

**Fenton Wind Project****PERMIT COMPLIANCE FILING**

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**Date:** August 5, 2020

**Permittee:** Fenton Power Partners I, LLC

**Permit:** Amended LWECS Site Permit

**Project Location:** Murray and Nobles Counties, Minnesota

**Docket No.:** IP-6499/WS-05-1707

**Permit Section:** Section 7.5.1

**Description:** Avian and Bat Protection Plan

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Fenton Power Partners I, LLC (“Fenton”) respectfully submits this compliance filing in accordance with Section 7.5.1 of the large wind energy conversion system (“LWECS”) Site Permit issued on March 8, 2019 (the “2019 Amended Site Permit”) by the Minnesota Public Utilities Commission (“Commission”):

**7.5.1 Avian and Bat Protection Plan**

The Permittee shall comply with the provisions of the Avian and Bat Protection Plan (ABPP) submitted for this project on January 9, 2019, and revisions resulting from the annual audit of ABPP implementation. The ABPP must address steps to be taken to identify and mitigate impacts to avian and bat species during the construction phase and the operation phase of the project. The ABPP shall also include formal and incidental post-construction fatality monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the project.

The Permittee shall, by the 15th of March following each complete or partial calendar year of operation, file with the Commission an annual report detailing findings of its annual audit of ABPP practices. The annual report shall include summarized and raw data of bird and bat fatalities and injuries and shall include bird and bat fatality estimates for the project using agreed upon estimators from the prior calendar year. The annual report shall also identify any deficiencies or recommended changes in the operation of the project or in the ABPP to reduce avian and bat fatalities and shall provide a schedule for implementing the corrective or modified actions. The Permittee shall provide a copy of the report to the Minnesota Department of Natural Resources and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.

Provisions of the Avian and Bat Protection Plan (“ABPP”) for the Fenton Wind Project (“Project”) that cover activities leading up to and during construction of the repower and operation of the repower are no longer relevant because the repowering was cancelled. Attached is an updated ABPP reflecting that Fenton will not be retrofitting the Project. On June 19, 2020, Fenton sent a draft of the updated ABPP for review and comment to Cynthia Warzecha (Energy Projects Planner, Minnesota Department of Natural Resources (“MDNR”)), Becky Horton (Environmental Policy and Review Planner, MDNR), and Joanne Boettcher (Regional Environmental Assessment Ecologist, MDNR). The updated ABPP was discussed during a video meeting on June 25, 2020 and verbal and written comments were received from the MDNR on June 26, 2020. The updated ABPP was amended in response to the MDNR comments received and a revised copy was sent to the MDNR on June 26, 2020. No further comments are expected from the MDNR.

Fenton will comply with the provisions of the updated ABPP and the results of the annual audit of ABPP implementation.

This filing also serves as the Annual Report for 2019 of bird and bat fatalities and injuries. During 2019 no bird or bat fatalities were observed, and no formal monitoring of bird or bat fatalities was conducted during 2019 when Fenton anticipated but ultimately was unable to perform repowering construction. Incidental monitoring of the site by Operations and Maintenance personnel did not find any bird or bat fatality incidents. Fenton is preparing to conduct formal monitoring of all birds, bats, and raptors by a third-party consultant from March 15 to November 15, 2021, including bird and bat fatality estimates for the project using agreed upon estimators from the prior calendar year, as reviewed by the MDNR.

A copy of this filing has been provided via email to the U.S. Fish and Wildlife Service and the MDNR.

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# Bird and Bat Conservation Strategy

Amended June 26, 2020

Fenton Wind Project

Murray and Nobles Counties, Minnesota



Project Owner

Fenton Power Partners I, LLC

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## 1 INTRODUCTION

The Fenton Wind Project (Project) located in Murray and Nobles Counties, Minnesota is a 205.5 megawatt (MW) wind power facility developed between 1999 and 2006, constructed in 2006 through 2007, and operating since October 2007. The Project owner is Fenton Power Partners I, LLC (Fenton PPI). This amended document replaces the previous version submitted to Minnesota Public Utilities Commission on January 9, 2019.

In Minnesota, some years after approval of the Fenton Project, it became a requirement of the Large Wind Energy Conversion System (LWECS) Site Permit to develop an Avian and Bat Protection Plan (ABPP) for Project operation. With publication of the 2012 final Land-based Wind Energy Guidelines (WEG), the USFWS began recommending development of a “Bird and Bat Conservation Strategy” (BBCS) instead of an ABPP (USFWS 2012). The components of an ABPP and BBCS are generally very similar, and both document the studies, analyses, agency input, and decisions in navigating through the WEG to help avoid and minimize impacts to environmental resources. This document serves in both roles as an ABPP and BBCS.

This BBCS is based on recommendations in the WEG; however, many portions of the tiered approach outlined in the WEG were not used during initial siting and construction because Project development pre-dated the WEG recommendations.

### 1.1 Purpose

The purpose of this BBCS is to document and describe measures to identify, avoid, and manage risks to avian and bat species that may result from existing Project operation and wind turbine upgrades at the Fenton Wind Project. The Project consists of 137 total GE 1.5 sle wind turbines. The rotor diameter of all 137 turbines is 77 meters (252.6 feet), tower height is 80.0 meters (262.5 feet), and total wind turbine height is 118.5 meters (388.8 feet). Other Project components include turbine foundations, turbine pads, access roads, pad-mounted transformers, electrical collection cables, underground (SCADA) communication system, electrical switchyard, operation and maintenance building, and permanent meteorological towers.

### 1.2 Regulatory Framework

#### 1.2.1 Federal

##### **Endangered Species Act:**

Species at risk of extinction, including many birds and bats, are protected under the federal Endangered Species Act (ESA) of 1973, as amended. The federal ESA defines and lists species as “endangered” or “threatened” and provides regulatory protection for listed species. The federal ESA provides a program for conservation and recovery of threatened and endangered species and ensures the conservation of designated Critical Habitat that the USFWS has determined is required for the survival and recovery of

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listed species. Section 9 of the federal ESA prohibits the “take” of species listed by USFWS as threatened or endangered. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct.” In recognition that “take” cannot always be avoided, Section 10(a) of the federal ESA includes provisions for “take” that is incidental to, but not the purpose of, otherwise lawful activities. Section 10(a)(1)(B) covers Incidental Take Permits (ITPs) that may be issued if take is incidental and does not jeopardize the survival and recovery of the species. Section 7(a)(2) of the federal ESA requires that all federal agencies, including the USFWS, evaluate projects with respect to any species proposed for listing or already listed as endangered or threatened and any proposed or designated critical habitat for the species. Federal agencies are prohibited from authorizing, funding, or carrying out any action that will jeopardize the continued existence of a listed species or destroy or modify its critical habitat. As defined in the federal ESA, individuals, organizations, states, local governments, and other non-federal entities are affected by the designation of Critical Habitat only if their actions occur on federal lands; require a federal permit, license, or other authorization; or involve federal funding.

