

Exhibit No. ____
Issue: Project Details; General Project
Information; and Transmission
Witness: Timothy N. Wilson
Type of Exhibit: Direct Testimony
Sponsoring Party: The Empire District
Electric Company
Case No. EA-2019-0010
Date Testimony Prepared: October 2018

**Before the Public Service Commission
of the State of Missouri**

Direct Testimony

of

**Timothy N. Wilson
October 18, 2018**



Liberty Utilities[®]
EMPIRE DISTRICT

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LIST OF SCHEDULES IN SUPPORT OF DIRECT TESTIMONY

TNW-1	Legal Description of Area and Route for Kings Point Wind Project
TNW-2A	Map of Area and Route for Kings Point
TNW-2B	Map of Route for Kings Point
TNW-3	A list of all electric, gas, and telephone conduit, wires, cables, and lines of regulated and nonregulated utilities, railroad tracks, and each underground facility, as defined in Section 319.015, RSMo, which the proposed construction will cross for both Kings Point and North Fork Ridge Wind Projects
TNW-4	Jasper County Road Use and Maintenance Agreement
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TNW-6B	Map of Route for North Fork Ridge

1 **I. INTRODUCTION**

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

3 A. My name is Timothy N. Wilson and my address is 602 Joplin Street, Joplin, Missouri,
4 64801.

5 **Q. WHO IS YOUR EMPLOYER AND WHAT POSITION DO YOU HOLD?**

6 A. I am employed by Liberty Utilities Service Corp. as the Central Region Director of Electric
7 Operations – Services. My primary responsibilities include managing large capital projects
8 in energy supply and operations for The Empire District Electric Company (“Empire” or
9 “Company”), ensuring compliance for Empire’s generation fleet and integrating Empire’s
10 projects in the Company’s regulatory strategy.

11 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
12 BACKGROUND.**

13 A. I graduated from Pittsburg State University in 2000, with a Bachelor of Science in
14 Education, Mathematics and from Missouri State University in 2010 with a Master of
15 Science in Project Management. In October of 1999, I was hired by the Company as an
16 Associate Planning Analyst in the Strategic Planning Department. I have held various
17 other positions within the Company including Planning Analyst, Energy Trader, Energy
18 Supply Planning and Operations Analyst, and Manager of Renewable and Strategic
19 Initiatives. In 2010, I was named Director of Environmental, Projects and Integration
20 Management and held that position until I moved into my current role.

21

22 **II. PURPOSE**

23 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CASE?**

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1 A. The purpose of my testimony is to provide the specific project information surrounding the
2 Company's application for certificates of convenience and necessity ("CCN") related to
3 two wind generation projects in or near Empire's service territory (the "Wind Projects")
4 that Empire seeks to acquire from Tenaska Missouri Matrix Wind Holdings, LLC and
5 Steelhead Missouri Matrix Holdings, LLC ("Tenaska/Steelhead") pursuant to two
6 Purchase and Sale Agreements. Copies of these Purchase and Sale Agreements are
7 attached to the Direct Testimony of Todd Mooney.
8

9 **III. THE WIND PROJECTS**

10 **Q. FOR WHAT WIND PROJECTS IS EMPIRE SEEKING CCNS?**

11 A. Empire is seeking CCNs in this case for two Wind Projects – Kings Point and North Fork
12 Ridge. These Wind Projects are both located in or near Empire's service territory and will
13 reduce the risk of transmission upgrades and congestion pricing in the Southwest Power
14 Pool Integrated Marketplace.

15 **Q. WHERE WILL THE WIND PROJECTS BE LOCATED?**

16 A. Both the Kings Point and North Fork Ridge facilities and associated generation tie lines
17 are located entirely within the state of Missouri, in the general vicinity of Joplin.

18 **Q. WHAT IS THE PROPOSED CONSTRUCTION TIME LINE FOR THE WIND
19 PROJECTS?**

20 A. As with the development of any energy generation project, the first step is to prepare the
21 physical site for construction. We expect that Tenaska/Steelhead will begin site
22 development activities in October of 2018, such as geotechnical work to assess the site for
23 the optimal layout of wind turbines as well as complete permitting requirements that must

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1 be in place prior to the start of construction. Actual physical construction of the sites will
2 not begin until Empire has obtained CCNs in this docket. In order for the Wind Projects
3 to be in service no later than December 31, 2020 to achieve 100% eligibility for Production
4 Tax Credits (PTCs), physical construction is targeted to begin in the latter half of 2019.

5 **Q. WHEN WILL THE WIND PROJECTS BE PLACED IN SERVICE?**

6 A. Each of the Wind Projects will be placed in service by Tenaska/Steelhead once Empire has
7 received a certificate delivered by an Independent Engineer (to be selected by Empire) that
8 is substantially in the form of Exhibit 5 to the Purchase and Sale Agreements with
9 Tenaska/Steelhead. I expect this to occur by December 31, 2020, the deadline for
10 eligibility of 100% of federal PTCs.

11 **Q. ARE THERE CONSEQUENCES IF THERE IS A DELAY IN**
12 **TENASKA/STEELHEAD’S CONSTRUCTION OF THE WIND PROJECTS?**

13 A. The primary impact of any delay in construction of the Wind Projects relates to PTC
14 eligibility. *** _____

15 _____
16 _____
17 _____
18 _____
19 _____
20 _____
21 _____
22 _____

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1 _____, *** This framework ensures Empire's
2 customers are protected against construction delays.

3 **Q. IF THERE ARE PURCHASE PRICE REDUCTIONS, WILL THOSE LOWER**
4 **COSTS HAVE AN IMPACT ON CUSTOMER RATES?**

5 A. Yes. If there are purchase price reductions, the amount of money due at closing will be
6 lower. That lower price will be reflected in the rate base for the Wind Project, which will
7 ultimately be captured in customer rates, thus benefitting customers.

8

9 **IV. KINGS POINT**

10 **Q. PLEASE DESCRIBE THE KINGS POINT WIND PROJECT.**

11 A. The Kings Point Wind Project will be constructed in the southwest corner of the state, in
12 particular, southeastern Barton County, southwestern Dade County, northeastern Jasper
13 County and northwestern Lawrence County, Missouri. The point of interconnection for
14 the generation tie lines will be the substation at Empire's La Russell Energy Center. Kings
15 Point will have a capacity of approximately 150 MW.

