

# Strum–Lublin 69kV Transmission Line Rebuild Project

Strum to Bridge Creek: RUS Code 1009

Bridge Creek to Lublin: RUS Code 1043

## Environmental Assessment

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Dairyland Power Cooperative



# Contents

	Page
<b>Executive Summary</b> .....	<b>vii</b>
<b>1. Project Description</b> .....	<b>1-1</b>
1.1 Proposed Project .....	1-1
1.2 Schedule.....	1-1
1.3 Project Location .....	1-2
1.4 Project Design and Construction .....	1-3
1.4.1 Access Roads and Material Laydown .....	1-3
1.4.2 Transmission Structures .....	1-4
<b>2. Purpose and Need for the Project</b> .....	<b>2-1</b>
<b>3. Alternatives to the Proposed Project</b> .....	<b>3-1</b>
3.1 Alternative Plans to Address Transmission Issues in Lublin Area.....	3-1
3.2 Route Alternatives .....	3-1
3.3 Alternative Designs and Construction Methods .....	3-1
3.4 No Action Alternative .....	3-1
<b>4. Affected Environment</b> .....	<b>4-1</b>
4.1 Land Use .....	4-1
4.1.1 General Land Use.....	4-1
4.1.2 Prime and Important Farmland .....	4-5
4.1.3 Formally Classified Land.....	4-5
4.2 Vegetation.....	4-7
4.3 Floodplains .....	4-8
4.4 Water Quality .....	4-9
4.5 Wetlands.....	4-11
4.6 Threatened and Endangered Species .....	4-11
4.7 Fish and Wildlife Resources .....	4-14
4.8 Cultural Resources .....	4-14
4.9 Air Quality .....	4-14
4.10 Visual Resources .....	4-15
4.11 Transportation.....	4-16
4.12 Health and Safety .....	4-19
4.13 Corona, Audible Noise, Radio and Television Interference.....	4-20
4.14 Socioeconomic and Community Resources .....	4-21
4.15 Environmental Justice.....	4-22

<b>5.</b>	<b>Environmental Effects.....</b>	<b>5-1</b>
5.1	Land Use .....	5-1
5.1.1	General Land Use.....	5-1
5.1.2	Prime and Important Farmland .....	5-2
5.1.3	Formally Classified Lands .....	5-3
5.1.4	Mitigation and Monitoring.....	5-3
5.2	Vegetation.....	5-4
5.2.1	Mitigation and Monitoring.....	5-4
5.3	Floodplains .....	5-5
5.3.1	Mitigation and Monitoring.....	5-5
5.4	Water Quality .....	5-6
5.4.1	Mitigation and Monitoring.....	5-6
5.5	Wetlands.....	5-7
5.5.1	Mitigation and Monitoring.....	5-8
5.6	Threatened and Endangered Species .....	5-8
5.6.1	Mitigation and Monitoring.....	5-9
5.7	Fish and Wildlife Resources .....	5-10
5.7.1	Mitigation and Monitoring.....	5-10
5.8	Cultural Resources .....	5-10
5.8.1	Mitigation and Monitoring.....	5-10
5.9	Air Quality .....	5-10
5.9.1	Mitigation and Monitoring.....	5-10
5.10	Visual Resources.....	5-11
5.10.1	Mitigation and Monitoring.....	5-12
5.11	Transportation.....	5-12
5.11.1	Mitigation and Monitoring.....	5-13
5.12	Health and Safety .....	5-13
5.12.1	Mitigation and Monitoring.....	5-14
5.13	Corona, Audible Noise, Radio, and Television Interference.....	5-14
5.13.1	Mitigation and Monitoring.....	5-16
5.14	Socioeconomic and Community Resources .....	5-16
5.14.1	Mitigation and Monitoring.....	5-16
5.15	Environmental Justice.....	5-16
5.15.1	Mitigation and Monitoring.....	5-16
<b>6.</b>	<b>Agencies Consulted and Permitting Requirements .....</b>	<b>6-1</b>
<b>7.</b>	<b>Public Notice and Comment .....</b>	<b>7-1</b>
<b>8.</b>	<b>References .....</b>	<b>8-1</b>

## Appendices

Appendix A: Sheet Maps  
Appendix B: Standard DPC Best Management Practices  
Appendix C: Lublin Area Study, Dairyland Power Cooperative  
Appendix D: Preliminary Wetland Delineation Report for Phase I (Strum Tap to Willard Tap)  
Appendix E: Cultural Resources Report  
Appendix F: Photo Log  
Appendix G: The Wisconsin Statewide Karner Blue Butterfly Habitat Conservation Plan Guidance and Construction, Maintenance, Repair, and Management Guidelines  
Appendix H: Consultation Letters and Responses  
Appendix I: Newspaper Advertisement and Legal Notice

## Tables

Table 1-1: Project Location..... 1-2  
Table 4-1: Land Cover Types Crossed by the Project ROW ..... 4-7  
Table 4-2: Land Cover Types Crossed by the Project ROW ..... 4-8  
Table 4-3: Surface Waters Crossed by the Proposed Project ..... 4-9  
Table 4-4: Analysis of Habitat Suitability for Federally Listed Species along Project ROW ..... 4-11  
Table 4-5: Analysis of Habitat Suitability for State Listed Species along Project ROW ..... 4-12  
Table 4-6: Roads Crossed by the Project and Associated Average Annual Daily Traffic Volumes. 4-17  
Table 4-7: Common Noise Sources and Levels ..... 4-20  
Table 4-8: Census Data..... 4-22  
Table 5-1: Approximate Impacts to Prime Farmland and Farmland of Statewide Importance ..... 5-3  
Table 5-2: State-Listed Species and Potential for Project Impacts ..... 5-9  
Table 5-3: Mitigation Measures for State Special Status Species..... 5-9  
Table 5-4: Construction Equipment Noise Levels..... 5-14

## Exhibits

Exhibit 1: Project Schedule..... 1-2

## Figures

Figure 1: Project Area  
Figure 2: Construction Phasing  
Figure 3: Temporary Clear Span Bridge Design  
Figure 4: Transmission Structure Drawing  
Figure 5: Floodplains  
Figure 6: Recreation and Trails  
Figure 7: Prime Farmland  
Figure 8: Jurisdictions  
Figure 9: Water Resources

## Abbreviations and Acronyms

AAQS	Ambient Air Quality Standards
AM	Amplitude Modulated
AN	Audible Noise
ASNRI	Areas of Special Natural Resource Interest
ATV	All-Terrain Vehicle
BER	Bureau of Endangered Resources (Wisconsin Department of Natural Resources)
BMP	Best Management Practice
CFR	Code of Federal Regulations
DATCP	Wisconsin Department of Agriculture, Trade, and Consumer Protection
dBA	Decibels (A-weighted scale)
DOI	U.S. Department of Interior
DPC	Dairyland Power Cooperative
EA	Environmental Assessment
EMF	Electric and magnetic fields
ER	Environmental Report
ERW	Exceptional Resource Water
FAA	Federal Aviation Administration
FM	Frequency Modulated
kV	Kilovolt
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NLCD	Nation Land Cover Data
NRCS	Natural Resource Conservation Service
ORW	Outstanding Resource Waters
PNW	Priority Navigable Water
PRF	Public Rights Features
RI/TVI	Radio Interference/Television Interference
ROW	Right-of-Way
RUS	Rural Utilities Service
TCSB	Temporary Clear Span Bridge
USDA	U.S. Department of Agriculture
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UTV	Utility Vehicle
WDNR	Wisconsin Department of Natural Resources

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

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## Executive Summary

Dairyland Power Cooperative (DPC), a not-for-profit generation and transmission cooperative headquartered in La Crosse, Wisconsin, is proposing to construct the Strum Tap–Lublin (N-3) 69 kilovolt (kV) Transmission Line Rebuild Project (the proposed Project). The proposed Project involves the rebuilding of 58-miles of the existing 69 kV N-3 transmission line in Trempealeau, Jackson, Eau Claire, and Clark Counties, Wisconsin. Construction of the proposed Project would require temporary construction impacts for approximately 60-miles of temporary access roads and materials laydown. Permanent impacts include the expansion of the existing right-of-way (ROW) by 20 feet through tree trimming and clearing, and the installation of approximately 1,020 single-pole transmission structures (based on an approximate 300-foot span between structures), resulting in approximately 12,250 square feet (approximately 0.3 acre) of disturbance.

The N-3 transmission line was built in 1950, and is reaching the end of its service life. The rebuild of the N-3 transmission line is needed so that DPC can continue to provide reliable electric service to its service territory. Construction of the proposed Project would increase the longevity of the N-3 transmission line, and reduce line overloads, the occurrence of low voltages, and maintenance costs. DPC considered numerous electrical alternatives to the proposed Project, including other rebuilds, new construction, and transmission substation additions. DPC performed load flow, reliability and economic analyses, and ultimately selected the proposed Project as the preferred alternative based on cost, exposure miles, future load-serving ability, and cost per megawatt of load growth.

The proposed Project has been designed to avoid resources such as wetlands, surface waters, sensitive habitats, protected species and historic or cultural areas, to the extent possible. The proposed Project would cross county forests, and as a result, some vegetation clearing would be required in order to widen the existing 60-foot ROW to 80 feet, which is DPC's current standard ROW width for 69kV transmission lines. DPC would coordinate with the counties and appropriate agencies to obtain the necessary permits to construct. Construction of the proposed Project would result in up to 1,632 square feet of permanent impacts in wetlands and up to 384 square feet of permanent impacts in 100-year floodplains. DPC is currently coordinating with the appropriate agencies to determine the best ways to minimize and mitigate impacts and would obtain the necessary permits to construct. Potential impacts to soil and surface water resources would be minimized and avoided by using erosion and sedimentation control BMPs during construction.

DPC intends to request financing assistance from the U.S. Department of Agriculture (USDA) Rural Utilities Service (RUS) for the proposed Project, which thereby makes the proposed Project a federal action subject to review under the National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966 (NHPA), and all applicable federal environmental laws and regulations. This Environmental Assessment (EA) has been prepared to analyze potential impacts to the natural and human environments associated with the proposed Project in accordance with 7 Code of Federal Regulations (CFR) Part 1794, RUS' Environmental Policies and Procedures, and 40 CFR Parts 1500-1508, the regulations promulgated by the Council on Environmental Quality for implementing the National Environmental Policy Act (NEPA). This EA also addresses other laws, regulations, executive orders, and guidelines promulgated to protect and enhance environmental quality including, but not limited to, the Endangered Species Act, the Farmland Protection Policy Act, the Clean Water Act, and executive orders governing floodplain management, protection of wetlands, and environmental justice.

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

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# 1. Project Description

## 1.1 Proposed Project

Dairyland Power Cooperative (DPC), a not-for-profit generation and transmission cooperative headquartered in La Crosse, Wisconsin, intends to seek financial assistance from the U.S. Department of Agriculture Rural Utilities Service (RUS) for the construction of the Strum Tap–Lublin (N-3) 69 kilovolt (kV) Transmission Line Rebuild Project (the proposed Project).<sup>1</sup> The proposed Project involves the rebuilding of approximately 58-miles of DPC’s existing 76-mile 69 kV N-3 transmission line (Figure 1). The N-3 transmission line was built in 1950, and is reaching the end of its service life. The first phase of this line, the 18-mile Independence Substation to Strum Tap southern section, was reviewed as a separate action by RUS in June 2012; construction began in November 2012.

The 58-miles that make up the proposed Project are part of the central and northern segments of DPC’s N-3 transmission line between Strum Tap in Trempealeau County and Lublin Substation in Clark County, Wisconsin (Figure 1). The proposed Project also crosses through Jackson and Eau Claire counties. The proposed Project route would make use of the existing 69kV transmission line right-of-way (ROW), which would be widened from 60 feet to 80 feet (10 feet on either side of the existing ROW) in order to comply with DPC’s current standard ROW width for 69kV transmission lines. The new transmission structures would not be replaced in place; their location will be selected dependent on engineering and environmental factors including soil conditions, slope, maximum span length between transmission structures, and terrain. Detailed sheet maps are provided in Appendix A that show the proposed rebuild.

The term “Project area” as referenced throughout this document refers to the 80-foot ROW as shown in Appendix A. It also should be noted that existing distribution lines are located within or parallel to the existing N-3 transmission line ROW and the proposed Project route for the majority of its length. DPC is currently working with Eau Claire, Clark, and Taylor Electric Cooperatives to determine whether the existing distribution lines would be undergrounded or underbuilt on the proposed transmission line structures. DPC is committed to following their standard best management practices (BMPs) for construction and operation and maintenance of the proposed Project as described in Section 5 and provided in Appendix B.

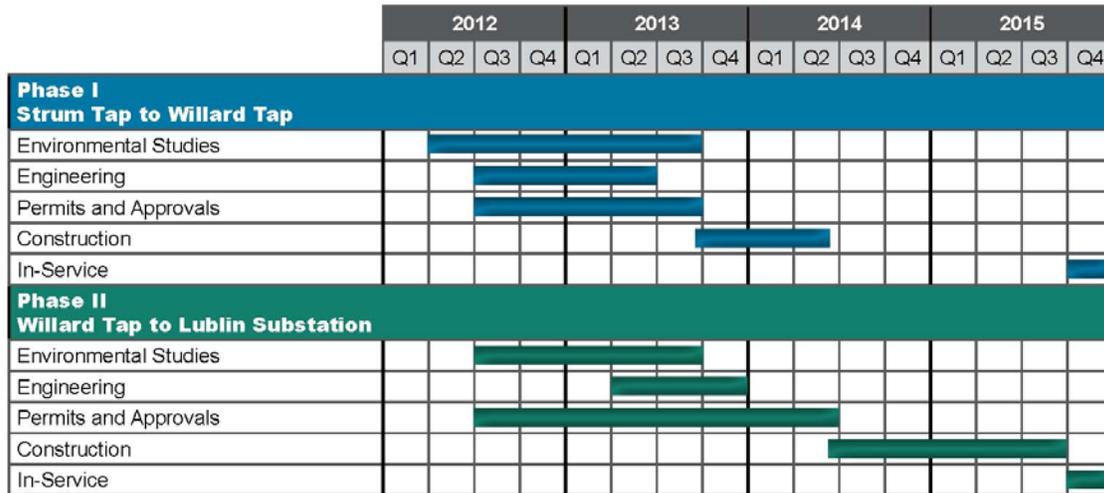
## 1.2 Schedule

Construction of the proposed Project is scheduled to take place in two phases to avoid impacts to sensitive resources including threatened and endangered species, surface waters, and wetlands. The two phases of construction are shown on Figure 2 and a summary of the schedule is provided as Exhibit 1. Phase I includes construction of the transmission line from the Strum Tap to the Willard Tap and would be constructed between fall 2013 and spring 2014. Phase II includes construction of the transmission line from the Willard Tap to the Lublin Substation and would be constructed between spring 2014 and the end of 2015. The in-service date for the proposed Project is the end of 2015 for Phase II. Construction would be phased as follows:

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<sup>1</sup> Note: The proposed Project is identified in DPC’s 2012–2014 Construction Work Plan, a document required by 7 CFR Part 1710 for the submittal of a loan application that details the proposed projects that are required to meet a borrower’s anticipated energy demand growth and improve service reliability and quality for the upcoming 2-4 year period as Strum Tap to Bridge Creek Substation (RUS 1009) and Bridge Creek Substation to Lublin Substation (RUS 1043).

Exhibit 1: Project Schedule



### 1.3 Project Location

Figure 1 shows the location of the proposed Project and Table 1-1 lists the townships, ranges, and sections crossed by the proposed Project.

Table 1-1:  
Project Location

State	County	Township	Range	Sections
Wisconsin	Trempealeau	24N	7W	19, 20, 17, 16, 15, 14, 13, 12
Wisconsin	Jackson	24N	6W	7, 8, 5
Wisconsin	Eau Claire	25N	6W	31, 30, 29, 28, 27, 26, 25, 24
Wisconsin	Eau Claire	25N	5W	19, 18, 7, 8, 9, 10, 3, 6, 5, 4
Wisconsin	Eau Claire	26N	5W	34, 27, 23, 24
Wisconsin	Clark	26N	4W	19, 20, 17, 16, 15, 10, 11, 12, 1
Wisconsin	Clark	27N	4W	36, 25, 24
Wisconsin	Clark	27N	3W	19, 18, 7, 6
Wisconsin	Clark	28N	3W	31, 32, 33, 34, 27, 28, 21, 16, 15, 10, 9, 4, 3
Wisconsin	Clark	29N	3W	34, 33, 28, 27, 22, 21, 16, 9, 4, 3, 2, 1

## 1.4 Project Design and Construction

Design and construction of the proposed Project would include the following major activities.

### 1.4.1 Access Roads and Material Laydown

**Access Roads:** Preliminary access for Phase I (Strum Tap to Willard Tap) of the proposed Project has been identified; construction of this phase of the proposed Project will follow approximately 30-miles of existing maintenance routes used by DPCs maintenance crews since the early 1950s and temporary overland access (shown on sheet maps in Appendix A). Overland access does not require any grading or vegetation clearing and consists of driving equipment across low-lying vegetation along field edges or adjacent to the edge of a road ROW. Access for Phase II (Willard Tap to Lublin Substation) has yet to be identified; it is expected that overland access for Phase II of the proposed Project would be comparable to the length required for Phase I. All overland access would be temporary, and would cross existing or new easements using entrances from local roads, field roads, and private driveways. Overland access would be between 12 and 15 feet wide. Damage to vegetation and crops and soil compaction is possible, DPC would compensate landowners for damage resulting from construction. Grading may be required in one location, east of Kempton Road where the transmission line diverges from the road ROW (see sheet map 5 of Appendix A). Approximately 500 feet of the Project ROW may require temporary grading due to the existing slope of the hill. Appropriate stormwater management and erosion control practices would be used if grading is required at this location. Graded areas will be returned to pre-construction conditions if the landowner does not want to leave the access road in place. Following construction, access to the transmission line for routine maintenance will follow existing maintenance roads and overland access.

**Temporary Clear Span Bridges:** In some cases temporary clear span bridges (TCSBs) may be required to access pole locations on opposite sides of a stream or river. TCSBs are required when heavily-forested areas occur on either side of a surface water body making it difficult to access a pole location without crossing the surface water body. As a result, five temporary clear span bridges (TCSBs) would be required to access pole locations for Phase I of construction. The locations of the TCSBs are provided on sheet maps 6, 14, 29, and 35 in Appendix A. It is not anticipated that any TCSBs would be required for construction of Phase II. Prior to construction, DPC would obtain a Bridge and Temporary In-Stream Crossing Permit from the Wisconsin Department of Natural Resources (WDNR). Installation and maintenance of the TCSB would be in accordance with permit conditions and WDNR technical standards for erosion and sediment control. A diagram showing the typical design characteristics associated with DPC's TCSB design is demonstrated in Figure 3.

**Laydown Areas:** Up to four temporary laydown areas (each up to 5 acres in size) would be leased from local landowners and used during construction to park vehicles and construction trailers. The sites will be approximately 15 miles apart and will be used in sequence as the proposed Project is built from Strum to Lublin. The laydown areas will not require clearing or grading. The laydown sites will be addressed in the erosion control plan prepared for the WDNR and WDNR technical standards and DPC's Best Management Practices will be implemented during construction. Following construction, the laydown area will be restored to pre-construction conditions.

## 1.4.2 *Transmission Structures*

DPC is proposing to replace the existing single-pole wood structures with new single-pole wood structures that would be approximately 60 to 80 feet tall with a span between structures of approximately 300 to 400 feet. The typical design characteristics associated with the transmission structures are shown in Figure 4. Approximately 1,020 single-pole transmission structures (based on an approximate 300-foot span between structures) would be constructed, and would result in approximately 12,250 square feet (approximately 0.3 acre) of permanent impacts (up to 12 square feet per structure). Angle structures and some tangent structures (non-angle structures) would have downguys and anchors.

With the exception of 1 mile of the rebuild, the proposed Project would be constructed using 69kV single-circuit transmission structures. Double-circuited structures will be used for 1-mile along County Line Road in Jackson County between 8<sup>th</sup> Avenue and the Lublin Substation where the existing DPC N-1 transmission line would be double circuited with the N-3.

**ROW and Ground Preparation:** The existing 60-foot transmission line ROW would be widened through tree trimming to 80 feet (10 feet on either side) (the Project ROW) to maintain a safe distance between tree branches and the new transmission structures. The majority of the work would take place within the Project ROW, with construction crews utilizing existing farm roads and road ROWs when work within the Project ROW is not feasible. DPC would remove brush from the anticipated areas where the transmission structures would be installed. Once the trimming and clearing has been completed, the survey crew would conduct a final structure siting survey for each pole along the transmission line route.

