

# Holcombe to Lublin 69kV Transmission Line Rebuild Project

Holcombe to Lublin: RUS Code 1071

## Environmental Assessment

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Prepared for:



Submitted by:





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## Abbreviations and Acronyms

AAQS	Ambient Air Quality Standards
AM	Amplitude Modulated
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
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DATCP	Wisconsin Department of Agriculture, Trade, and Consumer Protection
dBA	Decibels (A-weighted scale)
DPC	Dairyland Power Cooperative
EA	Environmental Assessment
EMF	Electric and magnetic fields
ERW	Exceptional Resource Water
FAA	Federal Aviation Administration
FM	Frequency Modulated
kV	Kilovolt
$L_{eq}$	Equivalent Sound Level
MVAC	Mississippi Valley Archaeological Center
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NHPA	National Historic Preservation Act
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
WISCLAND	Wisconsin Land Cover Database
WHPD	Wisconsin Historic Preservation Database
WHS	Wisconsin Historical Society

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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 rebuild the Holcombe- Lublin (N-1) 69 kilovolt (kV) Transmission Line (the proposed Project). The proposed Project involves the removal of approximately 28 miles of the existing 69 kV N-1 transmission line in Chippewa and Taylor Counties, Wisconsin (Figure 1a). Approximately 26 miles of the existing transmission line is proposed to be rebuilt within the same 80 foot-wide right-of-way (ROW). Approximately 2 miles of new transmission line would be constructed in a new 80-foot ROW. Construction of the proposed Project would require temporary construction impacts for approximately 31-miles of temporary access roads and materials laydown. Permanent impacts would be primarily limited to the footprint of transmission structures with the installation of approximately 600 single-pole transmission structures (based on an approximate 300-foot span between structures) and vegetation clearing within the ROW. This would result in approximately 7,200 square feet (0.2 acre) of permanent disturbance.

The N-1 transmission line was built in 1948 and is reaching the end of its service life. The rebuild of the N-1 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-1 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, to minimize permanent impacts associated with the line rebuild. 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 1,100 square feet (less than 0.1 acre) of permanent impacts in wetlands and up to 240 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 1970, 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.



# 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 Lublin-Holcombe (N-1) 69 kilovolt (kV) Transmission Line Rebuild Project (the proposed Project).<sup>1</sup> The N-1 transmission line was built in 1948, and is reaching the end of its service life. Figure 1a presents the existing N-1 line, and Figure 1b presents the existing line and alternatives evaluated. DPC considered three route alternatives for the proposed Project, as shown in Figure 1b. Alternative 1 is the proposed construction of approximately 6 miles of an 80-foot wide new ROW to replace the first 3 miles of the existing N-1 transmission line, which was considered due to its closer proximity to existing roads as compared to the first 3 miles of the existing N-1 transmission line. Alternative 2 is part of the existing N-1 transmission line located east from the mile marker 9.5 and mile marker 10.7 as shown in Figure 1b. Alternative 3 is part of the existing N-1 transmission line located between mile marker 11.7 and mile marker 12.9 as shown on Figure 1b.

The N-1 transmission line is located between the Holcombe Substation in Chippewa County and the Lublin Tap in Taylor County, Wisconsin. The proposed Project route would make use of the existing 69kV transmission line 80-foot ROW, which would not require widening for the proposed Project. The alternative routes evaluated would potentially avoid wetlands, floodplains and farmland. The new transmission structures locations would 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. 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 4 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 Project schedule is provided as Exhibit 1. Project construction would begin in September of 2016 and continue through September 2017. The in-service date for the proposed Project is the end of 2017. Construction would proceed as follows:

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<sup>1</sup> Note: The proposed Project is identified in DPC’s 2012–2014 and 2014-2016 Construction Work Plans, 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 Lublin-Holcombe 69kV Rebuild (RUS #1071).

**Exhibit 1: Project Schedule**

	2014				2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Lublin-Holcombe (N-1) Project</b>																
<b>Environmental Studies</b>																
<b>Engineering</b>																
<b>Permits and Approvals</b>																
<b>Construction</b>																
<b>In-Service</b>																

### 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	Preferred Route /Alternative
Wisconsin	Chippewa	32N	5W	31, 30, 32, 33, 34	Preferred Route
Wisconsin	Chippewa	32N	6W	25, 24	Alternative 1
Wisconsin	Chippewa	32N	5W	30, 19, 20, 29, 21, 22, 27, 28	Alternative 1
Wisconsin	Chippewa	32N	5W	30, 31, 29, 32, 28, 33, 27, 34	Preferred Route
Wisconsin	Chippewa	31N	5W	3, 10, 9, 16, 15, 21, 22, 28, 27, 26, 25, 35, 36	Preferred Route
Wisconsin	Taylor	31N	4W	31, 32, 33, 34, 35, 36	Preferred Route
Wisconsin	Taylor	30N	4W	6, 5, 4, 3, 2, 1, 12	Preferred Route
Wisconsin	Taylor	30N	3W	6, 7, 18, 8, 17, 16, 15, 21, 22, 28, 27, 33, 34	Preferred Route
Wisconsin	Chippewa	31N	5W	25, 26, 27	Alternative 2
Wisconsin	Chippewa	31N	5W	36	Alternative 3
Wisconsin	Chippewa	30N	5W	1	Alternative 3

## 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 the proposed Project has been identified. Construction of the Project would mainly follow existing maintenance routes used by DPC's 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. 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. Following construction, access to the transmission line for routine maintenance would follow existing maintenance roads and overland access.

Where overland access is proposed in wetlands, this is considered to be a temporary disturbance to the wetland. In some cases, matting would be used to further protect the wetland.

**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, seven temporary clear span bridges (TCSBs) would be required to access pole locations for Project construction of the rebuild along the existing line. An additional eight TCSBs would be needed to access existing structures along Alternative 2 for the proposed abandonment of this portion of the existing corridor. 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 2.

**Laydown Areas:** Up to three 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 would be approximately 15 miles apart and would be used in sequence as the proposed Project is built from Holcombe to Lublin. The laydown areas would not require clearing or grading. The laydown sites would be addressed in the erosion control plan prepared for the WDNR and WDNR technical standards and DPC's Best Management Practices would be implemented during construction. Following construction, the laydown area would 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 3. Approximately 600 single-pole transmission structures (based on an approximate 300-foot

span between structures) would be constructed, and would result in approximately 7,200 square feet (approximately 0.2 acre) of permanent impacts (up to 12 square feet per structure). Angle structures and some tangent structures (non-angle structures) would have down guys and anchors. The proposed Project would be constructed using 69kV single-circuit transmission structures.

**ROW and Ground Preparation:** DPC is not proposing to widen the existing 80-foot transmission line ROW associated with Project construction. 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 would start with crews transporting structures, 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 would require the placement of a culvert pipe in the hole prior to the pole being placed in the ground. This would 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 would completely remove the existing wood distribution structures (except structures located within wetlands) and conductor that are no longer required, and recontour and revegetate the disturbed areas to pre-existing conditions. Existing transmission structures located within wetlands would be cut off at the base so as not to impact surrounding soil or vegetation.

## 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 and provided an addendum study in April 2013. Both the original study and addendum are included in 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-1 transmission line, an approximately 28-mile 69 kV line that was built in 1948, is one of the main lines in the area. The N-1 transmission line serves 4 DPC-owned distribution substations and 1 Xcel Energy-owned distribution substation.

DPC is proposing to rebuild on the existing right-of-way with two minor alternatives to avoid wetlands, waterways and farmland. The new transmission corridor is located adjacent to existing roadways, which would allow for easier access for maintenance and repair activities.

In recent summers, a section of the N-1 transmission line has frequently overloaded on summer peak days. When the N-1 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-1 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 would allow DPC to maintain reliable service to its customers and meet NERC standards.



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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 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 considered three route alternatives for the proposed Project, as shown in Figure 1b. Alternative 1 is approximately 6 miles of an 80-foot wide new ROW to replace the first 3 miles of the existing N-1 transmission line. This alternative was considered due to its closer proximity to existing roads as compared to the first 3 miles of the existing N-1 transmission line which is located in a large wetland complex. Alternative 2 is part of the existing N-1 transmission line located east from the mile marker 9.5 and mile marker 10.7 as shown in Figure 1a. Alternative 2 was evaluated to avoid wetlands and stream crossings. Alternative 3 is part of the existing N-1 transmission line located between mile marker 11.7 and mile marker 12.9 as shown on Figure 1b. This alternative would relocate the line out of the middle of a field to the edge of road right-of-way.

On May 18, 2015, DPC staff met with landowners along the Alternative 1 route to discuss the impacts of rerouting the line to a new right-of-way. There was general opposition to creating a new corridor which would have required removing a significant number of trees and concerns with electric and magnetic fields (EMF) and property values. The landowners did agree to allow access to their property so that we could conduct wetland delineations, biological surveys and line survey so that we could provide them with more data at a later date. DPC also met with the Wisconsin DNR to review the wetland delineation and biological data on the proposed new route. The WDNR indicated the new route would require the clearing of new woody wetland complexes, and they would not approve a wetland permit for this alternative. The determination was made to go back to DPC's existing right-of-way and the affected landowners along Alternative 1 were notified.