16 **Q. WHAT IS THE PRECISE LOCATION OF THE KINGS POINT WIND PROJECT?**

17 A. Attached as **Schedule TNW-1** is the legal descriptions of the area and route for the Kings
18 Point Wind Project for which Empire seeks a CCN in this case. Also attached as **Schedule**
19 **TNW-2A** and **Schedule TNW-2B** are a map of the area and route, respectively, for the
20 Kings Point Wind Project.

21 **Q. WILL THE PROPOSED CONSTRUCTION CROSS ANY ELECTRIC, GAS, OR**
22 **TELEPHONE CONDUIT, WIRES, CABLES, OR LINES OF REGULATED AND**

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1 **NONREGULATED UTILITIES, RAILROAD TRACKS, OR UNDERGROUND**
2 **FACILITIES?**

3 A. Yes. Attached as **Schedule TNW-3** is a list of all electric, gas, and telephone conduit,
4 wires, cables, and lines of regulated and nonregulated utilities, railroad tracks, and each
5 underground facility, as defined in Section 319.015, RSMo, which the proposed
6 construction will cross for both the Kings Point and North Fork Ridge Wind Projects.

7 **Q. PLEASE DESCRIBE THE ASSETS TO BE CONSTRUCTED AS A PART OF THE**
8 **KINGS POINT WIND PROJECT.**

9 A. The Kings Point Wind Project will consist of approximately seventy wind turbine
10 generators and the infrastructure necessary for these generators to operate as an integrated
11 energy production facility and deliver energy to the generation system. Each turbine
12 consists of a foundation, tower, nacelle, hub and blades. The nacelle contains a gearbox
13 and the generator. There will be an underground communications network, to allow
14 monitoring and control of each turbine. There will also be an underground collection
15 network that takes the energy generated from each turbine to the project substation. The
16 project substation consists of a large transformer, protective relays, electrical buswork,
17 circuit breakers and reactive compensation devices, if required. An approximately 13-mile
18 161 kV generation tie line will be constructed to carry energy from the project substation
19 to the point of interconnection at Empire's LaRussell Energy Center. Infrastructure to
20 allow maintenance of the turbines will also have to be constructed. This will mainly consist
21 of roads for ease of access but may also include a maintenance building. The plans and
22 specifications for the Kings Point Wind Project are found in **Annex 5 and Annex 7** to the
23 Kings Point PSA.

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1 **Q. HOW/BY WHOM WILL THE KINGS POINT PROJECT BE CONSTRUCTED?**

2 A. Kings Point will be constructed by an EPC contractor to be selected by the project
3 company. The project company is a limited liability corporation that will be created for a
4 single purpose: to acquire the project development assets from Empire and complete the
5 development, engineering, procurement and commissioning activities necessary for the
6 wind farm to commence commercial operation and be placed in service. After December
7 31, 2020, an Empire-owned holding company will purchase the project company, thus
8 becoming the owner of the wind farm.

9 **Q. DOES EMPIRE RETAIN ANY RESPONSIBILITIES THAT RELATE TO THE**
10 **DEVELOPMENT OF THE WIND PROJECT?**

11 A. Yes. Empire will retain responsibility for entering into a Generator Interconnection
12 Agreement with the Southwest Power Pool as well as other items described in Annex 3 of
13 the PSA.

14 **Q. WILL ANY GOVERNMENTAL CONSENTS, FRANCHISES OR OTHER**
15 **APPROVALS BE REQUIRED FOR THE CONSTRUCTION OF THESE WIND**
16 **PROJECTS?**

17 A. Yes. In addition to the authority requested by this Application, Empire will be responsible
18 for obtaining certain Arkansas Public Service Commission and Federal Energy Regulatory
19 Commission authority. Empire has already signed a road use and maintenance agreement
20 with Jasper County which is attached as Schedule TNW-4 and expects to enter into similar
21 agreements with Barton, Dade and Lawrence Counties before the end of the year. Tenaska/
22 Steelhead are responsible for obtaining governmental consents or approvals prior to the

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1 Kings Point PSA closing, as outlined in Section 4.5 of the PSA, with the exception of the
2 Federal Aviation Administration Determination of No Hazard.

3

4 **V. NORTH FORK RIDGE**

5 **Q. PLEASE DESCRIBE THE NORTH FORK RIDGE WIND PROJECT.**

6 A. The North Fork Ridge Wind Project will be constructed in the southwest corner of the state,
7 in particular northwestern Jasper County and southwestern Barton County, Missouri. The
8 point of interconnection for the generation tie lines will be the substation at Empire's
9 Asbury Power Plant. North Fork Ridge will have a capacity of approximately 150 MW.

10 **Q. WHAT IS THE PRECISE LOCATION OF THE NORTH FORK RIDGE WIND
11 PROJECT?**

12 A. Attached as **Schedule TNW-5** is the legal descriptions of the area and route for the North
13 Fork Ridge Wind Project which Empire seek CCNs in this case. Also attached as **Schedule**
14 **TNW-6A** and **Schedule TNW-6B** are a map of the area and route, respectively, for the
15 North Fork Wind Project.

16 **Q. WILL THE PROPOSED CONSTRUCTION CROSS ANY ELECTRIC, GAS, OR
17 TELEPHONE CONDUIT, WIRES, CABLES, OR LINES OF REGULATED AND
18 NONREGULATED UTILITIES, RAILROAD TRACKS, OR UNDERGROUND
19 FACILITIES?**

20 A. Yes. Schedule TNW-3 lists all electric, gas, and telephone conduit, wires, cables, and lines
21 of regulated and nonregulated utilities, railroad tracks, and each underground facility, as
22 defined in Section 319.015, RSMo, which the proposed construction will cross.

