



**AVANGRID  
RENEWABLES**

**Deubrook Elementary School  
Toronto, Deuel County, South Dakota**

August 7th, 2019

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# **Tatanka Ridge Wind Project**

**South Dakota Public Utilities  
Commission**

**Public Input Hearing**

# Introduction

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- Project Developer – Jesse Bermel
- Legal Counsel – Brett Koenecke
- Engineer – Mark Mullen
- Permitting Manager – Amanda Bohnenblust



# Introduction

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## Permitting

- Janelle Rieland
- Dan Flo
- Mark Bastasch



# Avangrid Renewables, LLC

A collection of exceptional assets...

One of the largest wind project owners in the U.S. with more than 6 GWs owned and contracted

More than \$32 billion of U.S. assets operating in 24 states

725+ employees at the end of 2018, compared with 12 in 1999

636 MW of CCGT & peaking capacity on the strategic CA-OR border

Tatanka Ridge is a subsidiary of AVANGRID, NYSE: AGR

## U.S. Renewables



### Wind

6,000+ MW



### Power

536 MW CCGT  
100 MW peaking



### Solar & Biomass

116 MW Solar  
55 MW Biomass

and clean gas generation

...focused on operational excellence and selective growth

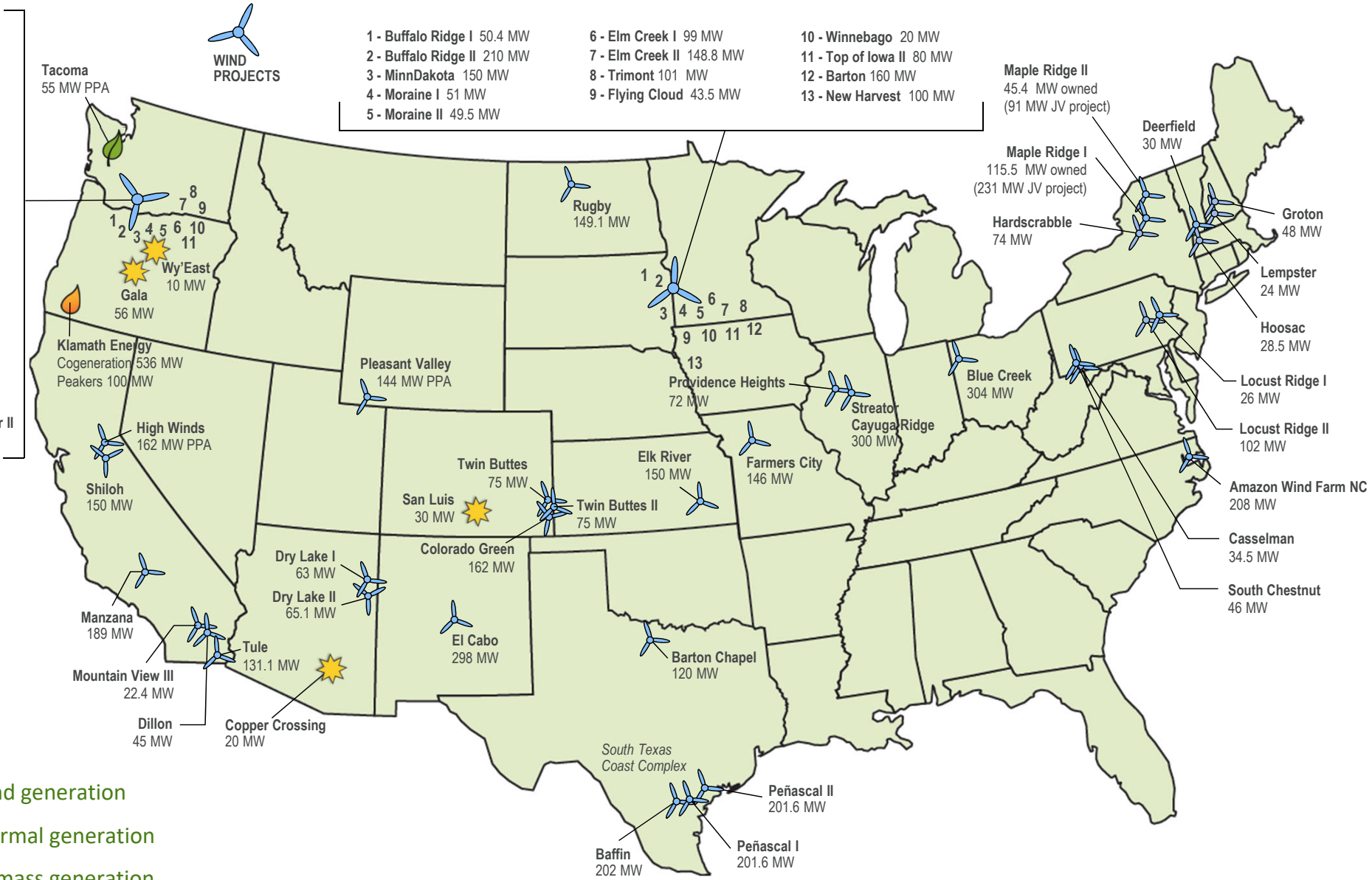
Rev. April 2019

# U.S. Power Assets

- 1 - Klondike IIIa  
76.5 MW
- 2 - Hay Canyon  
100.8 MW
- 3 - Klondike I  
24 MW
- 4 - Klondike III  
223.6 MW
- 5 - Star Point  
98.7 MW
- 6 - Klondike II  
75 MW
- 7 - Big Horn I  
199.5 MW
- 8 - Big Horn II  
50 MW
- 9 - Juniper Canyon  
151.2 MW
- 10 - Pebble Springs  
98.7 MW
- 11 - Leaning Juniper II  
201.3 MW



- 1 - Buffalo Ridge I 50.4 MW
- 2 - Buffalo Ridge II 210 MW
- 3 - MinnDakota 150 MW
- 4 - Moraine I 51 MW
- 5 - Moraine II 49.5 MW
- 6 - Elm Creek I 99 MW
- 7 - Elm Creek II 148.8 MW
- 8 - Trimont 101 MW
- 9 - Flying Cloud 43.5 MW
- 10 - Winnebago 20 MW
- 11 - Top of Iowa II 80 MW
- 12 - Barton 160 MW
- 13 - New Harvest 100 MW



