from the existing power grid to the batteries during a battery charging cycle and from the batteries to the grid during a battery discharge cycle. The PCS converts electric energy from AC to DC when energy is transferred from the grid to the battery and from DC to AC when energy is transferred from the battery to the grid. The energy conversion is enabled by a bidirectional inverter that connects the DC battery system to the AC electrical grid. The PCS will also include a transformer that converts the AC side output of the inverter to medium AC voltage to increase the overall efficiency of the BESS and to protect the PCS in the event of system electrical faults.

4.2.4 Sound Mitigation

CRES will install a 20-foot sound barrier encompassing the BESS site (Figures 3a and 3b). The barrier will block line-of-sight sound transmission and absorb sound energy originating from the BESS equipment. The barrier will be composed of material that is performance rated for sound absorption, such as galvanized steel material, including corrosion-resistant coating to protect underlying components. The sound barrier also will be weather-resistant and will consider use of aesthetic features.

Figure 3a. Example of sound barrier (IAC Acoustics 2023).

Figure 3b. Example of sound barrier (IAC Acoustics 2023).

4.3 Ancillary Facilities

4.3.1 Site Access and Parking

Access to the existing Substation is from 464th Avenue (see Figure 1). Access is securely gated and locked. Open gravel areas provide limited on-site parking spaces necessary for operations and maintenance (O&M) personnel when on-site.

Access to the BESS site would be off of 464th Avenue and 161st Street (see Figure 1). Access roads would have a gravel or aggregate base depending on site-specific geotechnical studies and the final site geotechnical report. Each entrance to the BESS site will be gated with an approximately 40-foot swing gate and locked. Site access would comply with Codington County Fire Protection District requirements. On-site parking spaces would be provided in open gravel areas and in accordance with Codington County requirements.

4.3.2 Fencing and Security

A 7-foot-tall chain-link fence topped with 1 foot of three-strand barbed wire encompasses the existing Substation. Likewise, CRES will install approximately 3,333 linear feet of permanent security fencing along the perimeter of the BESS site, excluding minor portions of access roads. Perimeter fencing will be comprised of a 6-foot-tall chain-link fence topped with 1 foot of three-strand barbed wire.

Fencing will be installed in accordance with industry standards and will comply with the National Electrical Code. The fencing system is designed to prevent the public from gaining access to electrical equipment, which could lead to injury.

4.3.3 Signage

Warning signs relaying information regarding the high voltage at the Substation and the hazardous nature of the facility to unqualified persons are posted on the access gates and at intervals along the Substation perimeter fencing.

CRES will install a sign reading “Crowned Ridge I Battery Energy Storage System” at the entrances off of 464th Avenue and 161st Street. Signs will be sized in accordance with Codington County requirements. In addition, required safety signs to identify high voltage within the BESS, as well as information for emergency services, will be installed on the fence near the entrances and at swing gates.

4.3.4 Lighting

Low-elevation, controlled security lighting is installed at the Substation. The lighting switches on through manual activation (i.e., a switch). Lighting is shielded so that light is directed downward to minimize illumination of the night sky or spillover onto adjacent properties. Permanent lighting in the Substation control building is controlled by manual switch. All safety and emergency services signs are lit when lights are on.

Low-elevation, controlled security lighting will be installed at access gates and the entrances to the BESS site. Lighting will operate the same as that installed in the Substation and will be shielded to direct light downward.

4.3.5 Stormwater Facilities

The Substation does not include stormwater management facilities.

CRES will manage stormwater in the BESS site through installation of stormwater management facilities (e.g., retention basins) required to satisfy National Pollutant Discharge Elimination System stormwater management requirements and through implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP). A SWPPP is required in South Dakota for all permitted construction and industrial stormwater sites. The SWPPP will describe stormwater runoff and management, including how CRES will ensure runoff leaving the BESS site will not become contaminated with pollutants, such as dirt or trash. A SWPPP will be developed prior to construction.

CRES designed the assumed locations, sizes, and approximate number of stormwater management facilities to capture water without requiring additional grading to direct flow, thereby reducing overall soil impacts (see Figure 1).

4.3.6 Electrical Collection System

Energy to and from the batteries will be routed through a series of underground cables, which make up the electrical collection system that will connect to the Substation. The electrical collection system will be designed to meet applicable requirements of the National Electrical Safety Code. The design work includes a load flow analysis for the BESS to ensure it will meet the power factor and voltage control specifications.