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1 **Q. PLEASE DESCRIBE THE ASSETS TO BE CONSTRUCTED AS A PART OF THE**
2 **NORTH FORK RIDGE PROJECT.**

3 A. The North Fork Ridge Wind Project will consist of approximately seventy wind turbine
4 generators and the infrastructure necessary for these generators to operate as an integrated
5 energy production facility and deliver energy to the generation system. Each turbine
6 consists of a foundation, tower, nacelle, hub and blades. The nacelle contains a gearbox
7 and the generator. There will be an underground communications network, to allow
8 monitoring and control of each turbine. There will also be an underground collection
9 network that takes the energy generated from each turbine to the project substation. The
10 project substation consists of a large transformer, protective relays, electrical bus work,
11 circuit breakers and reactive compensation devices, if required. An approximately 6.5-
12 mile 161 kV generation tie line will be constructed to carry energy from the project
13 substation to the point of interconnection at Empire's Asbury Power Plant. Infrastructure
14 to allow maintenance of the turbines will also have to be constructed. This will mainly
15 consist of roads for ease of access but may include a maintenance building; however, there
16 is also the possibility of modifying the existing maintenance facilities at the Asbury Power
17 Plant to enable wind turbine maintenance. The plans and specifications for the North Fork
18 Wind Project are found in **Annex 5 and Annex 7** to the North Fork PSA.

19 **Q. HOW/BY WHOM WILL THE NORTH FORK RIDGE PROJECT BE**
20 **CONSTRUCTED?**

21 A. North Fork Ridge will be constructed by an EPC contractor to be selected by the project
22 company. The project company is a limited liability corporation that will be created for a
23 single purpose: to acquire the project development assets from Empire and complete the

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1 development, engineering, procurement and commissioning activities necessary for the
2 wind farm to commence commercial operation and be placed in service. After December
3 31, 2020, an Empire-owned holding company will purchase the project company, thus
4 becoming the owner of the wind farm.

5 **Q. DOES EMPIRE RETAIN ANY RESPONSIBILITIES THAT RELATE TO THE**
6 **DEVELOPMENT OF THE WIND PROJECT?**

7 A. Just as with the Kings Point Wind Project, Empire will retain responsibility for entering
8 into a Generator Interconnection Agreement with the Southwest Power Pool as well as
9 other items described in Annex 3 of the PSA.

10 **Q. WILL ANY GOVERNMENTAL CONSENTS, FRANCHISES OR OTHER**
11 **APPROVALS BE REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT?**

12 A. Yes. In addition to the authority requested by this Application, Empire will be responsible
13 for obtaining certain Arkansas Public Service Commission and Federal Energy Regulatory
14 Commission authority. As stated previously, Empire has already signed a road use and
15 maintenance agreements with Jasper County (see Schedule TNW-4) and expects to enter
16 into a similar agreement with Barton County before the end of the year. Tenaska/ Steelhead
17 are responsible for obtaining governmental consents or approvals prior to the North Fork
18 PSA closing, as outlined in Section 4.5 of the PSA, with the exception of the Federal
19 Aviation Administration Determination of No Hazard.

20
21 **VI. GENERAL PROJECT INFORMATION**

22 **Q. HOW DOES EMPIRE PLAN TO OPERATE AND MAINTAIN THE WIND**
23 **PROJECTS ONCE THEY HAVE BEEN ACQUIRED?**

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1 A. Empire will monitor and operate the Wind Projects from a single location, utilizing current
2 employees, if possible. Due to warranty provisions, maintenance will be performed by the
3 turbine original equipment manufacturer (“OEM”) under a service and maintenance
4 agreement (“SMA”). ** _____
5 _____
6 _____.**

7 **Q. WHAT ARE THE COMPANY’S PLANS FOR THE CONTINUATION OR**
8 **RESTORATION OF SAFE AND ADEQUATE SERVICE IF THERE ARE**
9 **SIGNIFICANT, UNPLANNED OUTAGES ASSOCIATED WITH THE WIND**
10 **PROJECTS?**

11 A. Because Empire participates in the Southwest Power Pool’s Integrated Marketplace, an
12 outage at one or even both of the Wind Projects will not result in service interruption. Also,
13 Empire has more than a century of experience in operating and maintaining electric
14 generating facilities. This experience will be put to use as outage causes are diagnosed,
15 safe and effective restoration measures are implemented, and root causes are identified to
16 increase reliability. If it is determined that outages are caused by a manufacturing or
17 construction defect, Empire will use all remedies available under the Purchase and Sale
18 Agreements or the Turbine Supply Agreements to resolve the problem.

19 **Q. WHAT PROPERTY RIGHTS, IF ANY, DOES EMPIRE HAVE TO THE PROJECT**
20 **SITES?**

21 A. Empire has executed leases associated with the real property where the Kings Point and
22 North Fork Ridge Wind Projects will be constructed.

1 **Q. WILL TENASKA/STEELHEAD CONSTRUCT ASSETS ON ALL OF THE LAND**
2 **UNDER LEASE?**

3 A. No. The leases will expire after the initial term if no assets are constructed upon a premise.
4 The initial term of the lease – the development period – expires on the seventh anniversary
5 of the effective date. Leases are automatically extended only on premises upon which
6 assets are constructed. The extended term is twenty years with rights to extend for three
7 additional ten year periods.

8 **Q. HAVE THE PROPERTY OWNERS IN THE AREAS OF THE PROJECTS BEEN**
9 **NOTIFIED OF THIS CCN APPLICATION?**

10 A. As described in the Application, Empire has provided notice to landowners associated with
11 both the Kings Point and North Fork Wind Projects.

12 **Q. HAS EMPIRE TAKEN ANY STEPS TO ASSESS AND ADDRESS ANY WILDLIFE**
13 **CONSERVATION ISSUES THAT MAY BE ASSOCIATED WITH THE**
14 **PROJECTS?**

15 A. Yes. Empire has followed the U.S. Fish and Wildlife Service’s Land-Based Wind Energy
16 Guidelines in preliminary siting. Impacts, if any, are identified during extensive
17 environmental and biological studies that will be conducted before operation of the projects
18 is allowed to begin.

19 **Q. WHAT IS THE STATUS OF THESE WILDLIFE CONSERVATION EFFORTS?**

20 A. Empire’s consultant, Stantec, began wildlife surveys in the spring of 2017 and their work
21 on the sites is ongoing. More detailed survey work has been implemented for the species
22 that will likely be impacted by the projects. Eagle nest surveys were conducted during
23 nesting seasons to identify active nests to inform turbine siting. Also, acoustic monitoring

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1 was conducted during spring, summer and fall to determine the composition and size of
2 the bat population using the project areas. Bats were netted and tracked by radio signal
3 back to their roosts, again to inform siting. Using this information, Empire is working with
4 the U.S. Fish and Wildlife Service and the Missouri Department of Conservation to identify
5 active mitigation measures that will be implemented when the projects begin operation.

