

# Appendix F – Supplemental Information Provided by Applicants

- F1. Easement Contract Boiler plate (provided by ATC)
- F2. Avian Risk Review - Redacted (provided by ATC)

Document Number

**ELECTRIC TRANSMISSION LINE EASEMENT****CERTIFICATE OF COMPENSATION****NOTICE OF RIGHT OF APPEAL**

Wis. Stat. Sec. 182.017(7)

8 3 4 8 5 4 1  
Tx:8210486KRISTI CHLEBOWSKI  
DANE COUNTY  
REGISTER OF DEEDS**DOCUMENT #**

02/24/2012 2:00 PM

Trans. Fee:

Exempt #:

Rec. Fee: 30.00

Pages: 8

The undersigned grantor(s), [REDACTED] for themselves and their respective heirs, successors and assigns (hereinafter cumulatively referred to as "Landowner"), in consideration of the sum of one dollar (\$1.00) and other good and valuable consideration, receipt of which is hereby acknowledged, does hereby grant, convey and warrant unto **American Transmission Company LLC, a Wisconsin limited liability company**, its successors, assigns, licensees and manager, (hereinafter cumulatively referred to as "Grantee"), the perpetual right and easement to construct, install, operate, maintain, repair, replace, rebuild, remove, relocate, inspect and patrol a line of structures, comprised of wood, concrete, steel or of such material as Grantee may select, and wires, including associated appurtenances for the transmission of electric current, communication facilities and signals appurtenant thereto (hereinafter referred to as the Electric Transmission Facilities), upon, in, over and across property owned by the Landowner in the **City of Madison, County of Dane, State of Wisconsin**, described as follows:

[REDACTED]

The legal description and location of the Perpetual Easement Strip is as shown on the Exhibit B, attached hereto and incorporated by reference in this easement document.

**Name and Return Address:**

[REDACTED]

**Parcel Identification Number(s)**

[REDACTED]

The perpetual easement has the following specifications:

**PERPETUAL EASEMENT STRIP:**

Length: Approximately 178.43 feet

Width: Variable not to exceed 11.2 feet

**TRANSMISSION STRUCTURES:**

Type: Monopole

Number: None

Maximum height above existing ground level: N/A feet

**TRANSMISSION LINES:**

Maximum nominal voltage: 345,000 volts

Number of circuits: 1

Number of conductors: 3

Number of static wires: 2

Minimum height above existing landscape (ground level): 24.8 feet

The Grantee is also granted the associated perpetual and necessary rights to:

- 1) Enter upon the Perpetual Easement Strip for the purposes of fully exercising and enjoying the rights conferred by this perpetual easement; and
- 2) Trim, cut down and remove any or all brush, trees and overhanging branches now or hereafter existing in, on and over the Perpetual Easement Strip; and
- 3) Cut down and remove such dead, dying, diseased, decayed, leaning trees or tree parts now or hereafter existing on the property of the Landowner located outside of said Perpetual Easement Strip that in Grantee's judgment, may interfere with Grantee's full use of the Perpetual Easement Strip for the purposes stated herein or that pose a threat to the safe and reliable operation of the Electric Transmission Facilities; together with the right, permission and authority to enter in a reasonable manner upon the property of the Landowner adjacent to said Perpetual Easement Strip for such purpose.

The Grantee shall pay a reasonable sum for all damages to property, crops, fences, livestock, lawns, roads, fields and field tile (other than brush, trees and overhanging branches trimmed or cut down and removed from the Perpetual Easement Strip), caused by the construction, installation, operation, maintenance, repair, replacement rebuilding, relocation, inspection, patrol or removal of said Electric Transmission Facilities.

Within the Perpetual Easement Strip, and without first securing the prior written consent of the Grantee, **Landowner** agrees that they will not:

- 1) Locate any dwelling or mobile home intended for residential occupancy; or
- 2) Construct, install or erect any structures or fixtures, including but not limited to swimming pools; or
- 3) Construct any non-residential type building; or
- 4) Store flammable goods or products; or
- 5) Plant trees or shrubs; or
- 6) Place water, sewer or drainage facilities; or
- 7) Change the grade more than one (1) foot.

The parties hereto do hereby agree to the terms and conditions set forth in Exhibit "A", "B" and "C", attached hereto and incorporated by reference herein. The term "utility" in Exhibit "A" shall mean Grantee.

This perpetual easement agreement is binding, in its entirety, upon the heirs, successors and assigns of the parties hereto, and shall run with the lands described herein.

**As provided by PSC 113, the Landowner shall have a minimum period of five days to examine materials approved or provided by the Public Service Commission of Wisconsin describing the Landowner's rights and options in the easement negotiating process. The Landowner hereby voluntarily waives the five-day review period, or acknowledges that they have had at least five (5) days to review such materials.**

Landowner warrants and represents that Landowner has good title to the property described herein, free and clear from all liens and encumbrances, except: None

**The Landowner hereby accepts a lump sum payment in consideration of the grant of this perpetual easement.**

**WITNESS** the signature(s) of the Landowner this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_(SEAL)  
Signature

\_\_\_\_\_  
Printed Name  
Vendor

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_(SEAL)  
Signature

\_\_\_\_\_  
Printed Name  
Vendee

#### ACKNOWLEDGEMENT

\_\_\_\_\_

)  
) ss  
)

Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 2012, the above named \_\_\_\_\_  
\_\_\_\_\_ to me known to be the person who executed the foregoing instrument and acknowledged the same.

\_\_\_\_\_

\_\_\_\_\_

**EXHIBIT "A"**  
**[WI Sta. 182.017(7)]**

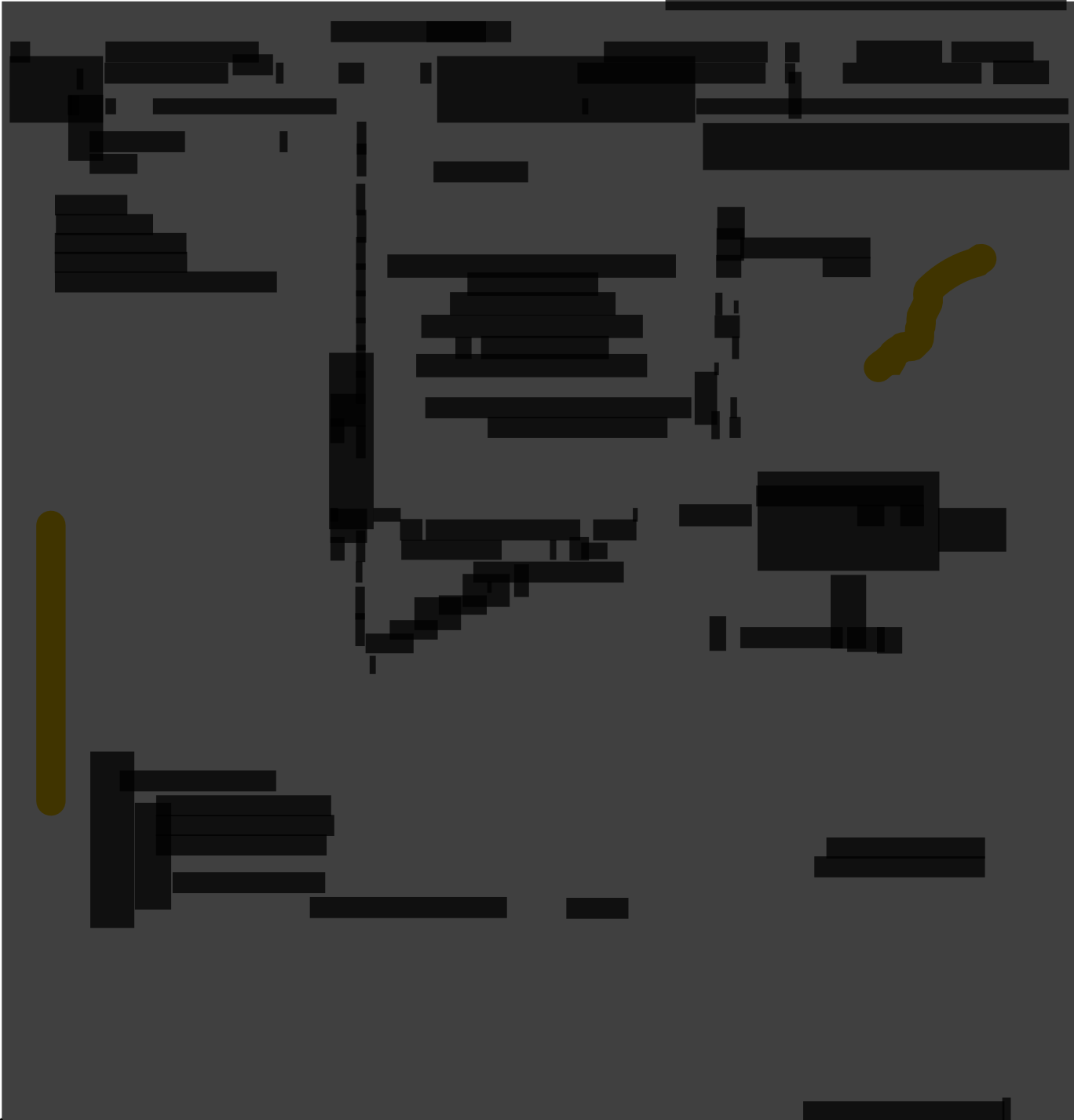
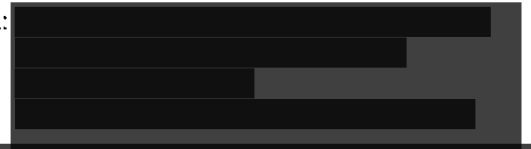
1. In constructing and maintaining high-voltage transmission lines on the property covered by the easement, the utility shall:
  - a) If excavation is necessary, ensure that the topsoil is stripped, piled and replaced upon completion of the operation.
  - b) Restore to its original condition any slope, terrace, or waterway, which is disturbed by the construction or maintenance.
  - c) Insofar as is practicable and when the landowner requests, schedule any construction work in an area used for agricultural production at times when the ground is frozen in order to prevent or reduce soil compaction.
  - d) Clear all debris and remove all stones and rocks resulting from construction activity upon completion of construction.
  - e) Satisfactorily repair to its original condition any fence damaged as a result of construction or maintenance operations. If cutting a fence is necessary, a temporary gate shall be installed. Any such gate shall be left in place at the landowner's request.
  - f) Repair any drainage tile line within the easement damaged by such construction or maintenance.
  - g) Pay for any crop damage caused by such construction or maintenance.
  - h) Supply and install any necessary grounding of a landowner's fences, machinery or buildings.
2. The utility shall control weeds and brush around the transmission line facilities. No herbicidal chemicals may be used for weed and brush control without the express written consent of the landowner. If weed and brush control is undertaken by the landowner under an agreement with the utility, the landowner shall receive from the utility a reasonable amount for such services.
3. The Landowner shall be afforded a reasonable time prior to commencement of construction to harvest any trees located within the easement boundaries, and if the Landowner fails to do so, the Landowner shall nevertheless retain title to all trees cut by the utility.
4. The Landowner shall not be responsible for any injury to persons or property caused by the design, construction or upkeep of the high-voltage transmission lines or towers.
5. The utility shall employ all reasonable measures to ensure that the landowner's television and radio reception is not adversely affected by the high-voltage transmission lines.
6. The utility may not use any lands beyond the boundaries of the easement for any purpose, including ingress to and egress from the right-of-way, without the written consent of the landowner.



# EASEMENT DESCRIPTION MAP (EXHIBIT B)

GRANTEE: AMERICAN TRANSMISSION COMPANY LLC  
 W234 N2000 RIDGEVIEW PARKWAY COURT  
 WAUKESHA, WI 53188

GRANTOR:



**AECOM**

906.228.2333  
 www.aecom.com  
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## LEGEND

- - Found Iron
- - Set 5/8" Iron W/P.S. Cap #: S-1704
- - Found Concrete Monument
- - Set Concrete Monument
- R - RECORDED
- M - MEASURED

REVISIONS

SUB  
08/03/11

Drawn : CLC

Date: 01/25/2011

Scale: 1" = 200'

PROJECT NUMBER 60143548

SHEET NUMBER 1 OF 2

S:\GPS\ATC\60102535\_ROCKDALE-CARDINAL\60143548\_ROCKDALE SEG H\Exhibit B\T07N-R09E\Section 34\K.R. KIMPORTS 167 KR KIMPORTS 167 r08-03-11.dwg: 8/3/2011 3:20 AM: BLUSE, STA

# EASEMENT DESCRIPTION MAP (EXHIBIT B)

GRANTEE: AMERICAN TRANSMISSION COMPANY LLC  
W234 N2000 RIDGEVIEW PARKWAY COURT  
WAUKESHA, WI 53188

GRANTOR: [REDACTED]

A variable width easement which crosses a part of the grantor's premises across [REDACTED]  
[REDACTED] City of Madison, Dane County, Wisconsin, described as:

[REDACTED]

[REDACTED] the grantor's West property line and the **Point of Beginning** being more particularly described as shown on sheet 1 containing **0.030** Acres +/- and subject to restrictions, reservations, rights of way, and easements of record.

NOTE: BEARINGS BASED UPON THE WISCONSIN STATE PLANE COORDINATE SYSTEM [REDACTED]

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## LEGEND

- - Found Iron
- - Set 5/8" Iron W/P.S. Cap #: S-1704
- - Found Concrete Monument
- - Set Concrete Monument
- R - RECORDED
- M - MEASURED

REVISIONS

SJB  
08/03/11

Drawn : CLC

Date: 01/25/2011

Scale: N/A

PROJECT NUMBER 60143548

SHEET NUMBER 2 OF 2

S:\GPS\ATC\60102535...ROCKDALE-CARDINAL\60143548...ROCKDALE-CARDINAL\_SEG H\Exhibit B\T07N-R09E\Section 34\K.R. KIMPORTS 167.dwg: 8 2011 10:57:15 AM: BLUSE, STACEY

## EXHIBIT "C"

## CERTIFICATE OF COMPENSATION

## SECTION 32.06 (2a) WISCONSIN STATS.

DATED THIS [REDACTED] DAY OF [REDACTED], [REDACTED].

Pursuant to Section 32.06(2a) notice is hereby given of the acquisition of a certain Perpetual Easement attached hereto and made a part hereof by this reference. The names of all persons or parties having an interest of record in the property affected by such Perpetual Easement immediately prior to the acquisition of the Perpetual Easement are the following:

Landowner: [REDACTED]

Mortgagee(s): [REDACTED]

Land Contract Vendor(s): [REDACTED]

Others: None

Such Perpetual Easement grants unto Grantee, its successors and assigns, licensees and manager the right, permission and authority to construct, install, operate, maintain, repair, replace, rebuild, remove, relocate, inspect and patrol (an) electric transmission line(s) for the purpose of transmitting electric energy, communications and signals upon, in, over and across the Perpetual Easement Strip as described on the instrument to which this exhibit is attached.

The total consideration paid for such Perpetual Easement was \$ [REDACTED]

## NOTICE OF RIGHT OF APPEAL

In accordance with Section 32.06(2a) Wisconsin Stats., any of the above named persons or parties shall have six (6) months from the date of the recording of this certificate to appeal the amount of compensation herein stated by filing a petition with the Judge of the Circuit Court of Dane County, Wisconsin, who shall assign the matter to the Chairperson of the County Condemnation Commissioners for hearing under Sec. 32.06(8). Notification of such petition shall be made to all persons or parties having an interest of record in the above property, and the procedures prescribed under Secs. 32.06(9)(a) and (b), 32.06(10), 32.06(12); and Chs. 808 and 809 shall govern such appeals.

This instrument drafted by [REDACTED] on behalf of American Transmission Company, PO Box 47, Waukesha, Wisconsin 53187-0047.

[REDACTED] [REDACTED]

**NOTICE TO LANDOWNER****Section 32.06 Wis. Stats.**

The undersigned acknowledges receipt of the following information that the AMERICAN TRANSMISSION COMPANY (ATC) is required to provide according to Chapter 32.06(2a) of the Wisconsin Statutes.