#### **Bald and Golden Eagle Protection Act:**

The purpose of the Bald and Golden Eagle Protection Act (BGEPA; 16 United States Code [USC] 668–668c, as amended), administered by the USFWS, is to protect bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), their nests, eggs, and parts (BGEPA 1940). The BGEPA states that “no person shall take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import any bald or golden eagle alive or dead, or any part, nest or egg without a valid permit to do so.” The BGEPA also prohibits the “take” of bald and golden eagles unless pursuant to regulations. Take is defined by the BGEPA as an action “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” Under the BGEPA, “disturb” 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 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. On September 11, 2009, and December 16, 2016 (50 Code of Federal Regulations [CFR] Parts 13 and 22), the USFWS set in place rules regarding eagle permits: 1) individual permits that can be authorized in limited instances of disturbance and in certain situations where other forms of take may occur, such as human or eagle health and safety; and 2) programmatic permits that may authorize incidental take that occurs over a longer period of time or across a larger area.

#### **Migratory Bird Treaty Act:**

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and Russia (the countries of the former Soviet Union; MBTA 1918). Unlike the ESA and BGEPA, no permits are available to authorize incidental take of birds under the MBTA. Most birds (except for introduced species and non-migratory game birds) within the U.S. are protected under the MBTA.

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On December 22, 2017, US Department of Interior Office of the Solicitor issued Memorandum M-37050 regarding what constitutes prohibited “take” under MBTA. This Opinion states that “the (MBTA) statute’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.” It goes on to argue that incidental deaths of covered birds are not a violation under MBTA, even if direct and “foreseeable.” These points diverge from previous interpretations by USFWS and by some U.S. courts, however it comports with the US Courts of Appeals for the Fifth, Eighth, and Ninth circuits that have ruled on related matters. The Project is within the jurisdiction of the Eighth Circuit which ruled in *Newton County Wildlife Association v. United States Forest Service* that “take” and “kill” in MBTA mean “physical conduct of the sort engaged in by hunters and poachers.” In light of these conclusions, it is unlikely that USFWS would consider incidental bird death at the Fenton wind energy facility violation of MBTA, but it is not a fully settled matter. Due to the potential for resident and migratory birds within the Project, and the legal uncertainties, the MBTA has been considered in the development of this BBCS.

### 1.2.2 State

The 2010 Minnesota Statutes, specifically the Protection of Threatened and Endangered Species (Minn. Stat. 84.0895), states “Notwithstanding any other law, a person may not take, import, transport, or sell any portion of an endangered species of wild animal or plant, or sell or possess with intent to sell an article made with any part of the skin, hide, or parts of an endangered species of wild animal or plant, except as provided in subdivisions 2 and 7.” The Statute directs the Commissioner of the Minnesota Department of Natural Resources (MNDNR) to develop lists of endangered species, threatened species, and species of concern. As-of June 2020 MNDNR has not added any species to the list of Endangered, Threatened, and Special Concern Species since the list identified as “Effective August 19, 2013” (MNRules) 2020.

The Fenton Wind Project was developed, constructed, and operated under a Minnesota Site Permit for a LWECs permit issued in 2006 by the Minnesota Public Utilities Commission (PUC). Under this permit, 137 wind turbines and balance of plant facilities were authorized for construction and operation. An amendment to the LWECs Site Permit was approved by the Minnesota Public Utilities Commission on March 8, 2019 to accommodate a planned 2019 Project retrofit, that was cancelled and will not occur. Due to cancellation of the planned retrofit, the LWECs Site Permit will be amended again to the original project configuration that was built in 2006, and no major changes to the Project are anticipated. As part of the 2019 Amended Site Permit, various environmental stipulations were added in anticipation of construction and some that apply to operation that were not a part of the 2006 LWECs Site Permit. Fenton has requested that these construction stipulations be amended as they do not apply if no construction occurs. At least one year of post-construction fatality monitoring will be included to evaluate the impact of the Project wind turbines on birds and bats (see Section 4.1).

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### **1.3 Corporate Policy and Commitment to Environmental Protection**

Fenton PPI believes that it has a responsibility to be a good steward of the environment and to limit potential adverse effects to wildlife that may result from its wind farm. Fenton PPI is committed to abiding by all applicable federal and state laws that protect wildlife at its wind farm and requires its employees and contractors to do the same.

## **2 PROJECT DESCRIPTION**

### **2.1 Project Area**

The Project is located in southwestern Minnesota approximately one and a half miles south of the town of Chandler, MN. The Project area is primarily comprised of cultivated crops including corn, soybeans, hayfields and grazing land. Of the approximately 17,922 acres leased for the wind project, 14,491 acres are agricultural lands, or 80.82% of the Project area. Undisturbed grasslands, wetlands, open water and forested land comprise 12.48% of the Project area, or about 2,238 acres. Project components have avoided these undisturbed lands to the extent practicable.

The Project lies along the crest of the Bemis Moraine, locally known as Buffalo Ridge. The Project ranges from 1,626 - 1,839 feet (496 – 561 meters) above mean sea level. There is a total of 719 acres of wetlands and surface water within the leased land, comprising approximately 4% of the site. There are no signs of landfills, dumps, industrial activity or environmental concerns related to contaminated sites, per the Environmental Phase 1 Report (Terracon 2006b).

There is a network of existing County and Township roads on almost every section line throughout the Project as well as landowner farm roads accessing agricultural fields and residential homes. State Highway 91 bisects the site (Figure 1).

