

Decorah to Postville (RUS Code 1080) and Ludlow 69 kV Tap Line Construction and Retirement (RUS Code 898)

Environmental Assessment

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Prepared for:



Submitted by:



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Abbreviations and Acronyms

AAQS	National Ambient Air Quality Standards
AN	Audible Noise
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CFR	Code of Federal Regulations
Dairyland	Dairyland Power Cooperative
dBA	Decibels (A-Weighted Scale)
EA	Environmental Assessment
EMF	Electric and Magnetic Fields
EO	Executive Order
EPA	Environmental Protection Agency
ER	Environmental Report
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
IDNR	Iowa Department of Natural Resources
ITCM	International Transmission Company Midwest
IPaC	Information for Planning and Conservation
IUB	Iowa Utilities Board
kV	Kilovolt
MBTA	Migratory Bird Treaty Act
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
NLCD	Nation Land Cover Data
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWP	Nationwide Permit
OHWM	Ordinary High Water Mark
PCN	Preconstruction Notification
ROW	Right-of-Way
RUS	Rural Utilities Service
SH-	State Highway
SHPO	State Historic Preservation Act
SWPPP	Storm Water Pollution Prevention Plan
TCSB	Temporary Clear Span Bridge
USACE	U.S. Army Corps of Engineers

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USC	U.S. Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WoUS	Wetlands and Other Waters of the U.S.

Executive Summary

Dairyland Power Cooperative (Dairyland), 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 (USDA) Rural Utilities Service (RUS) for the construction of the Decorah to Postville and Ludlow Tap (N-8) 69-kilovolt (kV) Transmission Line Rebuild Projects (Project), located in Allamakee, Clayton, and Winneshiek counties, Iowa. The projects are included in Dairyland's 2016 – 2018 transmission work plan (RUS Project Numbers 1080 & 898). The proposed Project consists of rebuilding an existing 69kV transmission line and construction of a new 69kV transmission line, which have a combined length of approximately 29.8 miles. In addition, approximately 12.4 miles of existing 69kV transmission line would be retired. Construction of the proposed Project would require temporary construction impacts for approximately 37.3 miles of temporary access roads and materials laydown. Permanent impacts include approximately 17.6 miles of new right-of-way (ROW), and the installation of approximately 543 single-pole new build and rebuild transmission structures, resulting in approximately 6,516 square feet (approximately 0.2 acre) of disturbance. However, approximately 159 existing structures resulting in 1,908 square feet (less than 0.1 acre) would be removed. Therefore the proposed Project would result in a net increase of approximately 4,608 square feet (approximately 0.1 acre) of permanent impacts.

In May 2014 Dairyland completed a transmission study of the Decorah-Postville area, which includes portions of Allamakee, Clayton, and Winneshiek counties (Appendix A). The Decorah-Postville Transmission Study identified that the N-8 69kV transmission line and tap lines for Nordness and Postville area are reaching the end of their useful life due to age (transmission line and tap lines were built in 1947), increased maintenance costs, low voltages, and line overloads. In 2003, Dairyland rebuilt approximately 3.2 miles of the 26.7 mile N-8 69kV transmission line between Decorah and State Highway (SH) 9. The N-8 69kV transmission line is 67 years old and in poor condition. Dairyland needs to replace the existing transmission line due to its age and condition and to strengthen the reliability of the local transmission system. In addition, Dairyland currently purchases some of its electricity to serve customers in the Postville-Decorah area from International Transmission Company Midwest (ITCM). Interconnection with the Ludlow Substation (owned by Dairyland) near Waukon, would allow Dairyland to reduce tariff charges by utilizing its own electricity instead of that provided by ITCM.

The proposed Project is designed to avoid resources such as wetlands, surface waters, sensitive habitats, protected species and historic or cultural areas, to the extent possible. The proposed Project would cross mainly agricultural lands, although some vegetation clearing would be required to create the new 80-foot-wide ROW. Dairyland would coordinate with the counties and appropriate agencies to obtain the necessary permits to construct.

Based upon coordination with the U.S. Army Corps of Engineers (USACE), construction of the proposed Project would not require a Section 404 permit from the USACE because construction would result in less than 0.1 acre of permanent impacts in wetlands, which is below the threshold required for a Pre-Construction Notification (PCN). The Project would result in approximately 84 square feet of permanent impacts within 100-year floodplains (168 square feet of new permanent impacts and removal of 84 square feet of existing permanent impacts). Dairyland has coordinated with the Iowa Department of Natural

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Resources (IDNR) to determine the best ways to minimize and mitigate impacts, and the IDNR determined that no permits are required regarding wetland, waterbody, protected species, or floodplain impacts. Potential impacts to soil and surface water resources would be minimized and avoided by using erosion and sedimentation control best management practices during construction.