1. A list of at least 10 neighboring landowners (or a list of all offerees if less than 10 owners are affected) to whom offers to purchase are being made by ATC.
2. A map showing all property affected by the project.
3. A pamphlet prepared by the Wisconsin Department of Commerce under Section 32.26(6) Wisconsin Statutes.
4. A real estate appraisal prepared by [REDACTED] dated [REDACTED].

The undersigned also acknowledges receipt of a copy of the easement sought to be acquired by the AMERICAN TRANSMISSION COMPANY.

Upon request, the American Transmission Company will provide you with the name of the owner of any other property, which may be acquired for this project. Upon request, you may examine any maps in the possession of the American Transmission Company showing property affected by this project. You may obtain copies of such maps by tendering to the American Transmission Company the reasonable and necessary costs of preparing such copies.

Received this

[REDACTED]

Landowner

Signature

Printed Name

Signature:

Printed Name:

**AFFIDAVIT OF SERVICE**

STATE OF WISCONSIN )  
COUNTY OF \_\_\_\_\_ )

\_\_\_\_\_, being first duly sworn, on oath deposes and says that he or she is an adult resident of the \_\_\_\_\_ of \_\_\_\_\_, County of \_\_\_\_\_, Wisconsin, employed by ATC Management Inc., Corporate Manager of American Transmission Company LLC, W234 N2000 Ridgeview Parkway Court Waukesha, Wisconsin.

That on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, he or she served the foregoing Notice upon \_\_\_\_\_ at \_\_\_\_\_, by delivering to said person(s) and leaving with them a true copy thereof.

Signature of Affiant

Printed Name

Subscribed and sworn to before me  
this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Notary Public, State of Wisconsin

My Commission expires (is): \_\_\_\_\_

**NOTICE TO LANDOWNER****Section 32.06 Wis. Stats.**

The undersigned acknowledges receipt of the following information that the AMERICAN TRANSMISSION COMPANY (ATC) is required to provide according to Chapter 32.06(2a) of the Wisconsin Statutes.

1. A list of at least 10 neighboring landowners (or a list of all offerees if less than 10 owners are affected) to whom offers to purchase are being made by ATC.
2. A map showing all property affected by the project.
3. A pamphlet prepared by the Wisconsin Department of Commerce under Section 32.26(6) Wisconsin Statutes.
4. A pamphlet prepared by the Public Service Commission of Wisconsin under Wis. Admin. Code PSC § 113.0509.
5. A real estate appraisal prepared by [REDACTED] dated [REDACTED].

The undersigned also acknowledges receipt of a copy of the easement sought to be acquired by the AMERICAN TRANSMISSION COMPANY LLC.

Upon request, the American Transmission Company will provide you with the name of the owner of any other property, which may be acquired for this project. Upon request, you may examine any maps in the possession of the American Transmission Company showing property affected by this project. You may obtain copies of such maps by tendering to the American Transmission Company the reasonable and necessary costs of preparing such copies.

Received this [REDACTED] day of [REDACTED], [REDACTED]

Landowner

Signature: [REDACTED]

Printed Name: [REDACTED]

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

**AFFIDAVIT OF SERVICE**

STATE OF WISCONSIN )

COUNTY OF \_\_\_\_\_ )

\_\_\_\_\_, being first duly sworn, on oath deposes and says that he or she is an adult resident of the \_\_\_\_\_ of \_\_\_\_\_, County of \_\_\_\_\_, Wisconsin, working on behalf of American Transmission Company LLC, W234 N2000 Ridgeview Parkway Court, Waukesha, Wisconsin.

That on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, he or she served the foregoing Notice upon \_\_\_\_\_ at \_\_\_\_\_, by delivering to said person(s) and leaving with them a true copy thereof.

Signature of Affiant \_\_\_\_\_

Printed Name \_\_\_\_\_

Subscribed and sworn to before me  
this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Notary Public, State of Wisconsin

My Commission expires (is): \_\_\_\_\_



**NOTICE TO LANDOWNER**Section 32.06 Wis. Stats.

The undersigned acknowledges receipt of the following information that the AMERICAN TRANSMISSION COMPANY (ATC) is required to provide according to Chapter 32.06(2a) of the Wisconsin Statutes.

1. A list of at least 10 neighboring landowners (or a list of all offerees if less than 10 owners are affected) to whom offers to purchase are being made by ATC.
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3. A pamphlet prepared by the Wisconsin Department of Commerce under Section 32.26(6) Wisconsin Statutes.
4. A pamphlet prepared by the Public Service Commission of Wisconsin under Wis. Admin. Code PSC § 113.0509.
5. A real estate appraisal prepared by [REDACTED] dated [REDACTED].

The undersigned also acknowledges receipt of a copy of the easement sought to be acquired by the AMERICAN TRANSMISSION COMPANY LLC.

Upon request, the American Transmission Company will provide you with the name of the owner of any other property, which may be acquired for this project. Upon request, you may examine any maps in the possession of the American Transmission Company showing property affected by this project. You may obtain copies of such maps by tendering to the American Transmission Company the reasonable and necessary costs of preparing such copies.

Received this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ K.R. Kimport Investment Company, unrecorded Land Contract Vendor

Landowner

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

**AFFIDAVIT OF SERVICE**

[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED], being first duly sworn, on oath deposes and says that he or she is an adult resident of the [REDACTED] of [REDACTED], County of [REDACTED], Wisconsin, working on behalf of American Transmission Company LLC, W234 N2000 Ridgeview Parkway Court, Waukesha, Wisconsin.

That on the [REDACTED] day of [REDACTED], [REDACTED], he or she served the foregoing Notice upon [REDACTED] at [REDACTED] (by delivering to said person(s) and leaving with them a true copy thereof.



## Avian Risk Review

Cardinal-Hickory-Creek 345-kV  
Transmission Line project

**CONFIDENTIAL**

November 16, 2018

Prepared for:

American Transmission Company  
5303 Fen Oak Drive  
Madison, WI 53718-8810

Prepared by:

Stantec Consulting Services Inc.  
209 Commerce Parkway, PO Box 128  
Cottage Grove, WI 53527

## Table of Contents

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2.0</b>	<b>POTENTIAL AVIAN IMPACTS EVALUATED .....</b>	<b>1</b>
2.1	ELECTROCUTION.....	1
2.2	COLLISION .....	1
<b>3.0</b>	<b>METHODS .....</b>	<b>2</b>
<b>4.0</b>	<b>RESULTS .....</b>	<b>3</b>
<b>5.0</b>	<b>CONCLUSIONS.....</b>	<b>6</b>
<b>6.0</b>	<b>REFERENCES.....</b>	<b>7</b>

## LIST OF TABLES

Table 1. Summary of areas identified along the proposed route segments of the Cardinal-Hickory Creek 345-kV Transmission Line Project that may pose avian collision risk.....	5
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## LIST OF FIGURES

- Figure 1. Project Overview
- Figure 2. Landscape Features (Confidential)
- Figure 3. Avian Risk Review Results



## 1.0 INTRODUCTION

American Transmission Company (ATC) requested that Stantec Consulting Inc, ("Stantec") conduct a review of avian risk along the proposed route segments of the Cardinal-Hickory Creek (CHC) 345-kV Transmission Line project (the "Project") in Wisconsin. The Project is a new 345-kV transmission line connecting the Hickory Creek Substation in Dubuque County, Iowa with the Cardinal Substation in Dane County, Wisconsin. The Project's proposed route segments extend through Grant, Lafayette, Iowa, and Dane counties, Wisconsin, as well as Dubuque and Clayton counties, Iowa (Figure 1). Further, it includes a new intermediate 345/138-kV substation near the Village of Montfort in either Grant or Iowa County, Wisconsin. Some portions of the 345-kV line may be double circuited with existing lines along certain routes. In other areas the Project would result in new cleared right-of-way (ROW) or expansion of the existing transmission line or road ROW. The total anticipated length of the 345-kV transmission line is approximately 102 to 120 miles.

The purpose of this avian risk review is to identify areas along the Project's proposed route segments where avian electrocutions or collisions have a higher likelihood to occur relative to other portions of the Project. This review draws upon current knowledge of avian and transmission line interactions, as well as an analysis of the biological and environmental features within and adjacent to the Project's proposed route segments that may influence avian risk. The review is a desktop assessment that focuses on the Wisconsin portion of the Project (beginning where it crosses the Mississippi River from Iowa) and relies primarily on publicly available data sources. The results of the review are intended to be used for project planning and considerations for risk mitigation strategies.

## 2.0 POTENTIAL AVIAN IMPACTS EVALUATED

The avian impacts evaluated in this review include electrocution and collision, both of which are potential risks that the overhead power lines may pose to birds. The following sub-sections describe each of these potential impacts and the ways in which they were considered or evaluated for the Project.

### 2.1 ELECTROCUTION

Electrocutions on overhead power lines and structures occur when birds make phase-to-phase or phase-to-ground contact. Generally, the likelihood of electrocutions on transmission lines with voltages greater than 60-kV is low because the phase-to-phase or phase-to-ground separation distances are typically greater than 60 inches, the recommended minimum for avian safety (APLIC 2006). Project construction and structure configurations for this project will be avian safe and will exceed the minimum separation distances. As such, the Project's 345-kV transmission line is not anticipated to cause avian electrocutions. Electrocution risk associated with this project is not considered or discussed further within this review.

### 2.2 COLLISION

Factors influencing bird collision risk include characteristics of species-specific biology, the local environment, and project siting and design (APLIC 2012). These characteristics are summarized below, along with the approach used to evaluate how they individually and collectively contribute to collision risk. Following the summary of characteristics is a description of the methods and data sources used to identify areas along the Project's proposed route segments that are likely to pose an increased collision risk for birds.

Bird species characteristics that influence collision risk include body size, flight behavior, flocking behavior, daily activity patterns, and habitat use (APLIC 2012). Large, heavy-bodied birds like herons, cranes, pelicans, and swans tend to have large wing spans and lack the ability to quickly maneuver around obstacles such as overhead power lines. Aspects of flight behavior, such as altitude and speed, are key factors that affect bird collision risk. For example, ducks tend to fly low and fast, putting them at increased risk of collision, whereas raptors tend to fly or soar slowly at varying heights. The tendency for some bird species or groups to flock also affects risk of collision. Geese, shorebirds, and pelicans that congregate and travel in large flocks have reduced ability to recognize, negotiate, and avoid obstacles such as overhead power lines. The daily timing of behavioral activities (e.g., local foraging movement) can affect collision risk for bird species or groups. Birds that tend to be most active before sunrise and after dusk may be at increased risk of collision due to low light conditions. Furthermore, adverse weather conditions (e.g., fog and wind) can concur with peak activity, potentially compounding collision risk. Lastly, habitat use has a marked influence on exposing birds to collisions. Birds associated with breeding sites such as heron rookeries and colonial water bird islands may be more susceptible to increased collision risk. Similarly, important migratory stopover habitats, such as river pools, emergent marshes, and floodplain forests tend to experience increased use by birds during spring and fall migrations, potentially causing increased collision risk. The juxtaposition of and travel between foraging and roosting habitats may also increase risk of collision with transmission lines.

Environmental characteristics that influence bird collision risks include weather conditions, land use, human disturbance, and surrounding topography and vegetative cover (APLIC 2012). Inclement weather such as fog, precipitation, dense clouds, low cloud ceiling, or high winds can increase the probability of collisions by causing birds to decrease their flight altitudes and/or lose control of flight. Surrounding land use can affect the attractiveness of habitats near the transmission line. Agricultural fields, cooling ponds, thermal discharge locations, landfills, and wildlife refuge areas (e.g., areas with restricted access or hunting) may attract increased abundance of birds. Alternatively, other land uses may cause disturbance to birds near the transmission line. Human disturbances that cause panicked birds to flush near transmission lines can increase probability of collisions. Such disturbances could include hunting and other recreation, agricultural practices, and boat, vehicle, and railroad traffic. Surrounding topography and vegetative cover may shield transmission lines and reduce the likelihood of collision risk as birds respond to these landscape features.

Siting and design characteristics that influence collision risk include structure height, placement, orientation, and configuration of lines (APLIC 2012). Transmission lines located near high bird-use areas (specifically, areas used by large, heavy bodied birds), concentrated flight paths, and topographic and vegetation features may present increased collision risk. Lines parallel to primary flight paths are less likely to cause bird collisions than perpendicular lines. Configuration of transmission lines and shield wires may influence collision risk, such that horizontal configurations generally present lower risk compared to vertical configurations.

### 3.0 METHODS

A desktop review was conducted to determine which portions of the Project's proposed route segments have features or characteristics within or near the ROW that may influence collision risk and warrant further consideration for possible mitigation strategies. The assessment focused specifically on high avian use areas, known or potential flyways, and large wetland complexes where daily or seasonal concentrated bird movements could occur perpendicular to the Project's proposed route segments. The primary bird groups considered in the assessment include ducks, geese, swans, herons, egrets, bitterns, pelicans, cranes, and rails as these bird groups are most susceptible to collisions due to their behavior, habitat use, and body and flight characteristics. Known nearby bald eagle nest and heron rookery sites were also considered.

The analysis included a review of designated Important Bird Areas (IBAs) intersected by or within close proximity to the Project's proposed route segments. The analysis also included the development and review of two map sets that depict local and regional features likely to concentrate birds along portions of the Project's proposed route segments. Figure 2 shows important avian resources and features at the landscape level (e.g., land cover, topography, IBAs, known bald eagle nest and heron rookery sites, state and federal resource lands, water features, and other conservation lands). Figure 3 includes an orthophotography base map and displays wetlands, water features, and IBAs. Spatial data sources used in the analysis include Natural Heritage Inventory data (bald eagle nest and bird rookery locations), WDNR 24k Hydrography, Wisconsin Wetland Inventory, National Land Cover Database, Important Bird Areas, and protected areas data (USGS 2016, NCED 2016, WDNR 2017, WDNR 2018, Steele 2007, Homer et al. 2011). Each IBA and its known influence on bird use and abundance of species known to be at risk of collision with overhead power lines is described in the results section below. Specific areas identified as potential avian collision risk are shown on Figures 2 and 3 and summarized in Table 1 in the results section below.

## 4.0 RESULTS

Portions of four IBAs are intersected by one or more of the Project's proposed route segments and another IBA occurs immediately adjacent to one of the Project's proposed route segments. The IBA program is part of an international effort to identify and conserve sites that hold high opportunity for the conservation and management of priority birds and habitats. Important Bird Areas are designated sites that provide essential habitat for breeding or migratory bird species. They vary in size but provide important habitat or ornithological significance that differs from the overall landscape within which they are found. They contribute to bird conservation through support of rare and vulnerable species such as: endangered, threatened or special concern species; species whose populations are concentrated in certain habitat types; species with limited distributions; and species that congregate for breeding, feeding, roosting or migration. The identification of a site as an IBA does not carry any legal status or regulatory requirements on its own; however, several IBAs are protected or managed for bird conservation through some other program or recognition (e.g., state wildlife area or national wildlife refuge). In Wisconsin, the IBA program is run by the Wisconsin Bird Conservation Initiative. Each of the five IBAs referenced above are summarized below and include a determination regarding the risk of avian collision along the proposed route segments that intersect them or occur adjacent to them.

### *Site 3629 Upper Mississippi/Trempealeau NF&W Refuges IBA*

The Upper Mississippi/Trempealeau NF&W Refuges IBA is a 194,000-acre area traversing through eight counties in west and southwestern Wisconsin. It spans from the confluence of the Mississippi and Chippewa Rivers south to Grant County (Pools 4 to 11). This area includes a diversity of floodplain forest, forested wetlands, riverine wetlands, bluffs, braided channels, open water, and prairie. The Mississippi River is a major continental flyway, heavily used by waterbirds and landbirds as a corridor and stopover habitat during migration. Forests, wetlands, and grasslands support significant breeding populations for many species, including waterbirds, raptors, and interior forest birds. Several of the Project's proposed route segments cross the Mississippi River and intersect the Upper Mississippi/Trempealeau NF&W Refuges IBA (Figure 3, Page 1; Steele 2007). Given the described habitat and documented use by specific avian groups (i.e., waterbirds and raptors), the proposed route segments that intersect this IBA pose an increased risk of avian collision relative to other segments. Additional information regarding these route segments is included in Table 1 below.