6 **Q. WILL ACTIVITIES IN REGARD TO WILDLIFE CONSERVATION CONTINUE**
7 **AFTER CONSTRUCTION OF THE PROJECTS IS COMPLETE?**

8 A. Yes. Empire will implement the active mitigation measures identified by the U.S. Fish and
9 Wildlife Service to minimize the impact that operation of the projects has on any listed
10 species. There will also be a requirement for post construction mortality monitoring to
11 demonstrate that mitigation measures are working as intended to minimize bat and raptor
12 mortality.

13
14 **VII. TRANSMISSION**

15 **Q. WHAT TRANSMISSION MUST BE CONSTRUCTED AS A PART OF THE**
16 **KINGS POINT AND NORTH FORK RIDGE WIND PROJECTS?**

17 A. Approximately 20 miles of 161 kV generation tie lines will have to be constructed in
18 conjunction with these projects.

19 **Q. WHAT ARE THE PLANS FOR CONSTRUCTION OF THESE GENERATION TIE**
20 **LINES?**

21 A. The generation tie lines will be constructed by a contractor to be selected by the project
22 company. The specifications for the generation tie line can be found in **Annex 5** to the
23 Kings Point and North Fork Ridge PSAs.

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1 **Q. WHAT IS THE STATUS OF EMPIRE'S INTERCONNECTION SERVICE**
2 **REQUESTS FOR THE WIND PROJECTS?**

3 A. Empire's applications for interconnection of the Wind Projects have been accepted for
4 inclusion in DISIS-2017-001, which began in late September 2018. Results of the first
5 round of modeling are expected in mid-January 2019. Due to the late start of this study,
6 Empire will file interim interconnection requests. The interim availability studies required
7 for these interim interconnection requests will allow Empire to identify required network
8 upgrades before they will be identified by the DISIS, helping to mitigate timeline risk due
9 to the schedule overruns that have become a common feature of the Southwest Power
10 Pool's interconnection process.