- Wind generation
- Thermal generation
- Biomass generation
- Solar generation

Rev. 5/8/19

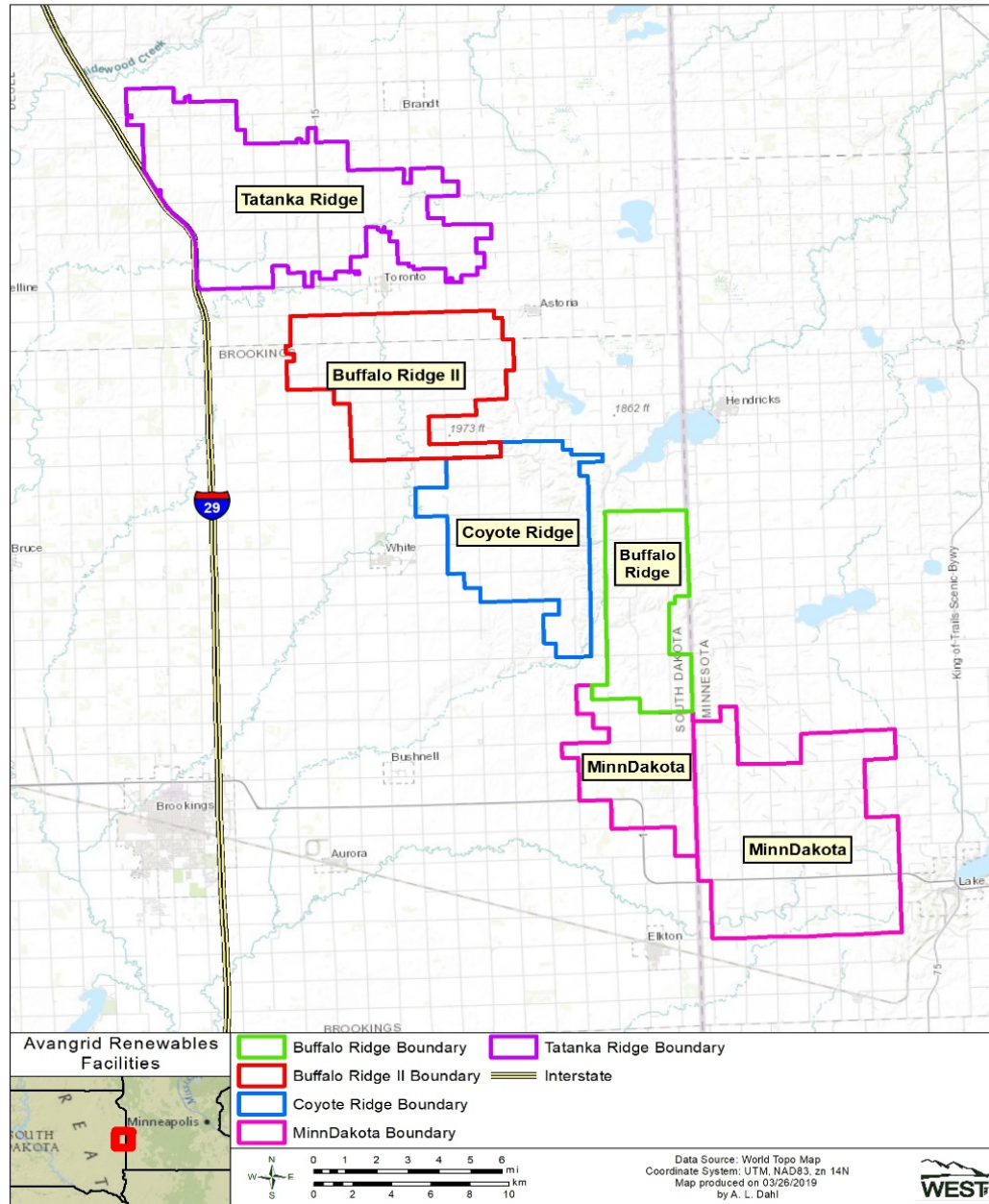
# South Dakota Experience

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- **MinnDakota**, 54 MW in SD, 36 turbines in Brookings County
- **Buffalo Ridge 1**, 50.4 MW, 24 turbines in Brookings County
- **Buffalo Ridge 2**, 210 MW, 105 turbines in Brookings and Deuel County
- **Coyote Ridge** (under construction) 96.7 MW, 39 turbines in Brookings County



# Project Boundaries of Avangrid Wind Farms in the Local Area



# Tatanka Ridge Wind Project

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## Project Developer

- Tatanka Ridge Wind, LLC, a wholly owned subsidiary of Avangrid Renewables, LLC

## Project Details

- Up to 155 MW
- Up to 56 turbines (GE)
- Maximum height of 499 feet
- Maximum rotor diameter of 417 feet
- Underground 34.5 kV collection system
- Access roads
- MET tower
- Operations and maintenance building
- Substation