The electrical collection system will be direct buried cable. Underground cables will be installed in a trench that will be 3.0 to 4.0 feet deep. Cables will be installed deeper (i.e., 6.0 to 8.0 feet deep) if the cables are stacked.

The electrical collection system will include a 34.5-kV collection line between the BESS and the Substation. The conductor type and exact length and position of the collection line will be determined during detailed electrical design. The collection line will be direct buried cable installed as described above.

4.3.7 Utilities and Refuse

Electrical power to supply the Substation access gates and lighting is provided by Codington-Clark Electric Cooperative. CRES anticipates that electrical power to supply the BESS access gates and lighting would also be obtained from Codington-Clark Electric Cooperative.

The Substation is uninhabited with no bathroom facilities or running water. During construction and decommissioning of the BESS site, restroom facilities would be provided by portable units to be serviced by licensed providers. During operations, the BESS would be uninhabited with no bathroom facilities or running water.

CRES will adhere to all state and local requirements for disposal of all refuse resulting from construction and/or operation of the Substation and BESS.

4.4 Screening

There are no vegetative or installed screening features at the existing Substation.

CRES also will install a 20-foot sound wall within the perimeter fence and encompassing the main BESS components (see Section 4.2.4.1).

4.5 Setbacks

The Substation is set back approximately 268 feet from 464th Avenue and approximately 2,092 feet from 161st Street.

The BESS is set back at least 100 feet from the property boundaries to comply with the definitions of a remote outdoor installation. Additionally, the distance from the BESS site to the nearest road right-of-way (ROW) (at 161st Street) is approximately 68 feet; from the closest BESS component to the nearest road ROW is approximately 170 feet; from the BESS site to the nearest residence (located north of the BESS site on 46th Avenue) is approximately 2,630 feet; and from the BESS site to the nearest wind turbine (located south of the BESS site) is approximately 500 feet.

5 CONSTRUCTION

5.1 Timeline

Substation construction began in August 2019, and the Substation has been operational since December 2019. Because the Substation is currently operational, it is not discussed further in this section.

Table 2 depicts the anticipated schedule for the BESS development milestones, assuming all permits and authorizations are issued and obtained.

Table 2. Crowned Ridge I Battery Energy Storage System Development Milestones

Milestone	Estimated Timeline
Construction	June 2025–August 2026
Energization	November 2025–August 2026
Commissioning and testing	June 2026–December 2026
Commercial operation date	December 2026

CRES will continue to update the anticipated construction table as needed and submit a finalized construction schedule prior to construction.

CRES anticipates that BESS construction will require up to 60 employees per week for up to 15 weeks (Table 3). CRES will require all workers to operate safely and in compliance with all applicable local, state, and federal safety regulations.

5.2 Deliveries

Material and equipment needed to construct the BESS would reach the site through on-road truck delivery using both 464th Avenue and 161st Street. The majority of truck deliveries would be for BESS components (e.g., energy storage system cabinets and controller, PCSs) and aggregate material (e.g., gravel, rock).

Table 3. Crowned Ridge I Battery Energy Storage System Construction Information

Construction Phase	Phase Duration (weeks)	Number of Construction Employees per Day	Average Daily Worker Vehicle Trips (one-way)	Average Daily Vendor Truck Trips (one-way)
Site Preparation	1	20	40	2
Grading	1	20	40	2
Component Installation	12	60	120	20
Collection Line Installation	1	20	40	4

Typically, components will be hauled to the site using low-bed transfer trucks. Such loads typically are limited to approximately 40 tons (80,000 pounds), with a typical load being approximately 25 tons (50,000 pounds). Low-bed transport trucks also would transport construction equipment to the BESS site, unless the equipment can be driven (e.g., boom trucks). The size of low-bed transport trucks used will depend on the component or equipment being transported.

Aggregate material would be delivered via bottom dump trucks or transfer trucks with six axles.

5.3 Site Preparation

Construction would begin with site preparation. During this phase, CRES would prepare the BESS site for construction. Although the BESS site is fairly level (1,971–1,994 feet above mean sea level), grading and minor earthwork may occur to support the installation of stormwater management facilities (e.g., retention basins), perimeter fencing, foundations, and access roads. Road surfaces would be at-grade to allow water to sheet flow across the site as it currently does. During site preparation, temporary staging area(s) will be designated within the BESS site to serve as the storage area(s) for materials and equipment during construction. The construction contractor would determine the specific location of temporary staging area(s).