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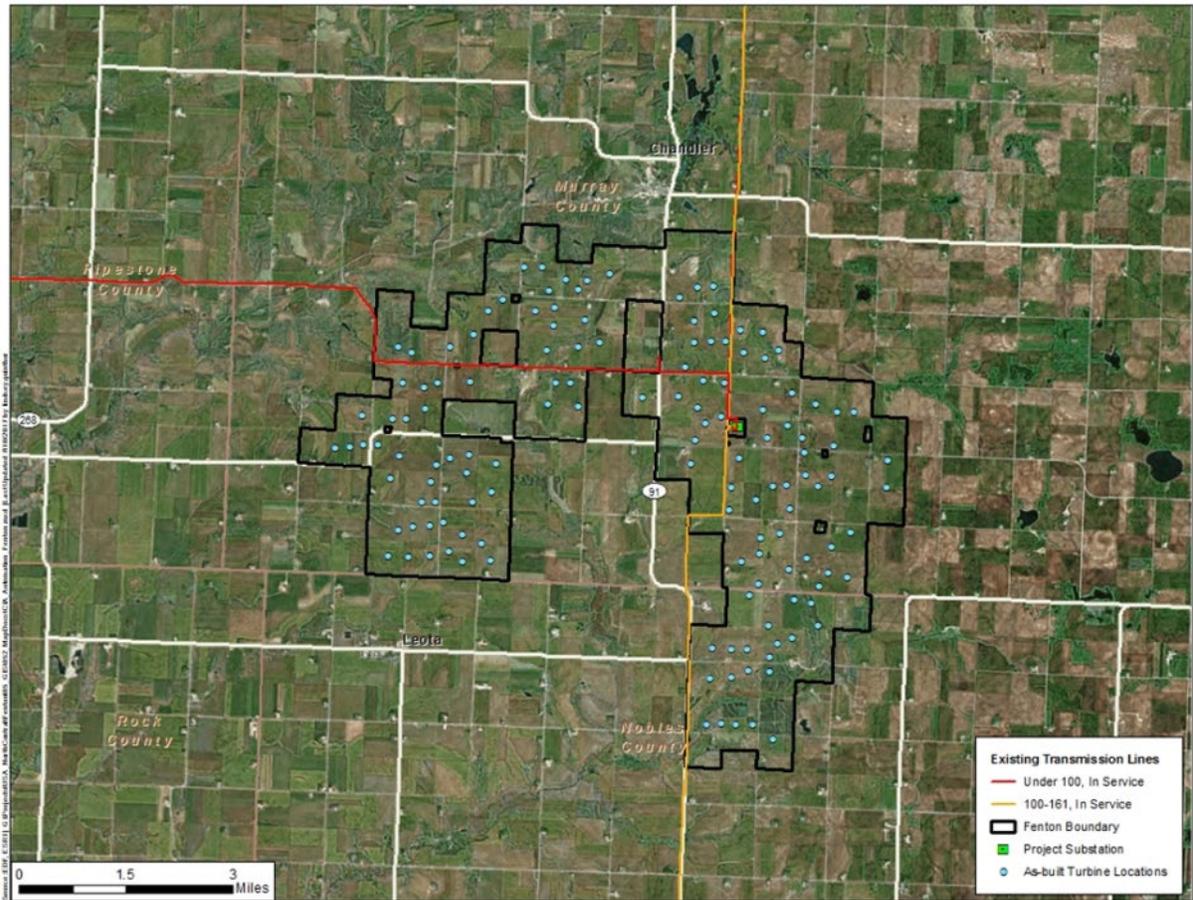


Figure 1. Fenton Wind Project Boundary, As-built Turbine Locations, and Existing Transmission Lines

## 2.2 Project Components

The Fenton Wind Project, as originally constructed in 2006 through 2007, is comprised of 137 GE 1.5sle 1,500 kilowatt (kW) turbines with an 80 meter (262.5 feet) hub height. The original total height of the turbines is 118.5 meters (388.8 feet) from foundation to blade tip. Total rotor diameter is 77 meters (252.6 feet) on all 137 turbines. Other Project components include access roads, 137 pad-mounted transformers, buried collection cables, underground (SCADA) communication system, an electrical switchyard, an operation and maintenance building, existing transmission point of interconnection, and free-standing permanent meteorological towers. At the Project switchyard, existing 34.5 kilovolt (kV) feeder lines from turbine strings enter the switchyard underground and directly connect to the feeder busses without overhead pole lines. Contiguous with the Project switchyard is an electrical substation owned by Xcel Energy, a subsidiary of the power purchaser who is not related to the Project owners. Power from the Project switchyard is directly transferred to Xcel Energy’s contiguous substation by overhead lines less than 200 feet (61 meters) in length. Within Xcel’s substation there are two large transformers that step up the voltage from 34.5kV to 115kV.

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### **3 AGENCY COORDINATION, SITE EVALUATION AND FIELD STUDIES**

This section describes the site evaluation approach applied during Project development. The Project was studied for site and environmental characteristics in 2002 through 2006, prior to issuance of the 2012 USFWS WEG. Accordingly, study design and procedures did not necessarily conform to the “tiered approach” recommendations laid out in the WEG. However, general information similar to what is reviewed in Tiers 1 and 2 was gathered and assessed for presence and/or location of sensitive ecological resources such as critical wildlife habitats, wetlands, and rare species habitat within the Project and surrounding areas, and field studies similar to what is conducted as part of Tier 3 were also done. The following sections document the agency coordination, desktop and habitat assessments, and field studies that have occurred at the Fenton Wind Project, both prior to construction of the original Project, as well as updated information gathered during the planning for the cancelled retrofit activities. These sections also describe risks to wildlife that were identified as well as measures that were implemented to avoid and minimize the identified risks.

#### **3.1 Agency Consultation**

##### *3.1.1 Consultations Prior to Construction*

During initial development in 2005 and 2006, Fenton PPI consulted with USFWS and MNDNR to discuss the Project habitats, potential presence of listed species, results of studies, and monitoring efforts. In May 2006, Terracon, as consultant to Fenton PPI, documented contacting Sarah Hoffman with MNDNR Natural Heritage Program regarding potential native prairie remnant habitat areas on the site. As a result, Fenton PPI engaged Robert Dana, MNDNR Prairie Biologist, to conduct a site survey of potential prairie habitat for the Dakota Skipper butterfly. This species was a candidate for listing at the time and it is now a federally listed threatened species (R. Dana MNDNR, June 2006).

Terracon also documented discussing the federally listed endangered Topeka shiner with USFWS in May 2006, and Fenton PPI provided Recommendations for Constructing Projects Affecting Waters Inhabited by Topeka Shiners in Minnesota to the construction contractor (USFWS 2005).

##### *3.1.2 2017 Consultations for cancelled retrofit (that was not implemented)*

In anticipation of a later-cancelled retrofit of existing Fenton wind turbines, Fenton PPI consulted again with USFWS and MNDNR, to discuss the Project to date, completed studies and monitoring efforts. Fenton PPI engaged Westwood Professional Services (Westwood) to collect relevant information and assist in communications with wildlife agencies. On April 24, 2017, Westwood and Fenton PPI met with MNDNR staff members to review site studies and relevant information in the Project area and to seek input related to wildlife and natural resources. On June 6, 2017, Westwood mailed letters to 10 separate individuals representing local, state, and federal entities requesting comment, including the USFWS, the U.S. Army Corps of Engineers (USACE), Murray County, and Nobles County. A comment letter was

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received from Kevin Mixon of MNDNR dated June 12, 2017 recommending blade feathering below the manufacturer's cut-in wind speed as part of turbine software and equipment upgrades that facilitate this measure, to reduce bat fatalities. The letter also recommended coordination with USFWS, and review of Native Prairie Bank easements to confirm there are no conflicts. A comment letter was received from MNDNR Natural Heritage Review Specialist Samantha Bump dated June 28, 2017 that identified relevant Ecologically Significant Areas, Important Bird Areas, and indicated various birds, amphibians, bats, fishes, and butterflies that could be impacted if the repower were to occur. Comment letters were also received from the USACE, and the Murray County Soil and Water Conservation District as of August 10, 2017.

Fenton PPI engaged biological consultants Western EcoSystems Technology, Inc. (WEST) to assist with analysis, field surveys, and communications with USFWS. Fenton PPI and WEST held a meeting with Margaret Rheude, USFWS Migratory Bird Permits, Twin Cities Field Office on June 26, 2017, to review retrofit proposed changes, threatened and endangered species habitat information, eagle information, documented bird and bat mortality findings in the Project area, and to provide opportunities for USFWS to comment. WEST provided shapefiles and meeting notes to Ms. Rheude as a result of the meeting.