11 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

12 A. Yes, it does.

SCHEDULE TNW-1

KINGS POINT LEGAL DESCRIPTIONS

Area

Township 29 North, Range 28 West

Sections 5, 6, 7

Township 29 North, Range 29 West

Sections 1, 2, 3, 4, 5, 12

Township 30 North, Range 28 West

Sections 30, 31, 34, 35

Township 30 North, Range 29 West

Sections 25, 26, 34, 35, 36

Generation Tie Route

Township 28 North, Range 29 West


Sections 5, 8, 9, 16

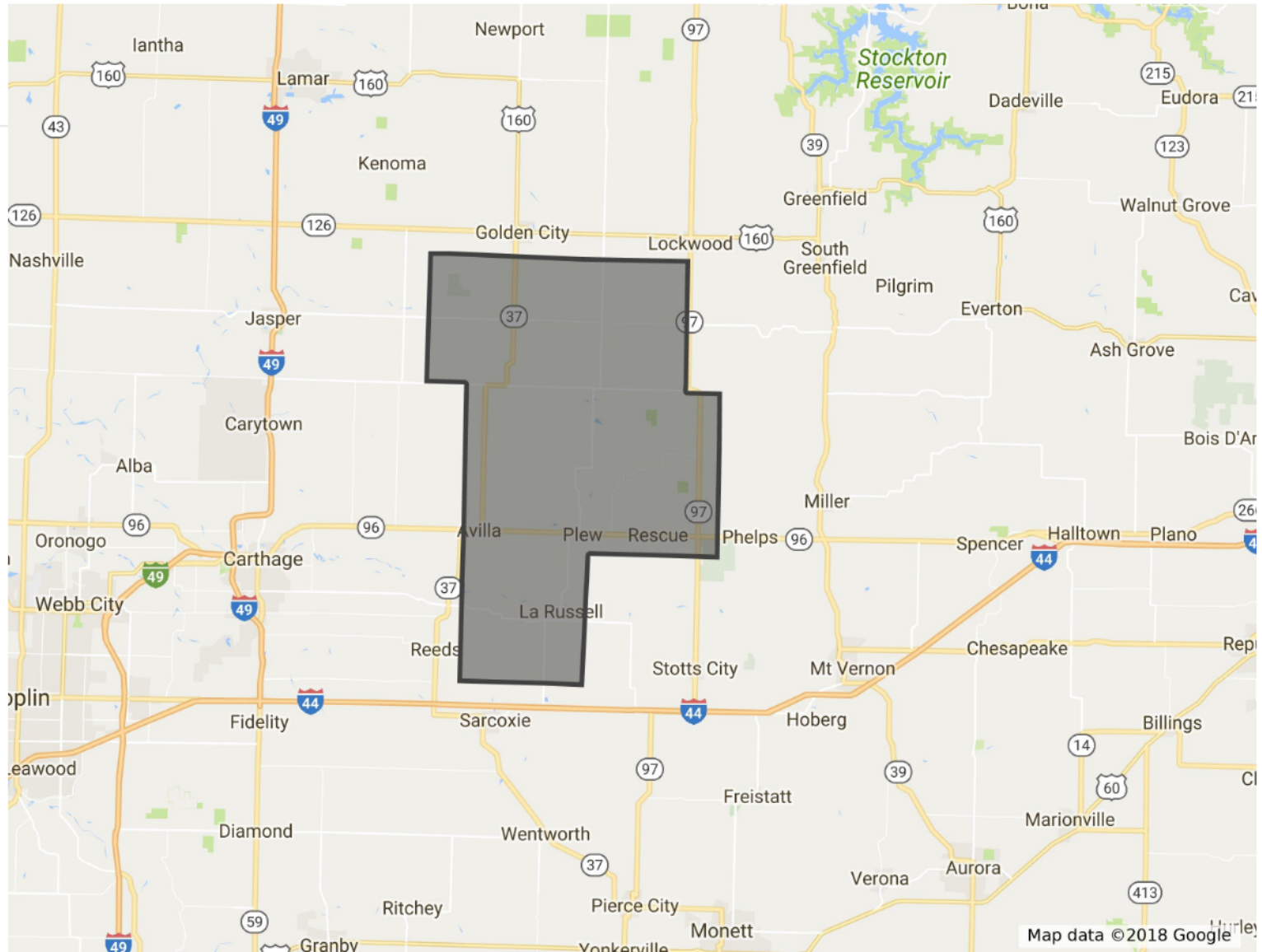
Township 29 North, Range 29 West

Sections 3, 4, 5, 8, 17, 20, 29, 32



Kings Point

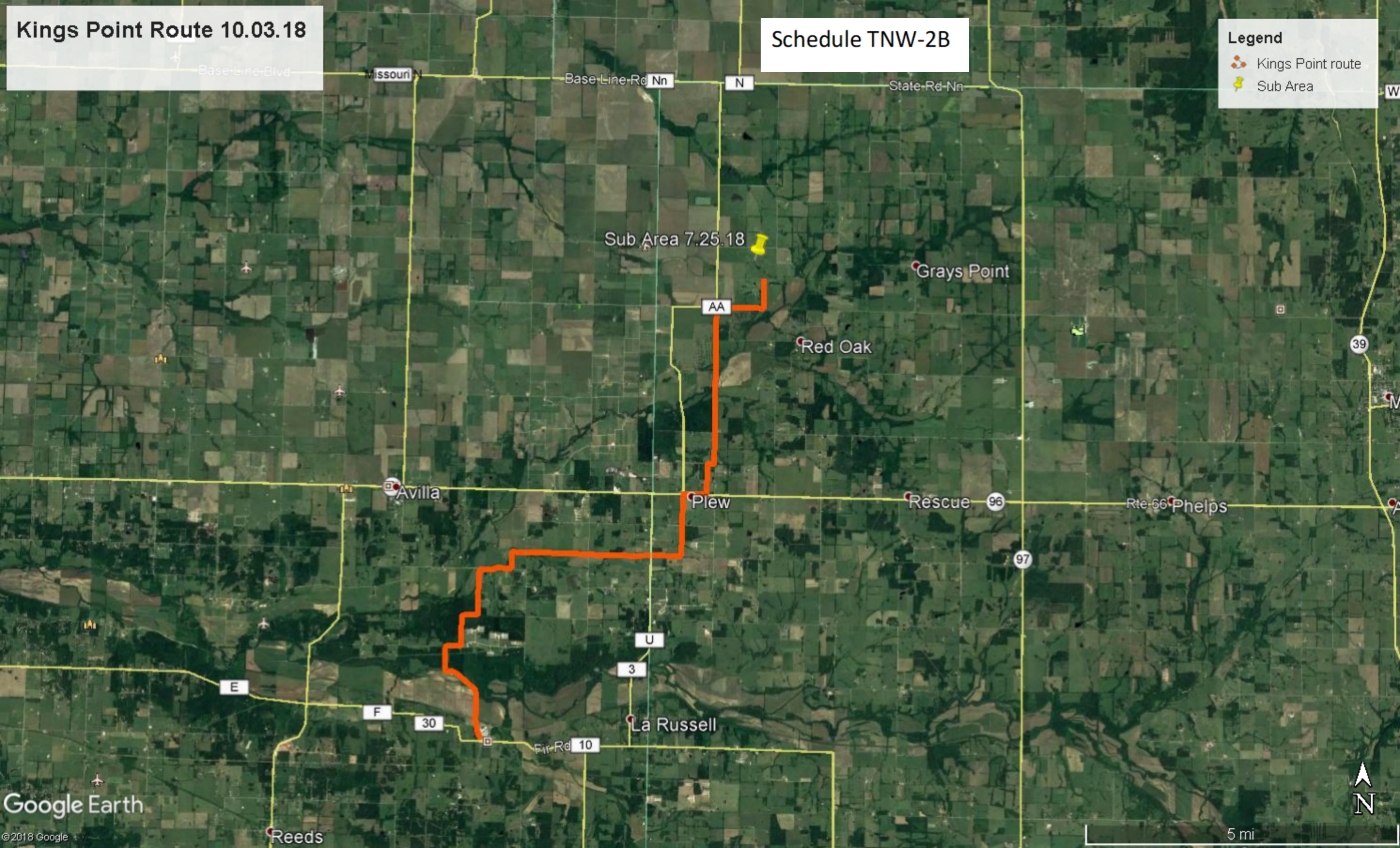
Area

 All items



Legend

-  Kings Point route
-  Sub Area



SCHEDULE TNW-3**Utility Crossings for Kings Point and North Fork Ridge Project Areas**

<u>NAME</u>	<u>COUNTY</u>
WINDSTREAM COMMUNICATIONS	Barton
ATT DISTRIBUTION	Barton, Dade, Lawrence
BARTON COUNTY ELECTRIC	Barton
BARTON COUNTY CPWSD1	Barton, Jade, Jasper
CRAW-KAN TELEPHONE	Barton
MAGELLAN MIDSTREAM PARTNERS	Barton
CENTURYLINK	Dade, Jasper, Lawrence
CENTURYLINK FIBER	Dade, Jasper, Lawrence
OZARK ELECTRIC COOP	Dade, Jasper, Lawrence

NORTH FORK RIDGE WIND ENERGY PROJECT
ROAD USE AND MAINTENANCE AGREEMENT

19th This Road Use and Maintenance Agreement (“**Agreement**”) is made and entered into this ~~[day]~~ day of ^{Sept} ~~[month]~~, 2018 (“**Effective Date**”), by and between THE EMPIRE DISTRICT ELECTRIC CO. (“**Empire**”) and the Board of County Commissioners of Jasper County, Missouri (“**County**”). Developer and the County may each be referred to as a “**Party**” and collectively as the “**Parties**”.