### *Site 3637 Wyalusing to Nelson Dewey IBA*

The Wyalusing to Nelson Dewey IBA is characterized by forested bluffs and floodplains, oak savanna, planted prairie, and cool-season grasslands. The area supports high breeding populations of interior forest birds. In addition, red-shouldered hawks have

been observed in the IBA and other raptors, including golden eagles, use this area during the migration and winter seasons (Steele 2007). Portions of the Project's proposed route segment intersect the southernmost boundary of this IBA immediately northeast of the Mississippi River crossing in Grant County (Figure 3, Page 1). Small portions of the routes that intersect with this IBA are considered to present an increased avian collision risk relative to other route segments. See Table 1 below for additional information.

*Site 3639 Governor Dodge State Park IBA*

The Governor Dodge State Park IBA is characterized by bluffs and ravines, and contains various habitats, including shrublands, forests, restored prairie, and grasslands. Three impoundments formed by dammed streams are located within the IBA and provide habitat for waterbirds. This IBA harbors a diversity of habitats that primarily support populations of forest, shrub, and grassland birds. A portion of the one of segments along the Alternate Route passes along the northern boundary of the Governor Dodge State Park IBA in Iowa County (Figure 3, Page 14; Steele 2007). This portion of the IBA is characterized by deciduous forest and primarily used by bird species and bird groups that are less likely to collide with overheard power lines (i.e., interior forest songbirds). The portion of this proposed segment along the Alternative Route that is adjacent to the Governor Dodge State Park IBA is not anticipated to pose an increased collision risk relative to other proposed route segments.

*Site 3990 Pecatonica River Prairie IBA*

The Pecatonica River Prairie IBA encompasses the upper range of the Pecatonica River watershed and is generally rolling in topography carved out by a network of streams. Historically, this site was the core of the largest prairie system in Wisconsin but has since been converted into agricultural land. Present ecosystems include native prairie remnants, wooded savanna, pastured floodplain, sedge meadow, and cropland. This IBA provides important grassland bird habitat and is part of a landscape-scale project focused on protecting savanna, grassland, and stream ecosystems. A portion of the Preferred Route is adjacent to the northern boundary of the Pecatonica River Prairie IBA in Iowa County (Figure 3, Page 18), and a portion of the Other Route Segments traverse through the Pecatonica River Prairie IBA in Iowa County (Figure 3, Page 18; Steele 2007). Relative to other bird groups, grassland birds as a group do not tend to be at increased risk for colliding with overhead power lines. Because this IBA's primary focus is on grassland bird species, the proposed route segments that intersect or parallel the IBA are not anticipated to pose an increased collision risk relative to other proposed route segments.

*Site 3638 Military Ridge-York Prairie IBA*

The Military Ridge-York Prairie IBA contains a concentration of prairie remnants on slopes, as well as savanna, shrub, woodland, and riparian habitats. It provides high quality grassland bird habitat and is part of a landscape-scale project focused on protecting savanna, grassland, and stream ecosystems. Portions of a segment along the Project's Preferred Route traverses through the northern part of the Military Ridge-York Prairie IBA in Iowa County (Figure 3, Page 19-21). Additionally, a small portion of Other Route Segments intersect the IBA in Iowa County (Figure 3, Page 20; Steele 2007). Similar to the Pecatonica River Prairie IBA above, the proposed route segments that intersect the Military Ridge-York Prairie IBA are not anticipated to pose an increased collision risk because its' primary focus is on grassland birds – a species group that is not typically considered to be high risk for collisions with overhead power lines.

In addition to reviewing the proposed route segments that intersect or pass along IBAs, all proposed route segments were reviewed and considered for their potential to pose an increased avian collision risk. A total of ten distinct locations representing approximately 48,933 feet along the Project were identified as potential avian collision risk areas. All proposed routes segments crossing the Mississippi River, through the Upper Mississippi/Trempealeau NF&W Refuges IBA, were identified to have an increased risk of avian collision (Figure 3, Page 1). Each of the areas identified along the proposed route segments is described in Table 1 and depicted on Figures 2 and 3.

**Table 1. Summary of areas identified along the proposed route segments of the Cardinal-Hickory Creek 345-kV Transmission Line Project that may pose avian collision risk.**

Route Segment(s)	Route	Fig. 3 Map Page	Potential Avian Collision Risk Areas	Approx. Length (feet)	Characteristics and factors contributing to avian collision risk
A01B A02 B-IA2	Preferred Route	1	360th Street (B-IA2) to intersection with County Hwy VV	7,145	Mississippi River, ponds, backwaters, wetlands, and bald eagle nest locations; Upper Mississippi/Trempealeau NF&W Refuges IBA
C02A C02B	Alternate Route	1	Stateline to intersection with County Hwy VV	1,229	
A01A B-IA	Common Route Segments	1	360th Street (B-IA) to north end of A01A	7,173	
B01 B02 C-IA A01C	Other Route Segments	1	360th Street (C-IA) to Jack Oak Road; A01C (entire segment)	9,904	
D04	Preferred Route	2	From western intersection of waterway (south of Rattlesnake Rd) to northern intersection of waterway, near T3N R5W/R4W boundary	4,263	Rattlesnake Creek and wetlands
D04	Preferred Route	2, 3	From westernmost to easternmost intersections of Grant River	3,900	Grant River and known bald eagle nest locations
D04	Preferred Route	3	Area along pond and waterway crossing	1,058	Pigeon Creek, pond, and wetlands
D08	Preferred Route	5	Area along waterway and bald eagle nest location	4,258	Platte River and bald eagle nest location
E16	Alternate Route	8	Area that spans across waterway crossing and wetland complex to Big Platte Road	1,771	Platte River, wetlands, and bald eagle nest location
P09	Alternate Route	15	Intersection with Mill Creek southeast to end of private drive	2,979	Mill Creek, pond, and wetlands (Wetlands Reserve Program)
P09	Alternate Route	15, 16	County Hwy K to edge of forest	2,488	Wetlands Reserve Program wetlands
P09	Alternate Route	16	Area that spans waterway crossing and wetland complex	1,416	East Branch Blue Mounds Creek, wetlands (Wetlands Reserve Program), and Pleasant Valley Conservancy

Route Segment(s)	Route	Fig. 3 Map Page	Potential Avian Collision Risk Areas	Approx. Length (feet)	Characteristics and factors contributing to avian collision risk
Y01A Y01B	Common Route Segments	22	Area along open waterbody	1,349	Sand and gravel quarry filled with water

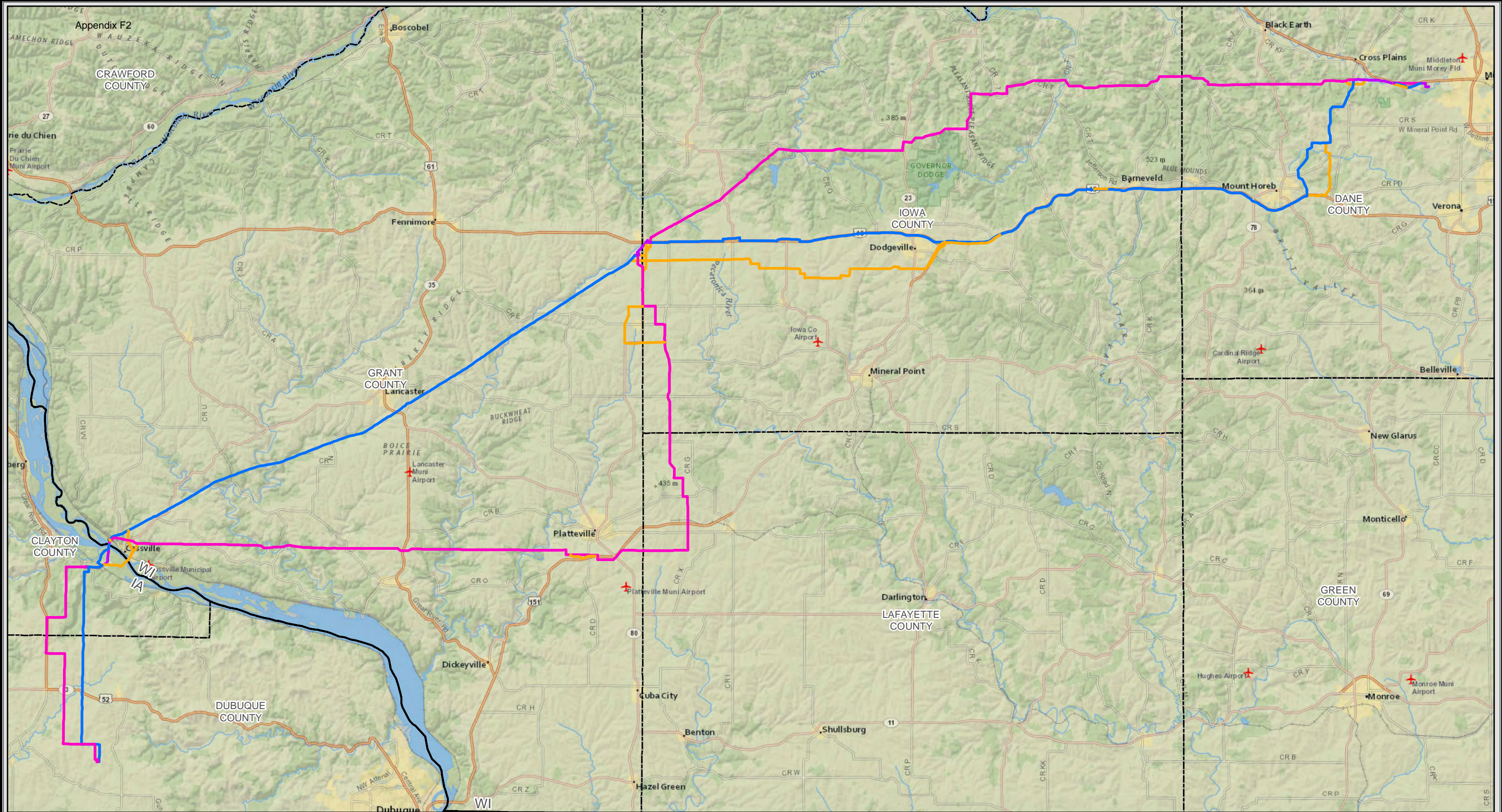
## 5.0 CONCLUSIONS

Overhead electric power lines and associated infrastructure (e.g., substations) can pose risks to birds that may result in accidental injury or death. Electrocutions can occur on overhead power lines when birds make phase-to-phase or phase-to-ground contact, and collisions can occur when overhead lines present an obstacle to flying birds. We conducted a review of electrocution and collision risks to birds along the proposed route segments of the Cardinal-Hickory Creek 345-kV Transmission Line Project. Because the Project's phase-to-phase or phase-to-ground separation distances will be greater than 60 inches, we do not anticipate the Project presenting an electrocution risk to birds. In terms of collision risk, we identified ten areas likely to pose an increased collision risk to birds relative to other portions of the Project's proposed route segments (Table 1, Figures 2 and 3). The results of this desktop review can be used for planning purposes and consideration of mitigation strategies to minimize potential collision impacts to birds. Should a route be ordered, further investigation of the selected route segments and corresponding span data, site specific environmental features (e.g., adjacent tree heights), nearby element occurrence records of listed bird species, and information regarding existing transmission infrastructure in shared corridors of the Project is recommended to support decisions on mitigation strategies to minimization potential avian impacts. We recommend following the guidance and strategies outlined by the Avian Power Line Interaction Committee.

## 6.0 REFERENCES

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#### Legend

- Preferred Route
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Miles



## FIGURE 1. PROJECT OVERVIEW

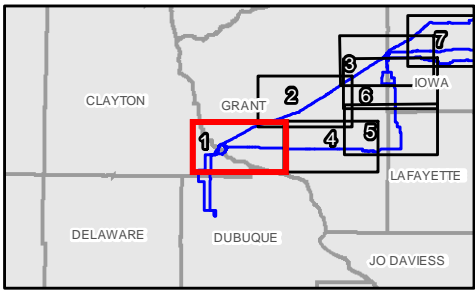
### CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 1 OF 1

FIGURE 1. PROJECT OVERVIEW





Legend

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- Potential Avian Collision Risk
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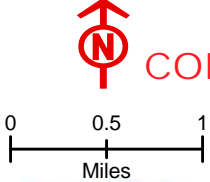
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FIGURE 2. LANDSCAPE FEATURES

CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018 PAGE 1 OF 9

FIGURE 2. LANDSCAPE FEATURES

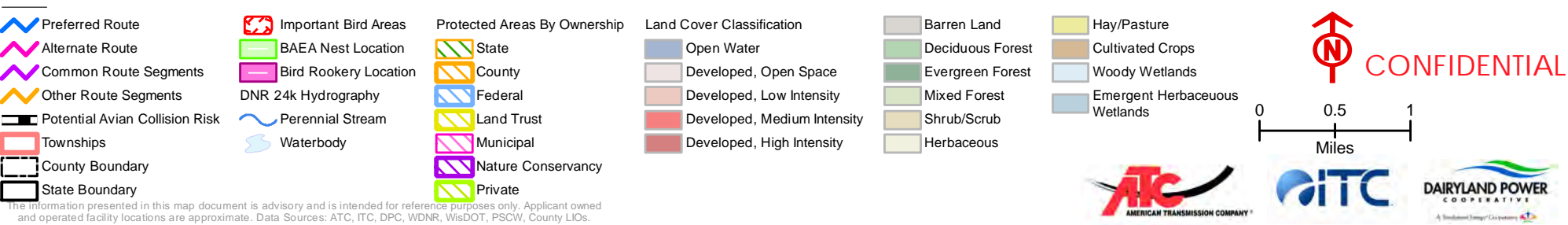
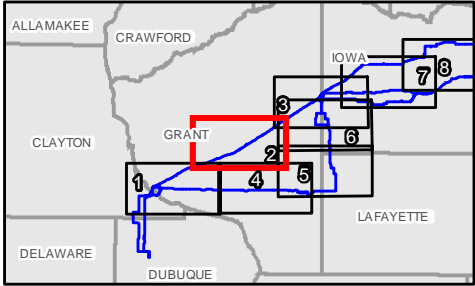
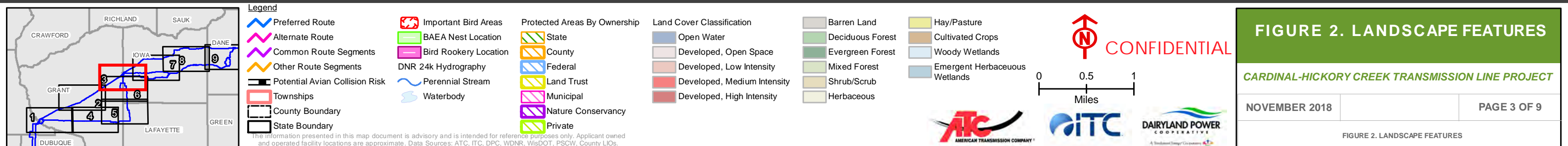


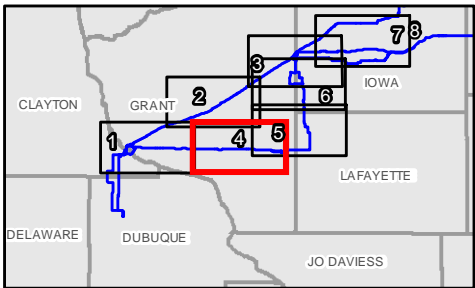
FIGURE 2. LANDSCAPE FEATURES

CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018		PAGE 2 OF 9
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FIGURE 2. LANDSCAPE FEATURES