Dairyland intends to request financing assistance from the USDA 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, and all applicable federal environmental laws and regulations. This Environmental Assessment was 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 NEPA. This EA also addresses other laws, regulations, executive orders (EOs), 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 EOs governing floodplain management, protection of wetlands, and environmental justice.

1. Project Description

1.1 Proposed Project

Dairyland Power Cooperative (Dairyland), a not-for-profit generation and transmission cooperative headquartered in La Crosse, Wisconsin, intends to seek financial assistance from the U.S. Department of Agriculture Rural Utilities Service (RUS) for the construction of the N-8 Decorah to Postville 69-kilovolt (kV) Transmission Line Rebuild Project (Project), located in Allamakee, Clayton, and Winneshiek counties, Iowa. The proposed Project consists of rebuilding existing line and new construction of approximately 29.8 miles of 69kV transmission line. Approximately 12.4 miles of the transmission line would be retired. The components of the proposed Project are described below and shown in Figure 1 and on Sheet Maps provided as Appendix B:

- Rebuild approximately 3.0 miles of 69kV transmission line between the Nordness Substation and Iowa State Highway (SH) 9 southeast of Decorah. This rebuild segment is located along the existing 69kV transmission line route in agricultural and open land.
- New build of approximately 11.5 miles of 69kV transmission line between the intersection of SH-9 and Centennial Road and the intersection of SH-9 and Old Stage Road, along Old Stage Road, and along field lines/existing transmission line right-of way (ROW) to an interconnection at Dairyland's existing Ludlow Substation. This segment of new transmission line is located parallel to SH-9 and Old Stage Road for the majority of its length, with approximately 1.1 miles following an existing transmission line ROW across agricultural land.
- New build of approximately 6.1 miles of 69kV transmission line between the intersection of SH-9 and SH-51 to the point where the existing (to be retired) N-8 transmission line crosses SH- 51 (0.6 mile north of the intersection of Highway 51 and Frankville Road). This segment of new transmission line would replace the section of the N-8 transmission line that is planned to be retired. This new build segment is located parallel to Highway 51 for the entirety of its length.
- Rebuild approximately 9.2 miles of 69kV transmission line between the point where the existing N-8 transmission line crosses SH-51 and its termination point at the Postville Substation. The rebuild segment is located along the existing N-8 transmission line ROW within agricultural and rural land uses.
- Retire approximately 12.4 miles of existing 69kV transmission line between the Decorah and Postville areas (Nordness Substation to Postville Substation). This segment of the N-8 transmission line is proposed to be retired and replaced with the new build segments identified in the bullet points above.

The details of the proposed Project component details, including with mileage, locations, and counties, are summarized in Table 1 below.

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**Table 1:
Location of Project Components—Rebuild, New Build, and Retire**

Segment	Mileage	Approximate Segment Location	County (mileage)
Rebuild	3.0 miles	Nordness Substation to Iowa SH-9	Winneshiek (3.0 miles)
	9.2 miles	Highway 51 and Frankville Road (W4B) to Allamakee/Clayton county line	Allamakee (6.6 miles)
		Allamakee/Clayton county line to Postville Substation	Clayton (2.6 miles)
New Build	11.5 miles	SH-9	Winneshiek (5.9 miles)
		SH-9, Old Stage Road, and agricultural fields to interconnection with Ludlow Substation	Allamakee (5.6 miles)
	6.1 miles	parallel to Highway 51	Allamakee (6.1 miles)
Retire	12.4 miles	East of Nordness Substation to Winneshiek and Allamakee county line	Winneshiek (9.9 miles)
		Winneshiek and Allamakee county line to Postville Substation	Allamakee (2.5 miles)

The proposed Project is a federal action subject to review under NEPA of 1969, the National Historic Preservation Act (NHPA) of 1966, and all applicable federal environmental laws and regulations. This Environmental Assessment (EA) was 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 NEPA. This EA also addresses other laws, regulations, executive orders (EOs), and guidelines promulgated to protect and enhance environmental quality including, but not limited to, the Endangered Species Act (ESA), the Farmland Protection Policy Act (FPPA), the Clean Water Act (CWA), and EOs governing floodplain management, protection of wetlands, and environmental justice.