### *3.1.3 2020 Communications with MNDNR regarding LWECS Site Permit Amendment planned for 2020*

Fenton PPI prepared a June 18, 2020 update to the ABPP from 2018 and provided the update to Cynthia Warzecha, Joanne Boettcher, and Becky Horton, all of MN DNR, regarding the updated ABPP and plans to conduct bird and bat monitoring at the Project in 2021. The June 18<sup>th</sup> updated ABPP removed references to the now cancelled repower, and included multiple edits from the previous ABPP. Comments were received on June 25, 2020 that are incorporated in this ABPP. DNR agreed with Fenton PPI's proposal to conduct bird and bat fatality monitoring from approximately March 15 to November 15, 2021, using a combination of full plot searches and road and pad searches. Details of the search protocol will be prepared upon communications with land owners and selection of search plots based on site conditions and land owner restrictions, and submitted to DNR prior to commencing searching.

## **3.2 Tiers 1 and 2 - Desktop and Habitat Assessments**

As described in the WEG, Tiers 1 and 2 evaluate potential issues that may need to be addressed before further actions can be taken with the development or operations of the Project. The objective of the Tier 1 study is to assist the developer in further identifying a potential wind site. Tier 1 studies provide a preliminary evaluation or screening of public data from federal, state, and tribal entities and offer early guidance about the sensitivity of the site, in regard to flora and fauna. The objective of Tier 2 studies is to determine the effects of the proposed project on any Federal and State sensitive species. Although the Project was developed prior to the issuance of the WEG, the pre-construction studies that were completed largely align with the goals and purpose of the tiered approach.

Similar to Tier 1 as described in the WEGs, these analyses included a review of desktop data for environmental constraints within the vicinity of the Project based on publicly available data:

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- Topographic and aerial maps,
- State and nation-wide land use data,
- Watershed information,
- Geologic features, soils, field guides,
- National Wetland Inventory (NWI) mapping,
- Minnesota Natural Heritage Information System (NHIS),
- Federal Emergency Management Agency (FEMA) flood maps,
- Information published by the MNDNR and USFWS, and
- Personal communications with the agencies (Appendix A)

A field reconnaissance visit was conducted in May 2006 to evaluate in greater detail the habitats and resources available within the Project. These analyses also included a more detailed review of the following aspects:

- Vegetation and habitat mapping
- Rare and unique natural resources

The following subsections describe the results of the pre-construction analyses as well as any updates, as applicable, that occurred as part of the planning for the cancelled retrofit work.

### *3.2.1 Native Prairie and Critical Habitat Assessment*

In 2005, USFWS identified that habitat suitable for Poweshiek Skipperling & Dakota Skipper occurs on the Northern end of the Project site. The Project was designed to avoid any construction impacts to the habitat, including areas that were subsequently designated as Critical Habitat in 2015 when the species were listed under the ESA. Field surveys were conducted at the Project site between 2004 and 2006 by Terracon consultants, with input from MNDNR. On June 20, 2006, Robert Dana (R. Dana MNDNR, June 2006, in Fenton PPI's Documentation of Pre-Construction Requirements for Fenton Wind Project LWECS Site Permit) submitted a report detailing his findings from field work and outlining his recommendations. These findings were taken into consideration as the layout was refined, as described further in Section 3.3.3.

During the re-assessment of environmental issues that occurred as part of the cancelled retrofit planning in 2017, additional biological constraints were mapped from habitat and aerial imagery by Westwood Professional Services using Minnesota NAIP Imagery (Accessed 2017); USGS NHD Dataset (2013); USFWS (Various Dates); Ducks Unlimited (2015); and MNDNR (2017). In 2017, the database reviews showed that Topeka shiner Critical Habitat occurs within the northern end of the Project boundary, adjacent to the previously documented Poweshiek Skipperling and Dakota Skipper Critical Habitats (June 28, 2017 NHIS letter, Appendix A).

### *3.2.2 Biological Preservation Survey*

A Biological Preservation Survey was conducted by Terracon in May 2006 (Fenton PPI 2006) consisting of a pre-construction survey of the site, inventory of existing wildlife management areas, scientific and natural areas, recreation areas, native prairie and forests, and wetlands. Locations of these resources were taken into account in 2005 through 2006 for siting turbines and other permanent facilities.

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Construction measures were required of the construction contractor to address setbacks and other measures to minimize impacts to Topeka shiner and Blanding’s turtle (a state-listed species).