### **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-1 transmission line would not be rebuilt; the existing transmission line would remain in service, and its 1940s-era transmission structures would continue to deteriorate. Failure to rebuild the N-1 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 increased impacts due to the more frequent operation and maintenance activities that would continue to occur along the existing ROW, including removing small trees, brush and vehicle traffic for repairs. Depending on the location of transmission structure failures on the existing transmission line, there could also be significant impacts to wetlands due to truck traffic.

## 4. Affected Environment, Impacts and Mitigation

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 Chippewa and Taylor counties and is mainly surrounded by agricultural land with rural farmsteads, open space, and deciduous forests. The proposed Project utilizes the existing 69kV transmission line ROW. No residences are located within the Project ROW. The closest school to the proposed Project is the Gilman Public School complex in Gilman, which is located approximately 3.3 miles north of the proposed transmission centerline.

##### 4.1.1.1 Chippewa County

The proposed Project is located in Ruby and Colburn townships in Chippewa County. These townships do not currently have zoning ordinances, and as of the date of this EA, neither township has adopted Chippewa County's Zoning Ordinances. The County 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, floodplain, conservancy, and public conservancy districts (Chippewa County, 2015a).

The shoreland 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 (Chippewa County, 2015a). The proposed Project would cross perennial waterbodies in Chippewa County, therefore, crossing the shoreland overlay district. Alternative 2 crosses one additional perennial creek; Alternative 3 does not cross any additional creeks or rivers. Construction of public utilities within the shoreland district is a permitted use per Section 54-63 of the Chippewa 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 (Chippewa County, 2015a). Mapped floodplains crossed by the proposed Project are identified on Figure 4. Construction of public utilities within the floodway district is a permitted use requiring a land use permit per Section 32-112 of the Chippewa County Code of Ordinances.

The purpose of the conservancy district is to protect and preserve the natural character of lands for wildlife, water conservation, flood control, recreation, forestry, and other public purposes (Chippewa County, 2015a). The district boundaries are shown on the Official Zoning Maps of Chippewa County, which are kept at the county Administrator's office (Chippewa County, 2015a). Utilities are an approved use in the conservancy district and would not require a conditional use permit provided the dimensional requirements outlined in Section 70-63 of the Chippewa County Code of Ordinances are met.

The purpose of the public conservancy district is to preserve open areas in an existing or natural state for resource protection and public education (Chippewa County, 2015a). Additionally, the district protection is

intended to apply to publicly owned land with unique characteristics, such as shorelands, floodplains, stream and river terraces, natural drainage ways, steep slopes, woodlots, and greenways. The district boundaries are shown on the Official Zoning Maps of Chippewa County, which are kept at the county Administrator's office (Chippewa County, 2015a). Utilities, including power transmission lines, are considered a conditional use within the district. The townships in which the Project would be located are not zoned; therefore, the Project does not cross a public conservancy district.

Chippewa County currently has an approved county-wide comprehensive plan and existing land use for the county has been mapped in association with the Land Use Element portion of the plan (Chippewa County, 2010). The existing land use is available on the Chippewa County Web Mapping website and was reviewed to identify mapped existing land use for the area crossed by the proposed Project (Chippewa County, 2015b). Current land use as identified on the web maps, in the Chippewa County Comprehensive Plan, and as observed during the field reconnaissance include county forest land, agricultural, rural residential, and undeveloped land. Future land use maps were not available for review for the towns of Ruby or Colburn. Chippewa County Forest Land is owned by Chippewa County and managed by the Chippewa County Department of Land Conservation and Forest Management.

Several all-terrain vehicles (ATVs) and snowmobile trails would cross or parallel the proposed Project within Chippewa County. ATV and snowmobile trails are located near the northern and central portion of the proposed Project in the Chippewa County Forest and along County Road G between 230<sup>th</sup> Avenue and 210<sup>th</sup> Avenue. Specific locations of ATV and snowmobile trails are shown on Figure 5 and on the sheet maps in Appendix A. No other parks or recreation opportunities are crossed by the proposed Project within Chippewa County.

#### 4.1.1.2 Taylor County

The proposed Project is located in Aurora, Taft, Ford, and Roosevelt townships in Taylor County, Wisconsin. None of the townships currently have zoning ordinances. Taylor County has not adopted general comprehensive zoning that is enforced across the entire county; however, the Taylor County Zoning Department does enforce ordinances that include shoreland, floodplain, and airport zoning, subdivision and contaminated soil control, and non-metallic mining reclamation (Taylor County, 2007).

The shoreland zoning district is defined in Chapter 31 of the Taylor County Code. The shoreland zoning district includes the same parameters as noted under Chippewa County's Zoning Ordinances, and a zoning permit would be required prior to construction in this overlay districts. The proposed Project would cross perennial waterbodies in Taylor County, therefore crossing the shoreland zoning district.

The floodplain zoning district is defined in Chapter 29 of the Taylor County Code. The floodplain is defined as land which has been or may be covered by floodwater during the regional flood and includes the floodway and flood fringe. Mapped floodplains crossed by the proposed Project are identified on Figure 4. Utilities are a permitted use of the floodway district provided they meet the standards outlined in Chapter 29 of the Taylor County Code and have obtained a permit prior to construction.

Taylor County currently has a county-wide comprehensive plan and existing land use for the county has been mapped in association with the Land Use section of the plan (Taylor County, 2007). The existing land use is available on the Taylor County GIS Information Server website and was reviewed to identify mapped existing land use for the area crossed by the proposed Project (Taylor County, 2014). Current

land use as identified on the web map and as observed during the field reconnaissance primarily include agricultural, grassland, deciduous forest, coniferous forest, residential, and undeveloped land. Future land use maps were not available for review for Taylor County.

One snowmobile trail would cross or parallel the proposed Project within Taylor County. The snowmobile trail crosses the proposed Project where it parallels County Road S and parallels the Project along County Road 73. Specific locations of snowmobile trails are shown on Figure 5 and on the sheet maps in Appendix A. No parks or other recreation opportunities are crossed by the Project centerline within Taylor County.

#### 4.1.1.3 Chippewa County

Chippewa County Forest, which is managed by the Chippewa County Department of Land Conservation and Forest Management, is currently crossed by the existing line for approximately 3.0 miles, where the transmission line parallels 260th Avenue between 320th Street and County Road G, and between 260th avenue and 245th Avenue parallel to County Road G. Additionally, the existing line is adjacent to, but not within the boundary of, Chippewa County Forest for approximately 0.5-mile where the Project ROW parallels 260th Avenue between 315th and 320th streets, and approximately 0.25-mile between 245th Avenue and Buckhorn Trail parallel to County Road G. Alternative 1 would bypass all of the Chippewa County Forest crossed by and adjacent to the existing line. Alternative 1 would be adjacent to, but not within, the boundary of Chippewa County Forest for approximately 0.25-mile where the ROW parallels County Road G before intersecting with the existing line at mile marker 3.

Proposed Alternatives 2 and 3 do not cross the Chippewa County Forest, nor are they adjacent to the County Forest. In total, Chippewa County Forest comprises approximately 33,653-acres. The county forest is primary used for recreational uses including hiking, camping, fishing, hunting, horseback riding, cross country skiing, ATV riding, and snowmobiling (Chippewa County, 2006).

#### 4.1.1.4 General Land Use Impacts

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 13 miles of temporary overland access would be needed for construction of the proposed transmission line, which would cause temporarily land use impacts. Areas where overland access is located within an active agricultural field, agricultural operation may be suspended for a short period of time while the construction crews are hauling equipment to the transmission structure locations. Other temporary impacts would include approximately 100 square feet of temporary disturbance at each transmission structure (2,500 square feet of disturbance where transmission structures would be placed in a wetland area), and approximately 5 acres of temporary disturbance at each laydown yard, or a total of 15 acres of temporary disturbance at the proposed three 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. Some minor tree clearing may be required where woody vegetation has encroached on the previously cleared ROW. 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 approximately 12 square feet of disturbance at approximately 600 permanent structures along the route, resulting in up to 7,200 square feet of permanent disturbance. DPC is 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.

If constructed, Alternative 1 would require approximately 6 miles of new 80-foot transmission ROW. This would require approximately 58 acres of new ROW, some of which is co-located with existing roadways or road ROWs. Where practicable, DPC has proposed to overlap the transmission ROW with the existing road ROW to minimize the need for land use conversion. Approximately 17 acres of the new ROW for Alternative 1 is a forested area, which would be converted to herbaceous vegetative cover within the ROW.