The term “Project area” as referenced throughout this EA generally refers to the extent shown on Figure 1; however, impacts associated with the proposed Project would be limited to the Project ROW, which refers to the existing and new 80-foot transmission line ROW as described in Section 5. Detailed Sheet Maps are provided in Appendix B that show the proposed rebuild, new build, and retired segments of the proposed Project. Dairyland is committed to following its standard best management practices (BMPs) described in *Dairyland’s Manual for Transmission Lines and Substation Construction and Maintenance Activities*¹ for Project construction and operation and maintenance as described in Section 5.

1.2 Schedule

Construction of the proposed Project is scheduled to begin in July 2017 and would conclude in July 2018. No tree clearing would occur between June 1 and July 31 in order to minimize potential impacts to bats using summer roost trees. Dairyland anticipates that the transmission line would be in service in the

¹ Dairyland’s manual is available online at http://www.dairynet.com/power_delivery/best_practices.php.

second quarter of 2018; the retirement of the existing transmission lines would be completed following construction of the rebuild/new build segments of the proposed Project.

1.3 Project Location

Figure 1 shows the location of the proposed Project and Table 2 lists the townships, ranges, and sections crossed by the proposed Project.

**Table 2:
Project Location**

Project Section	County	Township	Range	Sections
Rebuild	Winneshiek	97N	8W	1, 11, 12
		97N	7W	6, 7
		98N	7W	31
	Allamakee	96N	6W	8, 9, 10, 15, 22, 26, 27, 34, 35
	Clayton	95N	6W	1, 2, 12
New Build	Winneshiek	97N	7W	4, 5, 6, 8, 9, 10, 11, 12
	Allamakee	97N	6W	1, 2, 3, 4, 5, 7, 8, 9, 10, 16, 17, 21, 28, 33
		96N	6W	4, 5, 8, 9
Retire	Winneshiek	97N	8W	12, 13
		97N	7W	18, 19, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36
	Allamakee	97N	6W	31
		96N	6W	5, 6, 8

1.4 Project Design and Construction

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

1.4.1 Access Routes and Material Laydown

Access to transmission structures for the rebuild and retire segments of the proposed Project would be via existing travel routes within the Project ROW and via temporary overland access. Access to the new build segments of the proposed Project would be via SH-9 and SH-51 road ROWs. Overland access would not require any grading but may require minor vegetation clearing and would consist of driving equipment across low-lying vegetation along field edges or adjacent to the edge of road ROWs. All overland access, which would require a width of approximately 15 feet, would be temporary and would cross existing easements using entrances from local roads, field roads, and private driveways. Damage to vegetation and crops and soil compaction could occur as a result of construction activities, and Dairyland would compensate landowners for such related damage. For example, areas that may become rutted due to the use of heavy equipment could be scarified to loosen compacted soil, graded to pre-construction contours, seeded, and/or mulched per landowner requests.

One permanent access road will be constructed at the request of the landowner for the proposed Project. The permanent access road is identified in Appendix B, Sheet Map 11. There is currently an old farm

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road between SH 51 and structure 330 that is approximately 284 feet long. The farm road would be widened to approximately 15 feet and graveled to allow construction vehicles to use it and would be left for the landowner's use. Limited work within road ROWs would take place during construction in areas where the transmission line parallels or crosses roads or when driving across highway ROW to access structure locations. Permanent effects associated with construction would be limited to the footprint of the transmission structures (up to 12 square feet of permanent impact per structure). Appropriate stormwater management and erosion control practices, as described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities* would be implemented. Additionally, Dairyland would seek a General Permit for stormwater discharge from the IDNR, which requires a Storm Water Pollution Prevention Plan (SWPPP) that includes erosion and sediment control measures. The SWPPP would be prepared as part of an application to request coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No.2.

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 occurring on either side of a surface water body make it difficult to access a pole location without crossing the surface water body or when the slope between the road ROW and the transmission line is too steep to access a transmission line structure from the road. Dairyland has identified access to construct the proposed Project and has determined that up to five TCSBs may be required to access pole locations for construction. Based on correspondence with IDNR and the U.S. Army Corps of Engineers (USACE), no permits for the use of TCSBs in floodplains or wetlands would be required. A diagram showing the typical design characteristics associated with Dairyland's TCSB design is shown in Figure 2.

Laydown Areas: Two temporary laydown areas (up to 2 acres in size) would be used during construction. The laydown area locations would be determined prior to construction. The laydown areas would not require clearing or grading, but damage to vegetation or ruts in the ground may occur as a result of vehicular traffic entering and existing these areas. Dairyland's BMPs would be implemented at the laydown areas during construction. Following construction, the laydown areas would be restored to preconstruction conditions.