Transmission structures are generally designed for installation at existing grades. Typically, transmission structure sites with a slope of 5 percent or less would not be graded or leveled. At sites with a slope of more than 5 percent, working areas would be graded level or fill would be brought in to create level work pads. In some cases, construction mats may be used to create a level work pad where grading is impractical. DPC prefers to leave the leveled areas and working pads in place for use on future maintenance activities if the landowner permits. If the landowner does not want to leave the leveled area in place, the area would be graded back to its original condition to the extent feasible and all imported fill would be removed from the site.

**Structure Installation:** Construction will start with crews transporting poles, insulators, and insulator hardware from the staging or supply yards to the individual structure sites. Physical construction of the new transmission line would begin by auguring a hole for the structure. Structures located in wetlands will require the placement of a culvert pipe in the hole prior to the pole being placed in the ground. This will give the structure more stability. Once a structure has been assembled on the ground, a mobile crane would be used to erect the structure. The structures would be directly embedded in soil. Depending on soil conditions, culvert pipes may be used in areas outside of wetlands as a permanent casing to stabilize structures. The crushed stone would be used to fill excess space in the hole or culvert pipe. Excess spoil materials would be removed from the site and disposed of at an existing landfill upon completion of construction. If excess spoil removal from the site is not practicable, other measures would be used to stabilize the material disposal sites including seeding and mulch combined with silt fence or fiber roll perimeter control.

**Wire (Conductor) Stringing:** Following structure installation, several reels of wire would be placed in the cradles and the wire run through a series of sheaves that support and apply tension to the wire while it is being pulled into place by a winch. Once the wires have been strung, they would be properly “sagged” to maintain pre-determined wire tension that meets National Electric Safety Code (NESC) standards.

**Conductor and Structure Stabilization:** The final construction operation is to “clip-in” and fasten the conductors to the insulators. This step involves removing the stringing sheaves and replacing them with clamps, which attach and secure the conductors to the insulator strings. Once the wire has been clipped in, the construction operation would be essentially complete, and post-construction activities would follow.

**Post-Construction:** After the new transmission line has been constructed and put into service, DPC will completely remove the existing wood distribution poles (except poles located within wetlands) and conductor that are no longer required, and recontour and revegetate the disturbed areas to pre-existing conditions. Existing transmission poles located within wetlands will be cut off at the base so as not to impact surrounding soil or vegetation.

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

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## 2. Purpose and Need for the Project

DPC provides wholesale electricity to 25 member cooperatives and 16 municipal utilities via 3,100 miles of transmission line and 285 substations within their service area. DPC's service area encompasses 62 counties across Wisconsin, Minnesota, Iowa, and Illinois. DPC's generation resources include coal, natural gas, hydro, solar, landfill gas, and animal waste to energy. DPC is obligated to ensure reliable electricity service to its cooperative members and their customers in order to maintain compliance with North American Electric Reliability Corporation's (NERC) transmission planning standards.

In August 2006, DPC completed a transmission requirements study of the Lublin Area, which includes portions of Chippewa, Clark, Eau Claire, Jackson, Marathon, Taylor, and Trempealeau counties (Appendix C). The Lublin Area Study identified that many of the transmission lines in the Lublin Area are reaching the end of their useful life due to increased maintenance costs, low voltages, and line overloads. The N-3 transmission line, an approximately 76-mile 69 kV line that was built in 1950, is one of the main lines in the area. The N-3 transmission line serves 6 DPC-owned distribution substations and 2 Xcel Energy-owned distribution substations.

In recent summers, a section of the N-3 transmission line out of the Independence Substation has frequently overloaded on summer peak days. When the N-3 transmission line overloads, the breaker at the Lublin Substation is opened to relieve the system, which results in decreased system reliability. If system overloads on the N-3 transmission line become more frequent, then system reliability would continue to decrease. Construction of the proposed Project would increase the longevity of the transmission line and reduce line overloads, the occurrence of low voltages, and maintenance costs. The proposed Project will allow DPC to maintain reliable service to its customers and meet NERC standards.

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

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## 3. Alternatives to the Proposed Project

### 3.1 Alternative Plans to Address Transmission Issues in Lublin Area

The Lublin Area Study describes the analysis that was performed to identify the long-term transmission requirements in the Lublin Area (Appendix C). Eleven alternatives (including the proposed Project) were examined in the Lublin Area Study as potential options for replacing DPC's transmission lines in the Strum-Lublin area. All of the alternatives are a combination of 69kV rebuilds, new 69kV line construction, and transmission substation additions. The analysis included load flow analysis, reliability analysis, and economic analysis of each of the eleven alternatives. The decision to select the "preferred alternative," which includes the proposed Project along with numerous other rebuild projects in the area, was based on cost, exposure miles, future load-serving ability, and cost per megawatt of load growth (Porter 2006). The preferred alternative would solve the existing overload and low voltage problems, would be a long-term solution for transmission requirements in the area, and was identified as the least cost option in terms of cost per megawatt of load growth.

### 3.2 Route Alternatives

DPC did not consider any route alternatives for the proposed Project. DPC proposes to reconstruct the N-3 transmission line in the existing ROW, which would be the least impact alternative by avoiding conversion of new land for use by a transmission facility.

### 3.3 Alternative Designs and Construction Methods

DPC considered alternative transmission structure types, such as steel monopoles or wood h-frame structures. DPC determined that replacing the majority of existing structures with new wood monopole structures similar in appearance to the existing structures would result in fewer aesthetic impacts than the alternative structure types. DPC would use three-pole wood structures for angles where there is a change in the direction of the transmission line, and may use H-frame structures to span wetland or sensitive areas.

### 3.4 No Action Alternative

Under the No Action Alternative, the N-3 transmission line would not be rebuilt; the existing transmission line would remain in service, and its 1950s-era transmission structures would continue to deteriorate. Failure to rebuild the N-3 transmission line would result in continued growing strain on the transmission system in the Lublin Area, which in turn could result in more frequent system overloads. DPC would therefore fail to meet its responsibilities to ensure reliable service.

The No Action Alternative would have impacts on natural and human resources similar to the proposed Project because operation and maintenance activities would continue to occur along the existing ROW, including removing small trees and brush and vehicle and allowing equipment access for repairs. The activities would generate, in particular, temporary effects to vegetation, potential short-term displacement of wildlife, and construction noise. The No Action Alternative, however, would potentially avoid new construction-related activities that include removing vegetation to widen the existing 60-foot ROW to 80

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

feet; the 4 to 5 days of intermittent construction at each transmission structure; removal and replacement of new transmission structures in wetlands, and utilization of temporary overland access. Depending on the location of transmission structure failure on the existing transmission line, however, these effects may not be avoided in the future.

## 4. Affected Environment

The following sections describe the existing human and natural environment in the area surrounding the proposed Project.

### 4.1 Land Use

#### 4.1.1 General Land Use

The proposed Project crosses Clark, Eau Claire, Jackson, and Trempealeau counties and is surrounded by agricultural land with rural farmsteads, open space, and deciduous forests. The proposed Project utilizes the existing 69kV transmission line ROW, which would be widened to 80 feet in order to comply with DPC's current standard ROW width for 69kV transmission lines. No residences are located within the Project ROW. The closest school to the proposed Project is the Osseo Junior High/Fairchild High School complex in Osseo, which is located approximately 1.4 miles north of the proposed transmission centerline.

#### *Clark County*

The proposed Project is located in Butler, North Foster, and Resenburg and Withee townships in Clark County. These townships do not currently have zoning ordinances, and as of the date of this EA, Clark County has not adopted a comprehensive plan. The Planning and Zoning Division does however protect the natural resources in unincorporated areas of the county through the administration and enforcement of land management ordinances, such as the shoreland overlay district, floodplain overlay district, forest and recreation district, and recreational-residential district (Clark County no date(b)).

The shoreland overlay district is defined as the area within 1,000 feet of the ordinary high water mark of navigable lakes, ponds, or flowages and within 300 feet of the ordinary high water mark of navigable rivers or streams or to the landward side of the floodplain, whichever distance is greater (Clark County 2009). The proposed Project crosses several lakes and perennial and intermittent streams in Clark County, therefore, crossing the shoreland overlay district. Construction of public utilities within the shoreland overlay district is a permitted use per Section 22-502 of the Clark County Code of Ordinances and a zoning permit would be required.

The floodway district is defined as the area covered by the base flood area identified as A-zones (100-year floodplains) on the flood insurance rate map (Clark County 2009). Mapped floodplains crossed by the proposed Project are identified on Figure 5. Construction of public utilities within the floodway district is a permitted use requiring a land use permit per Section 12-92 of the Clark County Code of Ordinances.

The purpose of the forest and recreation district is to provide for the continuation of forest and recreational uses in those areas best suited for such activities (Clark County 2009). In addition, the district is intended to encourage forest management and related programs, while allowing certain activities that are compatible to the forest and recreation district to occur when adequately developed. The boundaries of the forest and recreation district are shown on the Official Clark County Recreation and Forestry Zoning Map, which is kept at the zoning administrator's office (Clark County 2009). An online mapping

tool showing the approximate location of the forest and recreation district is available on the county's website and was reviewed to identify lands included in the forest and recreation district that may be crossed by the proposed Project. According to the online map, the proposed Project would cross the forest and recreation district. Utilities, including power transmission lines, are considered a conditional use within the forest and recreation district, and would require a Conditional Use Permit (Clark County 2009).

An online mapping tool showing the approximate location of the recreational-residential district is available on the county's website and was reviewed to identify lands included in the recreational-residential district that may be crossed by the proposed Project. According to the online map, the proposed Project would cross the recreational-residential district. Power distribution poles and lines, and necessary appurtenant equipment and structures are considered permitted uses within the recreational-residential district (Clark County 2009).

While Clark County does not currently have an approved county-wide comprehensive plan, existing land use maps for the county have been developed in association with the Inventory and Trends Report (Clark County 2003). These maps are available on the county's website and were reviewed to identify mapped existing land use for the area crossed by the proposed Project. Current land use as identified on the maps and as observed during the field reconnaissance include county forest land, cropped farmland, managed forest land, other resource land, primary farmstead, and residential single-family. Future land use maps were not available for review. According to the Clark County Comprehensive Plan Land Use Classification System, which is included in the Inventory and Trends Report (Clark County 2003), county forest land is owned by Clark County and managed as part of the Clark County Forest Unit. Cropped farmland is land under private ownership and is used for row, forage crops, and managed grazing. Managed forest land is land under private ownership that is managed for forestry under the State of Wisconsin's Managed Forest Law Program. This land use also includes land managed under the Forest Crop Program. Lands identified as other resource land is land under private ownership that includes land covers such as pasture, grassland, shrubland, upland, forest, wetlands, forested wetlands, and other bare land.

The proposed Project would cross the Yellowstone Trail at County Road X approximately 0.5 mile north of Wisconsin State Highway 73 (Figure 6). The Yellowstone Trail was originally created by the Yellowstone Trail Association as a grass-roots effort to create transcontinental automobile highway. As a result of these efforts, the Yellowstone Trail was the first transcontinental automobile highway through the upper tier in the United States and runs from Plymouth Rock in Massachusetts to the Puget Sound in Seattle, Washington (The Yellowstone Trail Association no date). Today, travelers are guided to historic sites on or near the trail.

Several all-terrain vehicles (ATVs) and snowmobile trails would cross or parallel the proposed Project within Clark County. ATV and snowmobile trails are located near the northern portion of the proposed Project between County Road N and County Road O and near Willard Tap and Rock Dam Lake. Specific locations of ATV and snowmobile trails are shown on Figure 6 and on the sheet maps in Appendix A. No other parks or recreation opportunities are crossed by the proposed Project within Clark County.

### *Eau Claire County*

The proposed Project is located in Bridge Creek and Fairchild townships in Eau Claire County, Wisconsin. Bridge Creek and Fairchild townships do not currently have zoning ordinances. As of the date of this EA, neither township has adopted the Eau Claire Comprehensive Zoning Ordinance, although the Eau Claire County shoreland overlay district, floodplain overlay district, and building ordinances are in effect in all townships (Eau Claire County 2010). The shoreland overlay district and floodplain overlay district, as defined in Title 18, Chapter 18.19 and Chapter 18.20 of the Eau Claire County Code, respectively, include the same parameters as noted under Clark County and a land use permit would be required prior to construction in these overlay districts. The proposed Project would cross the shoreland overlay district and the floodplain overlay district.

The Eau Claire County Comprehensive Plan (Eau Claire County 2010) was reviewed to identify mapped existing land use and future land use for the area crossed by the proposed Project. Current land use as identified on the map and as observed during the field reconnaissance is agricultural (including farmsteads) and wooded land uses intermixed with residential land use. Future land use along the proposed Project consists of rural land, natural resource protection land, and county forest. Since Bridge Creek and Fairchild townships do not have previously adopted comprehensive plans, future land use in these townships were classified primarily based on existing land uses (Eau Claire County 2010). According to the Eau Claire County Comprehensive Plan, rural lands were identified to preserve productive agricultural lands from encroachment by incompatible uses and promote further investments in farming, maintain farmer eligibility for incentive programs, and preserve wildlife habitat and open spaces. Natural resource protection land is land that may be subject to development limitations or restrictions enforced by county, state, and federal agencies. Examples of these areas include waterbodies and wetlands, 100-year floodplains, areas with steep slopes and shoreland areas. County forest is land owned by the county and included within the county Forest Program. The purpose of county forest lands is to protect significant natural resources and recreational lands identified in Eau Claire County Parks and Forestry Department's Forest Comprehensive Land Use Plan and Outdoor Recreation Plan.

Several ATV and snowmobile trails would cross or parallel the proposed Project within Eau Claire County. Two ATV trails are adjacent to the proposed Project where it crosses the Eau Claire-Clark county line, and a snowmobile trail crosses the proposed Project where it parallels Zank Road. Specific locations of ATV and snowmobile trails are shown on Figure 6 and on the sheet maps in Appendix A. No parks or other recreation opportunities are crossed by the Project centerline within Eau Claire County.

### *Jackson County*

The proposed Project is located in Garfield Township in Jackson County. Garfield Township does not currently have a zoning ordinance, and as of the date of this EA, Garfield Township has not adopted the Jackson County Comprehensive Zoning Ordinance, although Jackson County Shoreline Zoning Ordinance and Floodplain Ordinance are in effect in all townships (Jackson 2010a). The shoreland overlay district and floodplain overlay district, as defined in Title 16, Chapter 16.02 and Title 20, and Chapter 20.05 of the Jackson County Code, respectively, include the same parameters as noted under Clark County. Construction in the shoreland overlay district would require a conditional use permit and construction in the floodplain overlay district would require a floodplain development permit. According to

the counties online mapping tool, the proposed Project would cross the shoreland overlay district and the floodplain overlay district.

The Jackson County Comprehensive Plan (2010) was reviewed to identify mapped existing land use and future land use for the area crossed by the proposed Project. Current land use as identified on the map and as observed during the field reconnaissance includes agriculture, open space/pastures, and wooded land uses intermixed with single family residential land use. Future land use along the proposed Project consists of rural land, rural hamlet, and conservation lands. According to the Jackson County Comprehensive Plan, rural lands were identified to preserve productive agricultural lands, protect existing farm and forestry operations from encroachment by incompatible uses, promote further investments in farming, maintain eligibility for incentive programs, and preserve wildlife habitat and open spaces. Rural hamlet areas are referred to as “Smart Growth Areas” and are lands suitable for a broader range of commercial, institutional, recreational, and residential uses, but do not include uses that require extensive public services. Smart Growth Areas as defined under Wisconsin State Statute 66.1001, are those “areas that, where practical, would enable the development and redevelopment of lands with existing infrastructure and municipal, state, and utility services, where practical, or that will encourage efficient development patterns that are both contiguous to existing development and at densities which will have relatively low municipal, state governmental, and utility costs.” Conservation lands were identified to protect areas vital to the region’s ecosystem and/or areas that are considered an important part of the county’s character and culture. Conservation areas may include land that is restricted from development due to slope or wetland characteristics and are generally identified with a Natural Resource Protection overlay. Examples of these areas include waterbodies and wetlands, 100-year floodplains, areas with steep slopes, and shoreland areas.

The proposed Project would cross the Buffalo River State Trail where the trail crosses County Road G, north of U.S. Highway 10. The portion of the Buffalo River State Trail that is crossed by the proposed Project is also used as an ATV trail. No other parks, trails, or other recreation opportunities are crossed by the proposed Project within Jackson County.

### *Trempealeau County*

The proposed Project is located in Sumner Township in Trempealeau County, Wisconsin. All 15 townships, including Sumner Township, within the county have adopted the Trempealeau County Comprehensive Zoning Ordinance (Trempealeau County no date). In addition, Trempealeau County Shoreline Zoning Ordinance and Floodplain Ordinance are in effect in all townships. The shoreland overlay district and floodplain overlay district as defined in Section 2.1 of the Trempealeau County Shoreland Zoning Ordinance and Section 1.5 of the Floodplain Zoning Ordinance for Trempealeau, respectively, include the same parameters as noted under Clark County. Construction within the shoreland overlay district requires a special exception permit and construction within the floodplain overlay district would require a land use permit. Based on the presence of stream and river crossings in Trempealeau County, it is likely that the proposed Project crosses the shoreland overlay district; however, shoreland overlay district maps were not readily available. The proposed Project would also cross the floodplain overlay district.

The proposed Project crosses land use districts zoned Exclusive Agricultural 2 and Environmental Significance (Trempealeau County 2009b). The purpose of the Exclusive Agricultural 2 district is to preserve certain classes of soils and additional irrigated farmlands from scattered residential developments that would threaten the future of agriculture in the township. In addition, the district serves to preserve woodlands, wetland, natural areas, and the rural character of the township. Environmental Significance district designates areas of environmental significance such as wetlands, floodplains, lakes, streams, etc. Development within this district is discouraged but not prohibited unless federal, state or local ordinance that prohibit development regulate the areas and would require a conditional use permit (Trempealeau County 2007).

Sumner Township, with the assistance of Trempealeau County Department of Land Management, developed a land use plan that would guide future development within the township (Trempealeau County 2009a). The land use map that was developed is included in the county's Comprehensive Plan and was reviewed to identify mapped land use for the area crossed by the proposed Project. Land use districts as identified on the map developed by the township and as observed during the field reconnaissance includes Exclusive Agricultural 2, Environmental Significance, and Right-of-Way (Interstate 94) (Trempealeau County 2007).

A segment of the proposed Project crosses a tract of land included as part of the Buffalo River Fishery Area for approximately 1.25 miles between Interstate 94 and County Road B. This portion of the Buffalo River Fishery Area is also identified as Osseo School Forest (138 acres), which is managed by the Osseo-Fairchild School District.

Two snowmobile trails would cross the proposed Project near U.S. Highway 53 and east of County Road O. Specific locations of ATV and snowmobile trails are shown on Figure 6 and on the sheet maps in Appendix A. No other parks or other recreation opportunities are crossed by the Project centerline within Trempealeau County.

#### ***4.1.2 Prime and Important Farmland***

The proposed Project crosses prime farmland and farmland of statewide importance. The proposed 69kV transmission line crosses prime farmland for approximately 15.6 miles and crosses farmland of statewide importance for approximately 8.9 miles. Prime farmland and farmland of statewide importance are shown on Figure 7.

#### ***4.1.3 Formally Classified Land***

The proposed Project does not cross any federally managed lands, but does cross state and county owned lands. State-owned lands crossed by the proposed Project include the Buffalo River Fishery Area in Jackson and Trempealeau counties and the Buffalo River State Trail in Jackson County. County-owned lands crossed by the proposed Project include Eau Claire County Forest and Clark County Forest. A description of the state- and county-owned land crossed by the proposed Project is provided in the sections that follow and jurisdictions crossed by the proposed Project are shown on Figure 8.

### *Clark County*

Clark County Forest, which is managed by the Clark County Forestry and Parks Department, would be crossed by the proposed Project for approximately 8-miles between the Eau Claire - Clark County boundary. Approximately 6.25-miles of the proposed Project would parallel existing roads (Camp Globe Road, Willard Road, and County Road M) within the county forest, and approximately 1.75-miles of the proposed Project would not parallel an existing road within the county forest. The proposed Project would also be adjacent to but not within the boundary of Clark County Forest (approximately 6-miles), where the Project ROW parallels County Road M between County Road Gg and County Road Mm. Clark County Forest comprises approximately 132,852-acres and primary recreational uses include hiking, camping, fishing, hunting, horseback riding, ATV riding, and snowmobiling (Clark County no date(a)).