RECITALS

- A. Empire has commenced development of a commercial wind energy generation facility in Barton and Jasper Counties, Missouri (“**Project**”), within the boundaries of the Project footprint set forth on the map attached hereto as Exhibit A (“**Project Area**”).
- B. Prior to construction of the Project, Empire will convey and assign all of the real property rights, permits, contracts (including this Agreement) to a special purpose limited liability company (the “**Project Company**”) owned, directly or indirectly, by an experienced developer of wind energy projects in the United States (the “**Developer**”). The Project Company will be the ultimate direct owner and operator of the Project.
- C. NOT USED.
- D. In connection with the development and construction of the Project, it will be necessary for Developer and Developer’s employees, contractors, subcontractors, representatives and agents (collectively “**Developer Parties**”) to (i) transport heavy equipment and materials on and over certain roads located within the Project Area, (ii) make temporary and permanent modifications and improvements to the Designated Roads (defined below), including to culverts, bridges, traffic control devices, road shoulders and other related fixtures or equipment, to support the transport and movement of equipment, vehicles, and materials, and (iii) install, operate and maintain lines and cables for the delivery and transmission of electricity and electronic communications (collectively “**Cables**”) necessary for the construction and operation of the Project adjacent to, along, under, above or across Designated Roads (collectively, the “**Project Uses**”).
- E. Developer and the County wish to set out their understanding and agreement related to the use of Designated Roads during construction and operation of the Project and comply with the terms of the License Agreement.

AGREEMENT

In consideration of the mutual promises and covenants in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

Section 1. Use of Roads

1.1 Use of Designated Roads. In connection with the development, maintenance, and construction of the Project, the County hereby acknowledges and agrees that the Developer Parties may use all County roads, including but not limited to unopened roads or closed roads, and open or unopened rights-of-way within the Project Area, in accordance with the terms and provisions of this Agreement.

1.2 NOT USED.

1.3 Designated Roads. No later than ten (10) days prior to the issuance, by Developer, of a “notice to proceed” under the contract governing the construction of the Project (or similar notice authorizing the contractor to begin construction), Developer will specifically identify those roads within the Project Area that will be used by the Developer during construction, maintenance and operation of the Project by submitting to County a map of the roads within the Project Area that will be used by the Developer for the Project Uses (the “**Traffic Map**”). The Traffic Map will identify those roads that will be used to transport equipment and materials during the construction of the Project and those roads and rights-of-way where Developer will install Cables for use during the operation of the Project (collectively, the “**Designated Roads**”). Developer may, from time to time, add additional roads as Designated Roads by submitting to the County (a) an updated Traffic Map that includes such additional roads, and (b) an updated version of the Inspection Report (defined below) incorporating the additional roads. The County shall review and approve the additional roads within two (2) business days of submittal, which approval will not to be unreasonably withheld, conditioned or delayed.

Section 2. Pre-Construction

2.1 Engineering Firm. Prior to delivery of the Traffic Map, Developer shall engage a civil engineer licensed in the State of Missouri who regularly practices and has experience in roadway construction and design standards and is mutually acceptable to Developer and the County (“**Engineer**”).

2.2 Designated Road Inspection. Developer shall cause the Engineer to inspect and structurally assess the Designated Roads (“**Inspection**”) and, contemporaneously with the delivery of the initial Traffic Map pursuant to Section 1.3 above, provide a written report of such Inspection (“**Inspection Report**”) to the County. The Inspection Report will include or address the following:

- (a) Whether the Designated Roads have the structural capacity at specified times and during specified periods to carry the loads generated by the Developer Parties in conjunction with the Project Uses.
- (b) For Designated Roads insufficient to carry the expected loads, the Engineer shall provide a reasonable recommendation of the work required to make the Designated Roads sufficient for the expected loads.
- (c) Copies of all pre-construction Designated Road condition documentation such as cross section surveys, centerline profile, and culvert condition inventory.
- (d) Results of geotechnical analysis of the Designated Roads.

2.3 Road Improvement Plans. At least ten(10) days prior to commencing construction of improvements on the Designated Roads, Developer shall provide final road improvement plans, prepared in consultation with the Engineer, to the County detailing those improvements to the Designated Roads that will be necessary to accommodate the Project Uses (“**Road Improvement Plans**”). The plans may include expected intersection improvements, road and turning radius expansions, culvert installations, and other incremental improvements to the Designated Roads as construction of the Project progresses, to provide structural capacity for the Project Uses. The Road Improvement Plans shall incorporate the road standards and specifications adopted by the County and those additional detailed specifications mutually agreed to by the Parties included in the attached Exhibit C (“**Construction Standards**”).

2.4 Collection and Transmission Lines. All underground Cables that intersect public roads shall be directionally bored and placed at least three (3) feet below the lowest point of such road. After construction of the Project, Developer shall provide as-built site plans to the County, which shall include locations of Developer’s overhead and underground Cables.

Section 3. During Construction

3.1 Developer’s Obligations. Developer will undertake the following activities during construction of the Project:

- (a) Project traffic, including heavy lift crawler crane crossings, shall be scheduled in a way to reasonably minimize the adverse impact on the motoring public and local traffic.
- (b) Provide at least twenty-four (24) hours’ notice to the County when it is necessary for a Designated Road to be closed due to a crane crossing or for any other reason relating to the construction of the Project.
- (c) Employ reasonable dust control measures to limit the hazards of dust associated with Project construction at such time that a Designated Road is under use during construction of the Project.

- (d) Mark and sign road and intersection closures in accordance with the Missouri Manual on Uniform Traffic Control Devices.
- (e) Maintain, in accordance with Section 7.2, the Designated Roads such that they are kept in a condition for safe travel by the motoring public by promptly correcting any unsafe conditions caused by Developer's construction activities.
- (f) Perform all work on Designated Roads and rights-of-way in a good and workmanlike manner and perform all permanent work in accordance with the Construction Standards.

Section 4. Post-Construction

4.1 Designated Road Repair. In the event that Developer's use of the Designated Roads for the Project Uses damages the Designated Roads, Developer shall repair the Designated Roads to the condition they were in prior to commencement of Developer's use of the Designated Roads for the Project Uses, in accordance with the Construction Standards ("**Post-Construction Repairs**").

4.2 Completion of Road Repair. Developer shall provide written notice to the County when it has completed the Post-Construction Repairs on all or a portion of the Designated Roads and the County shall have ten (10) days to inspect the Designated Roads or portion of such Designated Roads and approve the Post-Construction Repairs by providing written notice to Developer, such approval not to be unreasonably withheld, conditioned or delayed ("**Notice of Acceptance**"). If the County reasonably believes that the Post-Construction Repairs have not been conducted in accordance with the Construction Standards, the County shall state with specificity those actions required, in the reasonable opinion of the County, to repair the Designated Roads or portion of the Designated Roads to conform with the standards set forth in this Agreement ("**Punch List**"). If Developer disputes the Punch List and the Parties are unable to resolve the dispute, the Parties may submit the dispute to the Neutral Engineer, in accordance with the dispute resolution mechanism in Section 8.1 of this Agreement.