Site preparation and grading would be accomplished using various equipment that could include scrapers, graders, dozers, compaction equipment, and water trucks (to control dust). Water consumption during construction (and decommissioning) would be needed for dust suppression and earthwork. During operation, water use would be minimal and only as needed. Water would most likely be delivered by truck from an off-site source. During construction, water pumped directly into 2,000–4,000-gallon water trucks may be stored in overhead, approximately 12,000-gallon, water storage towers/tanks (up to 16 feet tall) to assist in the availability of water for trucks and to expedite filling.

5.4 Component Installation

The BESS components would be off-loaded from low-bed transport trucks and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Foundation pads for the energy storage system cabinets would be poured, followed by installation, including wiring of battery modules, of all BESS components.

5.5 Personnel and Traffic

As shown in Table 3, construction is anticipated to require up to 60 construction workers per day. The maximum average daily number of one-way worker vehicle trips would be 120 and the maximum average daily number of one-way vendor truck trips would be 20. CRES anticipates that construction crews would

work 8 to 10 hours per day, with work occurring Monday through Friday. Overtime and weekend work would be used only as necessary to meet scheduled milestones or to accelerate the construction schedule and would comply with applicable South Dakota labor laws.

5.6 Erosion and Sediment Control and Pollution Prevention

Construction of the BESS would result in disturbance of an area greater than 1 acre of land (see Table 1 for current land cover data). Therefore, CRES would be required to obtain coverage under the South Dakota Department of Agriculture and Natural Resources General Permit Authorizing Stormwater Discharges Associated with Construction Activities. To enroll under this permit, CRES will prepare a SWPPP, which would be based on the final engineering design. The SWPPP will be prepared by a qualified engineer or erosion control specialist and would be implemented during construction. The SWPPP would include best management practices (BMPs), including erosion and sediment control measures such as stormwater runoff quality control measures and watering for dust control. The SWPPP would be submitted to the South Dakota Department of Agriculture and Natural Resources and Codington County prior to issuance of any building or grading permits.

6 OPERATIONS AND MAINTENANCE

The Substation operates 365 days per year. The Substation is operated and monitored remotely through a supervisory control and data acquisition (SCADA) system. During operation of the Substation, O&M staff visit the facility periodically for switching and other operation activities. Maintenance trucks are used to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Routine operations require one to two workers in a light utility truck to visit the Substation on a weekly basis. Typically, one major maintenance inspection occurs annually.

The BESS, once constructed, will also operate 365 days per year and will be monitored remotely through the SCADA system. Periodic augmentation of batteries would occur within the site. Only occasional, on-site maintenance is expected to be required following commissioning, including replacement of inverter power modules and filters, and miscellaneous electrical repairs on an as-needed basis. During O&M, CRES anticipates one to two workers will require access to the site at a given time. That access would be infrequent (estimated at one to two times/week) and intermittent (e.g., in the event of equipment malfunction).

7 SOUND

Codington County does not have a sound limit that is applicable to the substation and BESS. However, CRW and CRES will abide by South Dakota Public Utilities Commission limits of 50 dBA at participating receptors and 45 dBA at non-participating receptors.

8 EMERGENCY ACTION PLAN

CRES will develop an Emergency Action Plan (EAP) for the BESS. The EAP will be provided to Codington County and to all Project personnel prior to initiating construction. The EAP will establish

actions to be taken by the personnel responsible for the BESS in the event of an emergency. The following topics will be discussed in the EAP:

- Document Records
- Safety Protocols
- State and Federal Compliance
- Emergency Contacts
- Training and Annual Drills
- Information for Outside Responders
- Fire Responder Information
- General Emergency Event Procedures
- Natural Disaster and Severe Weather
- Fire Response
- Physical and Cyber Security
- Environmental
- Gas or Oil Pipeline
- Pandemic
- Immediate or Delayed Site Evacuation
- Designated Evacuation Egress Routes and Muster Areas
- Personnel Injuries and Serious Health Conditions

Safety and training programs also will be described in the EAP as they are a critical asset when managing emergency conditions. Personnel that respond to emergency events will have all required electrical qualifications up to date and keep safety top of mind. CRES is committed to providing a safe and healthy work environment for all employees and requires that safety should not be compromised for any other business priority.