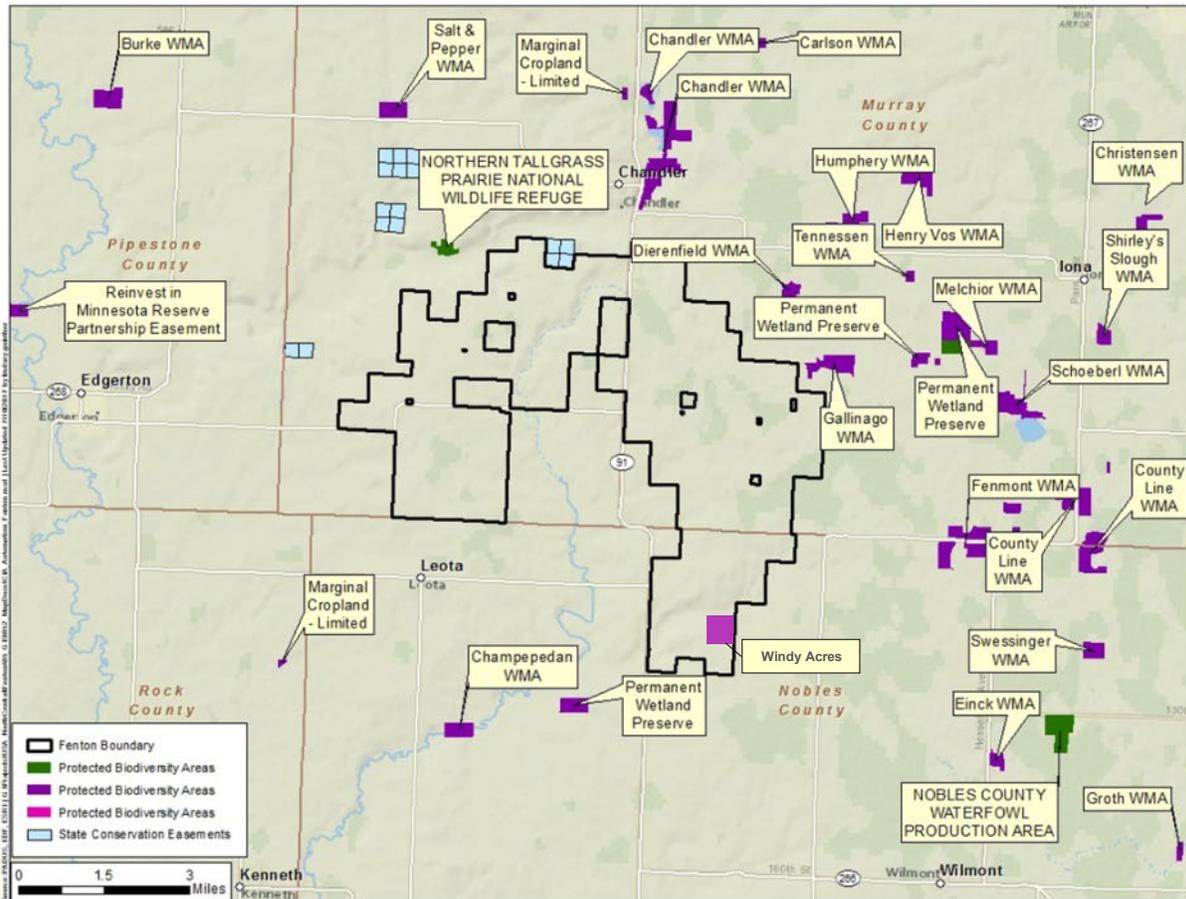
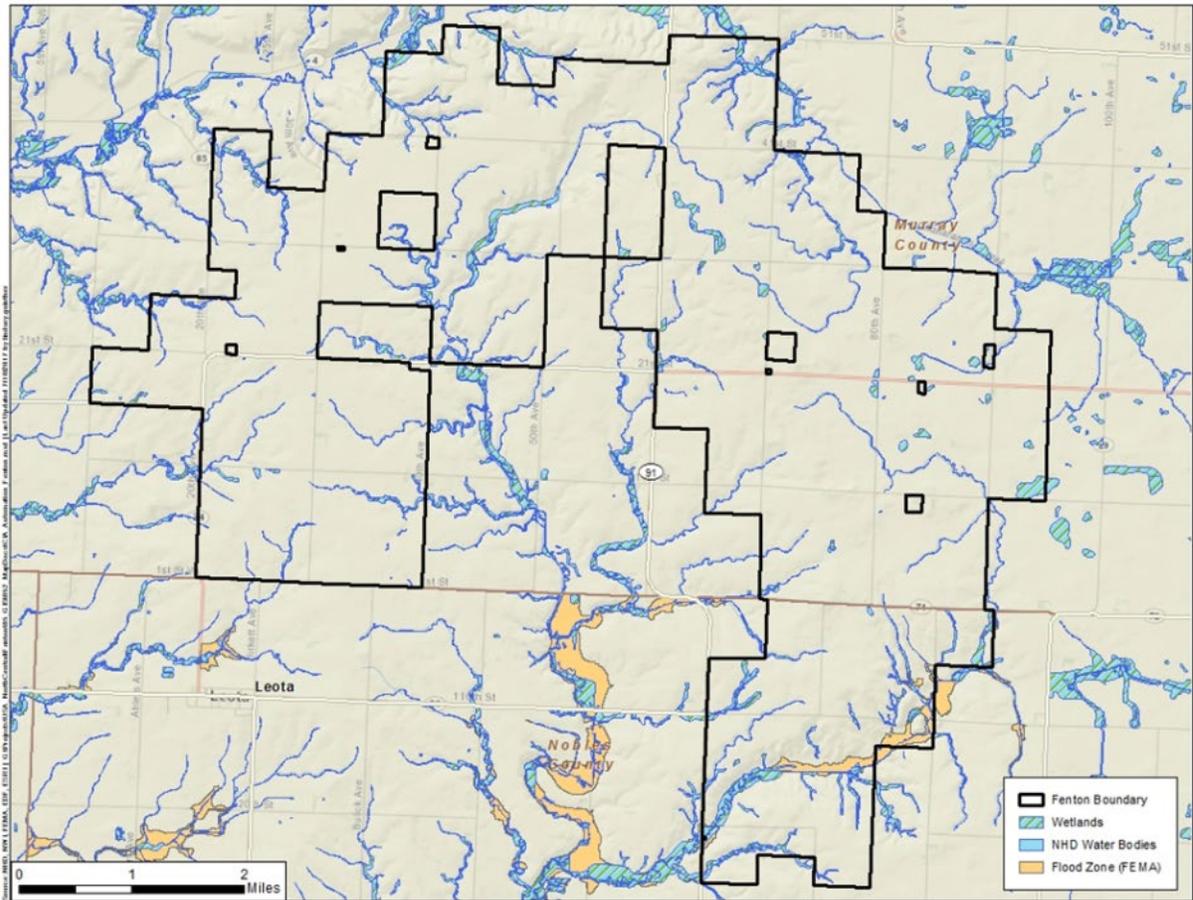


Figure 2. Protected Lands near the Fenton Wind Project.

### 3.2.3 Wetlands Assessment

A preliminary wetlands assessment was performed by Terracon in March through May 2006 prior to construction. Areas with potential to impact waters of the US were identified (Terracon 2006b) and further field inspection was conducted under an initial wetlands delineation (Terracon 2006a) to determine whether proposed construction could impact jurisdictional wetlands. After visual inspection it was determined that no road, turbine pad, electrical or other crossings met the criteria for jurisdictional waters of the U.S. and therefore if measures to protect or avoid these areas were applied during construction, a USACE permit would not be required.

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**Figure 2. Wetlands, Waterbodies, and Flood Zones at the Fenton Wind Project.**

### 3.2.4 Waterfowl Production Areas and Wildlife Management Areas

There are no USFWS Waterfowl Production Areas (WPA) within the Project. One MNDNR Wildlife Management Area (WMA), the Windy Acres WMA, is located within the southern boundary of the Project, approximately 400 feet from the nearest wind turbine. This WMA contains restored upland prairie along with some native prairie hillsides, but does not include any ponds or creeks. Windy Acres WMA also includes several shelter belts and a large block of trees (planted in 2007). The Galinago WMA is the next closest WMA to the Project, approximately 0.5 miles from the closest wind turbine. Several additional WMAs and WPAs are present near the Project, with most situated to the northeast (USGS 2016, Figure 2).

### 3.2.5 Migratory Waterfowl Feeding and Resting Areas

According to data provided by MNDNR (2017a) there are no Migratory Waterfowl Feeding and Resting Areas within the Project site. The closest Migratory Waterfowl Feeding and Resting Areas is North Heron Lake which is approximately 30 miles to the east of the site.

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### 3.2.6 *Scientific and Natural Areas*

There are no Scientific and Natural Areas within the Project boundary. The nearest MNDNR Scientific and Natural Areas are Glynn Prairie about 25 miles north of the Project, and the Des Moines River about 40 miles to the east (MNDNR 2017b).

### 3.2.7 *Designated Wildlife Lakes*

Lakes may be formally designated for wildlife management by the MNDNR Commissioner. There are 56 designated wildlife lakes in Minnesota, mostly in the southern portion of the state. There are no Designated Wildlife Lakes within the Project boundary. North Badger Lake and South Badger Lake are the closest Designated Wildlife Lakes, and both are approximately 7 miles to the east (MNDNR 2017d).