### *Eau Claire County*

The proposed Project would cross county forest for approximately 3.25-miles in Eau Claire County. Eau Claire County Forest would be crossed for approximately 0.25-mile and a portion of the Jackson County Forest that is located within Eau Claire County would be crossed for approximately 3-miles. The proposed Project would parallel existing roads (County Road M, County Highway H, and Rock Dam Road) within the county forests for the majority of its length. The Eau Claire County Forest and the portion of the Jackson County Forest located within Eau Claire County are both managed by Eau Claire County Parks and Forest Department. The Eau Claire County Forest comprises approximately 52,000 acres and is managed under Wisconsin Statute 22.11 for the primary uses of public recreation, wildlife observation, and timber production. Public recreation within the county forest includes hunting, berry picking, wildlife observation, hiking, fishing, canoeing and camping (Eau Claire County no date(b)). The Jackson County Forest comprises approximately 120,000-acres of forest lands in Jackson and Eau Claire counties. Public recreation within the Jackson County Forest includes camping, hunting, fishing, hiking, and ATV/snowmobiling (Jackson 2010b).

### *Jackson County*

The Buffalo River State Trail, managed by the Wisconsin Department of Natural Resources, would be crossed by the proposed Project where the trail crosses County Road G, north of U.S. Highway 10. The Buffalo River State Trail is a 36-mile multi-use trail between the city of Mondovi in Buffalo County and the Village of Fairchild in Eau Claire County. The trail is built on a former railroad corridor and passes by farmlands, woods, hills, and wetlands as it travels through the communities of Eleva, Strum, and Osseo (WDNR 2012e).

A tract of land included as part of the Buffalo River Fishery Area, which is owned and managed by WDNR, is located on the northern side of U.S. Highway 10, west of County Road G and is adjacent to the proposed Project (Figure 8). The Buffalo River Fishery Area contains more than 1,600 fragmented acres of property in Jackson and Trempealeau counties and is managed for trout fishing and habitat (stream restoration work) and hunting and trapping (WDNR 2012b). Buffalo River Fishery Area contains trout streams, emergent wet meadow wetland, lowland shrub wetland and forested wetland, springs, and cultural sites (WDNR 2012b). In addition to fishing and hunting, other recreational opportunities that may occur within the Buffalo River Fishery Area includes hiking, wildlife viewing, canoeing, berry picking, snowmobiling, cross country skiing and ATV trails.

## *Trempealeau County*

A segment of the proposed Project crosses a tract of land included as part of the Buffalo River Fishery Area for approximately 1.25-miles between Interstate 94 and County Road B. Where the proposed Project crosses the Buffalo River Fishery Area, it is primarily located within an existing transmission line corridor and approximately 0.5-mile would parallel Myhre Road. This portion of the Buffalo River Fishery Area is also identified as Osseo School Forest (138 acres), which is managed by the Osseo-Fairchild School District.

## 4.2 Vegetation

The Project ROW is located within the Western Coulee and Ridges, Central Sand Plains, and Forest Transition ecological landscapes (WDNR 2012a). The Western Coulee and Ridges ecological landscape, where the southern portion of the proposed Project is located, is a topographically diverse area that developed as a result of erosive forces down-cutting previously uplifted bedrock (WGNHS 1984). This region is characterized by forested land (mostly oak-hickory and bottomland hardwoods), agricultural land, grassland, and wetlands (WDNR 2012a).

The Central Sand Plains ecological landscape, where the central portion of the proposed Project is located, is characterized by sandstone bedrock buttes, mounds and pinnacles created by glaciation, when sand was deposited in Glacial Lake Wisconsin from melting glaciers to the north (WDNR 2012a). Vegetation in this region consists primarily of forests or wetlands. Forested lands consist mostly of oak, pine, and aspen. Two major types of forests occur on wet sites within this region: tamarack and black spruce in the peatlands and bottomland hardwoods in the river floodplains (WDNR 2012a). Agriculture is limited within the western portion of this ecological landscape due to poor soils and poor drainage.

The Forest Transition ecological landscape, where the northern portion of the proposed Project is located, is characterized by floodplains, terraces, and swamps along major rivers. Land cover within this ecological landscape is highly variable with the eastern part heavily forested, the central portion dominated by agricultural uses, and the western portion is a mixture forest, lakes and agricultural (WDNR 2012c).

A summary of the percentage distribution of land cover types crossed by the Project ROW, as identified by data obtained from the National Land Cover Database (NLCD), is provided as Table 4-1.

Table 4-1:

Land Cover Types Crossed by the Project ROW

NLCD Land Cover Type	Acreage Crossed (within ROW)	Percentage of Total Length
Cultivated Crops	118	21
Developed*	284	50
Forested	122	21
Grassland/Herbaceous	6	1
Pasture/hay	18	3
Shrub/Scrub	8	1
Wetlands	19	3

\* Note that the majority of developed land consists of areas identified by National Land Cover Database (NLCD) as the ROW along the roads that parallel the proposed Project.

This percentages identified in Table 4-1 are consistent with the land cover observed during a field reconnaissance performed in August 2012. The vegetation observed included species associated with disturbed areas along roadways, residential yards, and field edges such as foxtail grass, timothy grass, and dandelion. Tree species surrounding residences and along field edges field edges include box elder, maple (likely red or sugar), and red pine. Some tag alder and poplar were observed near tributaries along with tall grass species typical of those normally occurring ditches and pastures. Red pine was the dominant species observed in county forests, and from the field observation it appears that the majority of the county forest land is in red pine production. Although approximately 21 percent of the land adjacent to the existing ROW is forested, herbaceous vegetation predominates within the existing ROW because woody vegetation within the ROW must be mowed or removed to meet federal regulatory guidelines and facilitate maintenance access. Given the mowing that has occurred over the long term, woody vegetation has been almost entirely eliminated from within the existing ROW.

The four construction laydown areas would each be approximately 5 acres in size. Most of the laydown sites are farm fields with no vegetation clearing required.

### 4.3 Floodplains

Floodplain data were obtained from the Federal Emergency Management Agency (FEMA). The proposed Project crosses eighteen 100-year floodplains. Table 4-2 shows the waterbodies associated with the floodplains as well as the approximate width that the proposed Project would cross. Construction of transmission structures in floodplains would follow the same procedures as identified in Section 1.2. Floodplains are shown on Figure 5.

Table 4-2:  
Land Cover Types Crossed by the Project ROW

Civil Township	Township, Range	Section	Waterbody	Approximate Width
Reseburg	T 28N, R 3W	28	Unnamed	166 feet
		34	Unnamed	509 feet
Foster	T 26N, 3W	1	South Fork Eau Claire River	1,032 feet
		1	Unnamed	346 feet
		15	Hay Creek	739 feet
		20	Iron Run	289 feet
		19	Surveyor Creek	176 feet
Bridge Creek	T 26N, R 5W	23	Horse Creek	609 feet
	T 26N, R 6W	26	Hay Creek	820 feet
		28	Diamond Valley Creek	739 feet
	T 25N, R 6W	32	Unnamed	229 feet and 878 feet
Fairchild	T 25N, R 5W	3	Pea Creek	596 feet
		9	Black Creek	802 feet
		18	Bridge Creek	877 feet
		19	Travis Creek	927 feet
Garfield	T 24N, R 6W	5	North Fork Buffalo River	431 feet
Sumner	T 24N, R 7W	14	South Fork Buffalo River	919 feet
		17	King Creek	570 feet

## 4.4 Water Quality

Waterways crossed by the proposed Project were identified using the U.S. Geological Survey National Hydrography Dataset and field observation. Review of these resources identified 44 perennial and intermittent tributary crossings located along the proposed Project (Figure 9). Table 4-3 lists the 25 named and unnamed waterbodies crossed by the proposed Project.

Table 4-3:  
Surface Waters Crossed by the Proposed Project

County	Township	Section	Waterbody	Flow	Trout Streams	Endangered, Threatened or Special Concern Habitat Streams	Outstanding and Exceptional Resource Waters
Trempealeau	24N 7W	17	King Creek	Perennial	Class I		
		16	Unnamed	Perennial			
		14	Creek 11-11	Perennial	Class III		
		14	South Fork Buffalo River	Perennial	Class II		
Jackson	24N 6W	5	North Fork Buffalo River	Perennial	Class I	Yes	ERW
Eau Claire	25N 6W	30	Thompson Valley Creek	Intermittent	Class II		
		28	Diamond Valley Creek	Perennial	Class III		
		26	Hay Creek	Perennial	Class I		ERW
	25N 5W	19	Travis Creek	Perennial	Class II		
		18	Bridge Creek	Perennial	Class III	Yes	
		9	Black Creek	Perennial	Class III	Yes	
		3	Pea Creek	Perennial		Yes	
	26N 5W	23	Horse Creek	Perennial	Class III	Yes	
Clark	26N 4W	19	Surveyor Creek	Perennial		Yes	
		20	Iron Run	Perennial		Yes	
		15	Hay Creek	Perennial		Yes	
		1	Unnamed	Perennial			
		1	Unnamed	Perennial			
		1	South Fork Eau Claire River	Perennial		Yes	
	27N 3W	18	Unnamed	Perennial			
	28N 3W	31	Black Creek	Intermittent	Class III		
		34	Unnamed	Perennial			
		28	Unnamed	Perennial			
	29N 3W	34	Unnamed	Perennial			
		3	Unnamed	Perennial			

None of the surface waters crossed by the proposed Project is identified as impaired waters on the Section 303(d) list of impaired waters.

The WDNR Surface Water Data Viewer was reviewed to identify any Areas of Special Natural Resource Interest (ASNRI), Public Rights Features (PRF), or Priority Navigable Waters (PNW) that may be present within the Project area (WDNR 2009). ASNRI waters include several classes of designated waters including trout streams, outstanding resource waters (ORW) or exceptional resource waters (ERW) and waters or portions thereof that may be inhabited by endangered, threatened, or special concern species or unique ecological communities identified in the Natural Heritage Inventory. ASNRI waters and PRF waters are also considered PNW waters. ASNRI and PNW are shown on sheet maps in Appendix A.

There are 12 waterways crossed by the proposed Project that are designated Trout Waters by the WDNR. Class I trout streams include Hay Creek (Eau Claire County), King Creek, and the North Fork Buffalo River; Class II trout streams include the South Fork Buffalo River, Thompson Valley Creek, and Travis Creek; and Class III trout streams include Black Creek (Eau Claire County and Clark County), Bridge Creek, Diamond Valley Creek, Horse Creek, and an unnamed tributary of the South Fork Buffalo River designated Creek 11-11 as summarized in Table 4-3. Trout streams are shown on the sheet maps in Appendix A.

Nine waterways crossed by the proposed Project are classified as being potential habitat for endangered, threatened, or special concern species by WDNR. These include Black Creek, Bridge Creek (Eau Claire County), Hay Creek, Horse Creek, Iron Run, North Fork Buffalo River, Pea Creek, South Fork Eau Claire River, and Surveyor Creek as summarized in Table 4-3. Endangered, threatened, and special concern species that may occur along the Project ROW are described in Section 4.6.

Two waterways are crossed by the proposed Project classified as ERWs by WDNR. ORWs and ERWs are surface waters that provide outstanding recreational opportunities, support valuable fisheries and wildlife habitat, have good water quality, and are not significantly impacted by human activities. ORWs typically do not have any point source discharges of pollutants, while ERWs may have point source pollutant discharges but both are protected from the effects of pollution. The North Fork Buffalo River and Hay Creek are designated ERWs as summarized in Table 4-3.

Groundwater in the Project area consists of Cambrian sandstone aquifers. Depth to the water table varies. Near North Fork Buffalo River and other streams in the Project area, the water table may be less than 10 feet below the ground surface. At higher elevations, groundwater may be more than 50 feet below the ground surface. Groundwater in Clark, Eau Claire, Jackson, and Trempealeau counties in the Project area is characterized as having low to high susceptibility to contamination (USGS 2007a, USGS 2007b, USGS 2007c, USGS 2007d). This characterization is based on five factors: depth to bedrock, bedrock type, soil permeability, depth to water table, and surficial deposits. Areas characterized as having high susceptibility are typically associated with waterways such as the Buffalo River in Jackson County and Trempealeau County, and Black Creek and the Eau Claire River in Eau Claire County. However, areas with the highest susceptibility to contamination generally occur in the southwestern part of the Clark County, primarily because the soils there are highly permeable and bedrock occurs at a shallow depth.

## 4.5 Wetlands

Wetlands within the Project area were identified using a combination of existing Wisconsin Wetland Inventory and Natural Resource Conservation Service (NRCS) soil survey mapping augmented by aerial photography interpretation and on-site identification and delineation. In this manner 183 wetlands were identified within the Project area (see sheet maps in Appendix A). Of the 183 identified wetlands, 120 are located between the Strum Tap and Willard Tap (Phase I), and 63 are located between the Willard Tap and Lublin Substation (Phase II). The proposed Project is located within a region that is generally well drained, so most wetlands within the Project area are located adjacent to waterways or within linear drainageways that lack sufficient flow to develop a bed and bank. Some wetlands occurring as isolated depressions or hillside seeps were also observed. Wetlands occur along the entire Project ROW, but the highest concentration of wetlands occurs within the central part of the Project area. Wetlands within the southern portion of the Project area were largely observed to be seasonally flooded basins/flats or wet meadows in agricultural areas used for crops or pasture, while those within the northern portion were largely scrub-shrub or forested wetlands in forested areas. A copy of the wetland delineation report for the Strum Tap to Willard Tap (Phase I) portion of the proposed Project is included as Appendix D.

## 4.6 Threatened and Endangered Species

DPC coordinated with the U.S. Fish and Wildlife Service (USFWS) and the WDNR Bureau of Endangered Resources (BER) to investigate the potential for federal and/or state-listed special status species to occur along the Project ROW. Habitat along the existing ROW was identified/characterized through aerial photo interpretation, direct contact with agencies, review of available internet resources, and by conducting on-site observations in July, August, and September 2012.

No areas of USFWS-mapped critical habitat occur along the Project ROW. Six federally listed species have been recorded by USFWS for Clark, Eau Claire, Jackson, and Trempealeau Counties (Table 4-4).

Table 4-4:  
Analysis of Habitat Suitability for Federally Listed Species along Project ROW

Species	County	Status	Preferred Habitat	Action Area Evaluation
Eastern massasauga ( <i>Sistrurus catenatus</i> )	Jackson Trempealeau	Candidate	Open to forested wetlands and adjacent uplands	The Project ROW does not overlap with the Eastern massasauga's range in Jackson and Trempealeau counties.
Higgins eye pearly mussel ( <i>Lampsilis higginsii</i> )	Trempealeau	Endangered	Mississippi River	The Mississippi River is located more than 30 miles from the Project ROW.
Karner blue butterfly ( <i>Lycaeides melissa</i> )	Eau Claire Clark Jackson	Endangered	Prairie, oak savanna, and jack pine areas with wild lupine ( <i>Lupinus perennis</i> )	The proposed Project falls within the High Potential Range for this species. Several areas of wild lupine large enough to support a Karner blue butterfly population were observed along the Project ROW.
Kirtland's warbler ( <i>Dendroica kirtlandii</i> )	Jackson	Endangered	Potential breeding in young jack pine stands	No potential Kirtland's warbler habitat was observed along the Project ROW.

Table 4-4:  
Analysis of Habitat Suitability for Federally Listed Species along Project ROW

Species	County	Status	Preferred Habitat	Action Area Evaluation
Sheepnose ( <i>Plethobasus cyphus</i> )	Eau Claire	Endangered	Chippewa River	The Chippewa River is located more than 20 miles from the Project ROW.
Whooping Crane ( <i>Grus americanus</i> )	Clark Jackson Trempealeau	Non-essential experimental population	Open wetlands and lakeshores	No potential whooping crane foraging, roosting, or nesting habitat was observed along the Project ROW.

As summarized in Table 4-4, the Karner blue butterfly is the only federally listed species likely to occur within the Project ROW. The Karner blue butterfly is a federally endangered species that lives in prairie, oak savanna, and pine ecosystems that contain wild lupine. Wild lupine is the only food plant for the Karner blue butterfly caterpillar. Level 1 wild lupine presence/absence surveys and Level 2 Karner blue butterfly surveys completed in 2010 indicated that both wild lupine and Karner blue butterflies were present within the existing transmission line ROW in several locations (Stantec 2010). DPC’s natural resources consultant conducted additional field reconnaissance activities to investigate the potential for Karner blue butterfly habitat in July 2012 after several landowners reported additional wild lupine locations within the existing ROW. The presence of additional wild lupine was confirmed during the site reconnaissance, and several of those areas identified were within Clark County forest land and appeared to have been recently planted. Clark County officials confirmed that wild lupine had been planted on county forest land and provided location information for wild lupine plantings. Additional wild lupine surveys would occur in 2013 to further identify the presence of wild lupine within the Project ROW prior to construction, and to identify areas where avoidance of ground disturbance would be necessary.

Regarding state listed species, WDNR-BER queried its Natural Heritage Inventory database for recorded occurrences of endangered resources within a 2-mile buffer around the Project centerline. Table 4-5 lists those species known to occur within 2-miles of the Project ROW.

Table 4-5:  
Analysis of Habitat Suitability for State Listed Species along Project ROW

Species	State Status	Preferred Habitat	Action Area Evaluation
Blanding’s turtle ( <i>Emydoidea blandingii</i> )	Threatened	Utilizes a wide variety of aquatic habitat types including deep and shallow marshes, shallow bays of lakes and impoundments where areas of dense emergent and submergent vegetation exists, sluggish streams, oxbows and other backwaters of rivers, drainage ditches, and sedge meadows and wet meadows adjacent to these habitats.	Potential Blanding’s turtle habitat was observed at several of the stream crossings and their adjacent riparian wetlands along the Project ROW.
Salamander mussel ( <i>Simpsonaias ambigua</i> )	Threatened	Mud, silt, or sand substrates beneath medium to large sized flat rocks and undercut ledges frequented by its host species, the mudpuppy ( <i>Necturus maculosus</i> ).	Potential salamander mussel habitat was observed at several river crossings along the Project ROW.

Table 4-5:  
Analysis of Habitat Suitability for State Listed Species along Project ROW

Species	State Status	Preferred Habitat	Action Area Evaluation
Wood turtle ( <i>Glyptemys insculpta</i> )	Threatened	Clean rivers and streams with moderate to fast flows and adjacent riparian wetlands and upland deciduous forests.	Potential wood turtle habitat was observed at several of the stream crossings and their adjacent riparian wetlands along the Project ROW.
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Special Concern	Large lakes and rivers with nearby tall pine trees are preferred for nesting.	Potential bald eagle nesting habitat was observed along the Project ROW.
Dusted skipper ( <i>Atrytonopsis hianna</i> )	Special Concern	Dry, open sandy areas, dry prairie, and pine barrens containing big blue stem ( <i>Andropogon gerardii</i> ) and little blue stem ( <i>Schizachryium scoparius</i> )	No potential dusted skipper habitat was observed along the Project ROW.
Elktoe ( <i>Alasmidonta marginata</i> )	Special Concern	Various-sized streams with flowing water, sand, gravel, or rock substrates that are stable.	Potential elktoe habitat was observed at several of the stream crossings along the Project ROW.
Missouri rock-cress ( <i>Arabis missouriensis</i> )	Special Concern	Soil pockets on acidic cliffs, as well as in pine forest on sterile sand and gravel outwash plains.	No potential Missouri rock-cress habitat was observed within the Project ROW.
Mud darter ( <i>Etheostoma asprigene</i> )	Special Concern	Buffalo River.	Potential mud darter habitat is present along the Project ROW at two crossings of the Buffalo River.
Persius dusky wing ( <i>Erynnis persius</i> )	Special Concern	Pine/oak barrens and sand barrens with wild lupine.	Several areas of wild lupine that may support a persius dusky wing population were observed along the Project ROW.
Prairie vole ( <i>Microtus ochrogaster</i> )	Special Concern	Native prairie sod preferred. Found in dry, grassy areas along fence lines and open fields.	Potential prairie vole habitat was observed within the Project ROW in areas also known to support Karner blue butterfly.
Pugnose minnow ( <i>Opsopoeodus emiliae</i> )	Special Concern	Buffalo River.	Potential pugnose minnow habitat is present along the Project ROW at two crossings of the Buffalo River.
Sand snaketail ( <i>Ophiogomphus smithi</i> )	Special Concern	Small to medium clean, fast-flowing, sandy, warm streams.	Potential sand snaketail habitat was observed at several of the stream crossings along the Project ROW.
Water shrew ( <i>Sorex palustris</i> )	Special Concern	Marshes, bogs, and cold, small streams with cover along the banks	Potential water shrew habitat was observed at several of the stream crossings along the Project ROW.
Weed shiner ( <i>Notropis texanus</i> )	Special Concern	Buffalo River	Potential weed shiner habitat is present along the Project ROW at two crossings of the Buffalo River.