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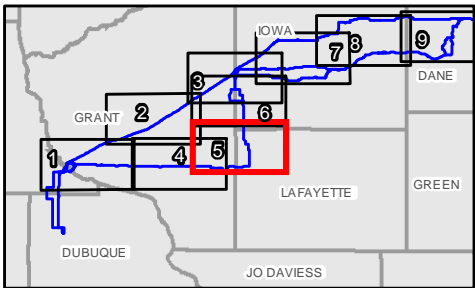


FIGURE 2. LANDSCAPE FEATURES

CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018 PAGE 4 OF 9

FIGURE 2. LANDSCAPE FEATURES



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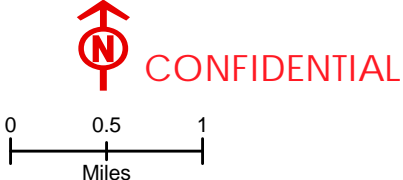


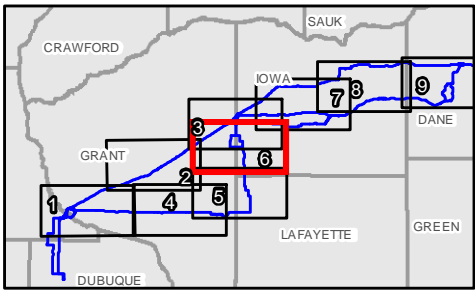
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CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 5 OF 9

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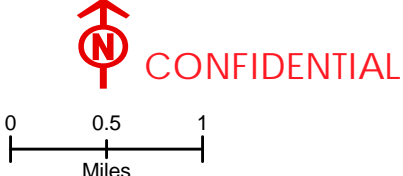


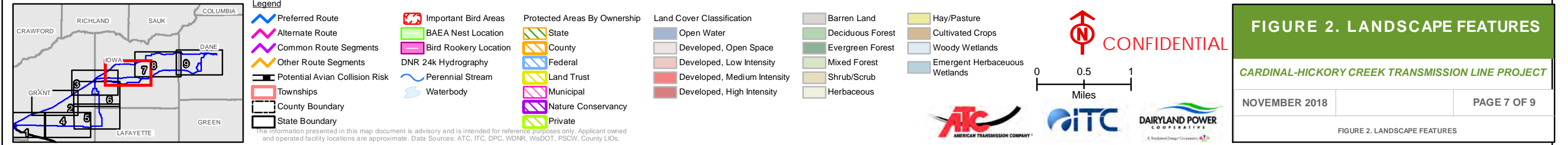
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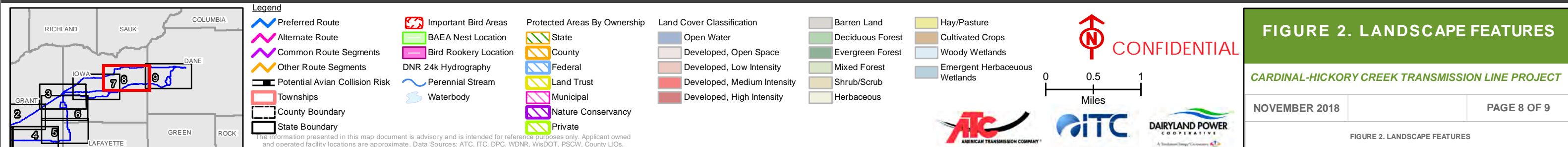
CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

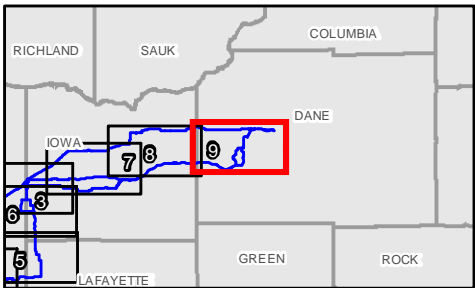
PAGE 6 OF 9

FIGURE 2. LANDSCAPE FEATURES









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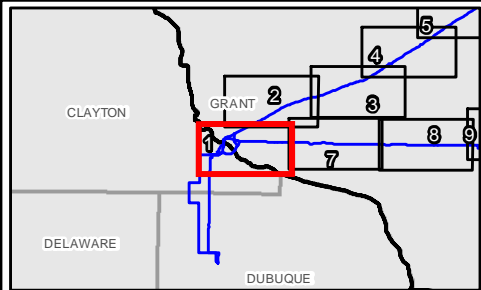
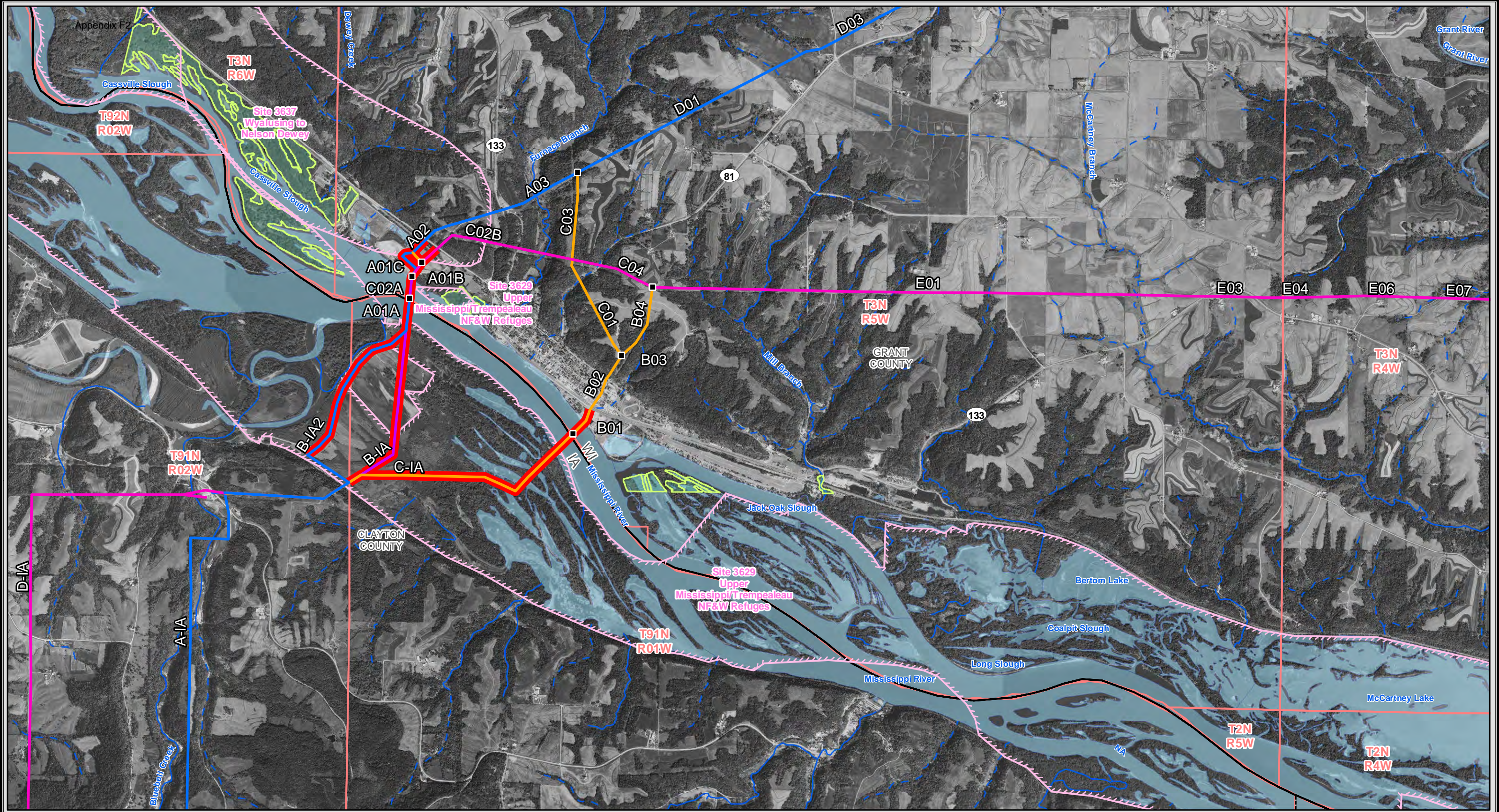
CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 9 OF 9

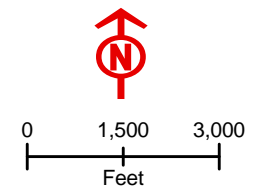
FIGURE 2. LANDSCAPE FEATURES





- Legend**
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**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

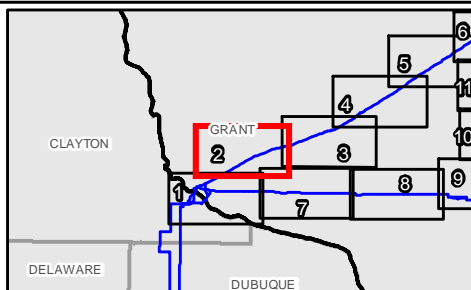
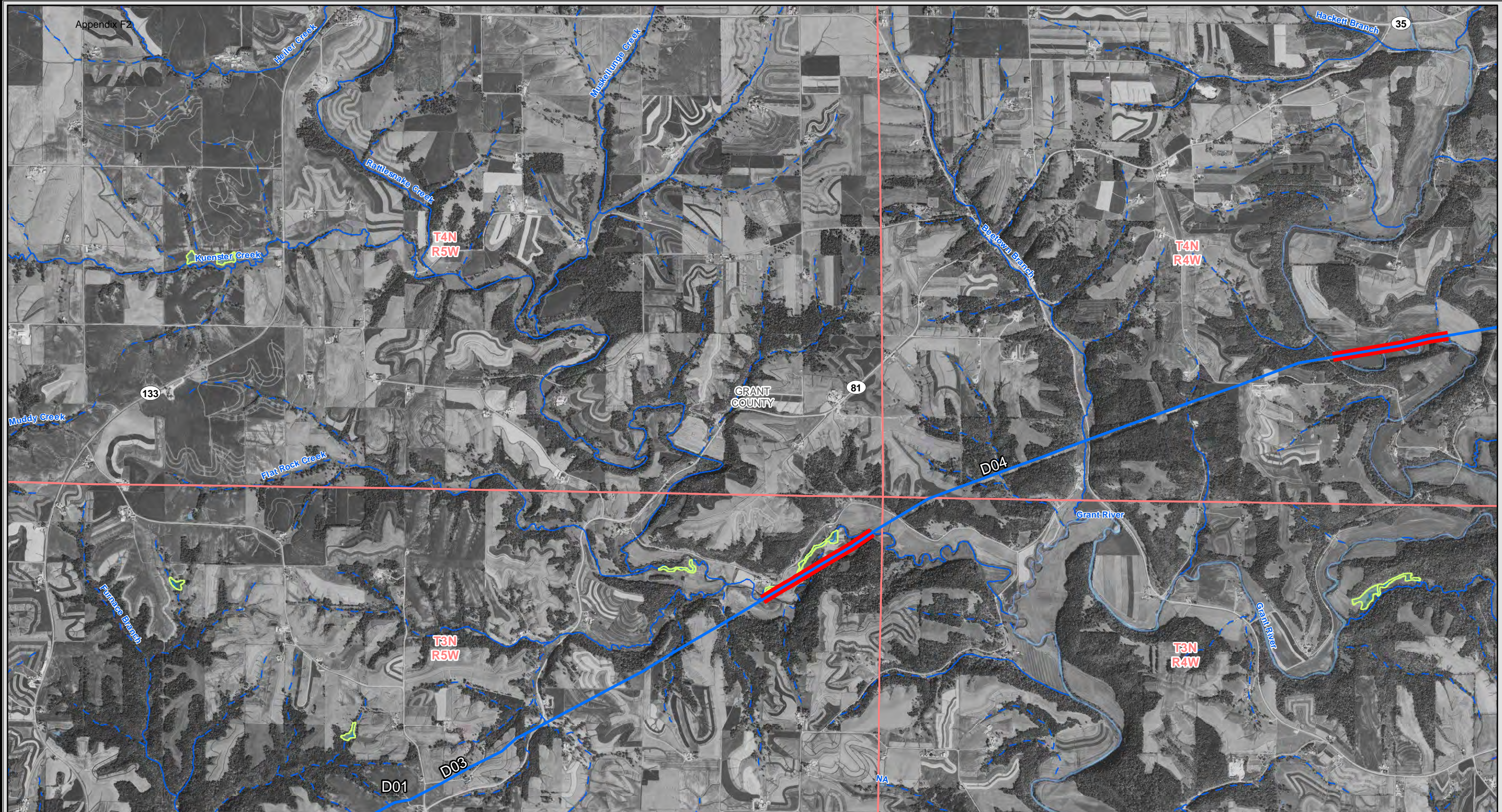
NOVEMBER 2018

PAGE 1 OF 21

FIGURE 3.

PRELIMINARY AVIAN RISK REVIEW





**Legend**

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AVIAN RISK REVIEW RESULTS**

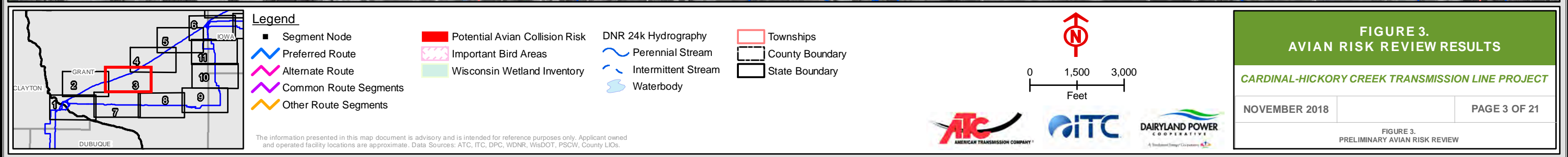
**CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT**