### 3.2.8 *Potentially Undisturbed Lands and Sites of Biodiversity Significance*

Mapping of various categories of potentially sensitive habit was conducted as part of the cancelled retrofit analysis. The Potentially Undisturbed Lands GIS layer (Minnesota Geospatial Commons 2017) contains areas representing undisturbed land over the entire Prairie Coteau and Lac qui Parle landscapes in Southwestern Minnesota. The Protected Undisturbed Lands layer includes the identified undisturbed lands with an aggregate of lands that are known to be permanently protected. Permanently protected lands include an aggregate of fee title and easement holdings by a variety of state, federal, and private non-profit agencies and organizations. Additionally, information on sites of biodiversity significance from the Minnesota Biological Survey (MBS) was reviewed. There are four biodiversity significance ranks that indicate a site's biodiversity significance based on the landscape context, presence of rare species, and native plant communities. A site may be given a rank of outstanding, high, moderate, or below. Sites with a rank of moderate or above contain occurrences of rare species, native plant communities, or landscapes with strong potential for recovery (MNDNR 2017).

The turbine layout is outside of both Potentially Undisturbed Lands and sites ranked above moderate biodiversity significance based on data from MNDNR. These sites generally correspond to Native Prairie tracts.

## 3.3 **Tier 3 - Field Surveys and Risk Assessment**

Additional studies were conducted both prior to construction of the original Project as well as during the 2017 planning phase for the cancelled retrofit to further evaluate potential direct and indirect impacts to birds, bats, and native prairie habitats, and to inform siting and impact avoidance measures. The results of these studies are summarized below, along with a summary of risk as framed by the Tier 3 questions.

### 3.3.1 *Eagles*

Fenton PPI conducted preconstruction avian studies in 2004/2005 during the original Project development and found risk to eagles at this location to be minimal. No eagles were documented during the avian use surveys, and no eagle nests were documented in nest surveys. The Project has been in

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operation since October 2007 and site management confirms no eagle injury or mortality has been found since the Project began operating. Publicly available avian fatality monitoring studies from 1999 to 2016 were reviewed for the Prairie Rose Wind Project (14 miles from Fenton), Buffalo Ridge Phases 1, 2, and 3 (20 - 32 miles), Lakefield Wind Project (45 miles), Top of Iowa (135 miles), NPPD Ainsworth (220 miles), Cedar Ridge (350 miles), Blue Sky Green (380 miles), Forward Energy Center (375 miles), Kewaunee County Wind (415 miles), and Pleasant Valley Wind (150 miles). These studies found no eagle fatalities during the years when post-construction monitoring was conducted.

Pre-construction surveys by Terracon for the Project from 2004 through 2005 were not designed to conform to 2016 eagle activity monitoring protocols; however, the report concluded that preferred eagle habitat in this region of the upper Midwest does not occur within two miles of the Project. The MNDNR Biotics Database (MNDNR 2017c) indicates Murray County has no official records of bald eagles observed. The eBird database, housed and managed by the Cornell Lab of Ornithology, is currently the largest compendium of geospatial data on birds in the world, receiving over three million records per month, and providing an unparalleled resource for the analysis of bird distributional patterns over time and space for most of North America (Sullivan et al. 2009). According to eBird data, the nearest reported bald eagle sightings are associated with Lake Wilson, approximately six and a half miles north of the Project.

A small lake in the Chandler WMA South is located 1.6 miles north of the nearest Fenton turbine, and outside the Project boundary. This lake may provide some limited foraging opportunities for bald eagles. There are no open body lakes or other prime eagle habitat within the Project boundary itself. Eagle migration occurs primarily along the Des Moines River 40 miles to the east and the upper Mississippi River, 165 miles east of Fenton, so risk from migrating eagles is considered low. Four years of point count surveys conducted at Buffalo Ridge Phases 1, 2 and 3 (20 to 32 miles from Fenton) between 1996 and 1999 documented low eagle use, with 2 bald eagle observations and 1 golden eagle observation recorded during these surveys. No other large water bodies or eagle nesting habitats are located in or adjacent to the Project boundary.

As part of the cancelled retrofit effort, aerial nest surveys within two miles of the Project boundary were conducted by WEST from a helicopter on March 30 and April 21, 2017, a period before leaf-out when raptors would be actively tending to a nest or incubating eggs. Aerial surveys were conducted in accordance with the guidance provided in the USFWS Eagle Conservation Plan Guidance: Module 1 – Land-based Wind Energy, Version 2 (ECPG; USFWS 2013a) and the USFWS Interim Golden Eagle Inventory and Monitoring Protocols (Pagel 2010). No active bald eagle nests were documented during the aerial surveys within two miles of the Project boundary, and no eagles (adults or immature) were documented in the survey area during any of the site visits (Pickle et al. 2017).

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Based on available information on eagle use, habitat availability within and near the Project, and impacts to eagles from operation of the Project, risk to bald and golden eagles from operation of the Project is expected to be low.

### 3.3.2 *Bats*

The Project is within the range of the Northern Long-eared bat (NLEB) which is federally listed as threatened. NLEB is a forest dependent species, generally relying on forest features for both foraging and roosting during the summer months (USFWS 2013b; USFWS 2007). Specifically, NLEB appear to be a forest interior species that require adequate canopy closure for both roost and foraging habitat (Lausen 2009). Additionally, riparian areas are considered critical resource areas for many species of bats because they support higher concentrations of prey, provide drinking areas, and act as unobstructed commuting corridors (Grindal et al. 1999). While this species is associated with forest habitats, it also occurs in agricultural settings where forest habitats have been highly fragmented. Abundance of NLEB prey items, particularly beetles and moths, are typically higher in more closed forest stands than in openings, which supports studies which have found NLEB tend to avoid open habitats (Owen et al. 2003).

There are no records of NLEB hibernacula or maternity roost trees in Murray or Nobles County. There are no known karst areas or known hibernacula within or near the Project area based on data obtained from Fenton PPI's prospecting model database and Fenton PPI's data agreement with MNDNR (2017). The nearest documented carbonate karst is in Moody County, SD about 41 miles west of the Project (USGS 2012), and the nearest known NLEB hibernacula is in Nicollet County, MN about 135 miles east of the Project. There are no known roost trees in Minnesota within 200 miles of the Project (MNDNR and USFWS 2017).

Multiple post-construction mortality surveys have been conducted at operating wind farms near the Project. No federally listed bat carcasses have been found in publicly available mortality studies conducted at Prairie Rose (14 miles from Fenton), Buffalo Ridge Phase 1, 2 or 3 (20 - 32 miles from Fenton), Lakefield Wind Project (45 miles), Top of Iowa (135 miles), Pleasant Valley Wind Farm (150 miles), NPPD Ainsworth (220 miles), Cedar Ridge (350 miles), Blue Sky Green (380 miles), Forward Energy Center (375 miles), or Kewaunee County Wind (415 miles). Based on these surveys and lack of high quality bat habitat nearby, risk to listed bats from the operation of the Project is expected to be low.

### 3.3.3 *Other Listed Species*

Fenton PPI worked with MNDNR in 2006 to review 12 proposed turbine tower locations in the Fenton Wind Project that were proposed to be located in or near potential habitat of the Dakota skipper, a state-threatened species in 2006. The Dakota skipper is now a federally threatened species. As a result of this analysis, Fenton PPI revised siting of two turbines (52 and 53) in 2006 to areas that are not in close proximity to native prairie.