9 DECOMMISSIONING

Decommissioning of the Substation is described in detail in CRW's Decommissioning Plan for the Crowned Ridge Wind Energy Facility dated January 29, 2019, and submitted as Appendix L of CRW's Application to the Public Utilities Commission of the State of South Dakota for a Facility Permit to Construct a 300 Megawatt Wind Facility (January 30, 2019).

The sections below summarize decommissioning of the BESS.

9.1 Timeline

CRES currently estimates that the BESS will have a useful life of at least 30 years based on its experience operating projects, models, and technology. At that time, CRES may either extend and continue operations or decommission the BESS. If operations continue, either existing equipment will be used or

equipment will be upgraded with newer technologies. If operations are not extended, the BESS will be decommissioned. One year in advance of anticipated decommissioning, CRES will provide notice to Codington County that decommissioning will occur. After that time, the BESS would be decommissioned, and the existing equipment would be removed as described below. Decommissioning may require up to 9 months to complete, depending on weather and other considerations. Decommissioning equipment and the number of personnel would be similar to or less than that required for construction.

9.2 Removal and Disposal of Facilities

The goal of decommissioning is to remove the installed power generation equipment and to return the site to a condition as close to preconstruction as feasible. Disposal of components will meet applicable provisions of state and local waste requirements and all receiving facilities will be licensed or certified to accept the specific types of equipment and material discussed.

- **Power conversion systems, BESS, and CONEX boxes.** All equipment will be inspected and tested, if applicable, prior to being disconnected and removed. Operable or usable equipment will be packed and shipped to an off-site facility for reuse or resale. Nonworking equipment will be packed and shipped for recycling or other appropriate disposal methods at an appropriate facility. CRES will assess resale options upon decommissioning. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Energy storage enclosures would include steel or aluminum, with concrete foundations—all of which may be recycled.
- **Electrical collection system.** Assuming the electrical collection system, including the collection line, no longer serves a purpose for the site; it will be disassembled and removed. CRES will remove all buried cables up to 4 feet. All cables and lines will be recycled or disposed of at an appropriate facility.
- **Fences.** All fence parts, including foundations, will be disconnected and disassembled, and all parts will be removed. The fence parts will then be subject to one of the following actions: reconditioning and reuse, sold as scrap, recycled, or disposed of at an appropriate facility.
- **Access roads.** Gravel access roads will be stripped. Compacted soils may require ripping to loosen before revegetation. Foreign road materials will be removed and reused or disposed of in accordance with applicable local regulations. Roads will be restored so that they become a part of the natural surroundings and are no longer recognizable, to the greatest extent practicable, as needed or as agreed upon in consultation with the landowner. Road gravel will be used to backfill foundation locations to within 6 inches of final grade. The landowners will have the choice, when the Project is decommissioned, as to whether the Project access roads are to be removed. To facilitate the various uses for the property, the owner may choose to leave the roads in place. If the roads are left, maintenance of the roads will become the responsibility of the respective landowner. All remaining access roads will conform to applicable Codington County regulations in effect at the time of decommissioning.
- **Stormwater facilities.** CRES will grade stormwater facilities (e.g., retention basins) to match surrounding contours and drainage patterns, decompact soils, and spread topsoil to accommodate agricultural activities or desired future land use.
- **Hazardous materials.** All hazardous materials will be stored, handled, removed, and transported in full compliance with all applicable federal, state, and local laws and regulations. Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels would be rinsed and transferred to tanker trucks. If an item cannot be removed at the point of generation for a period of time, such as lubricants, paints, and

solvents, it would be kept in a locked utility structure with integral secondary containment that meets applicable requirements for hazardous waste storage until removal for proper disposal and recycling. All hazardous materials will be removed from the facility in a timely manner. CRES anticipates that all oils would be recycled at an appropriate facility. Site personnel involved in handling these materials would be trained in proper handling procedures.

Transportation of the removed hazardous materials would comply with applicable regulations for transporting hazardous materials, including those set by the U.S. Department of Transportation, U.S. Environmental Protection Agency, South Dakota Department of Agriculture and Natural Resources – Waste Management, South Dakota Highway Patrol, and South Dakota State Fire Marshal.