As summarized in Table 4-5, three state threatened species (Blanding’s turtle, salamander mussel, and wood turtle) and nine state special concern species (bald eagle, elktoe, mud darter, persius dusky wing, prairie vole, pugnose minnow, sand snaketail, water shrew, and weed shiner) may occur along the Project ROW.

The bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) are no longer federally listed, but both are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The golden eagle does not breed in Wisconsin, and the Project area is unlikely to provide

wintering habitat for golden eagles. Bald eagles are known to occur in the vicinity of the Project area, and WDNR-BER identified two bald eagle nest locations within 2-miles of the Project ROW. According to USFWS setback for activities near active bald eagle nests begins at 660 feet (see USFWS response letter in Appendix H). Neither of the two known bald eagle nest locations is within 660 feet of the Project ROW.

## 4.7 Fish and Wildlife Resources

Based on the habitat present along the Project ROW, fisheries and wildlife resources include a range of species groupings (birds, mammals, fish, reptiles, amphibians, and insects), both resident and migratory. Habitat is likely used by one or more of these species groupings in almost every life-cycle stage (e.g. forage, shelter, breeding, rearing, migration, etc.). Forest and forest edge habitat occur along the northern and central portions of the Project ROW. Species that may occur in these habitats include small mammals, such as voles, shrews, mice, squirrels, and rabbits, and larger mammals, such as coyote, raccoon, fox, white tailed deer, and black bear; and songbirds. Fish, reptiles, and amphibians, such as snakes, turtles, toads and frogs, would likely be found near the wetlands and waterway crossings along the Project ROW, and a number of designated trout streams cross the Project ROW. The southern portion of the Project ROW consists primarily of agricultural land. Agricultural fields within the Project ROW may provide migratory stopover habitat for waterfowl such as Canada goose and foraging habitat for mammals such as white-tailed deer. Field edges and road ROWs may provide shelter, breeding, and foraging habitat for songbirds, upland game birds, and small mammals.

## 4.8 Cultural Resources

In October 2012 and in May and June 2013, DPC's cultural resources consultant, Mississippi Valley Archaeological Center (MVAC), conducted a Phase I archaeological survey of the transmission line route from the Strum Tap to the Lublin Substation. Proposed pole locations were staked by DPC prior to the surveys and only the pole locations were surveyed for cultural resources. The survey conducted by DPC's cultural resources consultant conformed to methodology outlined in the Guidelines for Public Archaeology in Wisconsin (WAS 2012). Thirteen previously recorded sites were identified within 1 mile of the proposed Project; however, all of these sites, except two, are located at least 0.25 mile from the Project area (Appendix E). The sites located within 0.25 mile, include a prehistoric lithic scatter located on the southern side of Rock Dam Road in Eau Claire County and a historic Euro-American site. Neither of these sites was observed during the survey nor are they located within the Project area (MVAC 2012 and MVAC 2013). No other cultural resources were identified during the Phase I archeological survey.

## 4.9 Air Quality

Clark, Eau Claire, Jackson, and Trempealeau counties are in attainment with national and Wisconsin Ambient Air Quality Standards (AAQS) for all criteria pollutants (ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead). The only areas in Wisconsin currently not meeting AAQS are in the eastern part of the state, along Lake Michigan, where several counties are designated as "nonattainment" with respect to the AAQS for 8-hour average ozone.

## 4.10 Visual Resources

Visual or aesthetic resources are naturally-occurring or manmade visible physical features (e.g., land, water, vegetation, structures, etc.) that occur along a landscape. Landscape character includes the distinctive qualities and arrangement of the features of a landscape, such as land, water, vegetation, and structures.

The northern and southern portion of the proposed Project would be located primarily on agricultural land characterized by flat to gently rolling terrain and scattered rural residences (see Photograph 1 through 5 in Appendix F). The central portion of the proposed Project would cross forested land associated with the Eau Claire County and Clark County forests. Rivers, streams, and creeks traverse the landscape and several would be crossed by the proposed Project, including King Creek, North and South Fork Buffalo River, and Diamond Valley Creek in the southern portion of the Project area; Bridge Creek, Black Creek, Pea Creek, and Horse Creek in the central portion; and Surveyor Creek and South Fork Eau Claire River in the northern portion. No lakes would be crossed by the proposed Project. The proposed Project would be located in an existing transmission line corridor and would parallel existing roadways for the majority of its length. Portions of the proposed Project that would not parallel an existing road would cross agricultural and forest lands within an existing transmission line corridor. The vegetation within the Project area includes fallow and active croplands surrounded by pockets of hardwood, aspen, oak, red pine, white pine, and jack pine forests (Eau Claire County no date(c)). Riparian vegetation is also present in the Project area and is associated with the rivers, streams, and creeks that traverse the landscape.

The proposed Project would cross recreation areas including the Buffalo River State Trail and Yellowstone Trail. The Buffalo River State Trail, managed by the WDNR, would be crossed by the proposed Project where the trail crosses County Road G, north of U.S. Highway 10. The Buffalo River State Trail is a 36-mile multi-use trail between the city of Mondovi in Buffalo County and the Village of Fairchild in Eau Claire County. The proposed Project would cross the Yellowstone Trail (County Road X) approximately 0.5 mile north of Wisconsin State Highway 29. The Yellowstone Trail was originally created by the Yellowstone Trail Association as a grass-roots effort to create transcontinental automobile highway. The Yellowstone Trail runs from Plymouth Rock in Massachusetts to the Puget Sound in Seattle, Washington (The Yellowstone Association no date). The proposed Project would also cross a tract of land included as part of the Buffalo River Fishery Area between Interstate 94 and County Road B. This portion of the Buffalo River Fishery Area is also identified as Osseo School Forest (138 acres), which is managed by the Osseo-Fairchild School District. Recreational opportunities that may occur within the Buffalo River Fishery Area include hiking, wildlife viewing, berry picking, snowmobiling, and ATV trails. The proposed Project would also cross or parallel ATV and snowmobile trails within Clark, Eau Claire, Jackson, and Trempealeau counties. The proposed Project would be located in close proximity to recreation areas including Stoddard Park, Coon Fork County Park, Rock Dam County Park, and Mead Lake County Park. Stoddard Park is in the city of Osseo and would be located approximately 1.75 miles north of the proposed Project. Stoddard Park amenities include a baseball field, swimming pool, and golf course. Coon Fork County Park is located approximately 1.5 miles north of the proposed Project and includes a campground, fishing pier, boat landing, swimming beach area, playground, volleyball court and picnic shelter (Eau Claire County no date(a)). Rock Dam County Park, located approximately 0.5 mile south of the proposed Project, offers camping, public fishing access, and a public boat landing (Clark

County 2005). Mead Lake County Park is located approximately 1.3 miles east of the proposed Project. Recreation opportunities within the park include camping, fishing, picnic areas, and boating (Clark County 2005).

Potential visually sensitive areas would be limited to the areas around rural residences, areas along the Buffalo River State and Yellowstone trails, ATV and snowmobile trails, Stoddard Park, county parks, and the Buffalo River Fishery Area/Osseo School Forest. Given the rolling terrain and the largely uniform vegetation coverage of the existing landscape, views of the proposed Project from areas not directly adjacent to the proposed Project would generally be screened (either partially or completely) by topography and/or vegetation. Several residences are located adjacent to the Project ROW; however, vegetation associated with residential landscaping or naturally occurring vegetation around residential structures may provide partial screening of the proposed Project.

Man-made modifications that have locally modified the Project area include dispersed residences associated with agricultural lands and associated ancillary structures (e.g., barns, maintenance sheds, fences, etc.). Local infrastructure modifications within the area include Interstate 94; Wisconsin State Highways 27 and 73; U.S. Highway 10, 12, and 53; county roads and local paved and unpaved roads; communication towers; two railroad corridors; a sand mine; Lublin and Bridge Creek substations; distribution lines; and high-voltage transmission lines. In addition to the N-3 transmission line, other transmission lines in the Project area include a 69kV transmission line, which is oriented northwest to southeast and crosses perpendicular to the proposed Project at Cranberry Road and Kempton Road; a 345kV transmission line, which is oriented northwest to southeast and crosses the proposed Project west of County Road M; and a 69kV transmission line, which is oriented east to west and crosses perpendicular to the proposed Project approximately 0.25 mile north of County Road N. An existing distribution line within the existing 60-foot ROW parallels the existing transmission line and the Project ROW for the majority of its length.

## 4.11 Transportation

Transportation corridors in proximity to the proposed Project consist of residential roads, county roads and highways, U.S. and interstate highways, and railroads. The proposed Project crosses 42 residential roads, 16 county roads or state highways, 2 U.S. highways, 1 interstate highway, and 2 railroads. Table 4-6 shows all of the roads crossed by the proposed transmission line and associated average annual daily traffic volumes. Some of the roadways would be crossed multiple times and each crossing is noted in Table 4-6.

**Table 4-6:  
Roads Crossed by the Project and Associated Average Annual Daily Traffic Volumes**

County	Road	Traffic Count <sup>1</sup>	Traffic Year <sup>1</sup>	Point Location <sup>1</sup>
Clark County	Wisconsin State Highway 29/73	10,300	2010	West of Bachelors Avenue
	County Road O	290	2010	East of Fisher Avenue
	Bruce Mount Avenue			
	West Colby Factor Road			
	Unnamed			
	Dickerson Avenue			
	Broek Road			
	Reseburg Withee Townline Road			
	Gorman Avenue			
	Bachelors Avenue			
	Center Road			
	Unnamed			
	Koehler Ford Lane			
	Unnamed			
	County Road M	350-720	2010	Between County Road GG and Pople River Road
	Wisconsin State Highway 73			
	Bill's Road			
	County Road N	380	2010	East of Bachelors Avenue
	153 Road			
	Unnamed			
	County Road X	910	2010	West of Bachelors Avenue
	Unnamed			
	Kington Road			
	County Road Mm	230	2010	East of County Road M
	Fisher Avenue			
	Camp Globe Road	100	≤ 2002	East of Koehler Ford Lane
	Sterling Road 9			
	Townhill Road 8			
	Bachelors Avenue			
	Tamarack Road C			
	Center Road			
	Stark Drive			
	Starks Road			
Mile Away Drive D				
Pine Road				
Pineland Road 10				
Sterling Avenue				

Strum–Lublin N-3  
69kV Transmission Line Rebuild Project

Table 4-6:  
Roads Crossed by the Project and Associated Average Annual Daily Traffic Volumes

County	Road	Traffic Count <sup>1</sup>	Traffic Year <sup>1</sup>	Point Location <sup>1</sup>
Eau Claire County	Wisconsin State Highway 27/ U.S. Highway 12	1,400	2003	East of Kempton Road
	Zank Road			
	Black Creek Road			
	Kempton Road			
	Hay Creek			
	County Road G			
	Unnamed			
	County Road H	340	2003	North of Forest Road
	County Road M (East of Augusta)	200	2003	East of U.S. Highway 12
	County Road M (South of Augusta)	300	2003	South of Brunzil Road
	County Road RR			
	County Highway RR			
	County Road RR			
	Camp Globe Road	110	2003	East of County Road H
Jackson County	U.S. Highway 10	2,200	2010	East of County Road G
	U.S. Highway 10	3,500	2005	West of County Road G
	Bluff View Road			
	Searcy Road			
	County Road G	250	≤ 2004	North of U.S. Highway 10
	County Road G	150	≤ 2004	South of U.S. Highway 10
Trempealeau County	Interstate 94	25,500	2007	West of County Road G
	U.S. Highway 53			
	Riphenberg Road			
	Unnamed			
	County Road B	570	2009	At Osseo City Boundary
	County Road O	220	2009	South of U.S. Highway 10
	County Road O/H	260	2009	East of Tracey Valley Road
	County Road H	440	2009	East of Karlstad Road
	Oak Grove Road			
Harmony Street				

<sup>1</sup> Shaded areas indicate that no data are available.

CFR Title 14 Part 77.9 states that any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the Federal Aviation Administration (FAA):

- *Any construction or alteration exceeding 200 feet above ground level*
- *Any construction or alteration:*
  - *Within 20,000 feet of a public use or military airport that exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet*
  - *Within 10,000 feet of a public use or military airport that exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet*
  - *Within 5,000 feet of a public use heliport which exceeds a 25:1 surface*
- *Any highway, railroad or other traverse way whose prescribed adjusted height would exceed the above-noted standards*
- *When requested by the FAA*
- *Any construction or alteration located on a public use airport or heliport regardless of height or location.*

The closest airport to the proposed Project is a private airport located near the southern end of the Project area and is approximately 4.9 miles west of the Strum Tap. The closest heliport is also located near the Strum Tap, approximately 1.14 miles north of the proposed Project. The closest public airport to the proposed Project is the Neillsville Municipal Airport, located approximately 19-miles southeast of the proposed Project.

No communication towers are located within the Project ROW, although five communication towers are located from 86 and 225 feet from the edge of the Project ROW.

## 4.12 Health and Safety

All DPC facilities are designed, constructed, operated, and maintained to meet or exceed applicable standards of design and performance set forth in the NESC.

Voltage on any wire (conductor) produces an electric field. The intensity of the electric field is proportional to the voltage of the transmission line. The flow of electrical current on a wire produces a magnetic field. The intensity of the magnetic field is proportional to the current flow through the conductors. EMF extends outward from the conductor and decreases rapidly with distance from the conductor. There is no federal or Wisconsin state standard for transmission line EMF.

Additional information can be found in the Wisconsin Public Service Commission brochure on EMF. This brochure is available online at <http://psc.wi.gov/theLibrary/publications/electric/electric12.pdf>.

## 4.13 Corona, Audible Noise, Radio and Television Interference

Corona is the electrical breakdown of the air near high voltage conductors into charged particles. Corona consists of audible noise and radio and television interference from electromagnetic interference.

Audible noise (AN) may consist of a variety of sounds of different intensities across the entire frequency spectrum. AN is measured in units of decibels on a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more “weight.” The A-weighted decibel (dBA) scale corresponds to the sensitivity range for human hearing. Noise levels capable of being heard by humans are measured in A-weighted decibels. Table 4-7 shows noise levels associated with common everyday sources. AN from an overhead electric transmission line can be produced by corona from the breakdown, or ionization, of air in a few centimeters or less immediately surrounding conductors. It occurs when the electric field intensity, or surface gradient, on the conductor exceeds the breakdown strength of air. Usually some imperfection, such as a scratch on the conductor or a water droplet, is necessary to cause corona.

Table 4-7:  
Common Noise Sources and Levels

Sound Pressure Level (dBA)	Typical Sources
100-105	Leaf blower
100-104	Circular Saw
84-89	Vacuum Cleaner
76-83	Garbage disposal
68-73	Inside car, windows closed, 30 MPH
55-65	Normal conversation
50	Background music
40	Living room
28-33	Quiet Room

Source: NPC (2011)

The primary land use in proximity to the proposed Project is rural agricultural; rural residences and farmsteads are scattered throughout the Project area. Current average background noise levels in these areas are typically in the range of 30 to 40 dBA. Ambient noise in rural areas is commonly caused by rustling vegetation, light traffic, and agricultural equipment use. Higher ambient noise levels, typically in the range of 50 to 60 dBA, are produced near roadways, urban areas, and commercial and industrial properties.

Sources of AN in proximity to the proposed Project include the equipment noise from agricultural operations, and residential activities, and noise generated by cars and trucks on local, state, and U.S. highways.

Corona on transmission line conductors can generate noise at the frequencies at which radio and television signals are transmitted. This noise can interfere with receiving signals and is called radio and television interference (RI/TVI). Radio reception in the AM (Amplitude Modulated) broadcast band (535 to

1605 kilohertz) is most often affected with what is commonly referred to as static. Frequency Modulated, or FM radio reception is rarely affected. Only radio receivers very near to transmission lines have the potential to be affected by radio interference. Corona can affect the reception of the video (picture) portion of a television signal. Television interference caused by corona appears as three bands of "snow" on the television screen. Television interference due to corona primarily occurs during rain or snow.

## 4.14 Socioeconomic and Community Resources

### *Clark County*

According to the 2010 U.S. Census, Clark County had a total population of 34,690, a 3.2 percent increase since the 2000 census. General 2010 Census demographics for Clark County show a 50.7 percent male and 49.3 percent female distribution of the predominantly (96.1 percent) white population. Per capita income in the county (\$19,797) is approximately 25.6 percent lower than the statewide average of \$26,624. Unemployment in Clark County was 3.8 percent, lower than the statewide average (4.6 percent) for the year 2010 (U.S. Census 2010).

### *Eau Claire County*

According to the 2010 U.S. Census, Eau Claire County had a total population of 98,736, a 5.6 percent increase since the 2000 census. General 2010 Census demographics for Eau Claire County show a 49 percent male and 51 percent female distribution of the predominantly (93.1 percent) white population. Per capita income in the county (\$24,826) is approximately 6.8 percent lower than the statewide average of \$26,624. Unemployment in Eau Claire County was 4.0 percent, lower than the statewide average (4.6 percent) for the year 2010 (U.S. Census 2010).

### *Jackson County*

According to the 2010 U.S. Census, Jackson County had a total population of 20,449, a 6.6 percent increase since the 2000 census. General 2010 Census demographics for Jackson County show a 53.2 percent male and 46.8 percent female distribution of the predominantly (89.3 percent) white population. Per capita income in the county (\$20,778) is approximately 22 percent lower than the statewide average of \$26,624. Unemployment in Jackson County was 2.9 percent, lower than the statewide average (4.6 percent) for the year of 2010 (U.S. Census 2010).

### *Trempealeau County*

According to the 2010 U.S. Census, Trempealeau County had a total population of 28,816, a 6.2 percent increase since the 2000 census. General 2010 Census demographics for Trempealeau County show a 50.8 percent male and 49.2 female distribution of the predominantly (94.5 percent) white population. Per capita income in the county (\$23,224) is approximately 12.7 percent lower than the statewide average \$26,624. Unemployment in Trempealeau County was 3.6 percent, lower than the statewide average of (4.6 percent) for the year 2010 (U.S. Census 2010).

## 4.15 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, states that “each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The analysis pursuant to this executive order follows guidelines from the Council on Environmental Quality, Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997).

The CEQ guidelines state that minority populations should be identified where “... (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis” (CEQ 1997).

In compliance with the CEQ guidelines, the minority and economic aspects of the proposed Project were evaluated on a regional basis. Minority and low-income data were analyzed for each census tract that the proposed Project would cross. It should be noted that the census tracts that were analyzed encompass a much larger area than the proposed Project, so the actual population located adjacent to the proposed Project is smaller than what is shown for the census tract. The socioeconomic trends shown by the census tract are expected to be representative of the population located in proximity to the proposed transmission line. Table 4-8 shows the census data for the state, for the counties crossed by the proposed Project, and for the census tracts crossed by the proposed Project.

Table 4-8:  
Census Data

Location	Population	Race Percentages		Per Capita Income	Population Below Poverty Level
		Caucasian	Minority		
<b>2010 Data</b>					
State of Wisconsin	5,686,986	86.2%	13.8%	\$26,624	11.6%
<b>Counties</b>					
Clark County	34,690	91.6%	8.4%	\$19,797	12.8%
Clark County, Census Tract 9503	4,350	98.3%	1.7%	\$19,565	11.9%
Clark County, Census Tract 9504	3,988	98.5%	1.5%	\$18,164	18.7%
Clark County, Census Tract 9508	3,173	96.2%	3.8%	\$23,279	11.5%
Eau Claire County	98,736	93.1%	6.9%	\$24,862	14.7%
Eau Claire County, Census Tract 0001	4,817	97.5%	2.5%	\$19,777	19.0%
Jackson County	20,449	89.3%	10.7%	\$20,778	16.4%
Jackson County, Census Tract 9603	4,077	97.0%	3.0%	\$21,553	14.0%
Trempealeau County	28,816	94.5%	5.5%	\$23,224	11.5%
Trempealeau County, Census Tract 1001	3,626	97.8%	2.2%	\$23,403	7.0%
Trempealeau County, Census Tract 1002	3,309	96.9%	3.1%	\$26,001	11.5%

Data for 2010 were available for Wisconsin, and Clark, Eau Claire, Jackson and Trempealeau counties, including census tracts within each of these counties that would be crossed by the proposed Project. Use of these datasets represents the most recent available data and provides an appropriate comparison given the low incidence of minority populations across datasets. According to the 2010 data, minority populations are less than 11 percent of the populations in Clark, Eau Claire, Jackson, and Trempealeau counties. Minority populations within the county census tracts that would be crossed by proposed Project range from approximately 1.5 percent to 3.8 percent, which is lower than both the county- and state-level data. Per capita income in Clark, Eau Claire, Jackson and Trempealeau counties (including census tracts) are lower than those reported for the state. Poverty levels in Clark, Eau Claire, and Jackson counties are higher than those reported for the state of Wisconsin. Poverty levels in Clark County Census Tracts 9503 and 9504, Eau Claire County Census Tract 0001, and Jackson County Census Tract 9603 are higher than those reported for the state of Wisconsin. Poverty levels in Clark County Census Tract 9508, Trempealeau County, and Trempealeau County Census Tracts 1001 and 1002 were less than those reported for the state of Wisconsin.