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New disturbance to native prairie is not anticipated to occur because no wind turbines, roads, or other facilities are relocated into areas of native prairie.

#### 3.3.4 *Wetlands and Waterways*

Terracon completed a Limited Preliminary Wetland Assessment for the Fenton Wind Project in 2006 (Terracon 2006b). The assessment consisted of reviewing National Wetland Inventory maps and the Murray and Nobles County Soil Surveys with the layout of the turbines to identify potential wetland area impacts. Areas with potential to impact waters of the US were identified (Terracon 2006b) and further field inspection was conducted under an initial wetlands delineation (Terracon 2006a) to determine whether proposed construction could impact jurisdictional wetlands. After visual inspection it was determined that no road, turbine pad, electrical or other crossings met the criteria for jurisdictional waters of the U.S. and, therefore, if measures to protect or avoid these areas were applied during construction, a USACE permit would not be required.

Based on Terracon's 2006 assessment, design modifications were made to roads and crossings, and the construction and operation of Project facilities does not impact jurisdictional waters of the US.

For the cancelled retrofit, Westwood prepared a new wetlands delineation study that reviewed potential minor upgrades to county roadways required to transport the replacement rotors and gear boxes to the Project, and potential temporary crane path impacts required for installing new rotors and turbine components (Westwood 2017). The wetland delineation documented the boundaries and features of wetlands within the potential impact corridor, which was defined as the planned crane path, buffered by 100 feet on either side for a total corridor width of 200 feet. No impacts to wetlands were identified within the existing project footprint, absent the retrofit construction.

#### 3.3.5 *Summary of Tier 3 Questions*

The information that was gathered during pre-construction assessments as well as during preparation for the cancelled retrofit was used to assess risk to wildlife at the Project. The following section provides answers to the WEG's Tier 3 questions based on the available information. Section 5 summarizes the measures that occurred throughout Project development, construction, and operation, to avoid and minimize the identified risks.

1. *Do Field Studies Indicate That Species of Concern are Present on or Likely to Use the Proposed Site?*

Field studies confirmed the presence of designated critical habitat for the federally listed endangered Poweshiek Skipperling and the federally listed threatened Dakota Skipper within the northern boundary of the Project. Additional potentially suitable grassland habitats were evaluated near 12 project turbines and resulted in the relocation of two turbines away from these areas. Other listed and sensitive species are not likely to use areas within the Project based on the results of desktop assessments and field surveys. Though acoustic

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presence/absence surveys have not been completed for this site, the general lack of suitable habitat for NLEB maternity roosts and summer foraging suggests that this species is not likely to use areas within the Project. Waterbird and waterfowl breeding and migrating habitats are not present within the Project, and these species are more likely to utilize the numerous WPAs and WMAs outside the Project for breeding and stopover habitat during migration.

2. *Do Field Studies Indicate Potential for Significant Adverse Impacts on the Affected Populations of Species of Habitat Fragmentation Concern?*

With the exception of the Dakota Skipper and Poweshiek Skipperling mentioned above, there is no indication that species of habitat fragmentation concern are present in the general Project area. The Project was sited to avoid impacts to skipper habitat, as described below, and the turbines were placed in an area of heavily cultivated cropfields, so did not cause any additional habitat fragmentation.

3. *What Is the Distribution, Relative Abundance, Behavior, and Site Use of Species of Concern Identified in Tiers 1 or 2, and to What Extent Do These Factors Expose These Species to Risk from the Proposed Project?*

Potential suitable habitat for the Poweshiek Skipperling and Dakota Skipper was identified in the northern portion of the Project and resulted in the relocation of two Project turbines away from sensitive habitat areas to avoid and minimize potential impacts to these species and their habitats. Avian use studies did not document any use of the Project area by eagles, and a survey for eagle nests within 2 miles of turbines indicated no nests were found. The Project is not located near any known occurrences of NLEB, NLEB hibernacula, or NLEB maternity roosts, and suitable forest and riparian habitat for this species does not occur in any quantity attractive to NLE at the Project. Based on this information, these species are not expected to be at risk from Project operation.

4. *What are the Potential Risks of Adverse Impacts of the Proposed Project to Individuals and Local Populations of Species of Concern and Their Habitats?*

By avoiding the placement of turbines in native grasslands, wooded habitats, and MCBS natural communities, Fenton PPI has sited the Project facilities to minimize wildlife impacts, including direct (mortality) and indirect (habitat loss and fragmentation) impacts. The Project turbines were placed in agricultural fields, and additional facilities avoid impacts to native grasslands and minimize the amount of necessary tree removal. Therefore adverse impacts on these habitats and associated species of concern are not expected to occur as a result of the Project operations.

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5. *How can developers mitigate identified significant adverse impacts?*

No significant adverse impacts were identified for the Fenton Wind Project. Project design and construction best management practices were developed based on the results from desktop assessments and field studies, consultation with state and federal agencies, and information from studies at nearby wind energy facilities, in order to further avoid and minimize potential impacts to wildlife, as described in Section 5.

6. *Are there studies that should be initiated at this stage that would be continued in post-construction?*

Fenton PPI plans to conduct Tier 4 post-construction monitoring studies for the Project as detailed in Section 4.

## **4 TIER 4: POST-CONSTRUCTION SURVEYS TO ESTIMATE IMPACTS**

### **4.1 Bird and Bat Fatality Monitoring**

The primary objective of systematic fatality monitoring is to estimate bird and bat mortality at the site for one survey year and determine whether the estimated mortality is lower, similar, or higher than the average mortality observed at other local, regional, and national projects. All casualties located within areas surveyed, regardless of species, will be recorded and a cause of death determined, if possible, based on field inspection of the carcass. Total number of bird and bat carcasses will be estimated by adjusting for search frequency, removal bias (length of stay in the field), searcher efficiency bias (percent found), and area searched.

Fatality monitoring for birds and bats will be detailed in a Post-Construction Monitoring Plan (PCM) developed as a separate document and reviewed by MNDNR. The protocol will cover bird and bat migration from approximately March 15, 2021 to November 15, 2021, except when hazardous or winter weather impairs searching. According to the DNR's recommended post-construction protocol for low risk large sites, 20% of the turbines (28 turbines) should be searched, using a search area of 120m x 120m centered on the turbine. Fenton is developing the PCM Plan to utilize a combination of road and pad searches with full plot searches. The full plots will either be cleared (mowed), or full plot searches using search dogs trained to detect birds and bats with vegetation present. Searches will be conducted during spring migration, summer, and fall migration, and searcher efficiency trials for dogs or human searchers, as appropriate, will be conducted during all search seasons. The objective of bird and bat post-construction monitoring at the Project is to calculate an adjusted fatality estimate for bird and bat casualties that are attributable to collision with Project facilities. Monitoring will compare levels of carcasses found to rates at other projects in the region. If rates are found to be high compared to regional projects, Fenton will communicate with USFWS, and MNDNR to evaluate potential responses.