1.4.2 Transmission Structures

Dairyland is proposing to construct new single-wood pole transmission structures that would be approximately 60 to 80 feet tall with a span between structures of approximately 200 to 400 feet. Permanent effects associated with construction would be limited to the footprint of the transmission structures. The proposed Project would be constructed using 69kV single-circuit transmission structures. The typical design characteristics associated with the transmission structures (replacement and new) are shown in Figure 3. The rebuild segment of the proposed Project would occur within the existing ROW; however, individual transmission structures would not be replaced in the same location as the existing structures. The location of the new transmission structures for both the rebuild and new build segments of the proposed Project would be determined based on engineering and environmental factors including soil conditions, slope, and maximum span length between transmission structures, terrain, and minimizing impacts to wetlands. The new build segment of the proposed Project would be constructed within a new

80-foot-wide ROW; however, the new build segment would parallel existing roadways or existing transmission line ROW for the entirety of its length.

Based on current Project layout, the proposed Project would result in approximately 206 single-wood pole transmission structures along the rebuild segment that would result in approximately 2,472 square feet (approximately 0.06 acre) of permanent impacts (up to 12 square feet per structure), and approximately 337 single-wood pole transmission structures (based upon current project design) along the new build segment that would result in approximately 4,044 square feet (approximately 0.1 acres) of permanent land disturbance (up to 12 square feet per structure). Angle structures and some tangent structures (non-angle structures) would have downguys and anchors.

The retire segment of the proposed Project would result in the removal of 159 existing structures. When removal of the existing transmission line and transmission line structures has been completed, the easements associated with Project ROW would be quitclaimed and the land would be returned to the previous landowners. The landowners would be able to manage the land according to their preferences, and most abandoned ROW would likely be used in a similar manner to surrounding land area, which is predominantly agricultural with pockets of forested land. Approximately 120 acres of ROW easements would be quitclaimed by Dairyland.

ROW and Ground Preparation: Construction activities for the rebuild and retire segments of the proposed Project would occur within the existing 12.2 miles of rebuild and 12.4 miles of retired 69kV transmission line ROW. Construction activities for the 17.6 miles of new build of the proposed Project would occur in newly acquired ROW. Dairyland would prepare the Project ROW by removing brush from areas where the replacement transmission structures would be installed. Tree trimming may be required to maintain a safe distance between tree branches and the transmission line poles. In addition, danger trees (i.e., trees that could fall into the wires) on the edge of the ROW may also be removed during construction. (See Section 5.2 for potential impacts associated with tree clearing.) The majority of the work would take place within the Project ROW, with construction crews utilizing local road ROW, field roads, and private driveways when work within the Project ROW is not feasible. Once ROW preparation has been completed, the survey crew would conduct a final structure siting survey for each pole along the transmission line route. Given the relatively flat nature of the Project area, minimal grading is expected to be required.

Structure Installation: Construction would start with the crews transporting poles, insulators, and insulator hardware from the staging or supply yards to the individual structure sites. The crew would begin construction by auguring holes for the structures using a drill rig.

Structures would be assembled on the ground and then placed in the augured holes with a mobile crane. Depending on soil conditions, culvert pipes may be used as a permanent casing to hold the hole open. All structures located in wetlands would require culvert pipes to give the structure more stability in the surrounding soils. The excess excavated material and/or crushed stone and clean fill would be used to fill excess space in the hole or culvert pipe. Excess spoil materials not used as backfill around new structures may be removed from the site and disposed at an existing landfill upon completion of construction. If excess spoil removal from the site is not practicable, other measures would be used to

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stabilize the material on site using 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 wire-stringing 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. The wires would then 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” the conductor. 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 essentially be complete.

Reclamation: Disturbed areas around the newly installed structures would be seeded and mulched per landowner requests. Stabilization of the structure locations would be achieved when a uniform perennial vegetation cover has been established with a density of at least 70 percent cover.

Decommissioning: To prevent service disruption for the segment of the proposed Project to be rebuilt, the existing 69kv transmission line would not be decommissioned and removed from its current location until construction of the proposed Project is complete and the new transmission line is in service. Upon completion of construction, Dairyland would completely remove the existing transmission structures (except structures located within wetlands) and conductors and would re-contour and revegetate the disturbed areas to pre-existing conditions. Existing transmission structures located within wetlands would be cut off at the base so that the surrounding soil or vegetation would not be impacted.