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

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## 5. Environmental Effects

This section describes potential environmental effects associated with the construction, operation, and maintenance of the proposed Project, and associated mitigation measures. The list of standard DPC best management practices (BMPs) for construction and operation and maintenance of the proposed Project is provided in Appendix B. DPC is also committed to following mitigation guidelines in the U.S. Department of Agriculture/U.S. Department of the Interior Environmental Criteria for Electric Transmission System to the extent applicable and practicable (USDI 1970).

It should be noted that at the time of this EA, that overland access and structure locations for the segment of the proposed Project from the Strum Tap to the Willard Tap (Phase I) have been identified by DPC, so relatively precise information regarding impacts has been calculated. DPC will begin identifying the locations of overland access and structure locations for the Willard Tap to Lublin Substation section of the proposed Project in summer or fall 2013. Impact calculations for this segment of the proposed Project were estimated based on a conservative 300-foot span between transmission structures.

### 5.1 Land Use

#### 5.1.1 *General Land Use*

Impacts to land use resulting from construction, operation, and maintenance of the proposed Project are expected to be less than significant. Temporary impacts within the existing transmission line ROW would be limited to those occurring during construction and are not anticipated to be significant. Landowners may be restricted from accessing the ROW during construction activities (vegetation clearing, transmission structure installation, conductor stringing, and conductor tensioning) at each transmission structure location. DPC would utilize existing local roads, existing maintenance roads, temporary overland access, and ATV/snowmobile trails for construction. Approximately 60 miles of temporary overland access (30 miles for Phase I and 30 miles for Phase II) would be needed for construction of the proposed transmission line, which would cause temporarily impact land use. Areas where overland access is located in an active agricultural field, agricultural operations may be suspended for a short period of time while the construction crews are hauling equipment to the transmission structure locations. Other temporary impacts include disturbance at each transmission structure location, approximately 100 square feet of temporary disturbance at each transmission structure, and at laydown yards, up to 20 acres of temporary disturbance (approximately five acres per laydown area) at up to four laydown areas. Areas of temporary disturbance would be revegetated and returned to pre-existing conditions after construction. Construction activities may temporarily impact ATV and snowmobile trails that cross or are adjacent to the Project ROW. Although no construction would occur within the trails, some trails may temporarily be used for construction access. DPC would obtain permission to use trails from the counties prior to construction. Trails may be inaccessible when construction activities are occurring, but trail users would be permitted to continue using trails when construction in the area is complete.

Permanent impacts are also expected to be less than significant because the proposed Project would be constructed primarily within the existing transmission line ROW. The existing ROW would be widened from 60 feet to 80 feet and result in permanent impacts where brush and tree clearing would be required.

However, vegetation clearing would be limited primarily to where the proposed Project is adjacent to or crossing wooded areas. The permanent area of disturbance would consist of the footprint of each structure and result in up to approximately 12 square feet of disturbance and approximately 1,020 permanent structures would be placed along the route resulting in up to 12,240 square feet of permanent disturbance. DPC is also in the process of coordinating with the counties crossed by the proposed Project to identify any additional land use permits that would be required. If the counties identify additional permitting requirements beyond those already identified, DPC would acquire those permits prior to initiating construction of the proposed Project.

The transmission line is not expected to have an impact on any of the goals, policies, existing or future land use plans as outlined in the Eau Claire County Comprehensive Plan, Eau Claire County Forest Comprehension Land Use Plan, Eau Claire County Outdoor Recreation Plan, or Claire County and Trempealeau County land use maps. The proposed Project consists of rebuilding an existing transmission line within an existing ROW, and although the existing ROW would be widened, it would not result in a change in land classification. In areas where the proposed Project would cross shoreland and/or floodplain overlay districts, DPC would work with Clark, Eau Claire, Jackson, and Trempealeau counties to obtain the appropriate permits.

Construction and operation of the proposed Project is not anticipated to have significant effects on land use because the land use would not be changed from its current use for an electric transmission line. Any impacts resulting from the proposed Project would be further reduced by implementing the mitigation measures described below (Section 5.1.4) and in Appendix A.

### ***5.1.2 Prime and Important Farmland***

Temporary impacts to prime farmland and farmland of statewide importance would be minimal and would be limited to the disturbance around the foundation of each structure. Access to transmission structures located in prime farmland and farmland of statewide importance would be overland along the edges of agricultural fields.

Permanent impacts to prime farmland and farmland of statewide importance are also expected to be minimal and would be limited to the footprint of the structure foundations and because the proposed Project would be located within an existing transmission line ROW. The Project centerline crosses approximately 15.5 miles of prime farmland and 8.9 miles of farmland of statewide importance. The table below summarizes the anticipated permanent impacts to prime farmland and farmland of statewide importance. As described in the introduction to Section 5 of this document, impacts between Strum Tap and Willard Tap were calculated based on near-final structure placement, while impacts between Willard Tap and Lublin Substation were estimated based on a span of approximately 300 feet between structures.

Table 5-1:

**Approximate Impacts to Prime Farmland and Farmland of Statewide Importance**

Project Segment	Approximate Impacts to Prime Farmland	Approximate Impacts to Farmland of Statewide Importance
Strum Tap to Willard Tap	117 structures (0.03 acres of permanent impact)	91 structures (0.02 acres of permanent impact)
Willard Tap to Lublin Substation	158 structures (0.04 acres of permanent impact)	60 structures (0.016 acres of permanent impact)

DPC anticipates no more than 3,300 square feet of permanent disturbance in prime farmland and no more than 1,812 square feet of permanent disturbance in farmland of statewide importance. DPC would remove and reclaim all of the existing transmission line structures located within prime farmland or farmland of statewide importance upon completion of construction. No permanent access roads would be constructed on prime farmland or farmland of statewide importance.

Temporary and permanent impacts as described above would be minimized by implementing the mitigation measures listed in Section 5.1.4 and in Appendix A.

### ***5.1.3 Formally Classified Lands***

Construction and operation of the proposed Project is anticipated to have less than significant effects on formally classified lands, because utilities, including power transmission lines, are a conditional use within Clark and Eau Claire county forests and within the Buffalo River Fishery Area in Jackson and Trempealeau counties. Permanent impacts are also expected to be less than significant because the proposed Project would replace an existing transmission line and would be constructed within an existing ROW. Permanent impacts would be limited to the footprint of the transmission structure foundations and where tree trimming would be required in order to maintain a safe distance between tree branches on the edge of the newly widened Project ROW and the new transmission line. Within county forests, the majority of the proposed transmission line would parallel existing roadways, thereby limiting tree clearing required to one side of the Project ROW. No permanent access roads would be constructed within formally classified lands and temporary impacts within formally classified lands would be limited to the disturbance around the foundation of each structure and overland access to each structure. DPC would coordinate with Clark and Eau Claire counties and WDNR to obtain all necessary permits required for crossing county forest and the Buffalo River Fishery Area.

### ***5.1.4 Mitigation and Monitoring***

In addition to those described in the BMPs in Appendix A, the following mitigation measures would be employed to reduce potential impacts to land use

- The removal of landscaping will be avoided whenever possible.
- Access to all residences will be maintained during construction.
- Disturbed areas will be reseeded according to landowner requests.

## 5.2 Vegetation

Proposed construction activities would involve excavation and grading in limited areas around each proposed transmission structure that would temporarily disturb herbaceous vegetative cover. Equipment access also has the potential to disturb vegetation. The long-term effects of these actions are not expected to result in measurable losses; rather, short-term effects (during construction) would result in areas of bare ground. Permanent impacts to vegetation would occur within the footprint of each structure, within the widened ROW and where anchors for downguys are placed in the ground.

Widening of the existing 60-foot ROW to 80 feet would result in the permanent loss of less than one acre of woody and herbaceous vegetation where the existing ROW is adjacent to or crosses forested areas as identified by NLCD. Some trimming of forested areas along overland access with overhanging or overgrown woody vegetation would be necessary to permit passage within a cross-sectional area measuring approximately 15 feet in height and width. The long-term effects of the ROW widening and temporary use of overland access are not expected to result in measurable losses, but short-term effects (during construction) would result in areas of bare ground and long-term effects would result from vegetation maintenance within the 80-foot Project ROW.

The four construction laydown areas would result in the temporary loss of farmland during one growing season. DPC would choose laydown areas carefully so as to avoid tree clearing. Upon completion of construction, DPC would revegetate the disturbed areas to pre-construction conditions.

Overall, impacts to vegetation are anticipated to be less than significant because the proposed Project would be located within an existing ROW that is currently maintained for construction and operation of a transmission line. Permanent impacts would be primarily limited to the footprint of transmission structures and vegetation clearing within the widened ROW. There would be no permanent access roads and no permanent impacts as a result of the construction laydown areas, because these areas would be revegetated to pre-construction conditions after construction.

### 5.2.1 *Mitigation and Monitoring*

In addition to those described in the BMPs in Appendix A, the following mitigation measures would be employed to reduce potential impacts to vegetation:

- DPC will use methods such as installing silt fence or using timber matting to protect existing vegetative cover where necessary and practicable to avoid erosion or sedimentation.
- Disturbed areas will be restored by re-grading, seeding, and/or mulching as necessary per landowners' preferences.
- Monitoring will take place until 70 percent (or greater if requested by the landowner) of the original cover is attained or applicable permit conditions are otherwise satisfied.

## 5.3 Floodplains

The proposed Project would result in up to 32 new transmission structures (26 associated with Phase I and 6 associated with Phase II) being placed in 100-year floodplains to replace the existing transmission structures within 100-year floodplains. Disturbance in floodplains would be limited to the area needed for the new structures and would result in up to 384 total square feet of permanent disturbance (approximately 12 square feet at each structure location). During construction, ground cover and soils would be temporarily disturbed. Effects resulting from the removal of groundcover and soils in floodplains would be temporary in nature and the area not occupied by the transmission structures would be reclaimed and revegetated to pre-construction conditions. Potential floodwater displacement could occur where structures are placed in floodplains. Based on the low volume of potential floodwater displacement, impacts on flooding are not anticipated.

Upon completion of construction, existing transmission structures would be removed from their current location within 100-year floodplains. The disturbed area associated with the removal of the existing structures would be revegetated and graded to pre-construction conditions so that water flow is not impeded during flooding events.

Based on preliminary engineering for Phase I, construction of the proposed Project would require approximately 1-mile of temporary overland access in 100-year floodplains. Construction of Phase II of the proposed Project would result in fewer feet of temporary overland access through 100-year floodplains, because fewer floodplains are located along this segment of the transmission line. The use of temporary overland access would not require improvement, dirt work, or gravel amendments. As a result, no impacts to floodplains from the use of or construction of overland access are anticipated.

With implementation of the mitigation measures described below, it is not anticipated that construction or operation would have significant effects on floodplains.

### 5.3.1 *Mitigation and Monitoring*

In addition to those described in the BMPs in Appendix A, the following mitigation measures will be employed to reduce potential impacts to floodplains:

- DPC will coordinate with the U.S. Army Corps of Engineers (USACE), WDNR, and local authorities for approval of structure locations.
- DPC will follow all floodway development requirements as outlined in Chapter 12 of the Clark County Code of Ordinances.
- DPC will follow all floodway development requirements as outlined in Chapter 18 of the Eau Claire County Code of Ordinances.
- DPC will follow all floodway development requirements as outlined in Chapter 20 of the Jackson County Comprehensive Zoning Ordinances.
- DPC will follow all floodway development requirements as outlined in the Trempealeau County Floodplain Zoning Ordinance.
- DPC will obtain all permits listed in Section 6 of this EA.
- DPC will preserve existing natural vegetation to the extent practicable.
- DPC will restore temporary ground disturbance within 100-year floodplains caused by construction activities by revegetating the area impacted to pre-construction conditions.

## 5.4 Water Quality

Of the 25 waterways crossed by the proposed Project (Section 4.4), only 5 would need to be crossed with construction vehicles or equipment due to dense forest or topographic constraints in their vicinity including South Fork Buffalo River in Trempealeau County, an unnamed intermittent stream and an unnamed intermittent tributary of Horse Creek in Eau Claire County, and Hay Creek and an unnamed creek in Clark County. Permitting from WDNR and construction of TCSBs to enable access by heavy equipment would be required for the crossings. The TCSBs would be approximately 16 feet wide and would be supported by temporary construction matting on either side of the waterbody. Ground-disturbing construction activities including the operation of construction vehicles adjacent to waterways involves some risk to water quality; ground disturbance resulting from excavation, grading, and construction traffic may lead to sediments reaching surface waters. Impacts are unlikely provided that erosion control measures and mitigation measures listed in Section 5.4.1 are properly implemented. Impacts resulting from structure placement would not occur because all surface waters crossed by the transmission line would be spanned and no proposed structures occur below the ordinary high water line of waterbodies crossed by the proposed Project. Impacts to groundwater are not anticipated. Construction-related liquids (e.g., equipment lubricants) would be managed to avoid spills on the ground surface. Vehicle fueling would occur off site.

After construction, there would be no anticipated impact on surface water quality resulting from operations and maintenance of the transmission line.

### 5.4.1 Mitigation and Monitoring

During construction, the most effective way to avoid impacts is to avoid wet areas, streams, and rivers. Equipment fueling and lubricating would not occur on site. The following construction practices would help prevent and/or contain accidental spills, soil erosion, and sedimentation:

- DPC will thoroughly plan, install, and maintain erosion control measures and revegetate and stabilize disturbed soil adjacent to waterways.
- Spill prevention, control, and countermeasures will be implemented as detailed in the Stormwater Management Plan developed for the proposed Project.
- Waterbodies will be spanned.
- No fuel storage or refueling will take place on site.
- Once construction has been completed, construction areas, laydown areas, and overland access will be cleared of debris and disturbed ground cover and soils will be returned to pre-construction conditions so that sedimentation will not occur.
- Construction activity will not be permitted below the ordinary high water line of any water body.
- With the exception of the three streams requiring TCSBs, construction contractors will not drive across streams crossed by the proposed Project.
- DPC will utilize appropriate WDNR-suggested stormwater and erosion control methods to protect surface waters at TCSB locations.
- DPC will obtain permits listed in Section 7 of this ER.

## 5.5 Wetlands

The proposed Project is expected to result in minimal impacts to wetlands. Based on preliminary engineering for Phase I, approximately 61 structures would be located in 35 wetlands. Of the 35 affected wetlands, 21 wetlands would be permanently impacted by one structure; nine wetlands would be permanently impacted by two structures; and five wetlands would be permanently impacted by three to six structures. The Wetland Delineation Report provides further information regarding impacts to wetlands based on preliminary engineering. DPC is currently working on updating the preliminary engineering to reduce the number of structures in wetlands. Wetlands crossed by the proposed Project are shown on sheet maps in Appendix A. The area of wetland that would be permanently altered (filled) by each proposed transmission structure is approximately 12 square feet. Total wetland impacts resulting from Phase I of the proposed Project are estimated to be approximately 732 square feet.

Engineering of Phase II is not complete, but it is anticipated that because Phase II is shorter than Phase I and is in an area with relatively fewer wetlands, wetland impacts for Phase II would be less than those associated with Phase I. Impacts resulting from Phase II of construction would be identified upon completion of wetland delineations and final engineering of the transmission line and overland access.

Upon completion of construction existing transmission structures would be removed from their current location within wetlands. The disturbed area associated with the removal of the existing structures would be revegetated and graded to pre-construction conditions so that water flow is not impeded during flooding events.

While some of the roads to be utilized for access to the Project ROW for construction also cross wetlands, they have been selected because they have already been improved for farm access (by bridging or historical fill), because they have historically been used for maintenance of the existing N-3 transmission line, or because they are only seasonally wet and otherwise passable. In this way, they avoid wetland impacts. Based on preliminary engineering for Phase I, approximately 0.36 mile of temporary access through wetlands would be required where no existing upland access exists. Overland access through wetlands during construction of Phase II would be shorter because Phase II is shorter in length than Phase I and because there are fewer wetlands located along Phase II when compared with Phase I. As feasible, DPC would limit work in wetlands to the wintertime when the ground is frozen to reduce temporary impacts to wetlands. When winter work is not feasible, DPC would utilize low ground pressure vehicles (e.g. ATV or Utility Vehicle [UTV]) and temporary construction matting (approximately 8 feet in width) to access structure locations. Additional temporary ground disturbance associated with construction in wetlands would result in approximately 100 square feet of temporary disturbance at each transmission structure. Upon completion of construction, the existing transmission structures would be cut down with a chainsaw, cut into smaller portions, and dragged to the nearest upland area or access road. All temporary disturbance resulting from construction of the proposed Project would be revegetated to pre-existing conditions.

The rest of the wetlands in the Project ROW would be spanned. Impacts to spanned wetland areas would be negligible. Clearing vegetation, removing existing conductor, and stringing new conductor would be the only construction activities taking place in these areas. Access to these areas for stringing a guide

rope would be by foot or low ground pressure vehicle, and the conductor wire would be pulled from an upland location whenever practicable.

### ***5.5.1 Mitigation and Monitoring***

Wetland impacts have been avoided to the extent practicable through preliminary design and the identification of off-ROW access to minimize the need for wetland crossings with heavy construction equipment. In addition to the BMPs described in Appendix A, the following mitigation measures will be employed to reduce potential impacts to wetlands:

- Crews will take advantage of periods of dry and frozen ground conditions, which is expected to occur between September and May, during the construction period.
- During periods that the ground is not dry or frozen, or in wetland locations with low stability conditions, temporary construction matting will be used to minimize impacts if access into wetlands cannot be rescheduled or relocated.
- Sedimentation control measures will be installed and maintained upslope of wetlands wherever erosion potential exists as a result of upland ground disturbance.
- DPC will monitor construction activities to promote the use of impact avoidance measures and appropriate impact minimization practices (e.g., erosion and sedimentation control, low ground pressure equipment, matting).
- DPC will obtain all permits listed in Section 6 of this ER.

## **5.6 Threatened and Endangered Species**

The Project ROW crosses a complex landscape of varying ecological regions (Section 4.2). Given the diversity and uniqueness of microhabitats known to occur within these landscapes, a number of species that are adapted to these microhabitats are likely to be present. Some of the species are species of special concern as discussed in Section 4.6.

In a letter dated May 9, 2012, USFWS commented on the proposed Project's anticipated impact to federally listed species, proposed and candidate species, and critical habitat. USFWS concerns were limited to the Karner blue butterfly. DPC has been accepted as a partner in the Wisconsin Karner Blue Butterfly Habitat Conservation Plan – a partnership between the USFWS, the WDNR, plan partners (DPC and other utilities, land managers, and foresters), and Wisconsin citizens. As such, DPC has committed to following designated protocols in rebuilding the existing line, which includes construction of the those portions of the line containing Karner blue butterflies and/or associated habitat during winter and limiting vehicle parking in those areas to the roadway (WDNR 2010). Limiting construction to the winter months eliminates the potential for impacting the species' reproduction (eggs hatch in April and June each year) and avoids impact to the wild lupine plant (dormant in winter and the only food source for Karner blue caterpillars). The Wisconsin Statewide Karner Blue Butterfly Habitat Conservation Plan guidance and Construction, Maintenance, Repair, and Management Guidelines are provided in Appendix G. Given DPC's commitment to the guidelines, the WDNR and USFWS do not anticipate impacts to the Karner blue butterfly or its associated habitat (see records of agency correspondence in Appendix H). Based on this consultation with USFWS, RUS has determined that the proposed Project will have "no effect" on threatened or endangered species or critical habitat in accordance with Section 7 of ESA.

Potential exists for impacts related to construction and operation and maintenance activities to occur to certain state listed species that are assumed or known to occur in the area surrounding the Project ROW (Section 4.4). The WDNR has also classified nine waterways crossed by the proposed Project as being potential habitat for endangered, threatened, or special concern species (Section 4.4). Table 5-2 describes the potential for impacts to the resources of concern to WDNR-BER. No long-term impacts to existing habitat for threatened or endangered species is expected to result because the proposed Project is a rebuild of an existing transmission line within the same ROW and transmission structures would be replaced at or near their existing positions and because impacts to surface waters would be avoided and/or mitigated as described in Section 5.4. WDNR-BER concurred with the findings reported in Table 5-2 in an email on November 30, 2012 (Appendix H).