4.3 County Inspection Expense. In the event the County engages an outside engineer to inspect the Designated Roads, Developer shall reimburse the County for the reasonable costs and expenses incurred by the engineer in performing the inspection, provided such engineer is reasonably acceptable to Developer.

4.4 Maintenance During Operations. The County shall be responsible for ongoing maintenance and repair of the Designated Roads after issuance of the Notice of Acceptance.

4.5 Operations Period Repairs. In the event Developer must perform extensive repairs to the Project or respond to an extraordinary event such that Developer will have overweight or oversized loads on the Designated Roads, which requires an overweight or oversize permit from Missouri Department of Transportation (in accordance with 7 CSR 10-25.020) ("**Load Event**"), Developer shall provide written notice to the County as soon as reasonably practical, but in no event

less than five (5) calendar days prior to commencement of a Load Event. The notice shall include a reasonable estimate and assessment of the damage scenario to the Designated Roads for the Load Event (“**Damage Scenario**”). Developer shall provide written notice to the County after completion of the Load Event stating that either (i) no damage was caused to the Designated Roads as a result of the Load Event, or (ii) damage was caused to the Designated Roads as a result of the Load Event and it has been repaired to the condition of the Designated Road prior to the Load Event (“**Completion Notice**”). The County may, within thirty (30) days following receipt of a Completion Notice, dispute the road repairs in accordance with the procedures set forth in Section 4.2.

Section 5. County Obligations

5.1 County Obligations. In addition to the obligations of the County included in other sections of this Agreement, the County shall have the following obligations:

- (a) Within seven (7) days following the Effective Date of this Agreement, the County shall designate a representative with authority to represent the County, and provide notice and contact information for such representative to Developer.
- (b) Perform routine and regular maintenance of the Designated Roads prior to, during, and after construction of the Project, including, but not limited to: grading, snow removal, routine signage, and regularly scheduled maintenance and repair, provided that such routine and regular maintenance does not interfere with the Developer’s use of the Designated Roads.
- (c) Review materials and plans provided by Developer, within the reasonable time periods required by the Developer in the correspondence submitting such plans and materials, including the Inspection Report, Road Improvement Plans, Traffic Map, and Post-Construction Survey (collectively, “**Plans**”) and promptly communicate any comments or concerns regarding such Plans to Developer.
- (d) NOT USED.
- (e) Assist Developer in identifying and contacting utilities, school officials, and other local officials who will be impacted by construction of the Project.
- (f) Meet with Developer and Developer Parties as may be reasonably necessary prior to and during construction to coordinate delivery routes, traffic impacts and other issues related to the construction that may arise.

- (g) Execute and deliver an easement agreement granting Developer an easement for placement and maintenance of collector and transmission lines in, on, under, over and through roads owned and maintained by the County.¹
- (h) Provide any documentation, maps, surveys, and engineering plans for existing culverts, drainage, road improvements, and utility installations to Developer that the County may have in their possession. Nothing in the preceding sentence shall be construed to obligate the County to provide any drawings or documentation that it does not currently possess.

Section 6. Grant of Easement

6.1 Lines and Cables. The County hereby grants, warrants and conveys to the Developer the right and easement under, over, in, on, through and across the Designated Roads to construct, install, operate, maintain, repair and replace all Lines, Cables and necessary appurtenant equipment for the continuous operation of the Project.

6.2 Recorded Easement. The County shall execute such additional easements or memoranda thereof, or of this Agreement, necessary to give all third parties and the public notice of the easements granted to the Developer hereunder.

Section 7. Costs and Expenses

7.1 Road Improvements and Repairs. Developer shall be solely responsible for the reasonable costs and expenses associated with the pre-construction road improvements and post-construction road repairs required by this Agreement. Further, Developer shall be solely responsible for the reasonable costs and expenses associated with work performed by the Engineer, including all design, engineering plans, and inspections.

7.2 Emergency Repairs. Developer shall take action to repair and remediate any damage caused by Developer to make the Designated Roads safe for the motoring public within a reasonable time and, in any event, within seventy-two (72) hours of such damage, unless an immediate hazard exists, in which case Developer shall repair as soon as reasonably practical. If repairs as required by this section are not performed by Developer within the specified time frame and following notice from the County, the County may perform (or cause to be performed) such work and Developer shall reimburse the County for the reasonable costs of such emergency repair work.

¹ NTD: Once we near the construction stage of the project and designate "Designated Roads" we'll want an easement to replace this agreement. There is no 'automatic' right to place lines in the right of way if the Developer is not a public utility with a Missouri Certificate of Convenience and Necessity (which the developer entity will not be).

Section 8. Dispute Resolution

8.1 All disputes, disagreements, controversies, questions or claims arising out of, relating to, or in connection with this Agreement, including, without limitation, with respect to its execution, validity, application, interpretation, performance, breach, termination or enforcement (a “Dispute”), shall be resolved by good faith negotiations, by mediation or by a court of competent jurisdiction in accordance with Section 8 of this Agreement.

8.2 Where a Dispute arises, the Parties shall conduct good faith negotiations with a view to resolving the Dispute. If the good faith negotiations fail to resolve the Dispute, the parties may by mutual agreement refer the Dispute to a mediator to be chosen jointly by the Parties, and paid for by the Developer, without prejudice to the rights of either Party to proceed to arbitration at any time, before, during or after the mediation is concluded.

8.3 Where the parties are unable to resolve the Dispute using the procedures in Section 8.2, the Dispute either party may initiate litigation in the district court of Jasper County, Missouri.

Section 9. Miscellaneous

9.1 Compliance with Law. The Parties agree that they will comply with State of Missouri laws in carrying out their respective obligations under this agreement venue Jasper County.

9.2 Cooperation. The Parties agree to communicate and cooperate in good faith regarding the safe implementation of the Project and to work together to ensure the successful completion of the Project. The County agrees to reasonably cooperate with requests of Developer’s lenders and investors in connection with financing of the Project, including by executing estoppel certificates as may be required by lenders or investors from time to time.