If constructed, Alternatives 2 and 3 would require 2.3 miles of new 80-foot transmission ROW, or approximately 22.3 acres of new ROW. However, the segments on the existing ROW that the alternatives are replacing are located within existing wetland/waterbody features. Removing these two segments from service would require less construction impacts and would allow for easier access and less wetland/waterbody impacts during future line maintenance activities.

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 Chippewa County Comprehensive Plan or the Taylor County Comprehensive Plan. The proposed Project consists of rebuilding an existing transmission line within an existing ROW and 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 Chippewa and Taylor 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 majority land use would not be changed from its current use for an electric transmission line. Where land use conversion would be required, DPC has proposed mitigation to minimize impacts to less than significant. Any impacts resulting from the proposed Project would be further reduced by implementing the mitigation measures described below (Section 4.1.4) and in Appendix B.

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

The proposed Project crosses prime farmland and farmland of statewide importance. Approximate lengths of the Preferred Route and each alternative that would cross farmland are shown in Table 4-1. Prime farmland and farmland of statewide importance are shown on Figure 6.



**Table 4-1:  
Prime Farmland Types Crossed by the Project ROW**

Prime Farmland type	Preferred	Alternative 1	Alternative 2	Alternative 3
Total length (miles)	27.8	6.0	1.3	1.1
All areas are prime farmland (miles)	5.3	4.5	0.2	0.2
Not prime farmland (miles)	7.7	<0.1	1.0	0.4
Prime farmland if drained (miles)	11.9	1.2	0.1	0.4
Farmland of statewide importance (miles)	2.9	0.3	-	0.1

#### 4.1.2.1 Prime and Important Farmland Impacts

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. If overland access to transmission structures located in prime farmland and farmland of statewide importance is required, these access routes would be located along the edges of agricultural fields.

Permanent impacts to prime farmland and farmland of statewide importance are expected to be minimal because the majority of the proposed Project would be located within an existing transmission line ROW. If pursued, Alternative 1 would have required approximately 6 miles of new transmission ROW, the majority of which would be located in areas considered prime farmland or farmland of statewide importance.

Table 4-2 below summarizes the anticipated permanent impacts to prime farmland and farmland of statewide importance. Impacts are estimated based on a distance of approximately 300 feet between transmission structures with a permanent impact of approximately 10 square feet per structure.

**Table 4-2:  
Approximate Impacts to Prime Farmland and Farmland of Statewide Importance**

Project Segment	Approximate Impacts to Prime Farmland	Approximate Impacts to Prime Farmland, if Drained/Protected	Approximate Impacts to Farmland of Statewide Importance
Preferred Route	87 structures (0.02 acre of permanent impact)	183 structures (0.05 acre of permanent impact)	49 structures (<0.01 acre of permanent impact)
Alternative 1	85 structures (0.02 acre of permanent impact)	17 structures (0.01 acre of permanent impact)	6 structures (<0.01 acre of permanent impact)
Alternative 2	4 structures (<0.01 acre of permanent impact)	0 structure (<0.01 acre of permanent impact)	0 structures (0 acre of permanent impact)
Alternative 3	0 structures (<0.01 acre of permanent impact)	5 structures (<0.01 acre of permanent impact)	2 structures (<0.01 acre of permanent impact)

DPC anticipates that the Preferred Route would result in approximately 0.04 acre of permanent disturbance to prime farmland, 0.05 acre of permanent disturbance in prime farmland if drained and/or protected from flooding, and less than 0.01 acre of permanent disturbance in farmland of statewide importance. Alternative 1 would result in approximately 0.02 acre of permanent impact to prime farmland, 0.01 acre of prime farmland if drained and/or protected from flooding, and less than 0.01 acre of farmland of statewide importance. Alternative 2 would result in approximately <0.01 acre of permanent impact to prime farmland and prime farmland if drained and/or protected from flooding, and no permanent impact to

farmland of statewide importance. Alternative 3 would result in approximately <0.01 acre of permanent impact to prime farmland, prime farmland if drained and/or protected from flooding, and 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 4.1.4 below and in Appendix B.

### **4.1.3 Formally Classified Land**

The proposed Project does not cross any federally or state managed lands, but does cross Chippewa County Forest, which is county-owned land. A description of the county-owned land crossed by the proposed Project is provided in Section 4.1.1.3 and jurisdictions crossed by the proposed Project are shown on Figure 7.

#### **4.1.3.1 Formally Classified Land Impacts**

Construction and operation of the proposed Project is anticipated to have less than significant effects on the Chippewa County Forest, the only formally classified land within the project area. Utilities, including power transmission lines, are a considered a conditional use within the Public Conservancy District in Chippewa County. 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 minor tree trimming or clearing, if required, in order to maintain a safe distance between tree branches and the new transmission line. Within the Chippewa County Forest, the proposed transmission line would either be located within an existing ROW or would parallel existing roadways, thereby limiting tree trimming/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 Chippewa County to obtain the necessary permits required for crossing the Chippewa County Forest.

### **4.1.4 Land Use Mitigation and Monitoring**

In addition to the BMPs described in Appendix B, the following mitigation measures would be employed to minimize potential impacts to land use.

- The removal of landscaping would be avoided whenever possible.
- Access to all residences would be maintained during construction.
- Existing transmission structures would be removed to minimize permanent land use impacts, except in wetland areas, where they would be cut off at the base.
- Disturbed areas would be reseeded according to landowner requests.

## 4.2 Vegetation

The proposed Project is located within the North Central Forest ecological landscape (WDNR, 2012a). This region is mainly characterized by forested land (approximately 75 percent) which is dominantly hardwood forest. Forested and non-forested wetlands are also prevalent (WDNR, 2012a).

Table 4-3 is a summary of the percentage distribution of land cover types crossed by the Project ROW, as identified by data obtained from the Wisconsin Department of Natural Resources Land Cover Database (WISCLAND).

WISCLAND Land Cover Type	Preferred Route		Alternative 1		Alternative 2		Alternative 3	
	Acreage Crossed	Percentage of Total Length	Acreage Crossed	Percentage of Total Length	Acreage Crossed	Percentage of Total Length	Acreage Crossed	Percentage of Total Length
Agriculture	104.1	51.0	11.5	20.0	1.4	12.0	5.4	52.0
Barren	5.8	3.0	0.4	1.0	-	-	0.4	4.0
Forested	53.6	44.0	30.8	53.0	8.1	66.0	0.2	2.0
Forested Wetland	8.8	5.0	<0.1	<1.0	-	-	2.2	21.0
Grassland	42.4	39.0	9.6	17.0	2.1	17.0	0.7	7.0
Open Water	0.5	<1.0	-	-	-	-	-	-
Shrubland	9.3	4.0	1.2	2.0	-	-	1.3	12.0
Wetlands	44.8	54.0	4.3	7.0	0.6	5	0.2	2.0

These percentages identified in Table 4-3 are consistent with the land cover observed during a field survey performed in June 2014 and September 2015. Field surveys identified the following vegetative communities during the wetland delineation: upland pasture, upland scrub-shrub, upland forest, open water, wetland, and forested wetland. Vegetation observed during the wetland delineation surveys primarily included sapling/shrub species and herbaceous non-woody species. Although approximately 20 percent of the land adjacent to the existing ROW is forested, herbaceous vegetation predominates within the existing ROW because woody vegetation within the ROW is mowed or removed to meet federal regulatory guidelines and facilitate maintenance access. An invasive plant survey of the ROW was completed in June 2014 and September 2015 and is attached in Appendix D. Locations of invasive plant infestations observed within the ROW during the field survey are also shown on the Project sheet maps in Appendix A.

### 4.2.1 Vegetation Impacts

Proposed construction activities would involve excavation and grading in limited areas around each proposed transmission structure that would temporarily disturb herbaceous vegetative cover. Some vegetation clearing may be required within the existing ROW and access routes, which also has the potential to disturb vegetation. The long-term effects of these actions are not expected to result in measurable vegetation 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 new cleared ROW along the proposed Preferred Route, and where anchors for guy wires are placed in the ground. 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 vegetation clearing associated with the temporary use of overland access are not expected to result in measurable losses, but short-term effects (during construction) resulting in temporary areas of bare ground.

The long-term effects of the new ROW would be minimal for the Preferred Route and would result in the loss of approximately 10 acres of woody vegetation as determined by review of current aerial photographs of the project area. The transmission line and associated ROW would be located adjacent to existing road ROWs, which would minimize the impact to forested areas at the Yellow River crossing for the proposed new ROW along the Preferred Route.

If selected, approximately 17 acres of forested area would be removed associated with Alternative 1.

There would be no permanent access roads and no permanent impacts as a result of the construction laydown areas, because these areas would be returned to their pre-construction conditions after construction.

The three 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 return the disturbed areas to pre-construction conditions.

Overall, impacts to vegetation are anticipated to be less than significant because the majority of the proposed Project would be located within an existing ROW that is currently maintained for operation of a transmission line. Permanent impacts would be primarily limited to the footprint of transmission structures and vegetation clearing within the ROW.