9.3 Erosion and Sediment Control and Pollution Prevention

Decommissioning activities would involve exposure and disturbance of soil. Therefore, CRES or the owner will implement erosion and sediment control measures in accordance with applicable regulations in effect at that time, which are anticipated to include implementation of a SWPPP and standard BMPs. BMPs implemented during decommissioning activities may include installation of erosion control measures in disturbance areas where potential for erosion exists, consistent with stormwater management objectives and requirements.

9.4 Restoration/Reclamation

CRES would submit a reclamation plan containing details regarding decommissioning and site reclamation to Codington County prior to initiating decommissioning activities. CRES will restore the site to approximate preconstruction conditions to the extent possible. The goal of restoration will be to restore natural hydrology, soil conditions, and vegetation to the greatest extent practicable while minimizing new disturbance. The decommissioning effort will include implementation of BMPs, including the following measures:

- Remediate any petroleum product leaks and chemical releases prior to completion of decommissioning.
- Minimize new disturbance to the greatest extent practicable.
- Remove equipment and access roads up to 4 feet below surrounding grade, backfill with subgrade material, and cover with suitable topsoil to allow adequate root penetration for vegetation.
- Decompact footprints if needed and grade to match surrounding characteristics and contours.
- During decommissioning activities, remove and stockpile topsoil and designate and separate it from other excavated material. Prior to restoration, topsoil will be decompacted to match characteristics of the surrounding area. CRES will replace topsoil to its original depth and original surface contours to the extent practical. CRES will mitigate topsoil deficiencies and settling using imported, locally sourced (from a location within 50 miles of the site) topsoil consistent with the characteristics and quality of soils in the site, if necessary.
- Restore disturbed areas using seed agreed upon with the landowner, if applicable. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment.

10 CONCLUSION

This application demonstrates CRW's and CRES's compliance with the Codington County Zoning Ordinance and with the general and specific standards and requirements for conditional land uses as described in Section 4.05.01, Powers and Jurisdiction Relating to Conditional Uses.

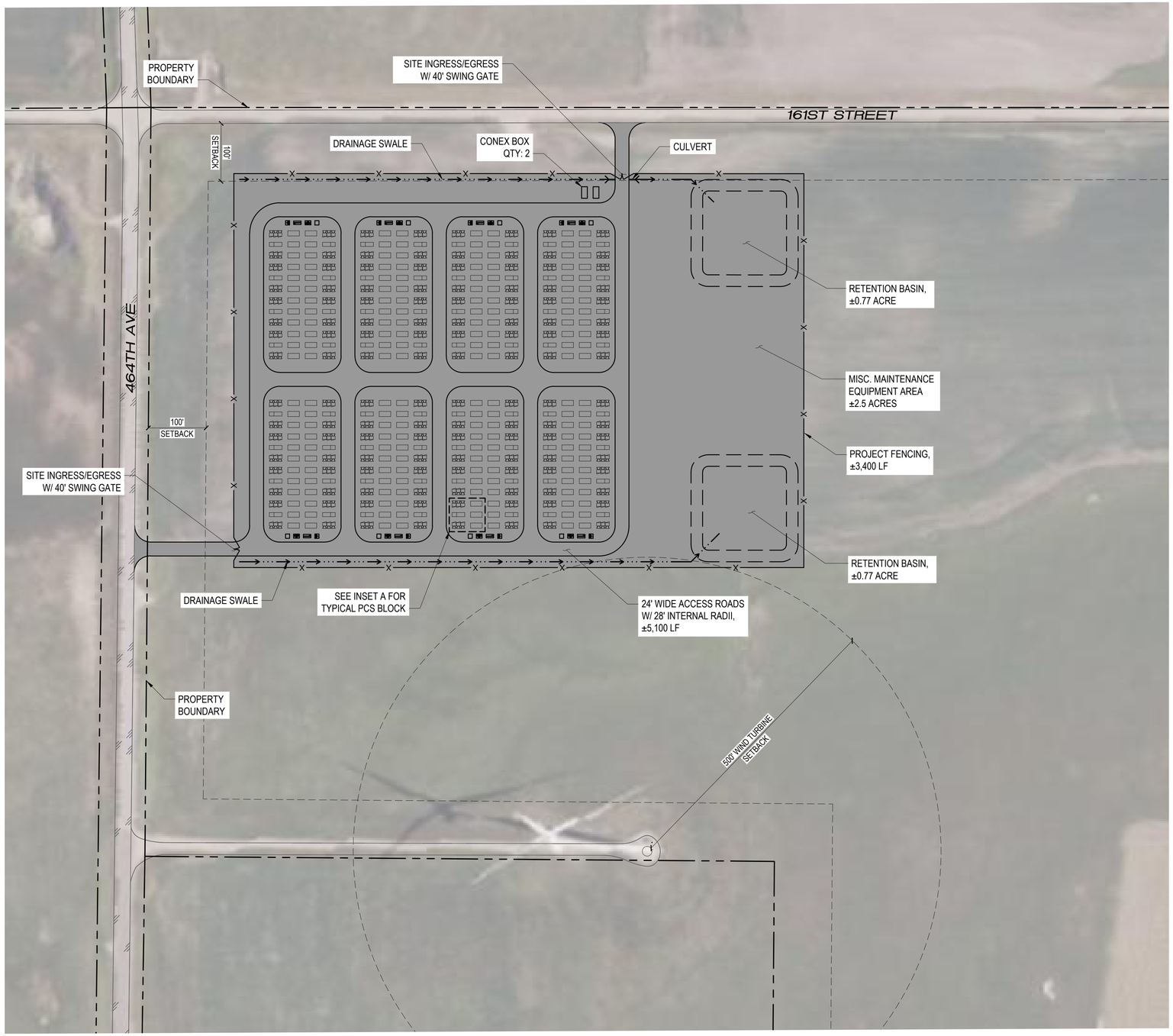
CRW and CRES look forward to the opportunity to continue investing in Codington County for the future.