Table 5-2:  
State-Listed Species and Potential for Project Impacts

Species	Status	Impact Probability Comments
Blanding's and wood turtles	Threatened	Low. Construction would occur during the inactive season where possible, and other protective measures would be applied as needed in coordination with the WDNR.
Fish and mussels	Various	Negligible. Waterways would be spanned.
Water shrew	Special Concern	Negligible. Waterways would be spanned.
Prairie vole	Special Concern	Negligible. This species may be present in habitat overlapping with the Karner blue butterfly. Measures to minimize ground disturbance in Karner blue butterfly habitat areas would also reduce impacts to prairie voles.
Persius dusky wing	Special Concern	Negligible. This species may be present in habitat overlapping with the Karner blue butterfly. Measures to minimize ground disturbance in Karner blue butterfly habitat areas would also reduce impacts to persius dusky wing.
Sand snaketail	Special Concern	Negligible. Waterways would be spanned.
Bald Eagle	Special Concern	Low. Protective measures can be applied as needed.

### 5.6.1 Mitigation and Monitoring

DPC would incorporate the protective measures recommended by WDNR for avoiding and minimizing impacts to state special status species and natural communities, as listed in Table 5-3, during facility design, access planning, and development of construction sequencing plans. DPC would coordinate in advance with WDNR to determine alternative protective measures where the measures in Table 5-3 are deemed impracticable because of unavoidable scheduling and/or construction sequencing requirements. Monitoring would occur during construction activities, per agency agreements and permit conditions.

Table 5-3:  
Mitigation Measures for State Special Status Species

Affected Species	Proposed Mitigation
Blanding's and Wood turtles	Restrict construction activity within habitat to November through March or install and maintain exclusion fencing per WDNR protocols.
Bald eagle	Maintain a buffer of at least 660 feet between Project activities and any active or alternate nests. If construction or disturbance must be performed closer than 660 feet, activity would be restricted to outside the nesting season (i.e., August through mid-January).

## 5.7 Fish and Wildlife Resources

There is minimal potential for long-term displacement of wildlife and loss of habitat from the proposed Project because it would be constructed along an existing transmission ROW. Wildlife could be temporarily displaced within the immediate area of construction activity. Migratory birds are not expected to be significantly affected because no major nesting areas were observed within the Project ROW.

### 5.7.1 *Mitigation and Monitoring*

Coordination with the WDNR and USFWS has not identified any additional concerns beyond those related to special status species, therefore, mitigation measures beyond those associated with erosion and sediment control measures to prevent impacts to water bodies are not proposed.

## 5.8 Cultural Resources

No previously recorded sites and no cultural resources were identified along the proposed route during the Phase I archaeological survey and the pedestrian survey performed by MVAC. No impacts to cultural resources are anticipated to result from construction of the proposed Project. DPC submitted a form requesting SHPO Comment and Consultation on a Federal Undertaking on January 16, 2013 (Phase I) and on June 24, 2013 (Phase II). DPC indicated that no historic properties would be affected by the proposed Project. The State Historic Preservation office agreed with DPC's findings (see SHPO consultation in Appendix H). Based on a review of the surveys and consultation with the SHPO, RUS is proposing that a finding of no historic properties affected is appropriate for the proposed Project in accordance with Section 106 of the National Historic Preservation Act. RUS has submitted the surveys to Indian Tribes for review and comment.

### 5.8.1 *Mitigation and Monitoring*

If human bone or cultural resources are discovered during construction, work would be immediately suspended and DPC would contact the RUS and the State Historical Society of Wisconsin, Burial Sites Preservation Office.

## 5.9 Air Quality

Construction of the proposed Project would result in relatively small amounts of construction equipment exhaust emissions, and if soil along access roads is loose and dry, there would be some potential for fugitive dust emissions. NR154.11 of the Wisconsin Administrative Code states that no person shall allow materials to be transported without taking precautions to prevent the particulate matter from becoming airborne. Temporary impacts from fugitive dust would be minimized or avoided by using mitigation measures as described below. Emissions resulting from corona-related ozone and nitrogen during operation of the transmission line are discussed in Section 5.13.

### 5.9.1 *Mitigation and Monitoring*

In addition to those described in the BMPs in Appendix A, the following mitigation measures would be employed to reduce potential impacts to vegetation:

- Water will be applied to alleviate dust nuisance generated by construction activities.
- If water proves to be ineffective, soil binders will be used for dust suppression.

## 5.10 Visual Resources

The proposed transmission structures would be single-pole wood structures that are similar to the existing structures being replaced. The alignment for the new transmission line would be offset from the existing alignment within the existing 60-foot ROW to allow the existing transmission line to remain in service during construction of the new transmission line. The existing 60-foot ROW would be widened to 80 feet which is DPC's current standard ROW width for 69kV transmission lines. Reconstruction of the existing transmission line would create direct short-term effects to visual resources by introducing vehicles, equipment, materials, and a workforce during the construction period. Viewers would see transmission line structure assembly and erection and conductor stringing activities. Visual effects from construction activities would not be significant because of the short-term duration of the construction timeframe, anticipated to be an intermittent 4 to 5 days at each structure.

The proposed Project would not have a significant effect on visual resources in the long-term because the new transmission structures would be similar in form and color as the structures being replaced. Although the ROW would be widened, requiring some vegetation clearing, changes to the casual observer would be less than significant due to the existing modifications created by the existing ROW. In addition, the proposed Project would not be out of character with the aesthetic character of the existing landscape because many man-made features (e.g., high-voltage transmission lines, substations, and communication towers) are common within the area. Given the presence of existing man-made features, the landscape has a higher visual absorption capacity for new elements compared to landscape that are less modified by man-made structures because they have already introduced similar vertical elements into the landscape setting. The high degree of modification to the existing landscape, and the visual variability in the landscape, which consists of a mosaic of agricultural lands, forested areas, farms, transmission lines, residences, buildings, and other man-made structures, would allow the new transmission line to blend with the existing landscape.

Sensitive viewsheds include the views from local residences. Residences adjacent to the Project ROW have views that range from unobstructed to partially or intermittently screened by vegetation located between the residence building and the existing ROW. The proposed Project would not have a significant effect on these sensitive viewers because the new transmission structures would be similar in form and color as the structures being replaced and would be located within the existing ROW. Residences located farther away would have a less prominent view of the proposed Project and modifications would not be discernible to the casual observer. Sensitive viewers would also include recreational users associated with county parks (e.g., Coon Fork, Mead Lake, and Rock Dam), Stoddard Park, Buffalo River State Trail, Yellowstone Trail, Buffalo River Fishery Area/Osseo School Forest, and ATV and snowmobile trails. Views of the proposed Project from recreational users associated with County and local parks would be completely screened by exiting vegetation and/or by rolling topography. Recreational users of the Buffalo River State Trail, Yellowstone Trail, and ATV/snowmobile trails would have level, unobstructed views of the proposed Project where it crosses the trails. The new transmission line would not have a significant impact on viewers; however, because the new structures would be similar in form, size, and color to the

existing transmission structures that are being replaced, and they would be placed within the existing disturbed ROW. Recreational users within the Buffalo River Fishery/Osseo School Forest would generally have screened (partially or completely) views of the new transmission line when not directly adjacent to the Project ROW. Viewers standing directly adjacent to or within the Project ROW would have unobstructed views of the new transmission line; however, the proposed structures would be similar to existing structures that are being replaced.

Overall, effects to the aesthetic environment are anticipated to be less than significant because vertical elements similar to the proposed 69kV transmission line already exist in the landscape, so the proposed Project would not be out of character with the existing landscape. Furthermore, many sensitive views would be partially to completely screened by existing vegetation and/or topography.

### ***5.10.1 Mitigation and Monitoring***

The proposed Project design reduces impacts to a level that is less than significant by locating the proposed Project within an already disturbed corridor. In addition, to further minimize potential visual effects, existing undisturbed trees, shrubs, and native vegetation would be preserved to the extent possible to maintain visual contrast in the landscape.

## **5.11 Transportation**

Effects to transportation resulting in construction of the proposed Project are not expected to be significant and would be temporary in nature. Construction crews would use public roadways and up to 60-miles of overland access (up to 30 miles for Phase I and up to 30 miles for Phase II) to access structure locations and to string conductor along the proposed 69kV transmission line route. A small construction crew consisting of approximately 15 to 20 people for the transmission line would be required. It is not anticipated that construction equipment or labor transportation would have a significant impact on traffic volumes or flow on local roadways or state highways. Any increases in traffic would be short-term in nature and would be limited to the construction time period near individual transmission structures.

It would be necessary to cross 61 roads (some roads would be crossed multiple times) while stringing the conductor, and traffic would temporarily be delayed for the time that it would take to string the conductor across the road. Conductor stringing at these locations is estimated to require only a few hours per crossing. If lane closures are necessary while conductor stringing takes place, at least one lane would remain open to traffic at all times. Temporary guard or clearance poles would also be installed to ensure that conductors do not obstruct traffic during stringing. Once the installation of new conductors has been completed, the temporary guard poles would be removed.

The proposed Project crosses two railroad corridors. DPC would coordinate with the railroad companies to obtain all necessary permits prior to construction. Conductor stringing at these location is estimated to require only a few hours and temporary guard or clearance poles would be installed to ensure that conductors do not obstruct the railroad tracks during stringing. Construction of the proposed Project would not impede railroad operations, so no impacts to railroads are anticipated.

No impacts to airports or heliports during construction or operation of the proposed Project are anticipated. The closest private airport is 4.9 miles southwest of Strum Tap at the southern end of the proposed Project. The closest heliport is also located near Strum Tap, and is located 1.14 miles north of the proposed transmission line. The closest public airport is the Neillsville Municipal Airport, located 19 miles southeast of the proposed Project. DPC used the FAA Notice Criteria tool to determine whether the new transmission structures would require DPC to file a notice to construct with the FAA (FAA 2011). The screening tool indicated that the proposed Project does not exceed the Notice Criteria; therefore, DPC is not required to file a notice with the FAA.

Construction, operation, and maintenance of the transmission line would have no significant effects on transportation or access in the Project area. The minor effects that would take place during construction would be minimized by utilizing the mitigation measures described below.

### ***5.11.1 Mitigation and Monitoring***

In addition to the BMPs described in Appendix A, the following mitigation measures would be employed to reduce potential impacts to transportation:

- Roadway crossings will be maintained in a condition that will prevent tracking of sediment onto the roadway.
- Mud tracked onto paved roadways will be shoveled or swept off the road daily.
- Road crossings resulting from stringing operations will be discussed with the appropriate transportation organization and, if required, personnel will be enlisted to assist with public safety and to ensure minimal disruption to traffic flow.
- The contractor will not utilize state or county road/highway ROW for parking.
- The contractor will be required to make necessary provisions for conformance with federal, state, and local traffic safety standards using traffic control, signage, and hazard cones as necessary to minimize the obstruction and to provide for the smooth flow of traffic around or through the construction area.
- Temporary guard or clearance poles may be installed to ensure that conductors do not obstruct traffic during stringing.

## **5.12 Health and Safety**

There will be no health impacts resulting from the construction and operation of the proposed Project, either through the effect on air quality or because of the electromagnetic or electrostatic characteristics are nonexistent. Sources of EMF in the proximity to the proposed Project include two 69kV transmission lines and a 345kV transmission line and several distribution lines. Since the single- and double-circuit 69kV transmission line would be replacing an existing 69kV transmission line, the proposed Project would not be introducing new a source of EMF in the area. Many studies of EMF have been conducted but none has identified a mechanism by which EMF can cause disease. Considerable research has been devoted to this subject over the past 30 years. More information and questions and answers can be found on the website for The National Institute of Environmental Health Sciences: <<http://www.niehs.nih.gov/health/topics/agents/emf/>>.

The potential for injuries or mortality from a variety of accidental causes involving the proposed transmission line is a valid consideration with any high voltage facility. DPC's transmission line design is in accordance with the National Electrical Safety Code and Wisconsin State Electric Code-Part 2 and designed to minimize the possibility of injury from either inadvertent causes or ill-advised tampering by the public. There exists a possibility of human hazards despite all attempts to educate the public and design tamper-proof facilities. However, this hazard would be no greater for the proposed transmission line than presently exists from existing similar facilities in the area.

### 5.12.1 Mitigation and Monitoring

DPC would continue to communicate with landowners adjacent to the Project ROW on the safe operation of equipment near a transmission line. Because no additional impacts to human health and safety are anticipated, no mitigation measures are proposed.

## 5.13 Corona, Audible Noise, Radio, and Television Interference

Corona from transmission lines can create buzzing, humming, or crackling. Measures such as carefully handling the conductor during construction to avoid nicking or scraping or otherwise damaging the surface and using hardware with no sharp edges or points are typically adequate to control corona. Corona effects are expected to be low enough that no objectionable audible noise would result outside the Project ROW. Corona-related ozone and nitrogen oxide emissions are the primary air quality concerns related to transmission line operation. The concentration of ozone caused by corona is a few parts per million near the conductor and is not measurable at any distance from the conductor.

The construction of the proposed Project would result in AN from the transmission line and temporary short-term noise increases in areas where construction and staging are taking place. Indirect effects from and maintenance activities, would be insignificant because of their short duration and infrequency. The AN generated during construction would be caused by foundation construction, assembly and erection of the transmission line structures, and noise generated by construction equipment such as auguring machines, cranes, heavy machinery, and trucks.

Typical equipment associated with transmission line construction and the associated noise levels at full power are shown in Table 5-4. Shaded areas indicate reference noise levels.

Table 5-4:  
Construction Equipment Noise Levels

Equipment	Typical Noise Levels 50 feet from Source (dBA) <sup>1</sup>
Rural area during daytime <sup>1</sup>	40
Residential area during daytime	50
Normal conversation at 6 feet	55-65
Trucks	75
Air compressor	81
City traffic	80
Backhoe	80

Table 5-4:  
Construction Equipment Noise Levels

Equipment	Typical Noise Levels 50 feet from Source (dBA) <sup>1</sup>
Concrete mixer	85
Mobile crane	83
Bulldozer	85
Grader	85
Rotary drilling rig <sup>2</sup>	87
Peak combined equipment <sup>3</sup>	89
Lawn mower	90

Note: shaded areas indicate reference noise levels.

<sup>1</sup> Source: DOT (2006) except as noted.

<sup>2</sup> Yantak (2007)

<sup>3</sup> DOE (2002)

Under peak conditions during construction, with the noisiest construction equipment operating simultaneously, the highest average expected noise level is estimated to be 89 dBA-equivalent sound level (Leq) at a reference distance of 50 feet (DOE 2002). This noise level is approximately equivalent to noise experienced on a sidewalk next to a busy urban street. Noise decreases with distance at a rate of approximately 6 dBA per doubling of distance from the noise source. Based on this attenuation rate, at distances above 0.25 mile, peak construction noise would be approximately 61 dBA, or equivalent to normal conversation at 6 feet.

Noise from heavy machinery during construction of the proposed transmission line may create a short-term nuisance to nearby residents. DPC would mitigate the nuisance by ensuring that construction vehicles and equipment are maintained in proper operating condition and equipped with manufacturer's standard noise control devices or better (e.g., mufflers or engine enclosures).

Landowners in proximity to electric transmission lines are often concerned that new transmission lines would affect their radio or television reception. This is a legitimate concern, not only related to transmission lines, but for distribution and communications lines as well. It is DPC's general experience that when the radio or television receiver is located outside the ROW, very few problems with radio or television reception are encountered.

Corona associated with the proposed transmission line is expected to be low enough so that no radio or television interference is anticipated outside of the ROW, consistent with the operation of the existing transmission line. However, DPC is committed to taking all reasonable steps to assure area landowners that the proposed Project would not interfere with radio or television reception. In cases where there is a demonstrable effect from the transmission line on reception, very often simple corrective steps, such as checking line hardware for loose or defective hardware and repairing or replacing defective items is sufficient to solve the problems. In a very limited number of cases, it has been necessary to take more extensive corrective steps such as relocating individual television or radio antenna systems or installing systems where none previously existed. In most cases, however, it is possible to entirely avoid radio and television interference by appropriate routing steps and by post-construction adjustments of line hardware.

### ***5.13.1 Mitigation and Monitoring***

This proposed Project is located in a rural agricultural area with scattered residences and significant impacts resulting from construction noise are not anticipated. Impacts associated with the generation of corona are not anticipated and there would be no impact to radio and television interference; therefore, no mitigation measures are proposed.

## **5.14 Socioeconomic and Community Resources**

Any impacts to social and economic resources would generally be of a short-term nature. DPC anticipates that one crew of 15 to 20 construction workers would be needed for construction of the proposed Project. The construction contractors would not likely be local. Revenue, therefore, would likely increase for some local businesses, such as restaurants, gas stations, grocery stores, and hotels, because of an increase in the number of out of town workers in the area. Other local businesses, such as gravel suppliers, hardware stores, welding and machine shops, and heavy equipment repair and maintenance service providers, would also likely benefit from construction of the proposed Project. The existing businesses and social services would be adequate to support the proposed Project because of the small size of the construction crew and the short-term nature of the construction activities. The increased availability of reliable power in the area would have a positive effect on local businesses and the quality of service provided to the general public.

Given the relatively small size of the construction crew needed for construction of the proposed Project, no impacts to emergency health care facilities or law enforcement services are anticipated.

### ***5.14.1 Mitigation and Monitoring***

Negative effects resulting from construction of the proposed Project are not anticipated, so no mitigation is necessary.

## **5.15 Environmental Justice**

The percentages of minority populations in the census tracts that cross the proposed Project are approximately the same as, or lower than, those found in Clark, Eau Claire, Jackson, and Trempealeau counties, or the state of Wisconsin. The percentages of low income populations in Clark, Eau Claire, and Jackson counties and associated census tracts crossed by the proposed Project are higher than those reported for the state of Wisconsin. The percentages of low income populations in Clark County Census Tract 9508 and Trempealeau County Census Tracts 1001 and 1002 were less than those reported for the state of Wisconsin. Although low income populations would be crossed, the proposed Project is a rebuild of the existing N-3 transmission line, so is anticipated that the proposed Project would have no disproportionate environmental effects to minority and low-income populations within Clark, Eau Claire, Jackson, and Trempealeau counties.

### ***5.15.1 Mitigation and Monitoring***

Construction of the proposed Project will not have disproportionate impacts on minority and low-income populations, so no mitigation is necessary.

## 6. Agencies Consulted and Permitting Requirements

DPC consulted with agencies to solicit comments regarding potential impacts associated with the proposed Project. DPC sent consultation letters to the following resource management agencies:

- USFWS concerning federally listed threatened or endangered species and wetlands
- WDNR concerning state listed rare species and vegetation communities
- The Wisconsin State Historic Preservation officer concerning cultural and historic resources
- NRCS concerning prime farmland
- United States Army Corps of Engineers (USACE) concerning permanent wetland discharges (Phase I only)
- WDNR concerning permanent wetland discharges and temporary wetland impacts (Phase I only)
- Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) concerning the need for an Agricultural Impact Statement

Copies of the consultation letters sent to resource management agencies and responses received to date are provided in Appendix H.

At the time that this EA was submitted to RUS, responses have been received from USFWS, WDNR, NRCS, SHPO, and DATCP. The concerns raised by USFWS and WDNR have been addressed in this EA. The response received from NRCS indicated that provisions of the Farmland Protection Policy Act do not apply to the proposed Project. There were no recommendations for action or mitigation received from the DATCP. DPC submitted a form requesting SHPO Comment and Consultation on a Federal Undertaking on January 16, 2013 (Phase I) and on June 24, 2013 (Phase II). DPC indicated that no historic properties would be affected by the proposed Project. The SHPO agreed with DPC's findings (see SHPO consultation in Appendix H). A response from the USACE indicated that the Phase I of the proposed Project is authorized by category 2.a.9 (utility line discharges) of the Department of the Army General Permit (GP-002-WI) provided that conditions in the response from USACE are followed and provided that DPC receives approval from the WDNR for wetland discharges. DPC submitted a permit application for wetland discharges to the WDNR in May 2013 and is expecting to receive a permit from the WDNR in August or September 2013.

At the time that this EA was submitted to RUS, approvals for wetland discharges associated with Phase II of the proposed Project have not been sought from the USACE or WDNR. DPC will seek permits from USACE and WDNR for Phase II of the proposed Project upon completion of final engineering and identification of wetland impacts.