#### **4.2.2 *Vegetation Mitigation and Monitoring***

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

- DPC would 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 would be restored by re-grading, seeding, and/or mulching as necessary per landowners' preferences.
- Monitoring of the project area would 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.

### **4.3 Floodplains**

Floodplain data was obtained from the Federal Emergency Management Agency (FEMA). The proposed Project would require thirteen crossings of 100-year floodplains. Table 4-4 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 4.

**Table 4-4:  
100-year Floodplains Crossed by the Project**

Route	Civil Township	Township, Range	Section	Waterbody	Approximate Width
Preferred Route	Colburn	T 31N, R 5W	26	Yellow River	1,030 feet
			26	Yellow River	850 feet
			36	Yellow River	660 feet
Preferred Route	Roosevelt	T 30N, R 3W	28	North Fork Eau Claire River	570 feet
			33	Unnamed tributary to North Fork Eau Claire River	2,330 feet
Alternative 1	Ruby	T 32N, R 5W	19	Fisher River	820 feet
			20	Fisher River	570 feet
Alternative 2	Colburn	T 31N, R 5W	26	Yellow River	5,380 feet

### 4.3.1 Floodplains Impacts

The proposed Project would result in approximately 20 new transmission structures associated with the Preferred Route being placed in 100-year floodplains. Disturbance in floodplains would be limited to the area needed for the new structures and would result in approximately 240 total square feet of permanent disturbance (approximately 12 square feet at each structure location) for the Preferred Route. 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 returned to pre-construction conditions. Potential floodwater displacement could occur where structures are placed in floodplains. However, 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, construction of the proposed Project would require approximately 0.7-mile of temporary overland access in 100-year floodplains. 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.

### 4.3.2 Floodplains Mitigation and Monitoring

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

- DPC would coordinate with the U.S. Army Corps of Engineers (USACE), WDNR, and local authorities for approval of structure locations.
- DPC would follow all floodway development requirements as outlined in Chapter 32 of the Chippewa County Code of Ordinances.
- DPC would follow all floodway development requirements as outlined in Chapter 29 of the Taylor County Code of Ordinances.

- DPC would obtain all permits listed in Section 5 of this EA.
- DPC would preserve existing natural vegetation to the extent practicable.
- DPC would restore temporary ground disturbance within 100-year floodplains caused by construction activities by returning the impacted area to pre-construction conditions.

## 4.4 Water Quality

Waterways crossed by the proposed Project were identified using the United States Geological Topographical Maps, United States Geological Survey National Hydrography Dataset, and field survey. Twenty-four streams and five open waters were identified within the survey corridor. Three of the twenty-four streams cross the survey corridor twice and Christmas Creek crosses the corridor three times. Therefore, a total of 29 waterbody crossings occur along the Preferred Route, Alternative 1, Alternative 2, and Alternative 3. Of the 29 identified waterbody crossings, 14 waterbodies and 3 open waters (e.g., ponds, oxbows, sloughs, etc.) are crossed by the Preferred Route. In Alternative 1, four waterbodies are crossed. Alternative 2 crosses 8 waterbodies and 2 open waters. Alternative 3 crosses one waterbody. A copy of the wetland and waterbody survey report for the proposed Project is included as Appendix E. Table 4-5 lists the stream crossing associated with the proposed Project and its alternatives.

**Table 4-5:  
Waterbodies Crossed by the Project**

Route	County	Township, Range	Section	Waterbody	Flow	Endangered, Threatened or Special Concern Habitat Streams	Outstanding and Exceptional Resource Waters	Crossing Method <sup>a</sup>
Preferred Route	Chippewa	T 32N, R 5W	34	Tributary to unnamed pond	Intermittent	No	No	AA
Preferred Route	Chippewa	T 31N, R 5W	10	Hay Creek <sup>b</sup>	Perennial	No	No	AA
			10	Hay Creek <sup>b</sup>	Perennial	No	No	AA
			26	Yellow River <sup>c</sup>	Perennial	No	ORW	AA
			36	Unnamed tributary to Yellow River	Intermittent	No	No	AA
Preferred Route	Taylor	T 31N, R 4W	31	Unnamed tributary to Yellow River	Perennial	No	No	AA
			33	Unnamed tributary to Yellow River	Ephemeral	No	No	AA
			36	Unnamed tributary to Yellow River	Perennial	No	No	AA
Preferred Route	Taylor	T 30N, R 4W	1	Unnamed tributary to Hay Creek	Intermittent	No	No	TCSB
			1	Unnamed tributary to Hay Creek	Perennial Permanently Flooded	No	No	TCSB

Table 4-5:  
Waterbodies Crossed by the Project

Route	County	Township, Range	Section	Waterbody	Flow	Endangered, Threatened or Special Concern Habitat Streams	Outstanding and Exceptional Resource Waters	Crossing Method <sup>a</sup>
			12	Unnamed tributary to Hay Creek	Ephemeral Seasonally Flooded	No	No	TCSB
Preferred Route	Taylor	T 30N, R 3W	7	Unnamed tributary to Hay Creek	Ephemeral	No	No	AA
			8	Unnamed pond <sup>f</sup>	Permanently flooded	No	No	AA
			16	Unnamed pond <sup>f</sup>	Permanently flooded	No	No	AA
			28	Unnamed tributary to North Fork Eau Claire River <sup>f</sup>	Permanently flooded	Yes	No	AA
			28	North Fork Eau Claire River	Perennial	Yes	No	TCSB
			33	Unnamed tributary to North Fork Eau Claire River	Intermittent	Yes	No	TCSB
			Alternative 1	Chippewa	T 32N, R 5W	19	Unnamed tributary to Fisher River	Intermittent
	19	Unnamed ditch	Intermittent			No	No	AA <sup>b</sup>
	20	Beaver Creek <sup>b</sup>	Perennial			No	No	AA <sup>b</sup>
	21	Unnamed tributary to Fisher River	Intermittent			No	No	AA <sup>b</sup>
Alternative 2	Chippewa	T 31N, R 5W	26	Christmas Creek <sup>d</sup>	Perennial	No	No	TCSB <sup>c</sup>
			26	Unnamed tributary to Yellow Creek	Intermittent	No	No	DC
			26	Oxbow of Yellow River (Unnamed Pond) <sup>f</sup>	Seasonally Flooded	No	No	AA

**Table 4-5:  
Waterbodies Crossed by the Project**

Route	County	Township, Range	Section	Waterbody	Flow	Endangered, Threatened or Special Concern Habitat Streams	Outstanding and Exceptional Resource Waters	Crossing Method <sup>a</sup>
			26	Yellow River <sup>c</sup>	Perennial	No	ORW	AA
			26	Oxbow of Yellow River	Intermittent	No	No	AA
			26	Oxbow of Yellow River	Intermittent	No	No	TCSB
			26	Oxbow of Yellow River <sup>f</sup>	Intermittent	No	No	TCSB
			26	Unnamed tributary to Yellow River	Intermittent	No	No	TCSB
			26	Oxbow of Yellow River	Intermittent	No	No	TCSB
			26	Oxbow of Yellow River	Intermittent	No	No	TCSB
Alternative 3	Chippewa	T 31N, R 5W	36	Unnamed tributary to Yellow River <sup>e</sup>	Intermittent	No	No	DC

<sup>a</sup> Crossing Methods:

Alternative Access (AA) – DPC will utilize other routes to avoid crossing the waterbody such as public roads or overland access.

Direct Crossing (DC) – DPC will cross the waterbody without a bridge through the waterbody feature.

Temporary Clear Spanning Bridge (TCSB) – DPC will cross the waterbody with a bridge to reduce impact to the waterbody feature.

<sup>b</sup> Hays Creek is crossed twice near Milepost 5.4 and Milepost 5.6 along the Preferred Route.

<sup>c</sup> The Yellow River is crossed twice. Once along the Preferred Route near Milepost 9.6 and along Alternative 2 near Milepost 0.7 of the alternative.

<sup>d</sup> Christmas Creek will be crossed three times within Alternative 2's right-of-way. All three crossings will utilize a TCSB.

<sup>e</sup> This unnamed tributary to the Yellow River is crossed twice. Once along the Preferred Route near Milepost 12.1 and along Alternative 3 near Milepost 0.6.

<sup>f</sup> Considered an open water (e.g., pond, oxbow, slough, impoundment, etc.) based on survey results. Refer to Appendix E.

The Yellow River is listed as impaired on both the WDNR Section 303(d) 2012 Impaired Waters List and Draft 2014 Impaired Waters List within Chippewa and Taylor counties. The Yellow River is listed as impaired for total phosphorus and a total maximum daily load has not been established. Hay Creek and the Fisher River have been proposed for the WDNR Section 303(d) 2014 Impaired Waters List. None of the other surface waters crossed by the proposed Project are identified as impaired waters on the Section 303(d) list of impaired waters (WDNR, 2015).