11 LITERATURE CITED

IAC Acoustics. 2023. IAC Acoustics Noishield Continuline Sound Barriers. Available at: https://www.iacacoustics.com/noishield-continuline-sound-barriers. Accessed February 5, 2024.

APPENDIX A

Preliminary Site Plan for the Crowned Ridge I Battery Energy Storage System

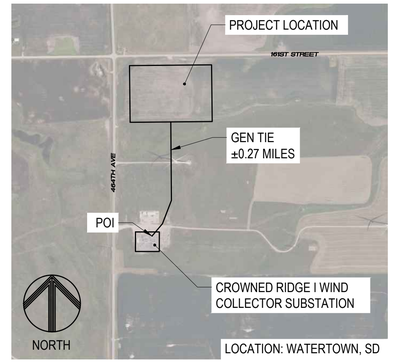


1 C-100 NORTH

PRELIMINARY SITE PLAN

SCALE: 1"-100'-0"

1"=100'-0" 0 50 100 200 300



VICINITY MAP

UNIT	VALUE
BESS NAMEPLATE CAPACITY	120MW / 4HR
AUTHORITY HAVING JURISDICTION	CODINGTON COUNTY, SD
PCS (BESS INVERTER & TRANSFORMER)	64 EA
BESS ENCLOSURES	192 EA
FENCED AREA IN ACRES	15.4 ACRES
TOTAL AREA IN ACRES	283.4 ACRES

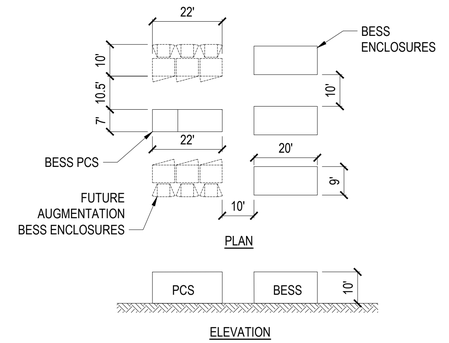
SYSTEM SUMMARY

NOTES:

1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
2. SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.
3. PRELIMINARY SITE LAYOUT IS SHOWN. LAYOUT MAY BE MODIFIED BASED ON SITE GRADING DESIGN DUE TO VARIABLE TOPOGRAPHY ON SITE OR SOIL CONDITIONS. PROPERTY LINES AND SITE FEATURES SHOWN IN APPROXIMATE LOCATIONS, AWAITING FINAL SURVEY.