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## 5 AVOIDANCE AND MINIMIZATION MEASURES

### 5.1 Siting and Design

This BBCS is for operation at the Fenton Wind Project. The turbine and road layout is fixed for the life of the Project and there is no plan to move or remove turbines until decommissioning. Management actions available to avoid and reduce impacts have been incorporated into the siting and design, construction, maintenance, and operational phases of the Project.

#### 5.1.1 Original Project Location and Design

- The Project area has limited landscape features that may provide unique stopover habitat for migrating birds, such as larger water bodies supporting aquatic and riparian vegetation.
- Placement of roads, turbines, and other facilities occurred primarily in disturbed cropland.
- Project roads have been limited to the minimum required width (approximately 14 to 18 feet permanent width).
- Project road circulation uses existing County roads to a large extent. Although this road pattern results in circuitous access to some wind turbines, it avoids impacts that would occur from new road construction.
- Careful Project design has resulted in minimal tree clearing and avoidance of direct impacts to wetlands, undisturbed lands, native prairie, critical habitat, protected areas, high and moderate sites of biodiversity, biologically sensitive areas, designated wildlife lakes, migratory waterfowl feeding and resting areas, scientific and natural areas, calcareous fens and areas in the working lands initiative.
- Stream crossings have been minimized to avoid impacts to Topeka shiner and Blanding's turtle.
- All turbines were sited at least 400 feet from any WMA, and at least 0.5 mile from any WMA containing ponds or creek, with the majority of turbines sited over a mile away.

#### 5.1.2 Structure Design

- Turbines have tubular towers rather than lattice supports to minimize bird perching and nesting opportunities.
- Turbines have internal ladders and platforms to minimize perching and nesting.
- Permanent met towers are free-standing structures without guy wires.
- Electrical collection and generator power lines:
  - Electrical collection lines between turbines were buried underground, avoiding the potential for bird mortality due to collision or electrocution.
  - The buried collection lines were constructed adjacent to Project access roads to the extent practicable to minimize clearing and disturbance.

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### 5.1.3 Facility Lighting

- Turbine lighting is limited to minimum required FAA lighting as recommended in the FAA Determinations of No Hazard to Air Navigation
- FAA-approved lighting uses the shortest allowable flash duration, the minimum allowed flashes per minute, and all lights flash at the same time so that nocturnal migrating birds are not disoriented by lights
- Turbines will not employ external lighting other than FAA lights.
- Electrical switchyard lighting is limited to the minimum required for safety and security, hooded or downward facing, of minimum intensity, and uses auto-off switches.

### 5.1.4 Project Decommissioning

A plan for decommissioning has been developed describing activities to dismantle and remove from the site all towers, wind turbines, transformers, electrical cables, foundations, buildings and ancillary equipment to a depth of four feet. To the extent possible the Permittee shall restore and reclaim the site to its pre-project topography and topsoil quality. All access roads will be removed unless written approval is given by the affected landowners.

### 5.1.5 Bat Impact Mitigation

2017 and newer Minnesota LWECs permits often require wind turbines apply blade feathering below cut-in speed to reduce probability of bat fatalities during low winds. In order to implement this each wind turbine controller must have software and control systems that support this function. The Project uses older wind turbines and controllers that were sourced before the built-in capability to apply feathering to slow rotation below cut-in wind speed without multiple, expensive upgrades that are commonly found on more modern wind projects. Consequently, feathering below cut-in speed is difficult and costly to implement at the Project, so cannot be used without substantial costs to the Project. In the event fatalities of state or federally Threatened or Endangered bats are found, the Project will implement this costly software and hardware upgrade at all Project turbines from one-half hour before sunset to one-half hour after sunrise, from April 1 to October 31 of each year of operation.

## 6 MONITORING AND ADAPTIVE MANAGEMENT PLAN

Based upon results of pre-construction impact risk analyses, recent information on eagle and other wildlife risk factors, and 13 years of operating history, significant adverse impacts to bird and bat species are not anticipated for the Project. Fenton PPI will conduct a minimum of 1 year (approximately March 15, 2021 to November 15, 2021) of bird and bat mortality monitoring using carcass persistence and observer bias corrections, using a combination of full plots and road and pad searches in order to cover a larger portion of the site. A total of 12 full plots and 34 road and pads would be searched, for a total of 46 turbines (33.5% of total turbines). This exceeds 20% of turbines sampled (27 turbines sampled) as recommended in the WEG (USFWS 2012) and the 20% of turbines sampled in the 2018 ABPP. Search turbines should be distributed across the site to sample as many habitats as practical, but also selected to avoid large unsearchable areas. Searching and bias trials will be conducted in all seasons except in

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winter when weather or site conditions make searching hazardous. Monitoring will compare corrected estimates of bird and bat mortality to rates at other projects in the region.

In the event that the observed mortality rates are determined to be significantly higher than those reported for other similar regional wind energy projects, Fenton PPI will evaluate changes in facility operations that are likely to further avoid or minimize Project effects to listed bird and/or bat species. Similarly, in the unlikely event that mortality of federally-listed species or eagles are observed, Fenton PPI will work with the USFWS to evaluate changes in facility operations to further avoid or minimize effects to these species. In the event mortality of state-listed species or eagles is observed, Fenton PPI will notify and work with the MNDNR to evaluate possible responses. Specific measures would be dependent on the species of concern and would be expected to be scientifically proven to reduce bird and/or bat mortality while maintaining economic viability of operating the Project.

## **7 TIER 5 - ADVANCED RESEARCH**

The WEG contain discussion of Tier 5 Other Post-Construction Studies. In general, the studies identified in Tier 5 are research related and “will not be necessary for most wind energy projects” (USFWS 2012). Given that the information collected during the pre-construction period and over 10 years of operation indicate low potential impacts, no Tier 5 studies are planned.

## **8 IMPLEMENTATION OF THE BBCS**

### **8.1 Document Availability**

This BBCS will be maintained by Fenton PPI’s environmental representative and a copy of the BBCS will be kept on-site throughout operations of the Project.

### **8.2 Documentation**

Fenton PPI will implement an operational reporting and documentation program to record incidental finds of any protected species fatalities, including eagles and federal or state listed species. Fatalities will be documented with digital photographs and the time and location the fatality was found. All fatalities of protected species will be promptly reported to the MNDNR and USFWS.

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### 8.3 Primary Contact

Key resource personnel associated with this BBCS include the following:

- Fenton PPI: Michael Azeka
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  - Email: Michael.Azeka@edf-re.com
- US Fish and Wildlife Service: Margaret Rheude
  - Office: (952) 252-0092 ext. 202
  - Email: Lisa\_Mandell@fws.gov
- US Fish and Wildlife Service Law Enforcement:
  - Office: USFWS Law Enforcement – St. Paul Station
  - Contact: (651) 778-8360
- Minnesota Department of Natural Resources: Cynthia Warzecha, MNDNR
  - Office: 651-259-5078
  - Email: Cynthia.warzecha@state.mn.us
- Minnesota Department of Commerce: Rich Davis
  - Office: (651) 539-1846
  - Email: richard.davis@state.mn.us

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***Appendix A. Agency Meeting Notes and Comment Letters***

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***Appendix B. Survey Results***

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