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, 2015). 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. None of the waterways crossed by the proposed Project are designated as Trout Waters by the WDNR. ASNRI waters and PRF waters are also considered PNW waters. ASNRI and PNW are shown on Figure 8.

One waterbody crossed by the proposed Project, the North Fork Eau Claire River, is classified as being potential habitat for endangered, threatened, or special concern species by WDNR. Endangered, threatened, and special concern species that may occur along the Project ROW are described in Section 4.6. Additionally, the Yellow River and its tributaries are all classified as PNW Sturgeon Area (WDNR, 2015).

The Yellow River, which is classified as an ORW, is the only waterbody crossed by the proposed Project that is classified as an ORW or ERW, as summarized in Table 4-5. 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. However, dischargers to both ORWs and ERWs are required to maintain background water quality levels (WDNR, 2013).

Groundwater in the project area consists of shallow sand and gravel deposits underlain by Cambrian sandstone aquifers. Depth to groundwater in the project area ranges from zero to 50 feet below grade, and would be in the shallower depth range of zero to 20 feet below grade near surface waterbodies. Groundwater in Chippewa and Taylor counties in the Project area is characterized as having moderate to high susceptibility to contamination with the exception of the north-central project area generally along County Road G, which has a moderate to low susceptibility to contamination (USGS, 2007a; USGS 2007b). 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 waterbodies, such as the Yellow River. Additionally, areas with the highest susceptibility to contamination generally occur near the Yellow River because the adjacent soils typically have a medium to high permeability and bedrock occurs at a relatively shallow depth.

#### **4.4.1 Water Quality Impacts**

Of the 24 surveyed waterbodies and five open waters (e.g., ponds, impoundments, oxbows) located within the ROW, five TCSBs would be required to access pole locations for Project construction of the rebuild along the Preferred Route and seven additional TCSBs would be needed to access existing structures along Alternative 2 for the proposed abandonment of this portion of the existing corridor. Sheet maps included in Appendix A show each proposed open crossing. 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. A typical TCSB design is presented on Figure 2. 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 4.4.2 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.

#### **4.4.2 Water Quality 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 would thoroughly plan, install, and maintain erosion control measures and revegetate and stabilize disturbed soil adjacent to waterways.
- Spill prevention, control, and countermeasures would be implemented as detailed in the Stormwater Management Plan to be developed for the proposed Project.
- Waterbodies would be spanned.
- No fuel storage or refueling would take place on site.
- Once construction has been completed, construction areas, laydown areas, and overland access would be cleared of debris and disturbed ground cover and soils would be returned to pre-construction conditions so that sedimentation would not occur.
- Construction activity would not be permitted below the ordinary high water line of any water body.
- With the exception of the nine stream crossings discussed in Section 4.4.1, construction contractors would not drive across streams crossed by the proposed Project.
- DPC would utilize appropriate WDNR-suggested stormwater and erosion control methods to protect surface waters at TCSB locations.
- DPC would obtain permits listed in Section 5 of this EA.

### **4.5 Wetlands**

Wetlands within the Project area were identified primarily by means of an on-site survey and delineation completed in June 2014. Alternative 1 was surveyed in September 2015. During these field investigations, 115 separate areas were identified as having met the criteria to be a wetland (see sheet maps in Appendix A). Of the 115 identified wetlands, 89 are located within the Preferred Route 1, 22 are located within Alternative 1, 0 are located within Alternative 2, and 4 are located within Alternative 3.

Wetlands occur along the entire Project ROW and are relatively evenly spread throughout the Project area. Wetlands within the Project area were largely observed to be palustrine emergent with a small portion of the wetlands being classed as scrub-shrub and forested, particularly in the southern portion of the Project. The Preferred Route crosses 7.1 miles of wetlands, of which 5.3 miles are palustrine emergent and 1.8 are scrub-shrub. Alternative 1 crosses 1.4 miles of wetland, of which 0.3 miles are palustrine emergent, 0.4 mile are scrub-shrub, and 0.7 mile are forested wetlands. No wetlands were identified within Alternative 2. Alternative 3 would cross 0.5 mile of wetlands including 0.3 mile of palustrine emergent and 0.2 mile of scrub-shrub. A copy of the Wetland Delineation Report for the proposed Project is included as Appendix E.

#### **4.5.1 Wetlands Impacts**

The proposed Project is expected to result in minimal impacts to wetlands. The Wetland Delineation Report provides further information regarding wetlands in the project area (Appendix E). The estimated temporary and permanent impacts on wetlands crossed by the project's Preferred Route and alternatives are shown in Table 4-6.

DPC is currently working with the Wisconsin DNR and Corps of Engineers to obtain wetland permits for the Project. Wetlands crossed by the proposed Project are shown on sheet maps in Appendix A.

**Table 4-6:**  
**Estimated Temporary and Permanent Impacts of Wetlands Crossed by the Project (square feet)**

Wetland type	Preferred Route		Alternative 1		Alternative 2		Alternative 3	
	Temporary Matting (ft <sup>2</sup> ) <sup>a</sup>	Permanent Disturbance (ft <sup>2</sup> ) <sup>b</sup>	Temporary Matting (ft <sup>2</sup> ) <sup>a</sup>	Permanent Disturbance (ft <sup>2</sup> ) <sup>b</sup>	Temporary Matting (ft <sup>2</sup> ) <sup>a</sup>	Permanent Disturbance (ft <sup>2</sup> ) <sup>b</sup>	Temporary Matting (ft <sup>2</sup> ) <sup>a</sup>	Permanent Disturbance (ft <sup>2</sup> ) <sup>b</sup>
Total PEM	199,174	744	180,472	312	0	0	22,863	0
Total PSS	146,285	288	141,300	252	0	0	0	0
Total PFO	435	0	55,275	84	0	0	0	0
<b>Totals</b>	<b>345,894</b>	<b>1,032</b>	<b>377,047</b>	<b>648</b>	<b>0</b>	<b>0</b>	<b>22,863</b>	<b>0</b>
<sup>a</sup> Temporary matting includes matting across wetlands and matting associated with construction of transmission structures and matting, if necessary, in wetlands located in access routes (50' x 50'). <sup>b</sup> Permanent disturbance includes 12 square feet for each permanent pole location. PEM = palustrine emergent; PSS = palustrine scrub-shrub; PFO = palustrine forested								

Construction of the Preferred Route would result in approximately 7.9 acres of temporary wetland disturbance, which includes approximately 4.6 acres of emergent wetland, 3.4 acres of shrub-scrub wetland, and <0.1 acre of forested wetland. Construction of the Preferred Route would also require approximately 0.5 acre of wetland disturbance along Alternatives 2 and 3, which would be associated with the removal of the existing transmission structures along these segments.

The area of wetland that would be permanently altered (filled) by each proposed transmission structure is approximately 12 square feet. Total permanent wetland impacts resulting from the Preferred Route of the proposed Project are estimated to be approximately 1,032 square feet (<0.1 acre).

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-1 transmission line, or because they are only seasonally wet and otherwise passable. In this way, they avoid wetland impacts. 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 7 feet in width) to access structure locations. Temporary ground disturbance associated with transmission structure construction in wetlands would result in approximately 2,500 square feet of temporary disturbance at each 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 areas temporarily disturbed by 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.

#### **4.5.2 Wetlands 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 B, the following mitigation measures would be employed to reduce potential impacts to wetlands:

- Crews would 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 would be used to minimize impacts if access into wetlands cannot be rescheduled or relocated.
- Sedimentation control measures would be installed and maintained upslope of wetlands wherever erosion potential exists as a result of upland ground disturbance.
- DPC would 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 would obtain all permits listed in Section 5 of this EA.

## 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 June 2014.

No areas of USFWS-mapped critical habitat occur along the Project ROW. Four federally listed species have been recorded by USFWS for Chippewa and Taylor Counties (Table 4-7).

**Table 4-7:  
Analysis of Habitat Suitability for Federally Listed Species along Project ROW**

Species	County	Status	Preferred Habitat	Action Area Evaluation
Spectaclecase mussel ( <i>Cumberlandia monodonta</i> )	Chippewa	Endangered	Large rivers (e.g., St. Croix River)	The Project ROW does not overlap with the Eastern massasauga's range in Chippewa county.
Karner blue butterfly ( <i>Lycaeides melissa</i> )	Chippewa	Endangered	Prairie, oak savanna, and jack pine areas with wild lupine ( <i>Lupinus perennis</i> )	The proposed Project is located outside of the high potential range as identified by the WDNR. DPC conducted a Karner blue butterfly survey along the N-1 ROW, and no suitable habitat was identified.
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Chippewa Taylor	Threatened	Overwinter in large caves and abandoned mines; summer habitat includes loose bark of trees with wetlands present	Suitable habitat is present in the vicinity of the Project ROW.
Gray wolf ( <i>Canis lupus</i> )	Chippewa Taylor	Endangered	Wide range of habitat from forest to grasslands, typically in roadless areas	The Project ROW lies at the edge of probable wolf range in Wisconsin, and suitable habitat may be present in the vicinity of the Project ROW

As summarized in Table 4-7, the northern long-eared bat and gray wolf are the only federally listed species likely to occur within the Project ROW. The northern long-eared bat predominantly overwinters in large caves and abandoned mines with stable temperatures and high humidity. During the summer, the species is associated with forested habitat with wetlands present. Northern long-eared bats often roost alone or in colonies in buildings, towers, hollow trees, beneath loose bark of trees, in crevices in cliffs,

and beneath bridges as day roosts and caves as night roosts during the summer. Population declines are believed to have been caused primarily by white nose syndrome. Human disturbance to summer habitat and the loss of suitable hibernacula are factors that also limit the species' ability to persist.