NOVEMBER 2018

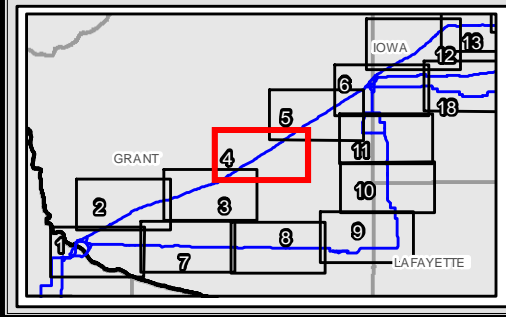
PAGE 2 OF 21

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW









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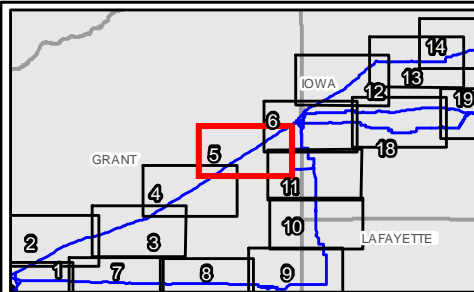
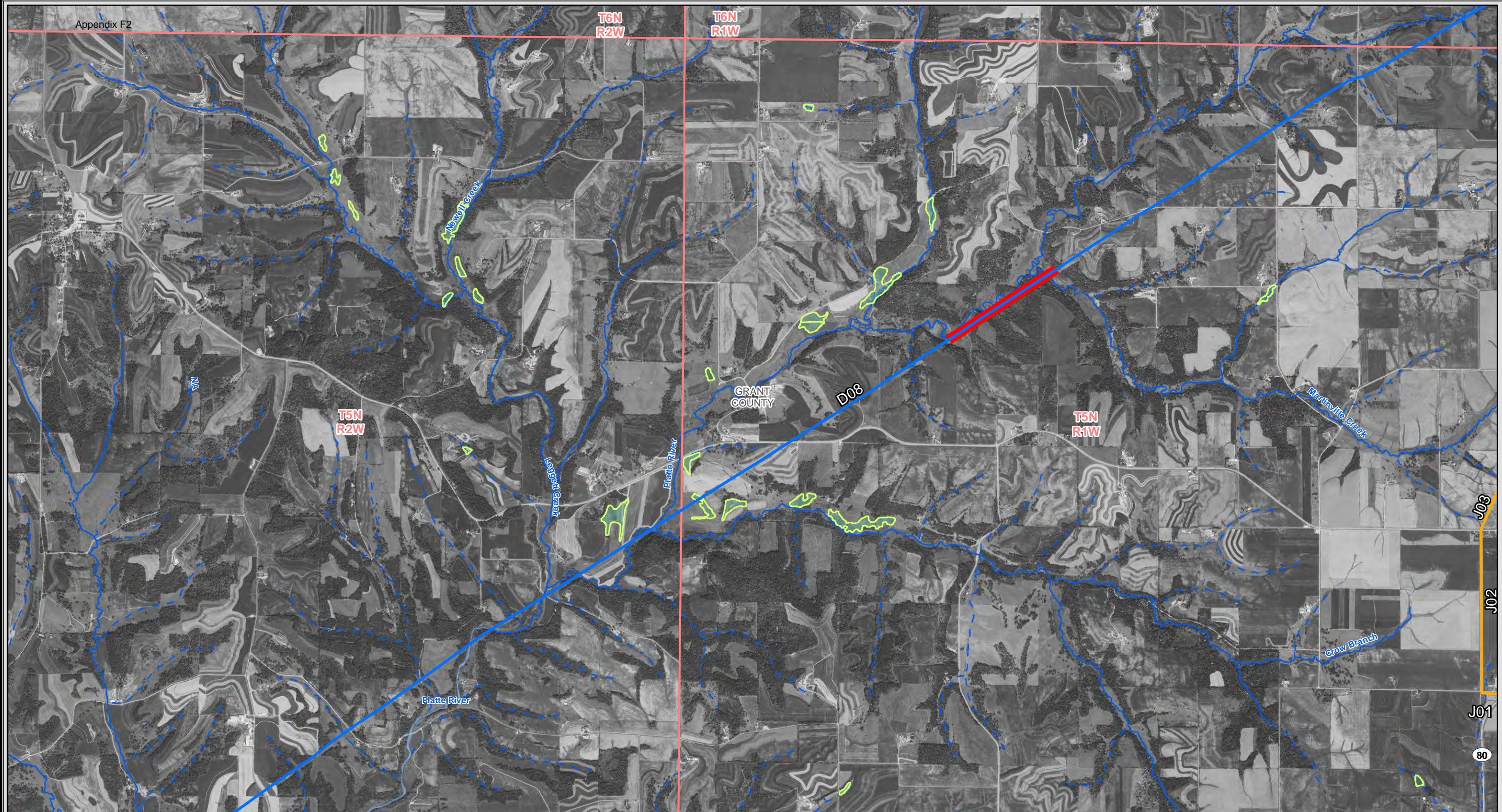
**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

*CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT*

NOVEMBER 2018	PAGE 4 OF 21
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FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





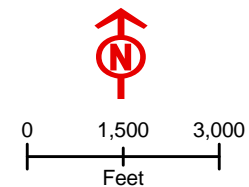
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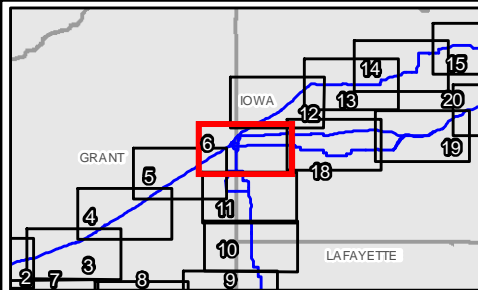
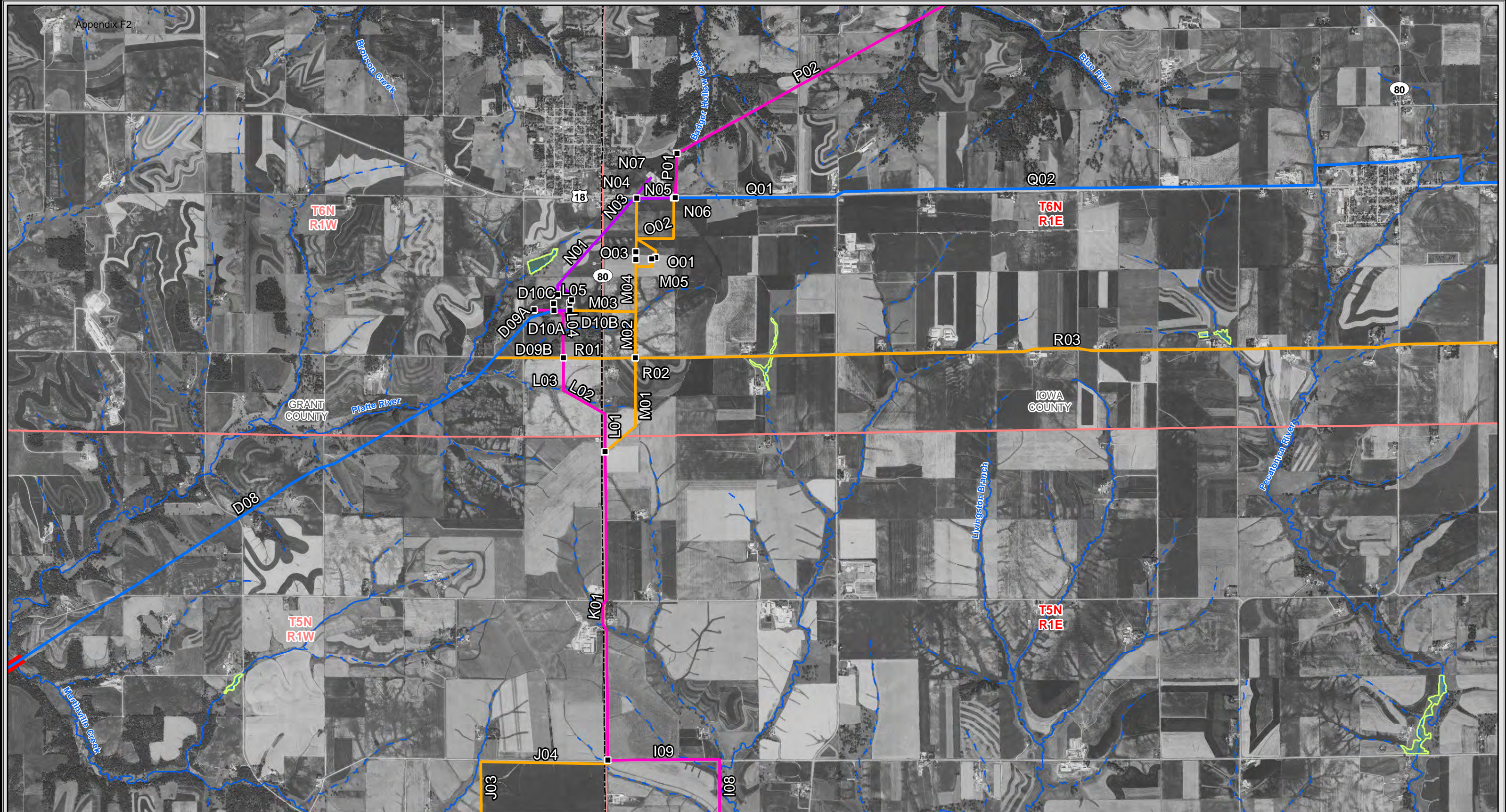
CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 5 OF 21

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





**Legend**

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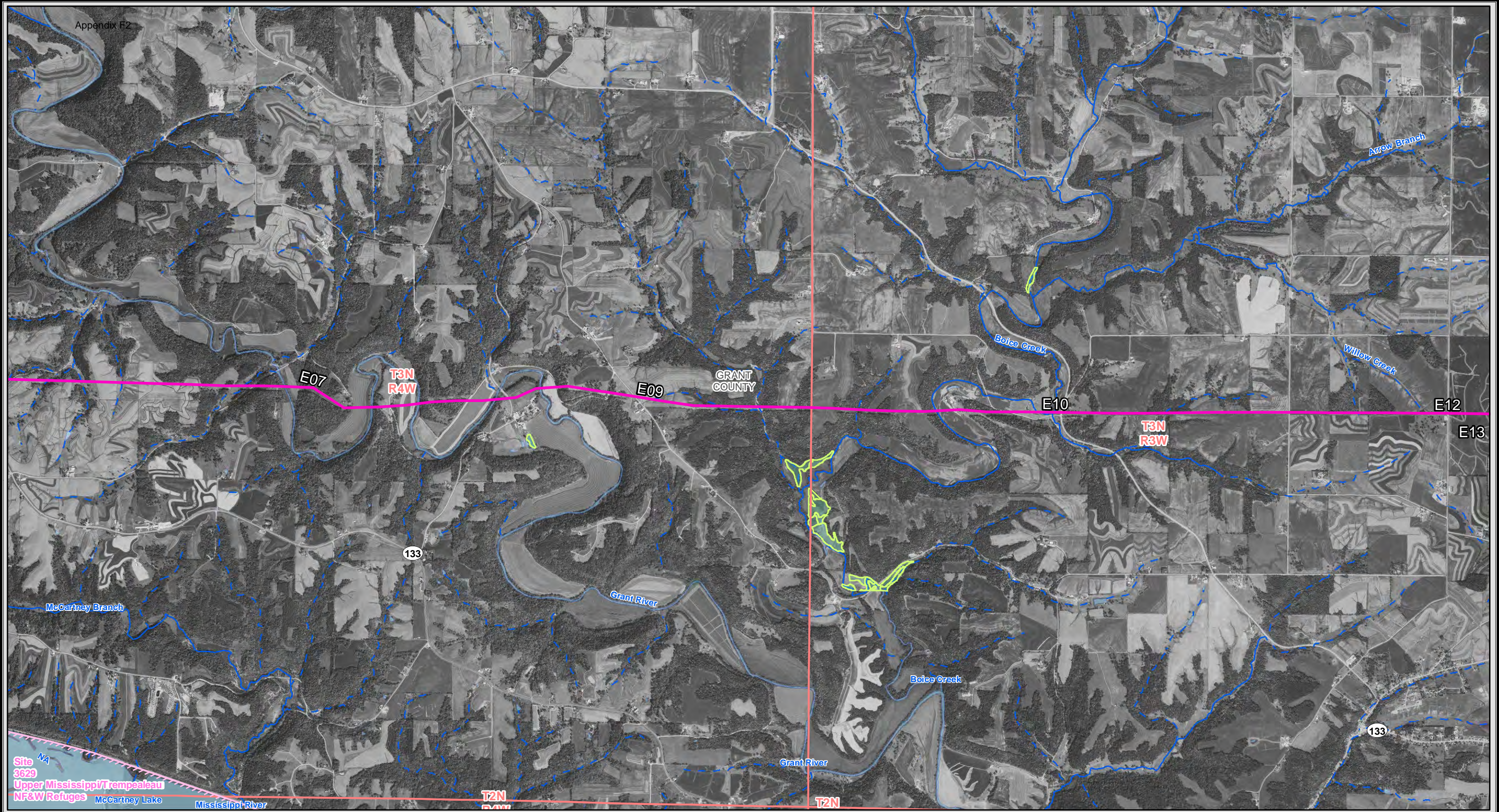
**CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT**

NOVEMBER 2018

PAGE 6 OF 21

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





**Legend**

<ul style="list-style-type: none"> <li>Segment Node</li> <li>Preferred Route</li> <li>Alternate Route</li> <li>Common Route Segments</li> <li>Other Route Segments</li> </ul>	<ul style="list-style-type: none"> <li>Potential Avian Collision Risk</li> <li>Important Bird Areas</li> <li>Wisconsin Wetland Inventory</li> </ul>	<ul style="list-style-type: none"> <li>DNR 24k Hydrography</li> <li>Perennial Stream</li> <li>Intermittent Stream</li> <li>Waterbody</li> </ul>	<ul style="list-style-type: none"> <li>Townships</li> <li>County Boundary</li> <li>State Boundary</li> </ul>
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AVIAN RISK REVIEW RESULTS**

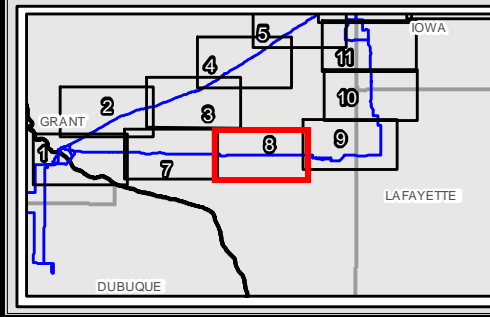
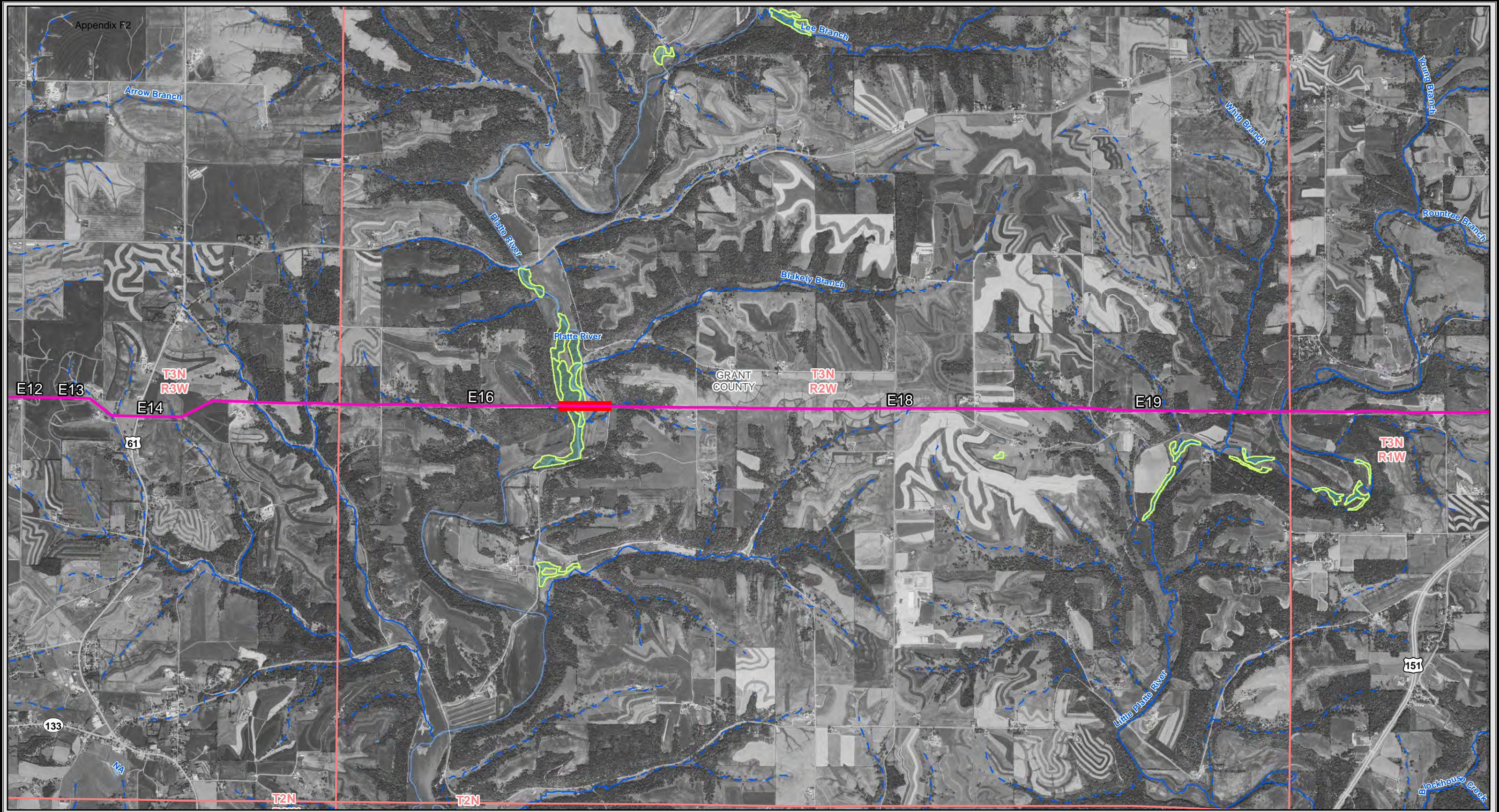
*CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT*