ABBREVIATIONS:

BESS	BATTERY ENERGY STORAGE SYSTEM
PCS	POWER CONVERSION SYSTEM
POI	POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

COFFMAN ENGINEERS
11080 Circle Point Road, Suite 220
Westminster, CO 80020
ph 720.805.1955
www.coffman.com

PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA

NEXTera ENERGY RESOURCES

CROWNED RIDGE I BESS

REV	DATE	DESCRIPTION

PROJ. NO.	231105
DRAWN	NAD
CHECKED	LJB
DATE	05/2023

SHEET TITLE:

PRELIMINARY SITE PLAN

SHEET NO:

C-100

APPENDIX B

Legal Descriptions of the Crowned Ridge Wind Collector Substation and Crowned Ridge I Battery Energy Storage System Sites

EXHIBIT A

Legal Description of Land

North Half (N½) of Section 11, LESS one (1) acre in the Northeast corner of the Northwest Quarter (NW¼), Township 118 North, Range 51 West of the 5th P.M., Codington County, South Dakota.

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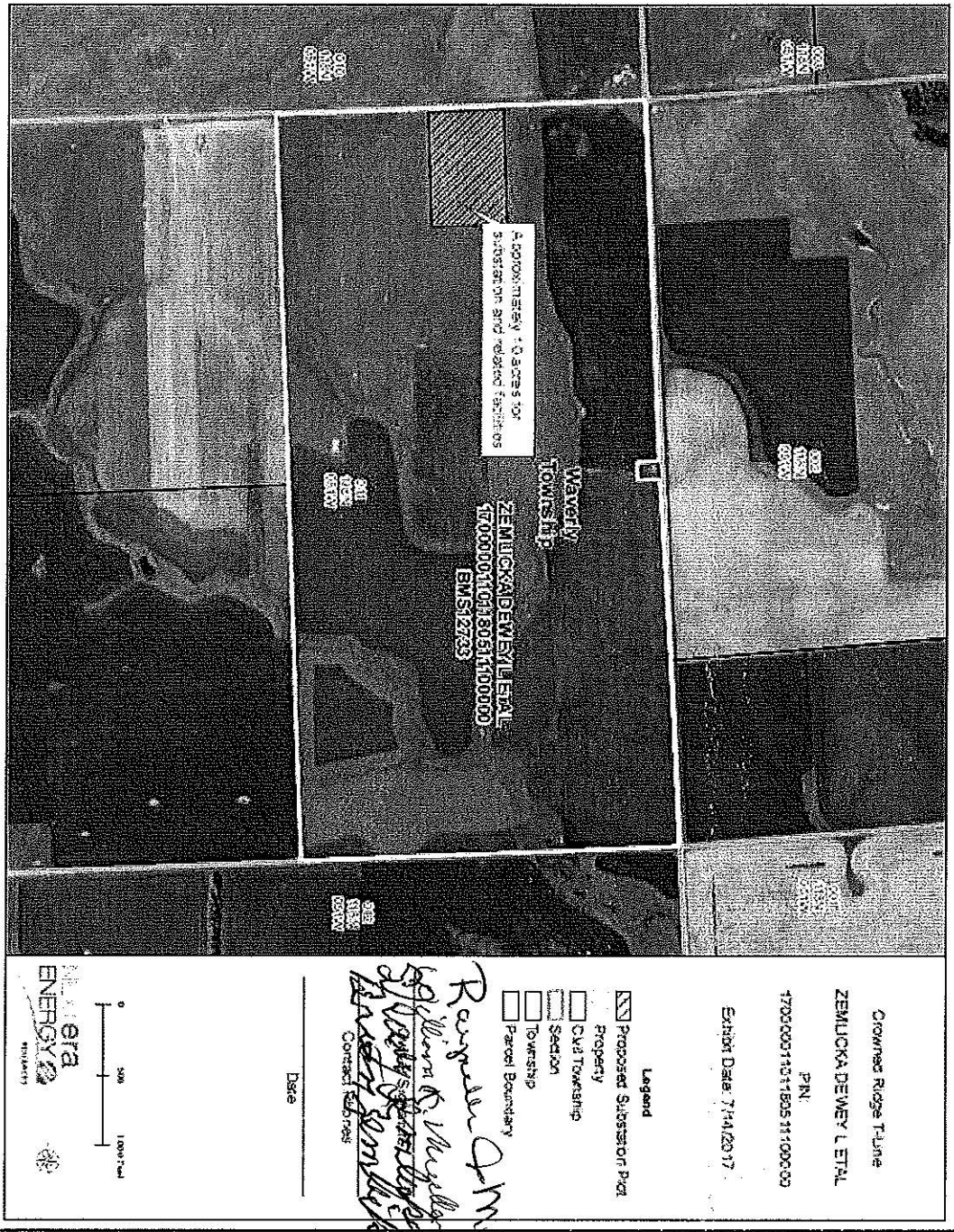
EXHIBIT B
Depiction of Property



Final Exhibit B to be provided with Option Notice.