No known caves or abandoned mines are located along the Project's existing right-of-way. Based on review of desktop data including topographic maps, aerial photographs, and the results of the wetland delineation, suitable summer roosting habitat for the northern long-eared bat exists in areas adjacent to the Project primarily as forested wetlands and riparian forests. However, there are no recorded occurrences of the species in the Wisconsin Natural Heritage database within 1 mile of the Project. As the Project site is within the range of northern long-eared bats and abundant suitable habitat is present in the vicinity of the Project, DPC concludes that northern long-eared bats may be present.

After briefly being removed from the endangered species list, the gray wolf was returned to the list after a Federal Ruling in December 2014. The species is highly territorial and known to utilize a wide variety of habitats, including mixed-hardwood forests, taiga, tundra, and grasslands. Wolf packs occupy large (20-120-mile radius) discrete geographic areas as territories. Generally, enough space is needed to supply the pack with prey (typically deer), and it has been found that areas with less dense roadways are more suitable as habitat. The project site is within the probable range of the gray wolf and suitable habitat may be present in the vicinity of the Project, therefore DPC concludes that gray wolves may be present.

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 4-8 lists those species known to occur within 2-miles of the Project ROW.

**Table 4-8:  
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> )	Special Concern	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.
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.
Ellipse ( <i>Venustaconcha ellipsiformis</i> )	Threatened	Shallow, flowing, clean small streams with stable substrate.	Potential ellipse habitat may occur at several of the stream crossings along the Project ROW.
Purple wartyback ( <i>Cyclonaias tuberculata</i> )	Endangered	Large rivers with stable substrate containing rock, gravel and sand in swift current.	Potential purple wartyback habitat may occur at several of the stream crossings along the Project ROW.
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.

As summarized in Table 4-8, one endangered species (purple wartyback mussel), two state threatened species (wood turtle and ellipse mussel), and three state special concern species (Blanding’s turtle, bald eagle and sand snaketail dragonfly) may occur along the Project ROW.

The WDNR BER also identified three natural communities (floodplain forest, northern wet forest, and tamarack swamp) in the Project vicinity. Natural communities are deemed significant because of their undisturbed condition, size, or what occurs around them.

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; however, based on the distance from the project site to known eagle nests locations the WDNR does not anticipate any impacts. As such, bald eagles are not anticipated to be located in the Project area.

#### 4.6.1 Threatened and Endangered Species Impacts

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 April 23, 2014, USFWS commented on the proposed Project’s anticipated impact to federally listed species, proposed and candidate species, and critical habitat. USFWS concurred with the determination of no effect on the spectaclecase mussel and Karner Blue Butterfly. The northern long-eared bat has known range in Wisconsin. The hibernation period for the species occurs from October 1 to May 15. Summer habitat consists of a wide variety of habitat as discussed in section 1.3. Suitable habitat is present in the Project area and DPC would continue to coordinate with the USFWS. DPC would avoid tree clearing from October 1 to March 31 based from the USFWS recommendations.

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). Table 4-8 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 six miles of new ROW would be constructed adjacent to an existing road ROW. Impacts to surface waters would be avoided and/or mitigated as described in Section 4.6.2. WDNR-BER concurred with the findings reported in Table 4-9 in based on the updated WDNR-BER from July 1, 2015 (Appendix H).

**Table 4-9:  
State-Listed Species and Potential for Project Impacts**

Species	Status	Impact Probability Comments
Blanding’s turtle	Special Concern	Low. Construction would occur during the inactive season where possible, and other protective measures would be applied as needed in coordination with the WDNR.



**Table 4-9:  
State-Listed Species and Potential for Project Impacts**

Species	Status	Impact Probability Comments
Wood turtle	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.
Purple wartyback	Endangered	Low. Waterways would be spanned.
Ellipse	Threatened	Low. Waterways would be spanned.
Sand snaketail	Special Concern	Negligible. Waterways would be spanned.
Bald Eagle	Special Concern	Low. Protective measures can be applied as needed.

Based upon the results of these consultations, a habitat survey was completed to identify potential habitat for target species which included the wood turtle and Bald Eagle. The results of the habitat survey are included in Appendix F.

### **4.6.2 Threatened and Endangered Species 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 4-10, 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 4-10 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 4-10:  
Mitigation Measures for State Special Status Species**

Affected Species	Proposed Mitigation
Wood turtles	Restrict construction activity within habitat to November through March or install and maintain exclusion fencing per WDNR protocols.
Purple Wartyback	Erosion control measures should be sufficient to avoid take of this species since no stream crossings are planned within suitable habitat areas. All areas would be spanned by temporary bridges and no in-stream work is planned.
Ellipse	Erosion control measures should be sufficient to avoid take of this species since no stream crossings are planned within suitable habitat areas. All areas would be spanned by temporary bridges and no in-stream work is planned. .
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).

## **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 throughout the project area, but in particular 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. Agricultural land is present throughout the Project area, but is more heavily concentrated in the southern portion of the Project area mixed with deciduous forest. 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.

#### **4.7.1 Fish and Wildlife Resources Impacts**

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 the Project ROW has been previously disturbed. In addition, no bald eagle nesting areas were observed during field surveys.

#### **4.7.2 Fish and Wildlife Resources Mitigation and Monitoring**

Consultation with the WDNR and USFWS has not identified any additional concerns beyond those related to special status species, which were previously discussed in Section 4.6.2. Therefore, mitigation measures beyond those associated with erosion and sediment control measures to prevent impacts to waterbodies are not proposed.

### **4.8 Cultural Resources**

In July 2015, personnel from the Mississippi Valley Archaeology Center (MVAC) conducted a Phase I Cultural Resources Survey of the Project area for DPC. The results of the survey are summarized in Section 4.8.1.

#### **4.8.1 Cultural Resources Impacts**

Based upon the results of the Phase 1 Cultural Resources Survey Report, no impacts to cultural resources are anticipated to result from construction and operation of the proposed Project. No previously recorded sites were located within the Project area and no new cultural sites were discovered. A copy of the survey report is included in Appendix G.

#### **4.8.2 Cultural Resources Mitigation and Monitoring**

Based on the results of the Phase 1 Cultural Resources Survey, no resources are expected to be encountered during construction. However, in the event that human bone or previously unidentified cultural resources are discovered during construction, work would be immediately suspended. DPC would contact the RUS and the State Historical Society of Wisconsin, Burial Sites Preservation Office in the event of any an anticipated find.

### **4.9 Air Quality**

Chippewa and Taylor 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).

### **4.9.1 Air Quality Impacts**

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 4.13.

### **4.9.2 Air Quality Mitigation and Monitoring**

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

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

## **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 proposed Project would be located primarily on a mixture of agricultural land characterized by flat to gently rolling terrain and scattered rural residences and forested land, which in the northern portion of the project is associated with the Chippewa County Forest. Rivers, streams, and creeks traverse the landscape and several would be crossed by the proposed Project, including North Fork Eau Claire River, Yellow River, Hay Creek, Christmas Creek, unnamed tributaries, and unnamed ponds. No lakes would be crossed by the proposed Project. The proposed Project would be located in an existing transmission line corridor and/or 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, and white pine forests (Chippewa County, 2010). 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 one recreation area, the Chippewa County Forest. The proposed Project would also cross or parallel ATV and snowmobile trails within Chippewa County. The proposed Project would be located in close proximity to one additional recreation area, Chequamegon-Nicolet National Forest. In total, the Chequamegon-Nicolet National Forest covers approximately 1.5 million acres of land; the nearest portion of the national forest is located within Taylor County, approximately 2.0 miles northeast of the project area. Recreation opportunities include hunting, fishing, camping, hiking, and horseback riding (USDA, no date). No state recreation areas or trails would be crossed by the proposed Project.