NOVEMBER 2018		PAGE 7 OF 21
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FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW

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**Legend**

- Segment Node
- Preferred Route
- Alternate Route
- Common Route Segments
- Other Route Segments
- Potential Avian Collision Risk
- Important Bird Areas
- Wisconsin Wetland Inventory
- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody
- Townships
- County Boundary
- State Boundary

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0 1,500 3,000 Feet

**ATC** AMERICAN TRANSMISSION COMPANY

**ITC**

**DAIRYLAND POWER COOPERATIVE**

**FIGURE 3. AVIAN RISK REVIEW RESULTS**

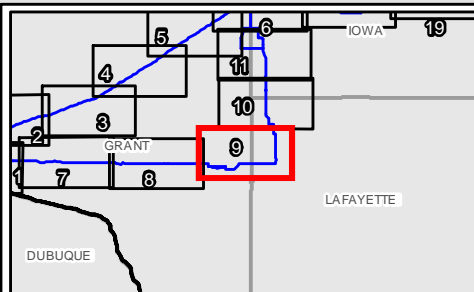
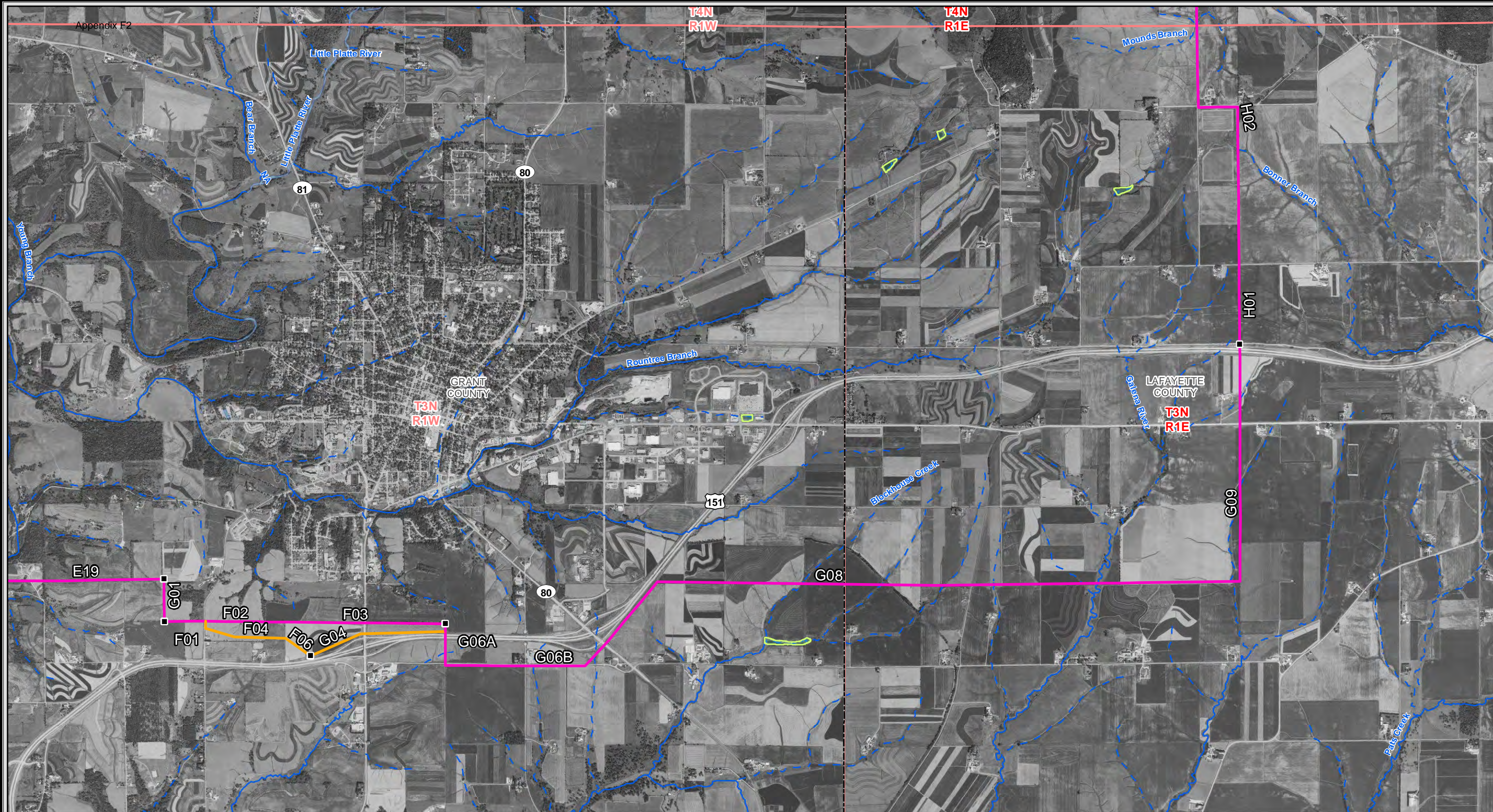
**CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT**

NOVEMBER 2018

PAGE 8 OF 21

FIGURE 3. PRELIMINARY AVIAN RISK REVIEW





### Legend

- Segment Node
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- County Boundary
- State Boundary



0 1,500 3,000  
Feet



### FIGURE 3. AVIAN RISK REVIEW RESULTS

CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

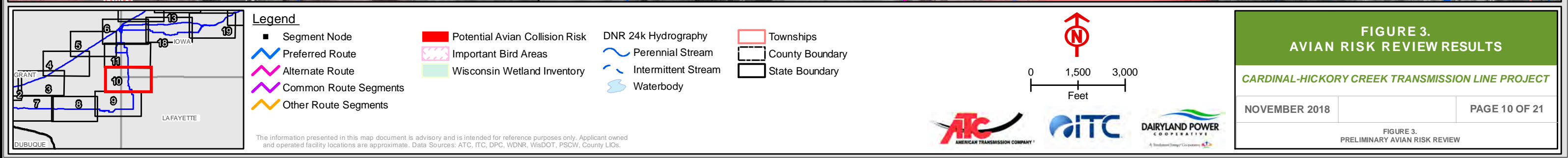
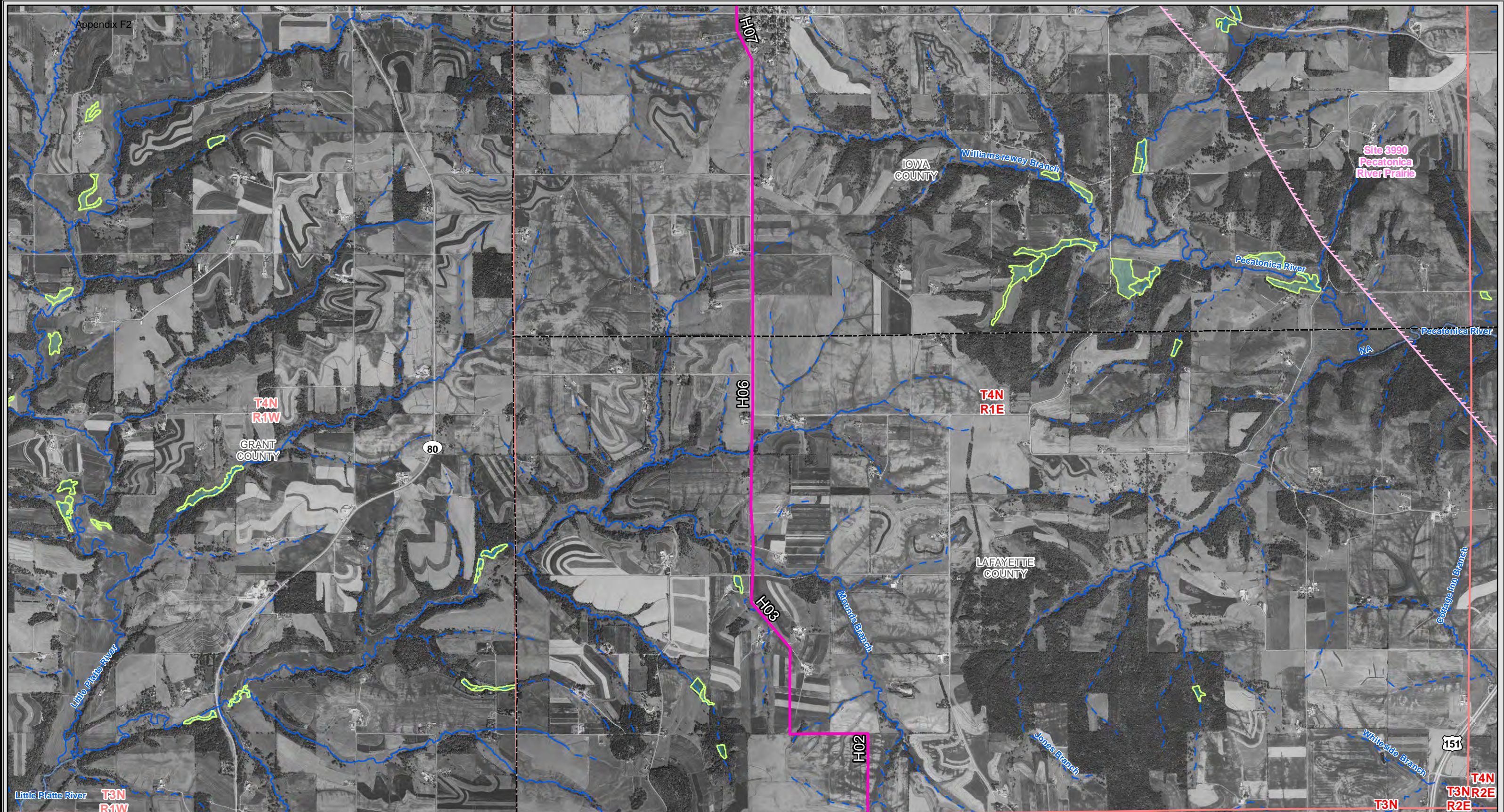
NOVEMBER 2018

PAGE 9 OF 21

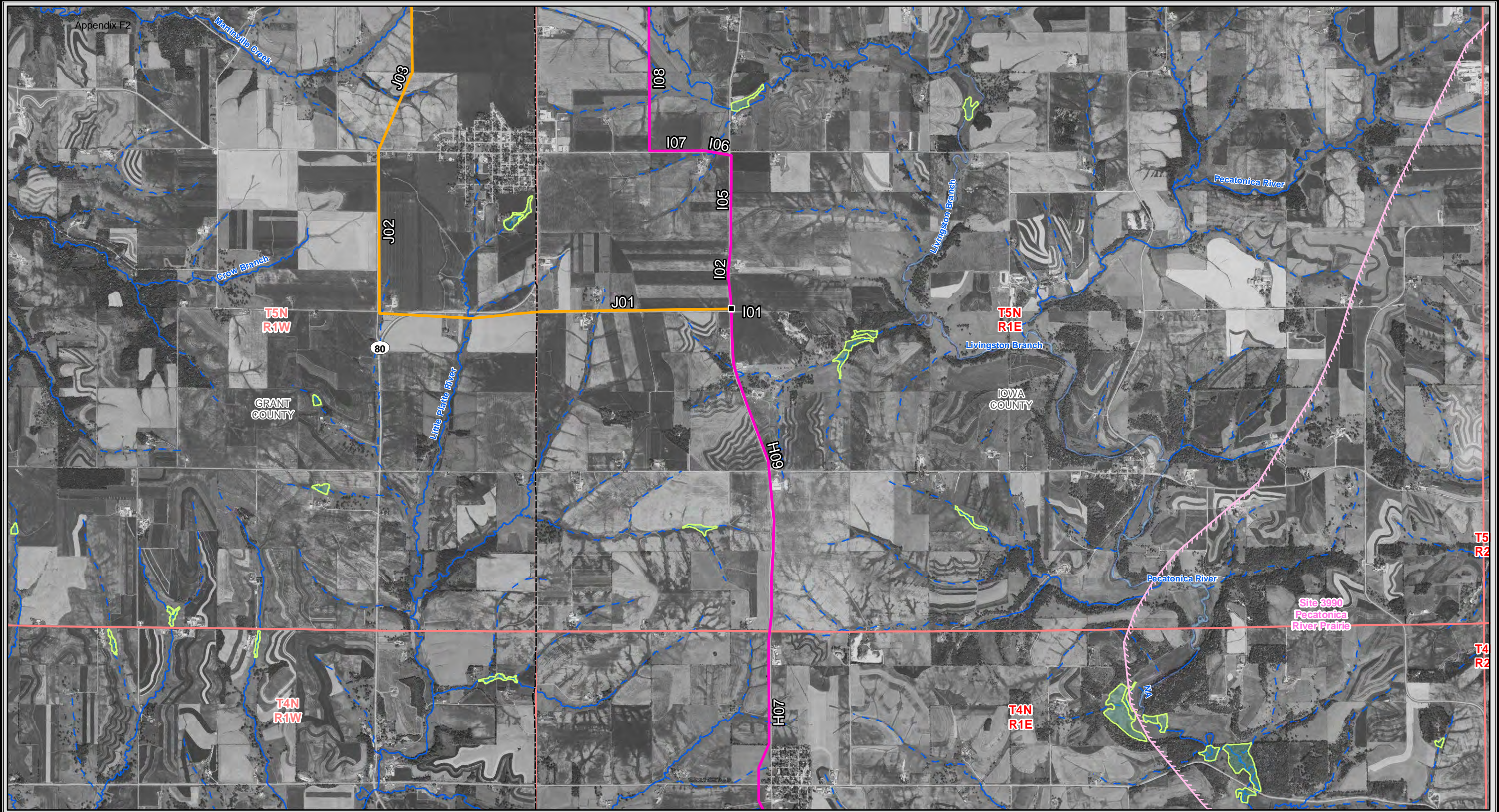
FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW

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0 1,500 3,000  
Feet

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**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