# Tatanka Ridge Wind Project – Summary

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## In-service date

- December 1, 2020

## Off-take

- Two Power Purchase Agreements for 100% of the output

## Land agreements

- 100% for all facilities

## Participating landowners

- Over 100

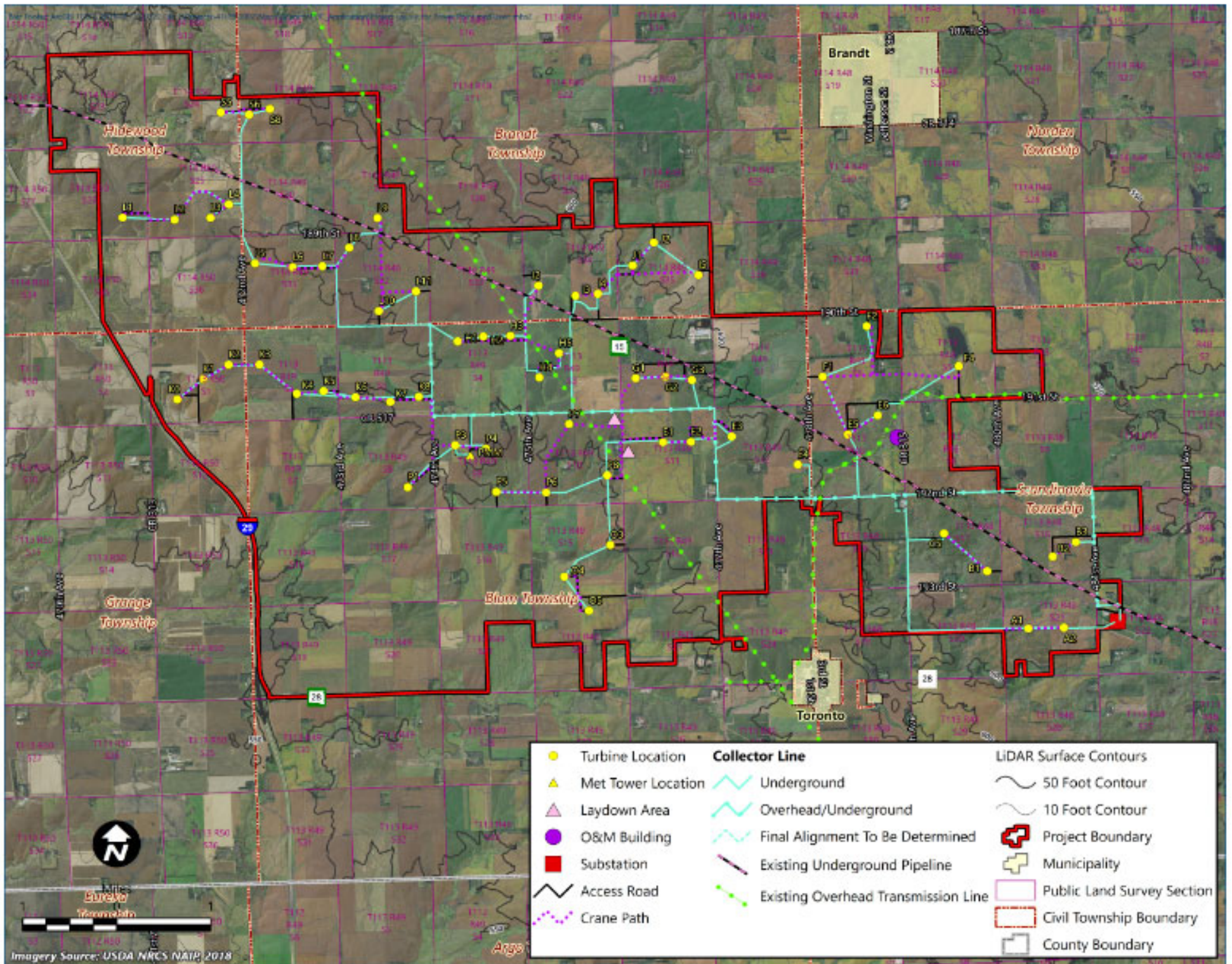


# Tatanka Ridge Wind – Project Location/Schedule

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Located north of Toronto in Blom, Brandt, Grange, Hidewood, and Scandinavia Townships

- Project facilities will be located on ~52 acres, less than 1% of project
- Targeting construction as early as the first quarter of 2020
- ~12 months to construct
- COD end of 2020



Imagery Source: USDA NRCS NAIP, 2018

# Overview of Project Benefits

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- Brings jobs, taxes, and landowner payments to the project area
- We expect about \$1 million annually in direct landowner payments
- We've budgeted approximately ~\$700k annually in taxes
- ~\$260k to two local school districts, ~\$180k to the county, ~\$75k to all townships
- About 12 to 15 permanent jobs created
- Up to 200 construction jobs for 9 months



# Project Development Status

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## Land Agreements

- Secured all agreements for facilities

## Meteorological Data

- Over 5 years of continuous data collection

## Interconnection Agreement

- Existing agreements allow project to connect to the transmission grid

## Constraints Analysis

- Identified constraints, roads, electrical, beam paths...

## Field Studies

- On schedule for COD, 90% complete

# Environmental Surveys

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- Site characterization study
- Wetland and waterbody
- Birds
- Bats
- Dakota skipper
- Poweshiek skipperling
- Raptor nest
- Cultural resources



# Project Development Status

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## Landowner Input To Date

- Multiple landowner meetings and coordination

## Permitting

- Local permit approved
- State permit ongoing

## Power Purchase Agreements

- Secured 2 agreements
- 100% of output



# Wind Farm Construction

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- Procurement
- Contracts
- Access roads
- Foundations
- Delivery of equipment
- Erection of turbines
- Electrical system
- Post-construction activities (roads/tile)





# Decommissioning

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*At the end of commercial operation, project owner is responsible for decommissioning:*

## **Turbine removal**

- Foundations removed to 4 feet below grade

**Remove below ground equipment to 42 inches per county requirements**

**Remove above ground facilities**

## **Access roads**

- Landowner has option to keep road

**Financial assurance**

# Summary

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- South Dakota partnerships
- Wind resource
- Fit with agriculture
- Landowner payments
- School investment
- Total investment of ~\$218M



# Thank You!

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