Potential visually sensitive areas would be limited to the areas around rural residences, areas along the Chippewa County Forest, and ATV and snowmobile trails. Given the gently rolling terrain and high 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 route; 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 and near the area include State Highways 64 and 73, County Roads F, G, H, S, and W, and local paved and unpaved roads; communication towers; one railroad corridor; gravel pits; Lublin and Gilman substations; distribution lines; and high-voltage transmission lines. In addition to the N-1 transmission line, other transmission lines in the Project area include a 161 kV transmission line, which is oriented southwest to northeast and connects to the proposed Project on County Road G, a 69 kV transmission line, which is oriented west to east and connects to the proposed Project at State Highway 73 and County Road S, and a 345 kV transmission line, which is oriented northwest to southeast and crosses the proposed Project on Elm Drive.

#### **4.10.1 Visual Resources Impacts**

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 80-foot ROW to allow the existing transmission line to remain in service during construction of the new transmission line. 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, which is 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 to the structures being replaced. Although minor vegetation clearing may be required in some areas, changes to the casual observer would be less than significant due to the current landscape created by the existing ROW. In addition, the proposed Project would not be out of character with the aesthetic of the existing landscape because 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 that have already introduced similar visual elements into the landscape setting, the area has a higher visual absorption capacity for new elements when compared to landscapes that are less modified by man-made structures. The high degree of modification and visual variability in the existing 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 view sheds 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 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, size, 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 the Chippewa County Forest and ATV and snowmobile trails. Views of the proposed Project from recreational users associated with the Chippewa County Forest would be completely screened by existing vegetation and/or by rolling topography. Recreational users of the 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 because the new structures would be similar to the existing transmission and would be placed within the existing disturbed ROW.

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.

#### **4.10.2 Visual Resources 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.

### **4.11 Transportation**

Transportation corridors in proximity to the proposed Project consist of residential roads, county roads and highways, and state highways. The proposed Project crosses 22 residential roads, 5 county roads, and 2 state highways, some of which are crossed multiple times. Alternative 1 crosses 2 residential roads. Alternative 2 does not cross any roads. Table 4-11 shows all of the roads crossed by the proposed transmission line and associated average annual daily traffic volumes (WisDOT, 2014).

**Table 4-11:  
Roadways Crossed by the Project**

<b>County</b>	<b>Segment/Alternative</b>	<b>Road</b>	<b>Traffic Count!</b>	<b>Traffic Year!</b>	<b>Point Location!</b>
Chippewa	Preferred Route	320th Street	--	--	--
	Alternative 1	260th Avenue	--	--	--
		265th Avenue	--	--	--
		310th Street	--	--	--
		322nd Street	--	--	--
		330th Street	--	--	--
	Preferred Route	County Road G	210	2011	0.5 mile north of County Road W
		245th Avenue	--	--	--
		County Road G	210	2011	0.5 mile north of County Road W
		County Road W	--	--	--
		County Road G	210	2011	0.5 mile north of County Road W
		County Road G	210	2011	0.5 mile north of County Road W

**Holcombe- Lublin (N-1)  
69kV Transmission Line Rebuild Project**

County	Segment/Alternative	Road	Traffic Count!	Traffic Year!	Point Location!	
		State Highway 64	1000	2011	East of County Road G	
		County Road G	210	2011	0.5 mile north of County Road W	
		210th Avenue	--	--	--	
		350th Street	--	--	--	
		360th Street	--	--	--	
		County Road S	--	--	--	
		192nd Avenue	--	--	--	
		County Road S/H	--	--	--	
	Alternative 2	350th Street	--	--	--	
		360th Street	--	--	--	
	Taylor	Preferred Route	County Road S/H	--	--	--
			370th Street	--	--	--
			370th Street	--	--	--
			County Road S/H	--	--	--
River Road			--	--	--	
Pine Drive			--	--	--	
Ness Road			--	--	--	
County Road S			--	--	--	
State Highway 73			1100	2010	South of Elm Drive and north of County Road F	
6th Avenue			--	--	--	
Elm Drive			--	--	--	
7th Avenue			--	--	--	
Town Drive			--	--	--	
County Road F			370	2010	West of 8th Avenue	
Spruce Drive			--	--	--	
Shiner Drive			--	--	--	
Pinewood Drive	--	--	--			

<sup>1</sup>-- indicates 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 the Cornell Municipal Airport and is located approximately 4.5 miles southwest of the proposed Project in Cornell, Chippewa County. The closest heliport is located approximately 10 miles southwest of the proposed Project in Stanley, Chippewa County (FAA, 2014a).

No communication towers are located within the Project ROW. The closest communication tower is located approximately 1 mile southwest the Project ROW near the intersection of County Road F and State Highway 73.

#### **4.11.1 Transportation Impacts**

Effects to transportation due to 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 13-miles of temporary overland access 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 temporary in nature and would be limited to the construction time period near individual transmission structures.

It would be necessary to cross 29 roads (some roads would be crossed multiple times) while stringing the conductor, and traffic may 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 structures 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 structures would be removed.

No impacts to airports or heliports during construction or operation of the proposed Project are anticipated. The closest airport is the Cornell Municipal Airport, which is located 4.5 miles southwest of the proposed Project. The closest heliport is located 10.3 miles southwest of the proposed transmission line. 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, 2014b). 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.

#### **4.11.2 Transportation Mitigation and Monitoring**

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

- Roadway crossings would be maintained in a condition that would prevent tracking of sediment onto the roadway.
- Mud tracked onto paved roadways would be shoveled or swept off the road daily.

- Road crossings resulting from stringing operations would be discussed with the appropriate transportation organization and, if required, personnel would be enlisted to assist with public safety and to ensure minimal disruption to traffic flow.
- The contractor would not utilize state or county road/highway ROW for parking.
- The contractor would 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 structures may be installed to ensure that conductors do not obstruct traffic during stringing.

## 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>>.

### 4.12.1 Health and Safety Impacts

There would 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 a 115 kV transmission lines and several distribution lines. Since the 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/index.cfm>>.

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.



### 4.12.2 Health and Safety 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.

## 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 (noise) may consist of a variety of sounds of different intensities across the entire frequency spectrum. Noise 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 4-12 shows noise levels associated with common everyday sources. Noise 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 4-12:**  
**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 noise 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 (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.

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.

#### **4.13.1 Corona, Audible Noise, Radio and Television Interference Impacts**

The construction of the proposed Project would result in noise 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 noise 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 4-13. Shaded areas indicate reference noise levels.

**Table 4-13:  
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
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 ( $L_{eq}$ ) 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.

#### ***4.13.2 Corona, Audible Noise, Radio and Television Interference 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.

## **4.14 Socioeconomic and Community Resources**

### **4.14.1 Chippewa County**

According to the 2010 U.S. Census, Chippewa County's total population in 2010 was 62,415, an approximately 13 percent increase since the 2000 census. General 2010 Census demographics for Chippewa County show a 51.9 percent male and 48.1 percent female distribution and a predominantly (95.3 percent) white population. The per capita income in the county between 2008 and 2012 was \$24,768, which is approximately 9.7 percent lower than the statewide average of \$27,426. Unemployment in Chippewa County between the years 2008 and 2012 was 11.0 percent, lower than the statewide average by 1.5 percent (U.S. Census, 2014).

### **4.14.2 Taylor County**

According to the 2010 U.S. Census, Taylor County's total population in 2010 was 20,689, a 5.1 percent increase since the 2000 census. General 2010 Census demographics for Taylor County show a 51 percent male and 49 percent female distribution and a predominantly (97.9 percent) white population. Per capita income in the county between 2008 and 2012 was \$22,733, which is approximately 7.1 percent lower than the statewide average of \$27,426. Unemployment in Taylor County between the years 2008 and 2012 was 13.6 percent, higher than the statewide average by 1.1 percent (U.S. Census, 2014).

### **4.14.3 Socioeconomic and Community Resources Impacts**

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 from the local community. 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 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 reliability of 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.

### **4.14.4 Socioeconomic and Community Resources Mitigation and Monitoring**

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

## 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 (CEQ), 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 analyzed census tracts 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 tracts are expected to be representative of the population located in proximity to the proposed transmission line. Table 4-14 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 (U.S. Census, 2014).

**Table 4-14:**  
**Census Data**

Location	Population	Race Percentages		Per Capita Income	Population Below Poverty Level
		Caucasian	Minority		
2010 Census Data				2008 – 2012 Survey Estimates	
State of Wisconsin	5,686,986	86.2%	13.8%	\$27,426	12.5%
Counties					
Chippewa County	62,415	95.3%	4.7%	\$24,768	11.0%
Chippewa County, Census Tract 109	4,820	97.3%	2.7%	\$19,519	15.4%
Taylor County	20,689	97.9%	2.1%	\$22,733	13.6%
Taylor County, Census Tract 9603	3,001	97.7%	2.3%	\$20,495	22.3%

Population data for 2010 were available for Wisconsin, and Chippewa and Taylor counties, including census tracts within each of these counties that would be crossed by the proposed Project. This data is based on the U.S. Census Bureau’s 2010 Census and provides an appropriate comparison given the low incidence of minority populations across datasets. According to the 2010 data, minority populations in Chippewa and Taylor counties make up less than 5 percent of the county’s populations. Minority populations within the county census tracts that would be crossed by proposed Project are approximately 2.7 percent and 2.3 percent, both of which are lower than the state-level data. Income and poverty level data for the proposed project area were available from the U.S. Census Bureau and were estimated based on the American Community Survey results between 2008 and 2012. Per capita income in Chippewa and Taylor counties, including the crossed census tracts, are lower than those reported for the state. Poverty levels in Chippewa County Census Tract 109, Taylor County, and Taylor County Census

Tract 9603 are higher than those reported for the state. Poverty levels in Chippewa County are lower than those reported for the state.