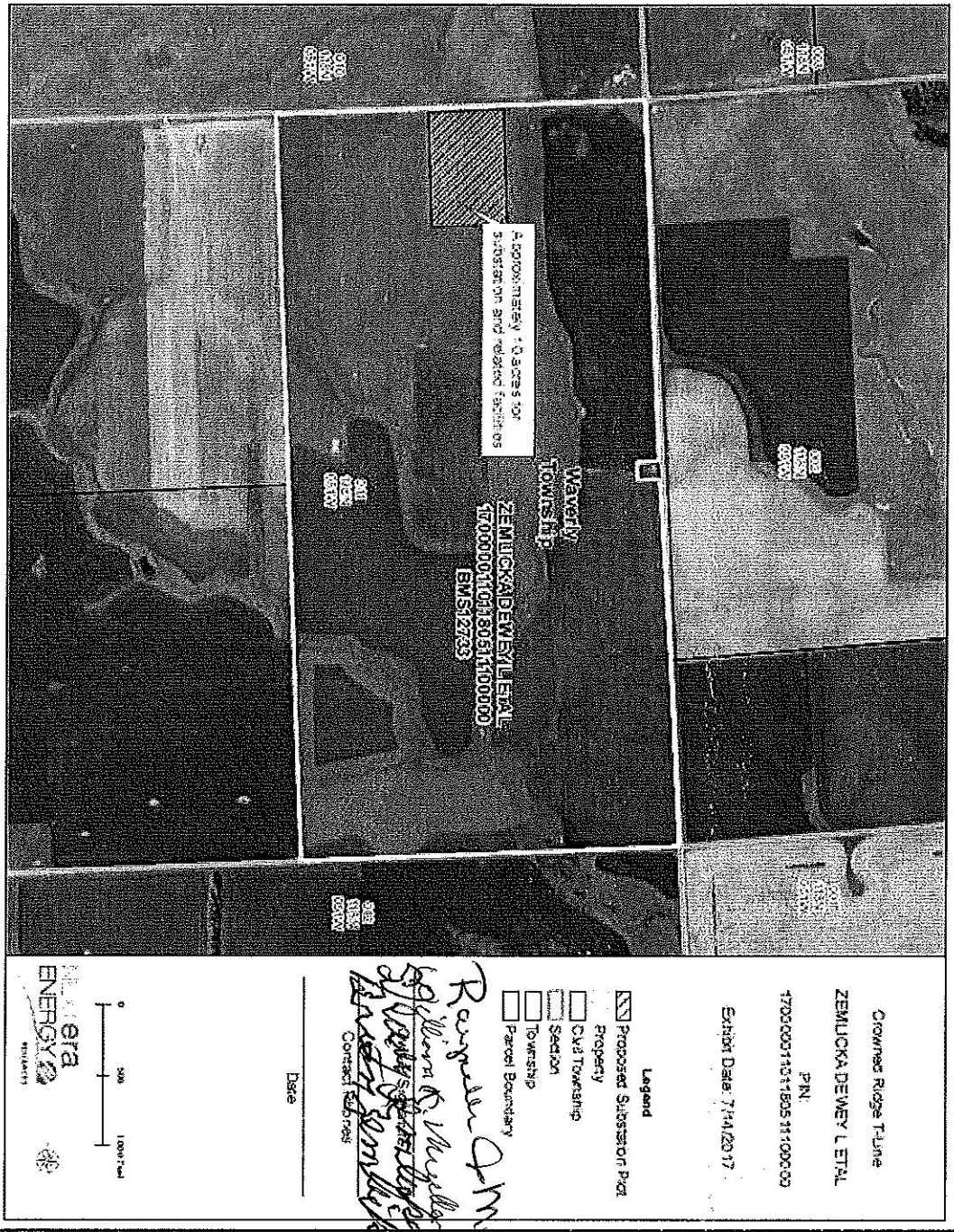
EXHIBIT A

Legal Description of Land

North Half (N½) of Section 11, Township 118 North, Range 51 West of the 5th P.M., Codington County, South Dakota, less 1 acre in the Northeast Corner of the Northwest Quarter (NW¼).

QLA ID: 17125

EXHIBIT B
Depiction of Property



Final Exhibit B to be provided with Option Notice.