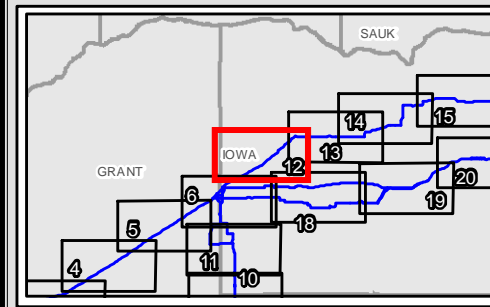
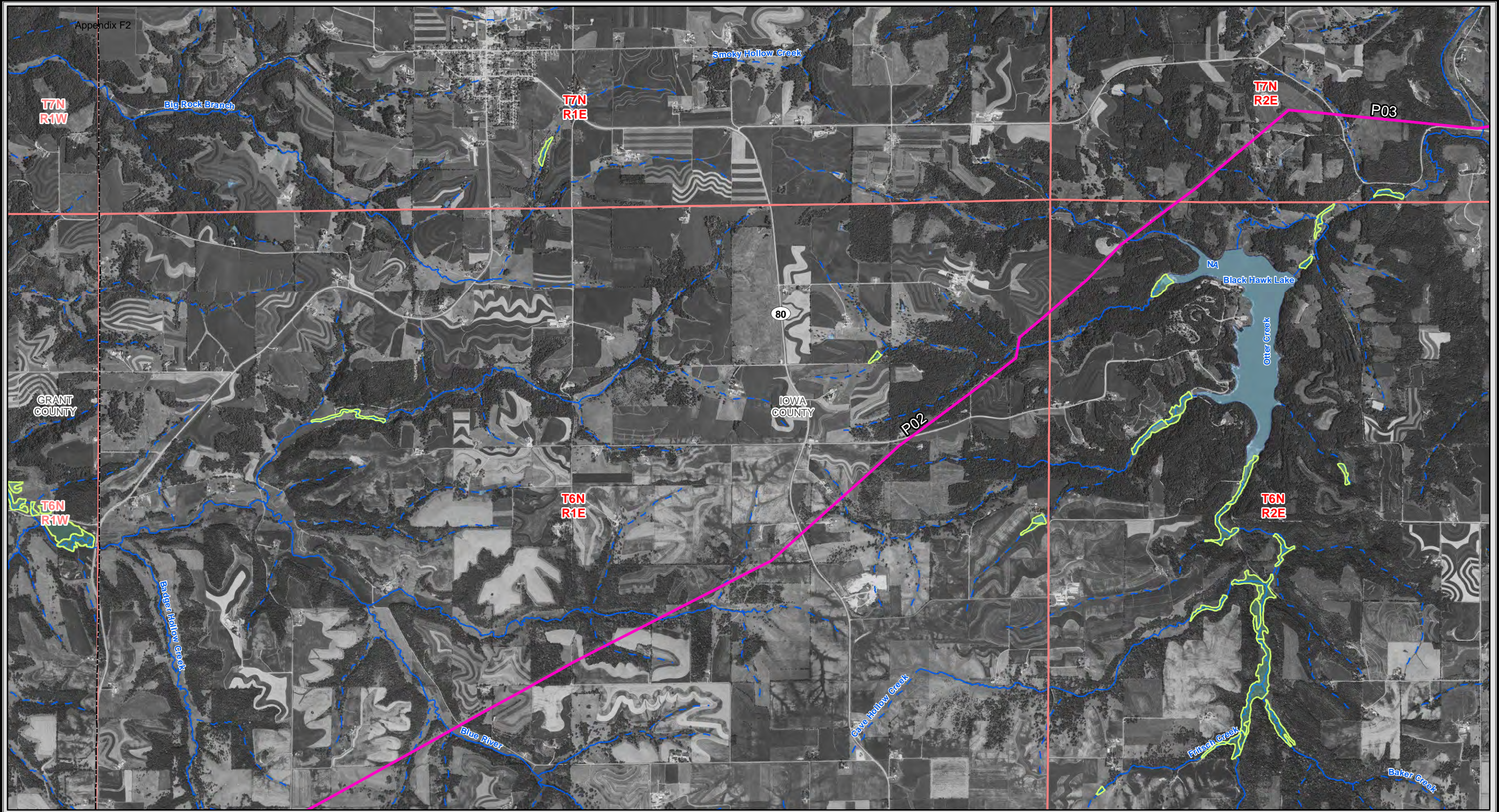
*CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT*

NOVEMBER 2018

PAGE 11 OF 21

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





**Legend**

- Segment Node
- Preferred Route
- Alternate Route
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- Other Route Segments

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DNR 24k Hydrography

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- Townships
- County Boundary
- State Boundary

0 1,500 3,000 Feet

**ATC** AMERICAN TRANSMISSION COMPANY

**ITC**

**DAIRYLAND POWER COOPERATIVE**

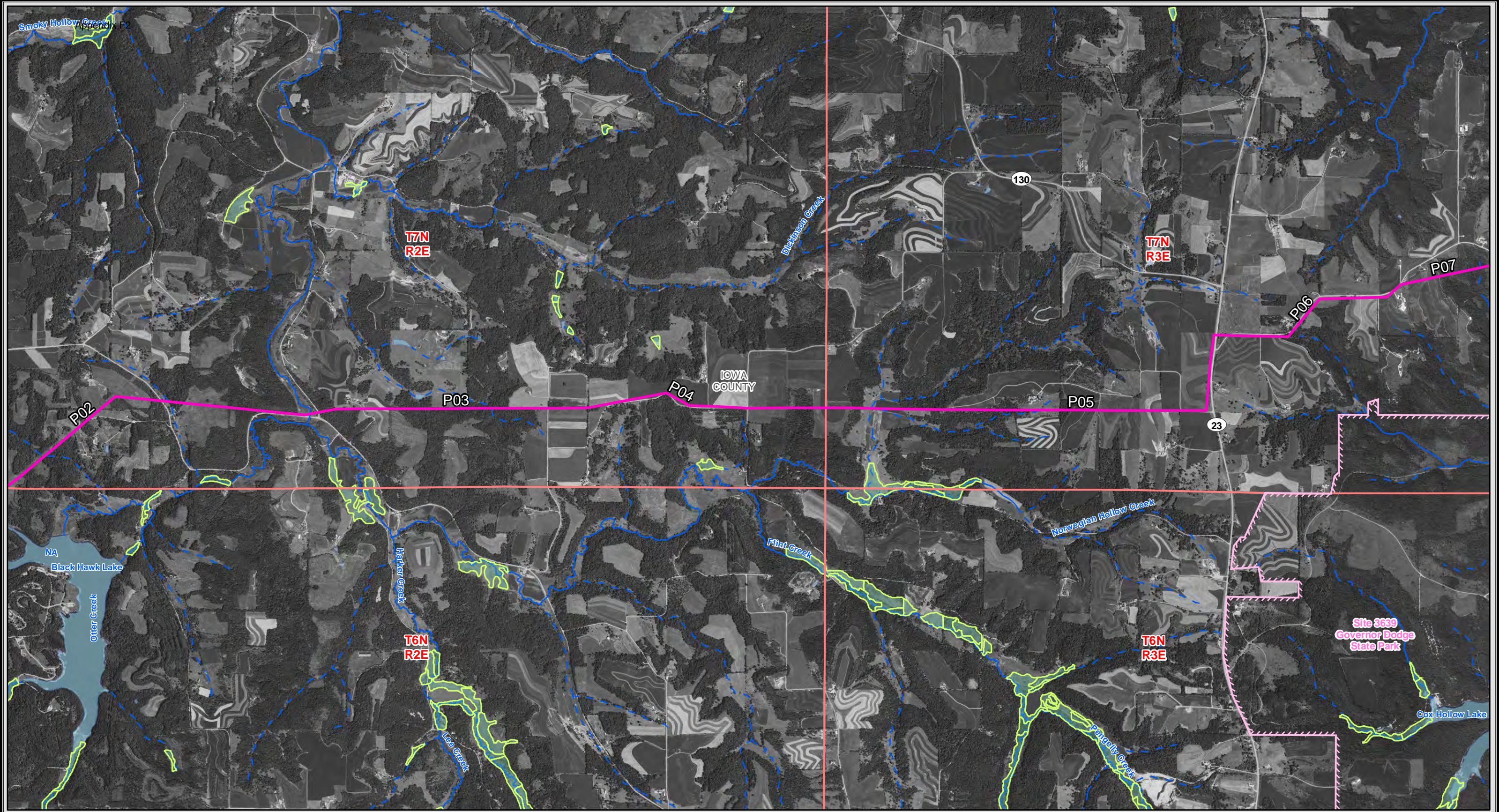
**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

**CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT**

NOVEMBER 2018	PAGE 12 OF 21
---------------	---------------

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





**Legend**

- Segment Node
- Preferred Route
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- Wisconsin Wetland Inventory
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- Intermittent Stream
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- Townships
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- State Boundary

0 1,500 3,000  
Feet

**FIGURE 3. AVIAN RISK REVIEW RESULTS**

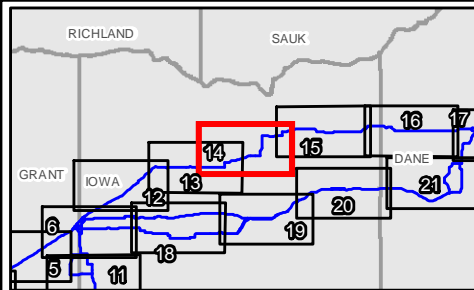
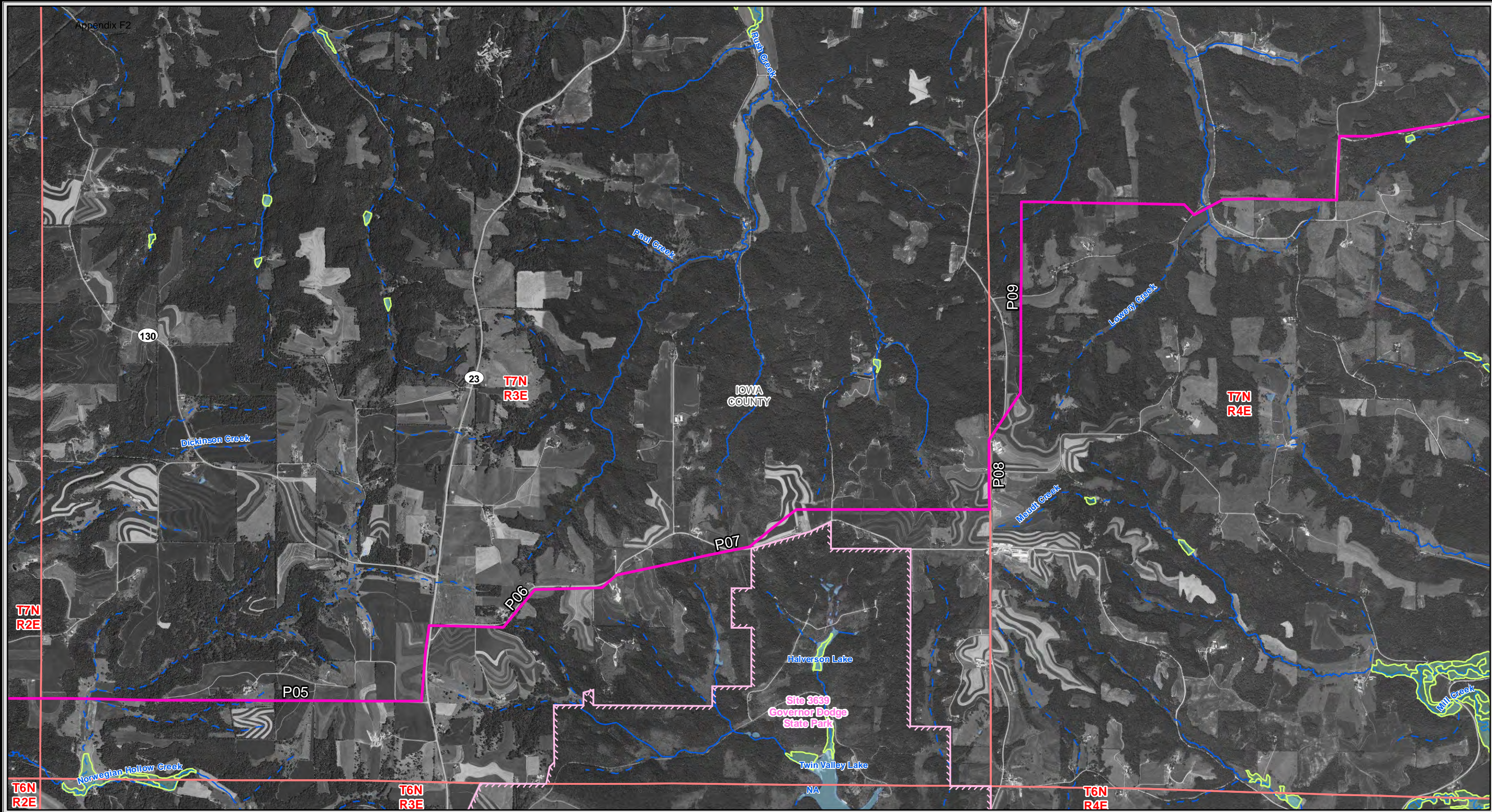
*CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT*

NOVEMBER 2018	PAGE 13 OF 21
---------------	---------------

FIGURE 3. PRELIMINARY AVIAN RISK REVIEW

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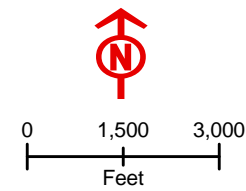




**Legend**

- Segment Node
- Preferred Route
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- Common Route Segments
- Other Route Segments
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- Important Bird Areas
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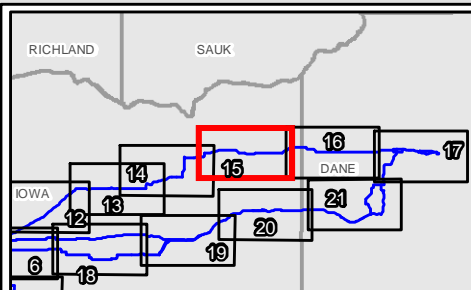
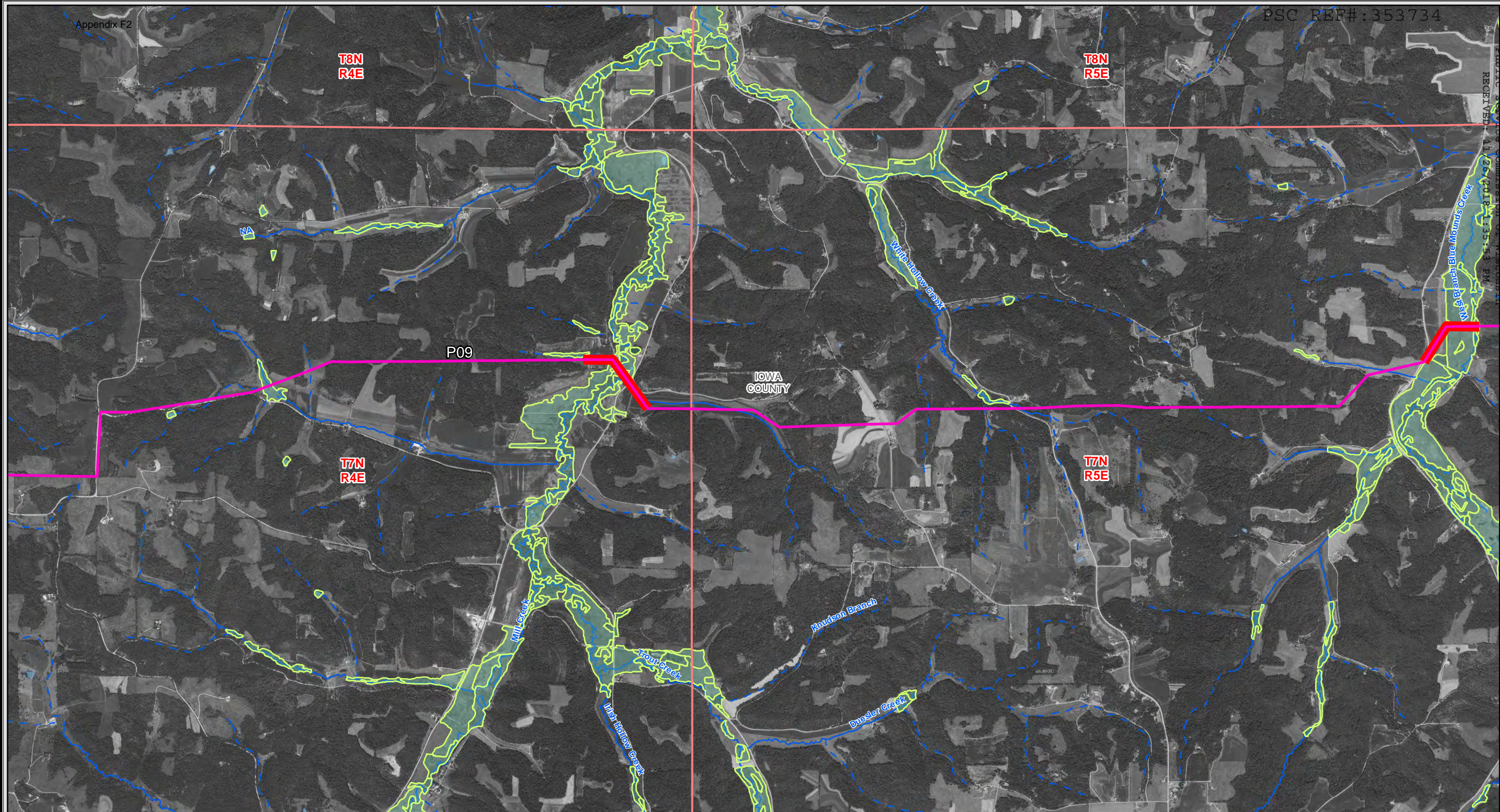
**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

*CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT*

NOVEMBER 2018	PAGE 14 OF 21
---------------	---------------

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





### Legend

- Segment Node
- Preferred Route
- Alternate Route
- Common Route Segments
- Other Route Segments