9.3 Remedies and Enforcement. The Parties acknowledge that money damages would not be an adequate remedy for a breach or threatened breach of this Agreement. Each of the Parties covenant and agree that in the event of a default of any of the terms, provisions or conditions of this Agreement by any Party (“**Defaulting Party**”), which default is not caused by the Party seeking to enforce such provisions (“**Non-Defaulting Party**”) and after notice and reasonable opportunity to cure has been provided to the Defaulting Party, then in such an event, the Non-Defaulting Party shall have the right to seek specific performance and/or injunctive relief to remedy or prevent any breach or threatened breach of this Agreement.

9.4 Due Authorization. The Parties represent and warrant that this Agreement has been duly authorized, executed and delivered and constitutes a valid and binding obligation against the Parties. No consent or authorization of any other person or governmental authority is required to make this Agreement effective.

9.5 Severability. If any provision of this Agreement is found to be illegal, invalid, or unenforceable, the remainder of this Agreement will not be affected and shall remain in full force and effect.

9.6 Amendments. This Agreement constitutes the entire agreement and understanding of the Parties. No waiver, modification or amendment to this Agreement is effective unless made in writing and duly executed by the Parties. Waiver by either Party of any breach or failure to comply with any provision or term of this Agreement by the other Party shall not be construed as, or constitute a waiver of any other provision.

9.7 Notices. All notices shall be in writing and sent to the Parties at their respective addresses set forth below by certified mail, or to such other address as either Party shall designate in writing to the other Party at any time.

County: John Bartosh, Presiding Commissioner
Jasper County Courthouse
302 S. Main, Room 101
Carthage, MO 64836

Empire: Tim Wilson, Central Region Director of Electric Operations Services
602 S. Joplin Ave.
PO Box 127
Joplin, MO 64802

9.8 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and together shall constitute one agreement.

9.9 Legal Matters. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Missouri, without respect for any conflict of law provisions. In the event of litigation, Developer and the County hereby agree to waive any right to trial by jury.

9.10 Successors and Assigns. This Agreement shall inure to the benefit of and shall be binding upon the Parties and their respective successors and assigns.

9.11 Termination. Developer shall have the right to terminate this Agreement at any time for convenience by (i) repairing any damage to Designated Roads and drainage infrastructure caused by Developer's activities in accordance with the Construction Standards, and (ii) providing fifteen (15) days' prior written notice to the County.

Signature pages follow.

IN WITNESS WHEREOF, the Parties have caused this Road Use and Maintenance Agreement to be executed as of the Effective Date.

COUNTY:

[Jasper]

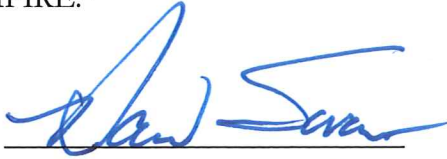
By: 

Name: John Bartush

Title: Presiding Commissioner

IN WITNESS WHEREOF, the Parties have caused this Road Use and Maintenance Agreement to be executed as of the Effective Date.

EMPIRE:

By: 

Name: DAVID SWAN

Title: PRESIDENT

Exhibit A

Project Area

[map showing the project footprint]

Exhibit B

NOT USED

Exhibit C

Construction Standards

County Standards

Class A – A road connecting two state highways or communities and carrying comparable loads to State farm-to-market roads.

Class B – A road that “dead ends” but carries considerable local community traffic.

Class C – A road that serves from 1 to 5 families and “dead ends”.

Specifications for Class A Roads:

- | | |
|--|---------------------------------|
| 1. Right-of-way | A minimum of 60' |
| 2. Ditches | 18” deep from point of shoulder |
| 3. Backslope | A minimum of 3 to 1 |
| 4. Inslope | A minimum of 2 to 1 |
| 5. Crown | A minimum of 8” |
| 6. Width of roadbed – 24’ from shoulder point to shoulder point | |
| 7. Width of surfacing – 14’ with the most material in a windrow when road is newly surfaced | |
| 8. Amount of surfacing – A minimum of 750 tons per mile | |
| 9. Loading of bridges – H-15 a minimum depth of 14’ | |
| 10. Types of drainage structures, C.M.P. or concrete box or concrete pipe of adequate carrying capacity and after inspection, an anticipated life of not less than 10 years. Such drainage to be long enough to carry the full roadbed width plus the minimum inslope. | |
| 11. Surfacing to be 38-3B surfacing material as defined in the 1950 Missouri Highway Specifications. | |

Specifications for Class B Roads:

- | | |
|-----------------|---------------------------------|
| 1. Right-of-way | A minimum of 50' |
| 2. Ditches | 18” deep from point of shoulder |
| 3. Backslope | A minimum of 2 to 1 |
| 4. Inslope | A minimum of 2 to 1 |
| 5. Crown | A minimum of 6” |

6. Width of roadbed – 20' to 24' from shoulder point to shoulder point
7. Width of surfacing – 12' with the most material in a windrow when road is newly surfaced
8. Amount of surfacing – A minimum of 600 tons per mile
9. Loading of bridges – H-10 a minimum depth of 12'
10. Types of drainage structures, C.M.P., concrete box, or concrete pipe of adequate carrying capacity and after inspection, an anticipated life of not less than 5 years.
11. Surfacing to be 38-3B surfacing material as defined in the 1950 Missouri State Highway Specifications.

Additional Standards:

- Diaphragms – All drainage pipe installed will include engineered Type A diaphragms appropriately sized to the pipe being installed
- Drainage Pipes – All extensions of existing drainage pipe shall match the quality and type of existing pipe, *provided, however*, if the existing pipe is plastic, then the entire pipe must be replaced with CMP riveted corrugated metal pipe. All newly installed drainage pipe shall be CMP riveted corrugated metal.

SCHEDULE TNW-5

NORTH FORK LEGAL DESCRIPTIONS

Area

Township 30 North, Range 32 West

Sections 4, 5, 6

Township 30 North, Range 33 West

Sections 1, 2, 3, 4, 5, 9

Township 31 North, Range 32 West

Sections 19, 26, 27, 28, 29, 30, 31, 32

Township 31 North, Range 33 West

Sections 24, 25, 33, 34, 35, 36

Generation Tie Route

Township 30 North, Range 33 West


Sections 2, 3, 8, 9, 10, 17

Township 31 North, Range 33 West

Sections 35, 36

North Fork

Area

 All items