#### ***4.15.1 Environmental Justice Impacts***

The percentages of minority populations in the census tracts that cross the proposed Project are approximately the same as those found in Chippewa and Taylor counties, and are lower than the state of Wisconsin. The percentages of low income populations in Taylor County, Chippewa County Census Tract 109, and Taylor County Census Tract 9603 are higher than those reported for the state of Wisconsin. The percentages of low income populations in Chippewa County are 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-1 transmission line, so is anticipated that the proposed Project would have no disproportionate environmental effects to minority or low-income populations within Chippewa and Taylor counties.

#### ***4.15.2 Environmental Justice Mitigation and Monitoring***

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

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## 5. 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
- Wisconsin State Historic Preservation officer concerning cultural and historic resources

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

Because the majority of the Project would be routed through existing cleared ROW, and the proposed new ROW would be located mainly adjacent to or in existing road ROWs, there would be very minimal impacts to individual farms. Therefore, DPC presumes that an agricultural impact statement as prepared by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) would not be needed and did not consult with this agency.

DPC is in the process of consulting with the following agencies:

- United States Army Corps of Engineers (USACE) concerning permanent wetland discharges
- WDNR concerning permanent wetland discharges and temporary wetland impacts

Copies of these consultation letters and follow-up correspondence would be provided upon receipt.

At the time that this EA was submitted to RUS, responses have been received from USFWS, WDNR, and Wisconsin State Historic Preservation Office. The concerns raised by USFWS and WDNR have been addressed in this EA. Based upon the Phase 1 Cultural Resources Survey completed for the Project, no known historic properties would be affected by the proposed Project (refer to Appendix G). DPC provided a request to Wisconsin State Historic Preservation Office for comment and consultation on a Federal Undertaking. The SHPO concurrence letter is included in Appendix H.

DPC would seek permits from USACE and WDNR for the proposed Project upon completion of final engineering and identification of wetland impacts. Based upon current estimates, the Project would apply for an Individual Wetland and Waterbody Permit from the WDNR and USACE.

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
- WDNR Permit for Wetland Discharge
- WDNR Chapter 30 permit to place temporary bridges over navigable waters
- DPC would 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 Chippewa County:
  - Land Use/Zoning Permit – required for construction of public utilities within floodplains and shoreland districts.
  - Utility Permit – required for public utilities (including power transmission lines) working within or crossing county roadways or ROWs.
- The following permits/approvals may be required by Taylor County:
  - Land Use/Zoning Permit – required for construction of public utilities within floodplains and shoreland districts.
  - Utility Permit – required for public utilities (including power transmission lines) working within or crossing county roadways or ROWs.

DPC anticipates applying for all necessary federal, state, and county permits for the proposed Project in fall 2016. DPC would provide RUS with acquired agency permits as they are received.

## **6. Public Notice and Comment**

In conformance with 7 CFR 1970.150., 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 14 days to comment on the Draft EA and upon the completion of the comment period, RUS would 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 would be published in local newspapers.

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## 7. References

- CEQ (Council on Environmental Quality). 1997. *Considering Cumulative Effects under the National Environmental Policy Act*. Washington: Council of Environmental Quality, 64 pp.
- Chippewa County (Wisconsin). 2015a. Chippewa County Code of Ordinances, Chapter 70 – Zoning.
- . 2015b. Chippewa County Web Mapping. <http://mapping.co.chippewa.wi.us/>. Accessed November 2015.
- . 2006. Chippewa County Forest Management Plan. <http://www.co.chippewa.wi.us/government/land-conservation-forest-management/forest-trails/2006-2020-county-forest-comprehensive-land-use-plan>. Accessed November 2014.
- . 2010. Chippewa County, Wisconsin Comprehensive Plan. <http://www.co.chippewa.wi.us/government/planning-zoning/comprehensive-planning>. Accessed November 2014.
- DOE (U.S. Department of Energy). 2002. Bonneville Power Administration, Draft Environmental Impact Statement, Grand Coulee–Bell 500kV Transmission Line Project (DOE/EIS-0344). August 2002.
- DOT (U. S. Department of Transportation). 2006. Transit Noise and Vibration Impact Assessment. May 2006.
- FAA (Federal Aviation Administration). 2014a. FAA Airport Search Tool. <https://oeaaa.faa.gov/oeaaa/external/searchAction.jsp?action=showCircleSearchAirportsForm>. Accessed November 2014.
- . 2014b. Federal Aviation Administration Notice Criteria Tool. <https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm>. Accessed November 2014.
- MVAC (Mississippi Valley Archaeology Center). 2015. Phase I Archaeological Survey of Approximately Thirty-One Miles of the Proposed Dairyland Power Cooperative N-1 Transmission Line Rebuild, Holcombe DC to Lublin DC, in Chippewa and Taylor Counties, Wisconsin. July 2015.
- NPC (Noise Pollution Clearing House). 2011. Typical Noise Levels. <http://www.nonoise.org/library/household/index.htm>. Accessed July 2015.
- Porter, Steve. 2006. Lublin Area Study. Power Delivery Planning and Operations System Operations Department, Dairyland Power Cooperative, August 2006.
- Taylor County (Wisconsin). 2014. Taylor County GIS Online Services. <http://www.qpublic.net/taylor/search1.html>. Accessed November 2014.

- . 2007. Taylor County Comprehensive Plan.  
<http://www.taylorcountygov.com/gm/ComprehensivePlan.htm>
- U.S. Census (U.S. Census Bureau). 2014. American Factfinder, 2008-2012 American Community Survey.  
<http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed November 2014.
- USGS (U.S. Geological Survey). 2007a. Protecting Wisconsin's Groundwater Through Comprehensive Planning. Chippewa County. Groundwater Contamination Susceptibility Map.  
<http://wi.water.usgs.gov/gwcomp/find/chippewa/susceptibility.html>. Accessed July 2015.
- . 2007b. Protecting Wisconsin's Groundwater Through Comprehensive Planning. Taylor County. Groundwater Contamination Susceptibility Map.  
<http://wi.water.usgs.gov/gwcomp/find/taylor/susceptibility.html> Accessed July 2015.
- WDNR (Wisconsin Department of Natural Resources). 2015. Surface Water Data Viewer. Available online at: <http://dnr.wi.gov/topic/surfacewater/swdv/>. Accessed July 2015
- . 2014. Impaired Waters. Available online at: <http://dnr.wi.gov/topic/impairedwaters/>. Accessed July 2015.
- . 2013. Outstanding and Exceptional Resource Waters.  
<http://dnr.wi.gov/topic/SurfaceWater/orwerw.html>. Access July 2015.
- . 2012a. WDNR Website. Central Sand Plains Ecological Landscape. Updated January 23, 2012.  
<http://dnr.wi.gov/topic/landscapes/index.asp?mode=detail&Landscape=7>. Accessed November 2014.
- Wisconsin Department of Transportation. 2014. Interactive Traffic Count Map. October 2013.  
<http://wisconsin.gov/Pages/projects/data-plan/traf-counts/default.aspx>. Accessed November 2014.
- Yantak, David S.; David K. Ingram, and R.J. Matetic. 2007. In-Cab Noise Reduction on an Air-Rotary Drill Rig. *Journal of Noise Control Engineering*, May–June 2007; 55(3): pp. 294-310.

- Figure 1: [Project Area](#)
- Figure 2: [Temporary Clear Span Bridge Design](#)
- Figure 3: [Transmission Structure Drawing](#)
- Figure 4: [Floodplains](#)
- Figure 5: [Recreation and Trails](#)
- Figure 6: [Prime Farmland](#)
- Figure 7: [Jurisdictions](#)
- Figure 8: [Water Resources](#)

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# Appendix A: Sheet Maps



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# Appendix B:

## Standard DPC Best Management Practices

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**Appendix C:**  
**Lublin Area Study, Dairyland Power**  
**Cooperative**

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# Appendix D: Invasive Plant Survey Report



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# Appendix E:

## Wetland and Waterbody Survey Report

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# Appendix F:

## Habitat Survey Report



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# Appendix G:

## Phase I Cultural Resources Survey

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# Appendix H:

## Consultation Letters and Responses

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# Appendix I:

## Newspaper Advertisement and Legal Notice

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