In addition to those consultations listed above, DPC would also be consulting with the following resource management agencies or state and local jurisdictions when the following permits are applied for:

- WDNR General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System (approved by WDNR June 2013 – Phase I)
- WDNR Permit for Wetland Discharge

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

- WDNR Chapter 30 permit to place temporary bridges over navigable waters
- DPC will coordinate with the railroad companies to obtain all necessary crossing permits
- Permits to cross county and state roads/highways
- Permits to perform work in county and state roads/highways
- The following permits/approvals may be required by Clark County:
  - Zoning Permit – required for construction of public utilities within the shoreland overlay district
  - Land Use Permit – required for construction of public utilities crossing a floodplain overlay district
  - Conditional Use Permit – required for utilities (including power transmission lines) crossing within the forest and recreation district.
- The following permits/approvals may be required by Eau Claire County:
  - Erosion Control Plan
  - Land Use Permit – required for construction of public utilities in the shoreland and floodplain overlay districts
- The following permits/approvals may be required by Jackson County
  - Conditional Use Permit and Erosion Control Plan – required for construction in shoreland areas
  - Floodplain Development Permit – required for construction of public utilities crossing a floodplain overlay district
- The following permits/approvals may be required by Trempealeau County:
  - Conditional Use Permit – required for crossing of land zoned Exclusive Ag 2
  - Land Use Permit - required for construction within a floodplain overlay district
  - Special Exception Permit – required for construction within a shoreland overlay district
  - Erosion control plan

DPC anticipates applying for all necessary federal, state, and county permits for Phase I of the proposed Project in spring 2013 and would submit permits for Phase II of the proposed Project in fall/winter 2013. DPC would provide RUS with acquired agency permits as they are received.

## 7. Public Notice and Comment

In conformance with 7 CFR 1794.32, DPC and RUS are required to notify the public of the availability of the Draft EA and about proposals that impact floodplains and wetlands. The purpose of the notification is to solicit comments on the proposed Project. Upon acceptance of the Draft EA by RUS, DPC published a newspaper advertisement and legal notice in local newspapers to inform the public of the proposed construction. A copy of the newspaper advertisement and legal notice is provided in Appendix I.

The public is afforded 30 days to comment on the Draft EA and upon the completion of the comment period, RUS will make a determination as to whether their agency can make a finding of no significant impact or whether the preparation of an Environmental Impact Statement is required. Upon making a determination, a second newspaper advertisement and legal notice will be published in local newspapers.

Strum-Lublin N-3  
69kV Transmission Line Rebuild Project

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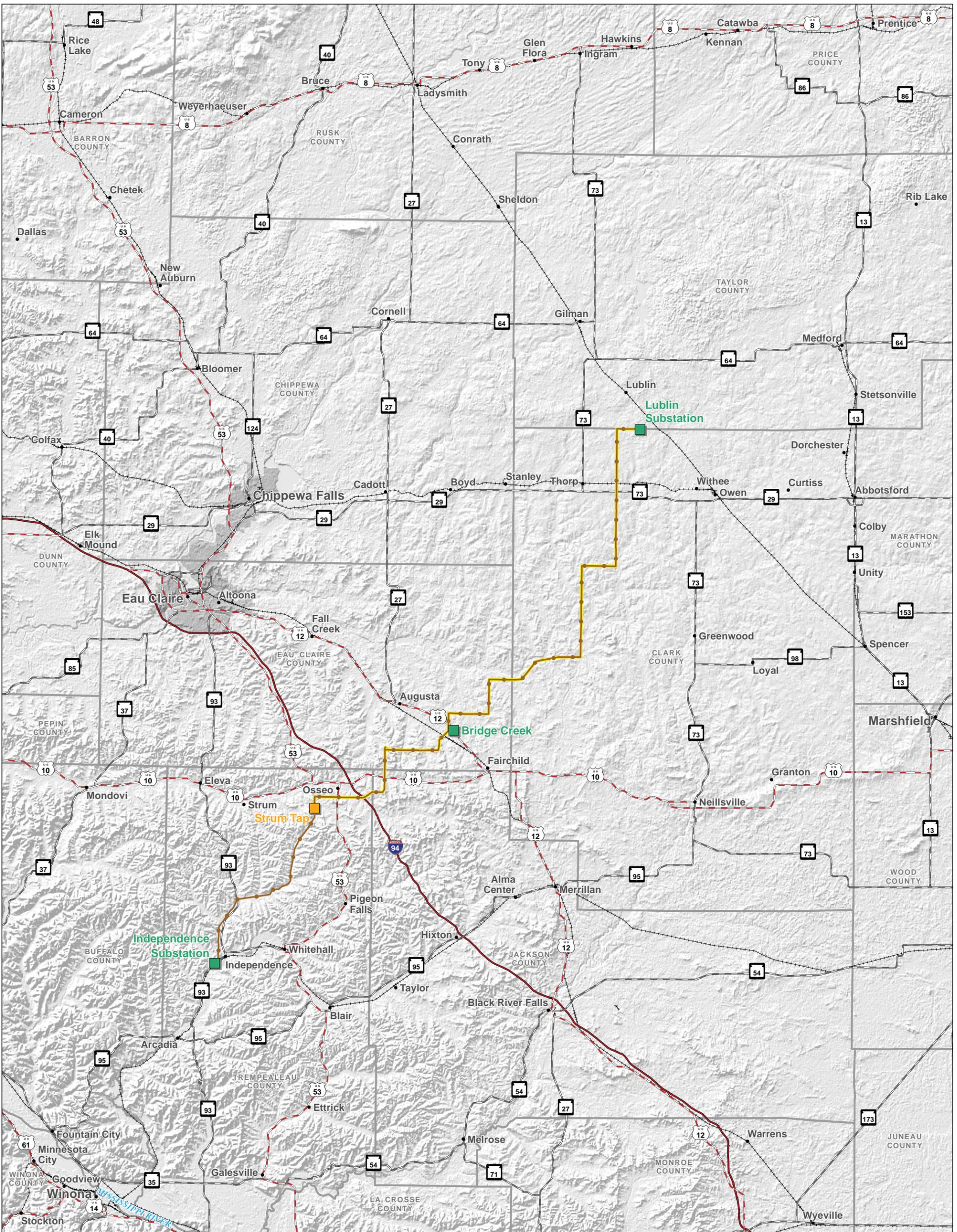
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**STRUM - LUBLIN  
69kV(N-3) TRANSMISSION LINE REBUILD**  
Project Area

**Legend**

Strum - Lublin  
Proposed 69kV (N-3) Transmission Line Rebuild

Independence - Strum  
69kV (N-3) Transmission Line

**Existing Utilities**

Substation  
 Tap

**Transportation**

Interstate Highway

U.S. Highway

State Highway

Railroad



Scale 1 inch equals 3.95 miles  
(when printed at 22" X 34")



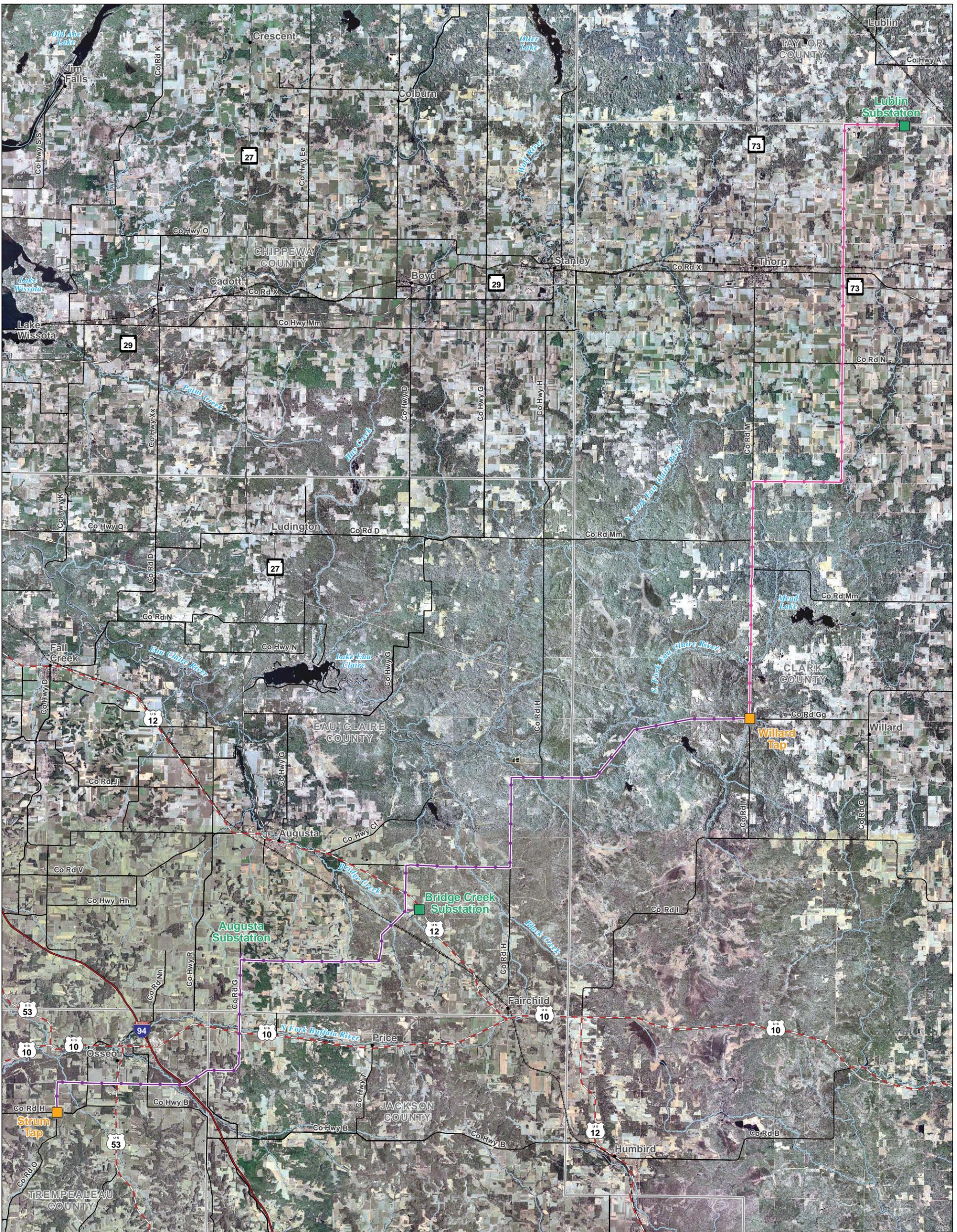
Source: BTS, NHD, USGS, ESRI  
Name: Project Area\_EA  
Revised: 7/16/2013



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**Figure 1: Project Area**

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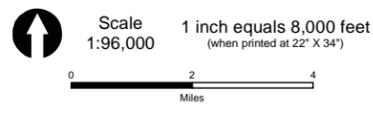


## STRUM - LUBLIN 69kV(N-3) TRANSMISSION LINE REBUILD

### Construction Phasing

#### Legend

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase I Construction - Construction to begin summer 2013)</li> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase II Construction - Construction to begin fall 2014)</li> <li> Existing Utilities Substation</li> <li> Existing Utilities Tap</li> <li> Existing Utilities 69kV Transmission Line</li> </ul> | <h4>Hydrology</h4> <ul style="list-style-type: none"> <li> Perennial Stream</li> </ul> <h4>Transportation</h4> <ul style="list-style-type: none"> <li> Interstate Highway</li> <li> U.S. Highway</li> <li> State Highway</li> <li> County Highway</li> <li> Railroad</li> </ul> |
|--|---|



Source: WDNR, BTS, NHD, ESRI, NAIP (2010)  
Name: Construction\_Phasing  
Revised: 7/16/2013



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Figure 2: Construction Phasing

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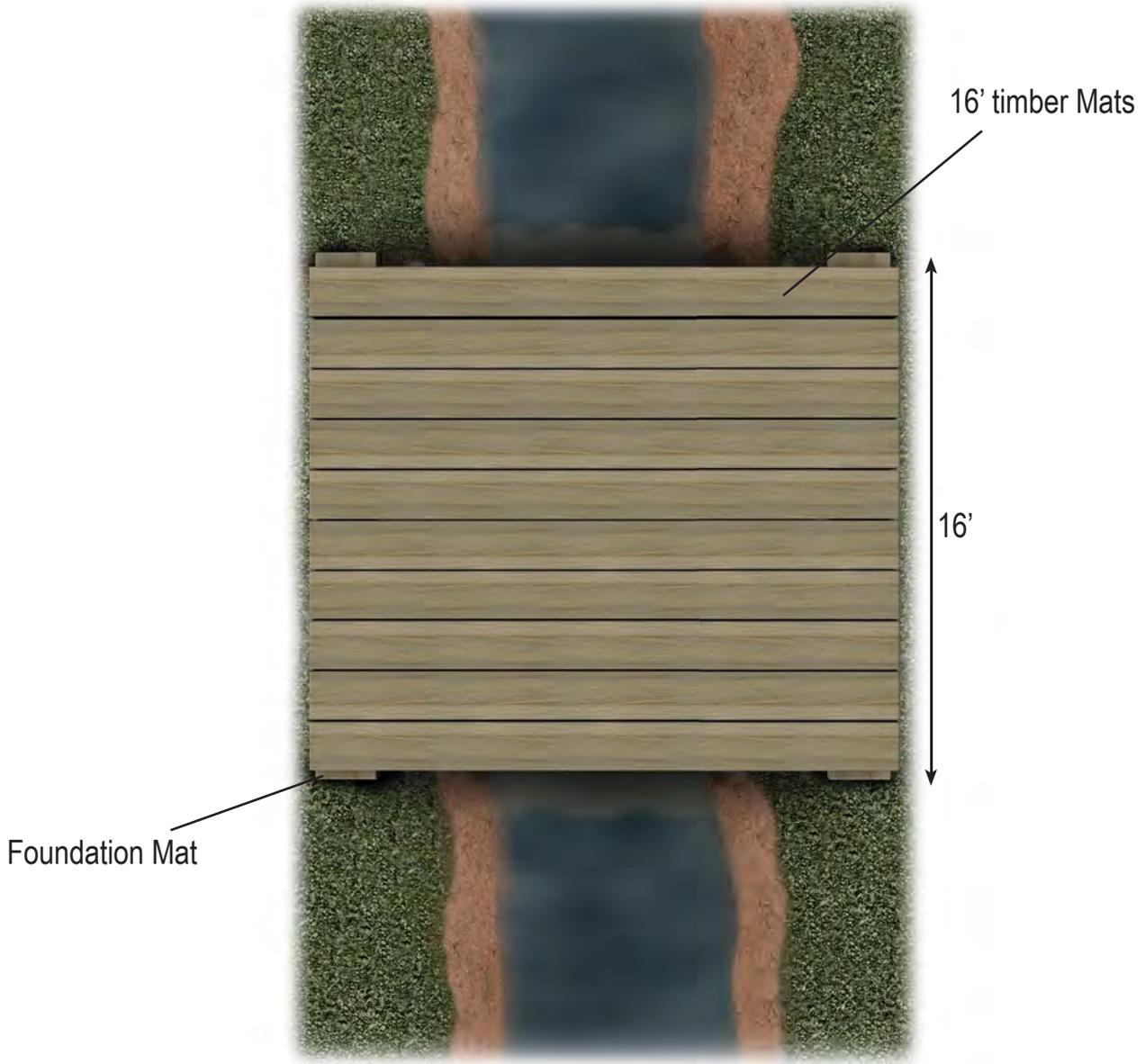
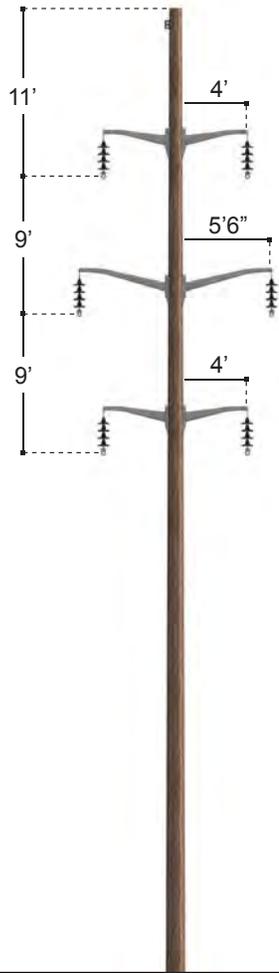


Figure 3: Representative Drawing of Temporary Clear Span Bridge





Wood Pole Double Circuit  
69kV Transmission Structure



Wood Pole Single Circuit  
69kV Transmission Structure

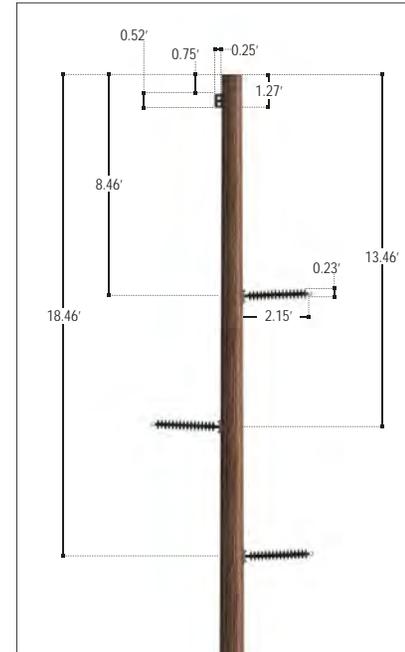
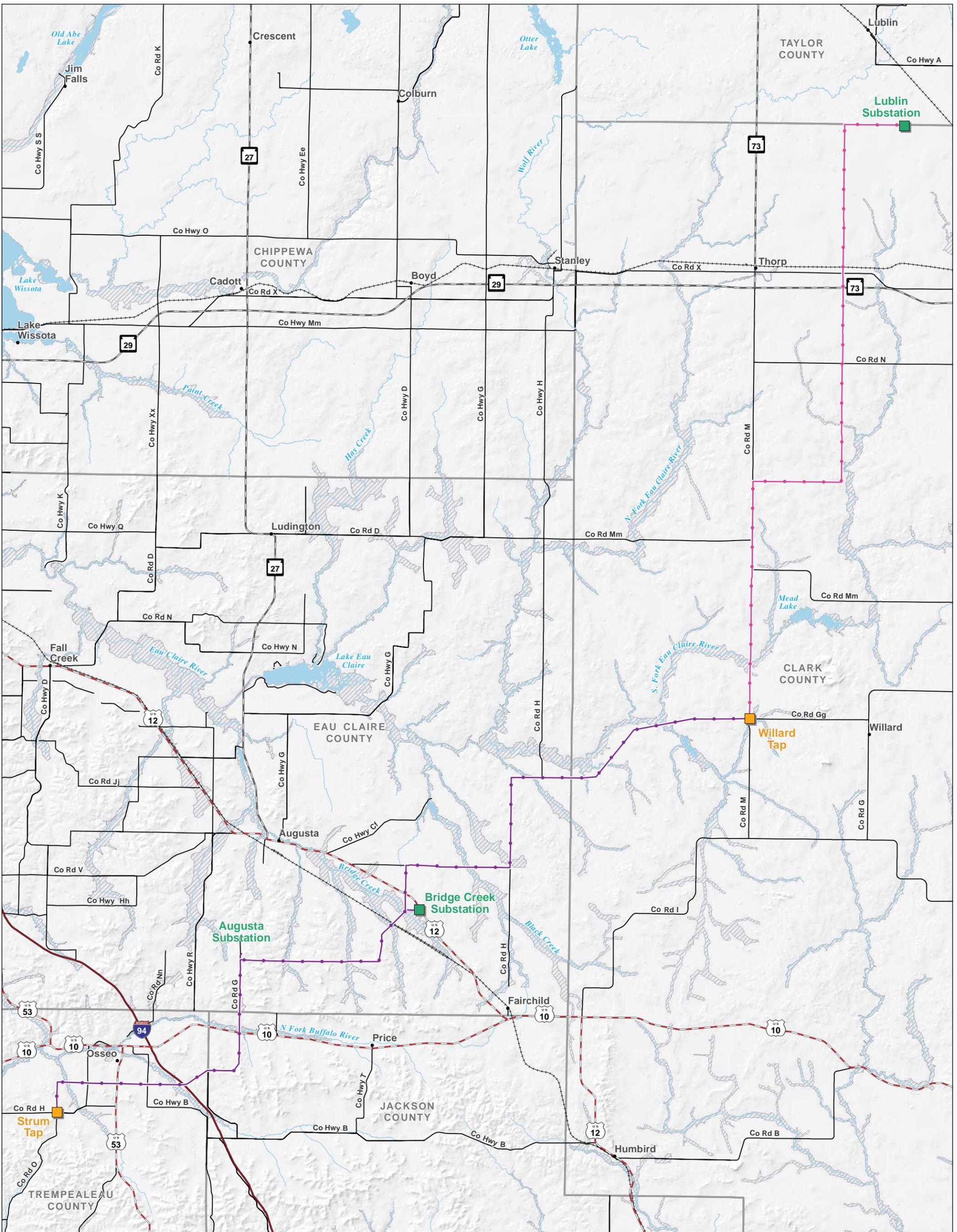