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- Important Bird Areas
- Wisconsin Wetland Inventory

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- Perennial Stream
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0 1,500 3,000  
Feet



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### FIGURE 3. AVIAN RISK REVIEW RESULTS

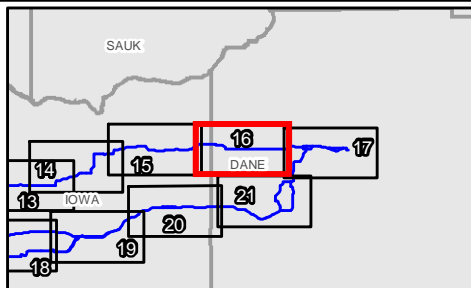
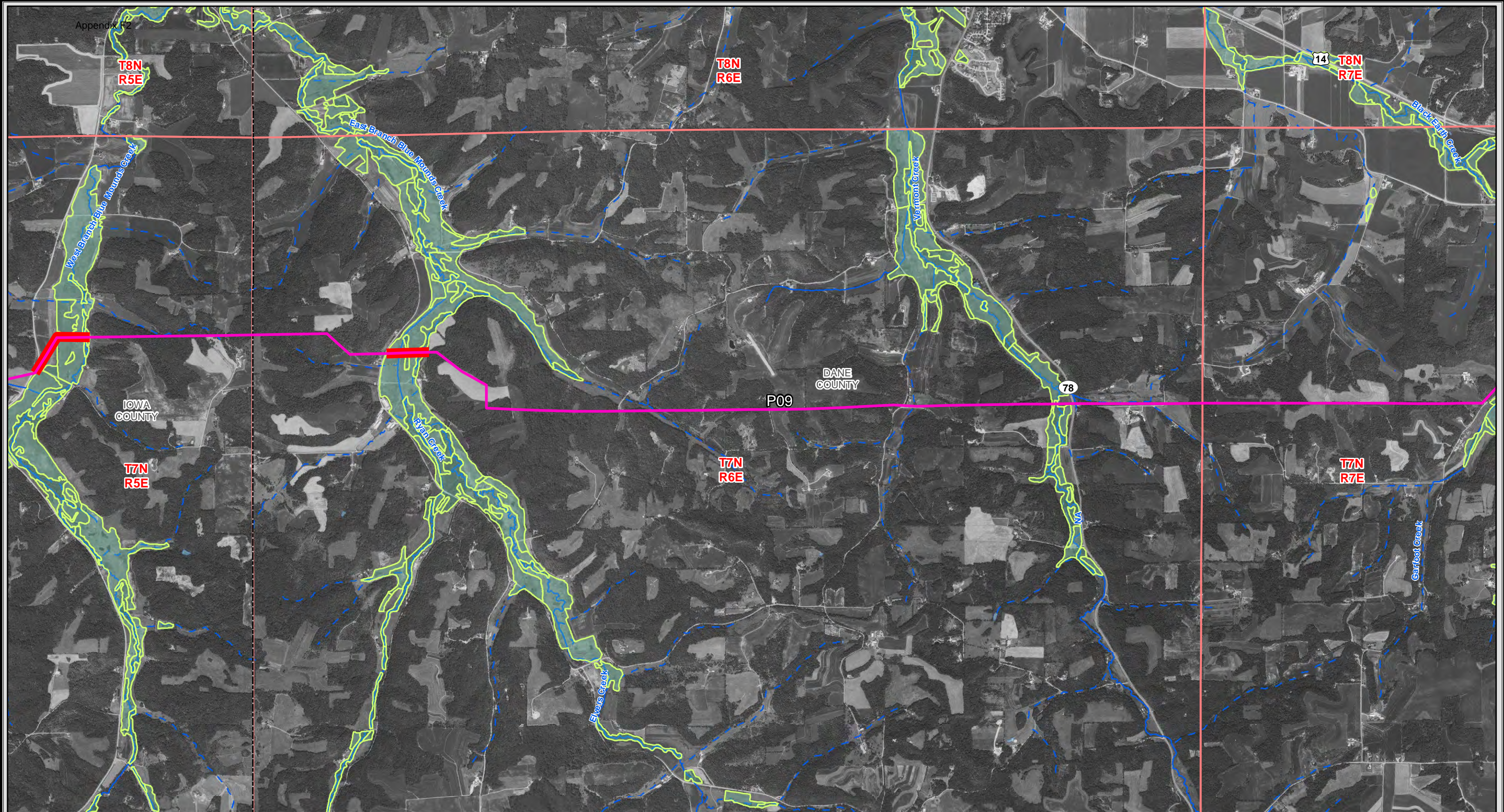
CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 15 OF 21

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





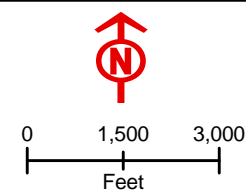
#### Legend

- Segment Node
- Preferred Route
- Alternate Route
- Common Route Segments
- Other Route Segments

- Potential Avian Collision Risk
- Important Bird Areas
- Wisconsin Wetland Inventory

- DNR 24k Hydrography
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### FIGURE 3. AVIAN RISK REVIEW RESULTS

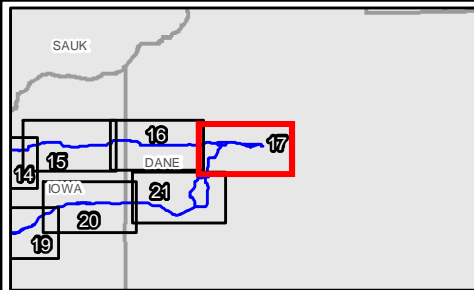
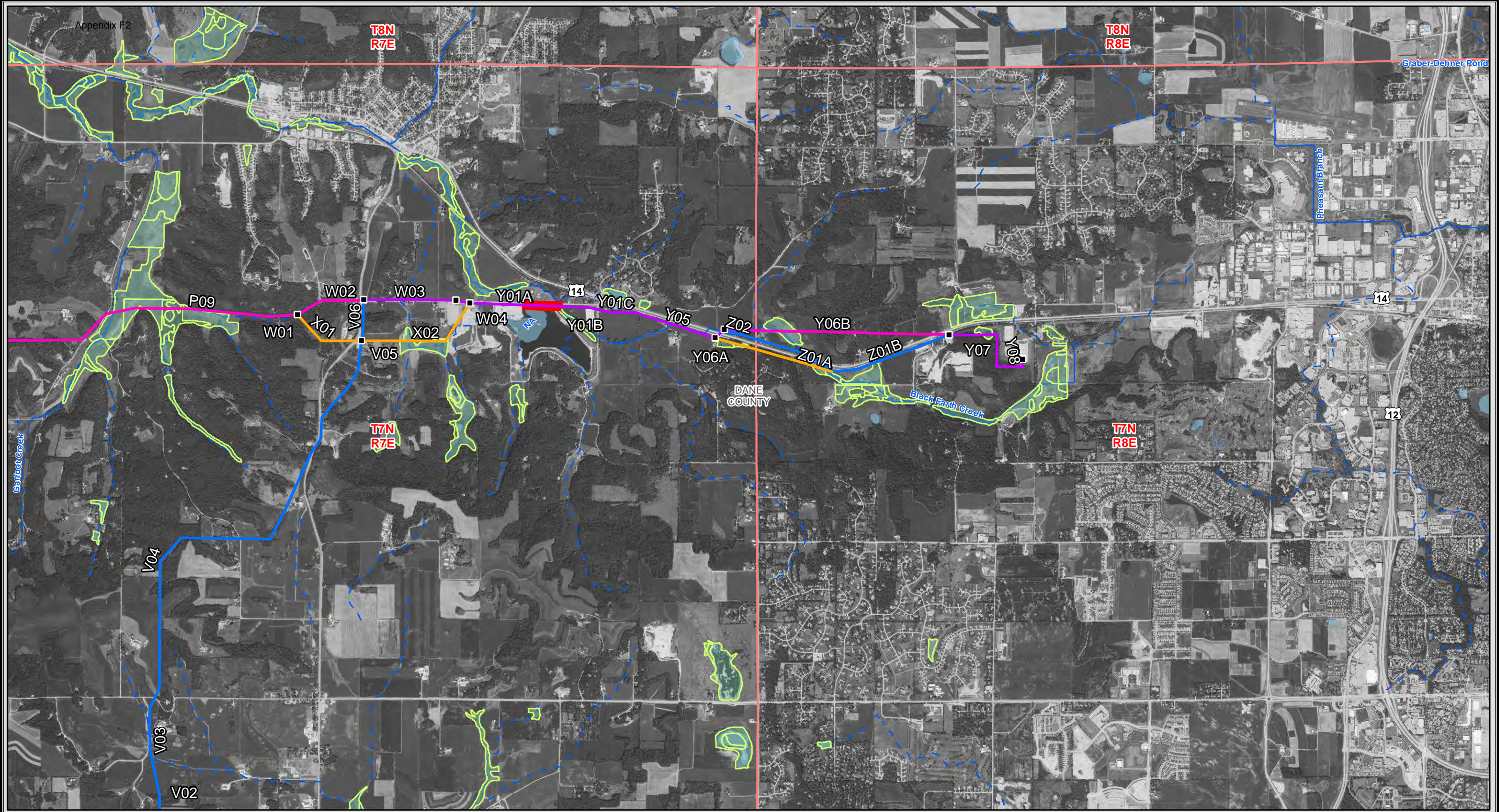
CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 16 OF 21

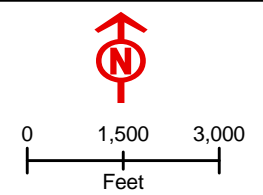
FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





- Legend**
- Segment Node
  - ▬ Preferred Route
  - ▬ Alternate Route
  - ▬ Common Route Segments
  - ▬ Other Route Segments
  - ▬ Potential Avian Collision Risk
  - ▬ Important Bird Areas
  - ▬ Wisconsin Wetland Inventory
  - ▬ DNR 24k Hydrography
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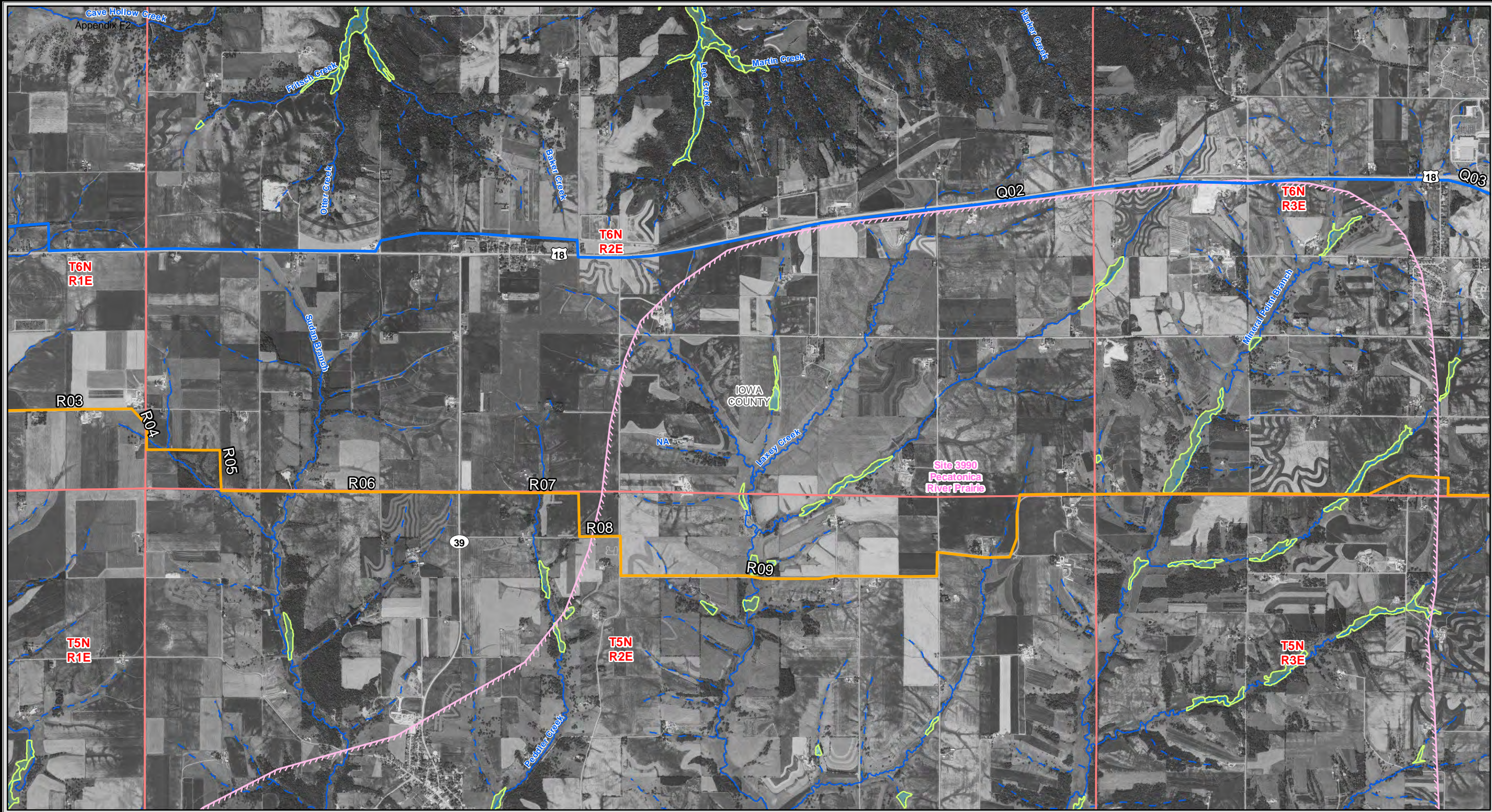
**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

***CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT***

NOVEMBER 2018	PAGE 17 OF 21
---------------	---------------

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW





Legend

- Segment Node
- Preferred Route
- Alternate Route
- Common Route Segments
- Other Route Segments

Potential Avian Collision Risk

Important Bird Areas

Wisconsin Wetland Inventory

DNR 24k Hydrography

- Perennial Stream
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- Waterbody

Townships

County Boundary

State Boundary

0 1,500 3,000 Feet

ATC AMERICAN TRANSMISSION COMPANY

ITC

DAIRYLAND POWER COOPERATIVE

**FIGURE 3.**  
**AVIAN RISK REVIEW RESULTS**

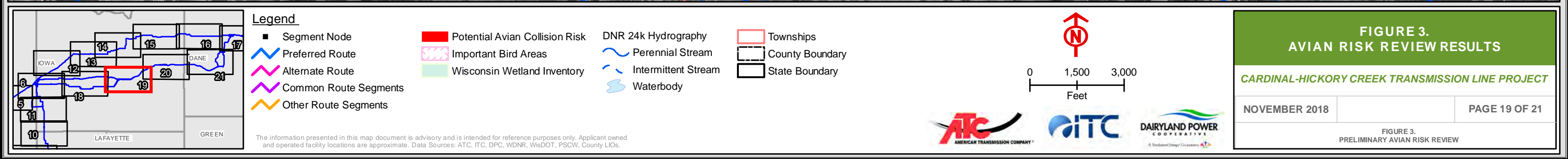
**CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT**

NOVEMBER 2018	PAGE 18 OF 21
---------------	---------------

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PRELIMINARY AVIAN RISK REVIEW

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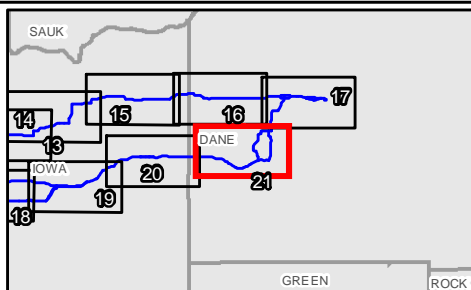












### Legend

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0 1,500 3,000  
Feet



### FIGURE 3. AVIAN RISK REVIEW RESULTS

CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT

NOVEMBER 2018

PAGE 21 OF 21

FIGURE 3.  
PRELIMINARY AVIAN RISK REVIEW