Figure 4: Representative Transmission Structure Drawings

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# STRUM - LUBLIN 69kV(N-3) TRANSMISSION LINE REBUILD

## Floodplains

### Legend

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase I Construction)</li> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase II Construction)</li> <li> Existing Substation</li> <li> Existing Tap</li> <li> Existing 69kV Transmission Line</li> </ul> | <p><b>Hydrology</b></p> <ul style="list-style-type: none"> <li> Lake or Pond</li> <li> Perennial Stream</li> </ul> <p><b>FEMA Floodplains</b></p> <ul style="list-style-type: none"> <li> 100-year Floodplain</li> </ul> <p><small>*Taylor County data unavailable</small></p> |
|--|--|



Scale 1:96,000 1 inch equals 8,000 feet (when printed at 22" X 34")

0 2 4 Miles

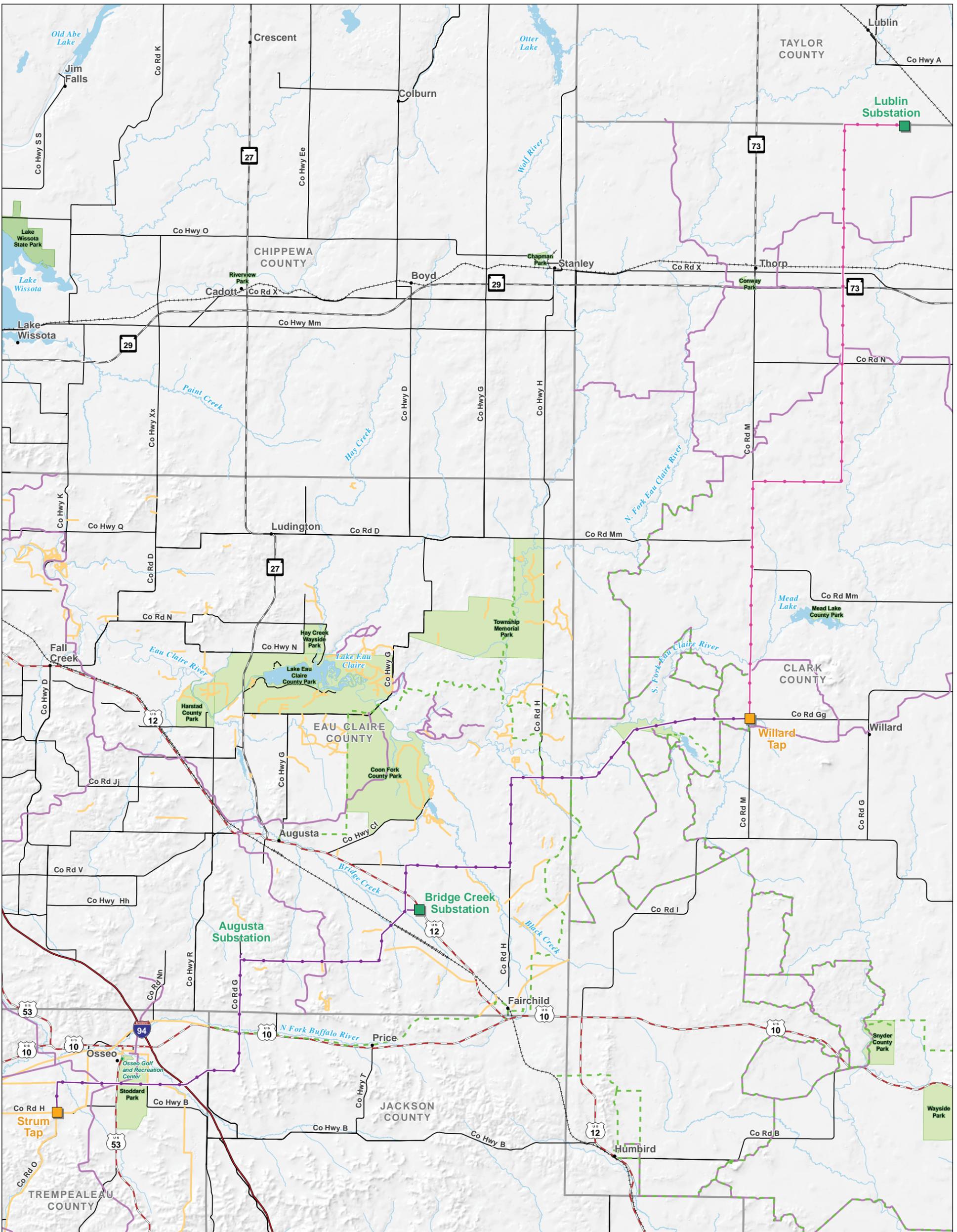


Source: FEMA, WDNR, BTS, NHD, USGS, ESRI  
Name: Floodplains  
Revised: 7/16/2013

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Figure 5: Floodplains

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# STRUM - LUBLIN 69kV (N-3) TRANSMISSION LINE REBUILD

## Recreation and Trails

### Legend

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li><span style="color: purple;">—</span> Strum - Lublin 69kV (N-3) Transmission Line (Phase I Construction)</li> <li><span style="color: pink;">—</span> Strum - Lublin 69kV (N-3) Transmission Line (Phase II Construction)</li> <li><span style="color: green;">■</span> Existing Utilities</li> <li><span style="color: green;">■</span> Substation</li> <li><span style="color: orange;">■</span> Tap</li> <li><span style="color: purple;">—</span> 69kV Transmission Line</li> </ul> | <p><b>Hydrology</b></p> <ul style="list-style-type: none"> <li><span style="color: lightblue;">■</span> Lake or Pond</li> <li><span style="color: lightblue;">—</span> Perennial Stream</li> </ul> <p><b>Recreation</b></p> <ul style="list-style-type: none"> <li><span style="color: lightgreen;">■</span> Local Park</li> <li><span style="color: green;">■</span> State Park</li> </ul> <p><b>Recreational Trails</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">- - -</span> ATV Trail</li> <li><span style="color: purple;">—</span> Snowmobile Trail</li> <li><span style="color: orange;">—</span> Other Trail</li> </ul> |
|--|---|



Scale 1:96,000 1 inch equals 8,000 feet (when printed at 22" X 34")

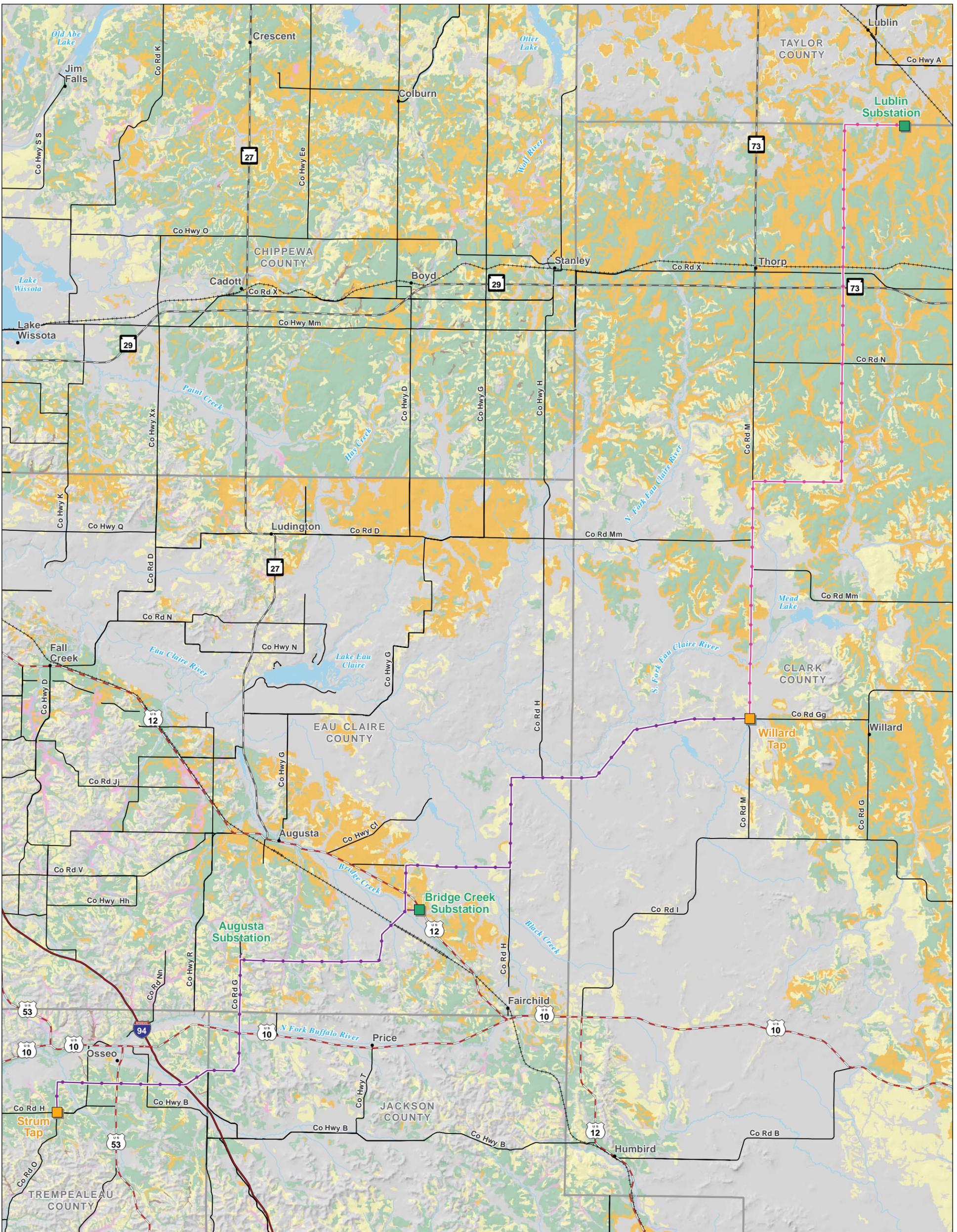
0 2 4 Miles

Source: WDNR, BTS, NHD, USGS, ESRI  
Name: Recreation\_trails  
Revised: 7/16/2013



Figure 6: Recreation and Trails

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## STRUM - LUBLIN 69kV(N-3) TRANSMISSION LINE REBUILD

### Prime and Important Farmland

#### Legend

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase I Construction)</li> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase II Construction)</li> <li> Existing Utilities Substation</li> <li> Existing Utilities Tap</li> <li> Existing Utilities 69kV Transmission Line</li> </ul> | <p><b>Prime Farmland</b></p> <ul style="list-style-type: none"> <li> All areas are prime farmland</li> <li> Farmland of statewide importance</li> <li> Not prime farmland</li> <li> Prime farmland if drained</li> <li> Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season</li> <li> Prime farmland if protected from flooding or not frequently flooded during the growing season</li> </ul> | <p><b>Hydrology</b></p> <ul style="list-style-type: none"> <li> Lake or Pond</li> <li> Perennial Stream</li> </ul> |
|--|---|--|



Scale 1:96,000 1 inch equals 8,000 feet (when printed at 22" X 34")

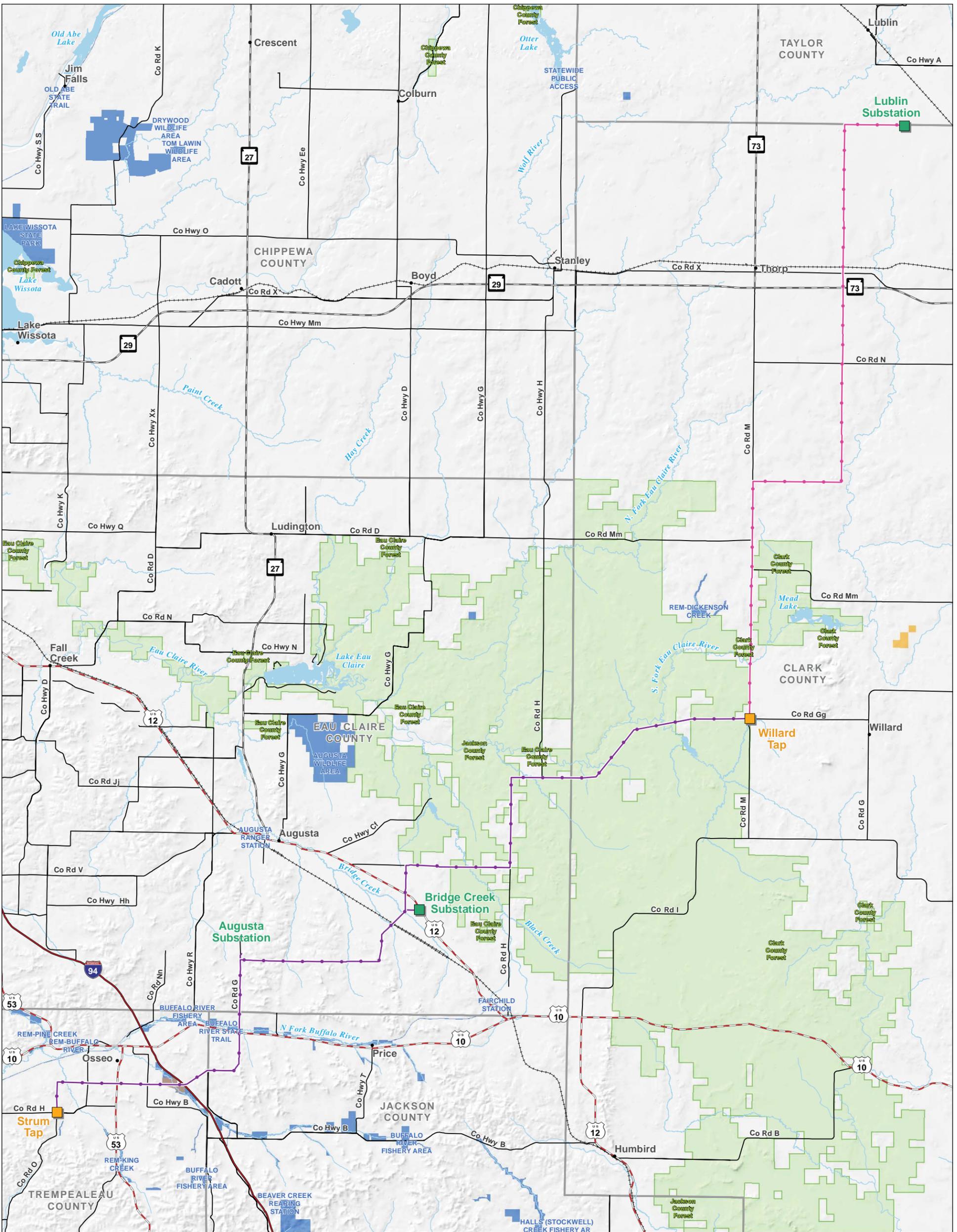
0 2 4 Miles

Source: WDNR, BTS, NHD, USGS, ESRI  
Name: Prime\_Farmland  
Revised: 7/16/2013



Figure 7: Prime and Important Farmland

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# STRUM - LUBLIN 69kV(N-3) TRANSMISSION LINE REBUILD

## Jurisdiction

### Legend

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase I Construction)</li> <li> Strum - Lublin 69kV (N-3) Transmission Line (Phase II Construction)</li> <li> Existing Utilities Substation</li> <li> Existing Utilities Tap</li> <li> Existing Utilities 69kV Transmission Line</li> </ul> | <h4>Hydrology</h4> <ul style="list-style-type: none"> <li> Lake or Pond</li> <li> Perennial Stream</li> </ul> <h4>Transportation</h4> <ul style="list-style-type: none"> <li> Interstate Highway</li> <li> U.S. Highway</li> <li> State Highway</li> <li> County Highway</li> <li> Railroad</li> </ul> | <h4>Jurisdiction</h4> <ul style="list-style-type: none"> <li> County</li> <li> State, Wisconsin DNR</li> <li> Tribal</li> <li> Osseo School Forest</li> </ul> |
|--|--|---|



Scale 1:96,000 1 inch equals 8,000 feet (when printed at 22" X 34")



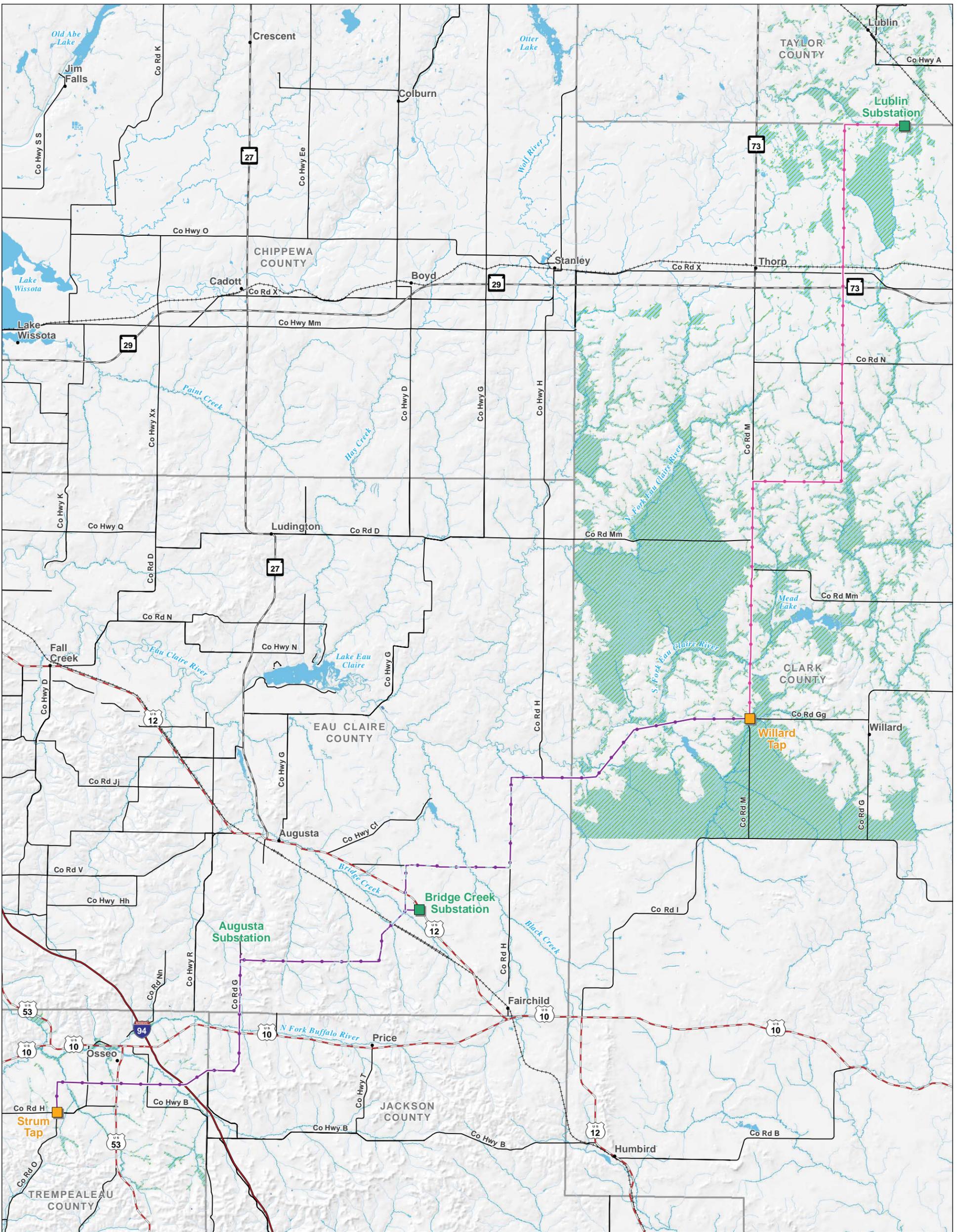
Source: WDNR, BTS, NHD, USGS, ESRI  
Name: Jurisdiction  
Revised: 7/16/2013



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Figure 8: Jurisdiction

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# STRUM - LUBLIN 69kV(N-3) TRANSMISSION LINE REBUILD

## Water Resources

### Legend

- Strum - Lublin 69kV (N-3) Transmission Line (Phase I Construction)
- Strum - Lublin 69kV (N-3) Transmission Line (Phase II Construction)

### Existing Utilities

- Substation
- Tap
- 69kV Transmission Line

### Hydrology

- Lake, Pond, or Reservoir
- Perennial Stream
- Intermittent Stream
- WWI Wetland



Scale 1:96,000 1 inch equals 8,000 feet (when printed at 22" X 34")

0 2 4 Miles

Source: WDNR, BTS, NHD, USGS, ESRI  
Name: Surface\_Water  
Revised: 7/16/2013



Path: P:\4602\_DPC\_Strum\_to\_Lublin\GIS\Layouts\Resource\_Maps\130305\Surface\_Water.mxd

Figure 9: Water Resources

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