2. Purpose and Need for the Project

Dairyland provides wholesale electricity to 24 member cooperatives and 16 municipal utilities via 3,100 miles of transmission line and 285 substations within their service area. Dairyland's service area encompasses 62 counties across Wisconsin, Minnesota, Iowa, and Illinois. Dairyland's generation resources include coal, natural gas, hydropower, solar, landfill gas, and animal waste to energy. Dairyland is obligated to ensure reliable electricity service to its cooperative members and to maintain compliance with North American Reliability Corporation's (NERC) transmission planning standards.

In May 2014 Dairyland completed a transmission study of the Decorah-Postville area, which includes portions of Allamakee, Clayton, and Winneshiek counties (Appendix A). The Decorah-Postville Transmission Study (Decorah-Postville Study) acknowledged that the N-8 69kV transmission line and tap lines for the Nordness and Postville substations are reaching the end of their useful life due to increased maintenance costs, low voltages, and line overloads. The N-8 69kV transmission line is 67 years old and is in very poor condition. In 2003, Dairyland rebuilt approximately 3.2 miles of the 26.7-mile N-8 69kV transmission line between Decorah and SH-9. The proposed Project is needed primarily because the remainder of the existing N-8 69kV transmission line (that was not rebuilt in 2003) is nearing the end of its useful life and the transmission line needs to be rebuilt to maintain and strengthen the reliability of the local transmission system. In addition, Dairyland currently purchases some of its electricity to serve customers in the Postville-Decorah area from International Transmission Company Midwest (ITCM). Interconnection with the Ludlow Substation (owned by Dairyland) near Waukon would allow Dairyland to reduce tariff charges by utilizing its own electricity instead of that provided by ITCM.

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3. Alternatives to the Proposed Project

3.1 Alternative Plans to Address Transmission Issues in Decorah-Postville Area

The Decorah-Postville Study was conducted to examine alternatives that could fulfill the purpose and need of the proposed Project (Appendix A). This study was conducted independent of the routing analysis and focused on system planning alternatives as opposed to route alternatives. The Decorah-Postville Study analyzed three system alternatives for the N-8, based on the following criteria:

- Load serving capability
- Relative exposure of Dairyland's customers to permanent or temporary faults on the transmission system
- Economic analysis of each alternative
- Load tariff costs paid to ITCM

A detailed description of each of the alternatives studied is included in the Decorah-Postville Study provided in Appendix A and summarized below.

Alternative 1

- Rebuild N-8 from Decorah to Postville with 477 OVAL from SH-9 to Postville
- Rebuild Nordness and Postville distribution taps with 4/0 ACSR

Alternative 2

- Build on new ROW from SH-9 connecting to Ludlow and down to Postville with 477 OVAL
- Rebuild Nordness and Postville distribution substation taps with 4/0 ACSR

Alternative 3

- Rebuild from SH-9 to Nordness distribution substation with 4/0 ACSR
- Rebuild from Postville 161/69kV substation to Postville distribution substation
- Build on new ROW with 4/0 ACSR connecting Nordness to Decorah-Windsor line
- Retire N-8 line between Postville distribution tap and Nordness distribution tap

Of the three alternatives analyzed in Decorah-Postville Study, Alternative 2, the preferred alternative, provides the best options in both present worth and system reliability. Although Alternative 2 has the highest transmission cost because it requires new ROW and new transmission line from SH-9 to Ludlow and Postville, it returns the Ludlow Substation to a Dairyland source and reduces total tariff costs paid to ITCM. The extra cost is justified as the best alternative based on reliability and redundancy in the system.

3.2 Route Alternatives

Route alternatives must comply with Iowa Code § 478.18(2) and 199 Iowa Administrative Code 11.1(7), which require that the planning for routes begin with routes that are near or parallel to roads, railroad

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right-of-way, or division lines of land. “A transmission line shall be constructed near and parallel to roads, to the right-of way of the railways of the state, or along the division lines of the lands, according to the government survey, wherever the same is practicable and reasonable, and so as not to interfere with the use by the public of the highways or streams of the state, nor unnecessarily interfere with the use of any lands by the occupant.” (Iowa Code § 478.18(2)).

Route alternatives were identified in spring and summer 2015 to provide options for re-routing the rebuild segment of the transmission line in Winneshiek County and to identify route alternatives for the segment of new-build transmission line in Allamakee and Winneshiek counties. Route alternatives are shown on Figure 4 and are discussed by general area below.

3.2.1 Alternatives to Rebuild in Winneshiek County

Alternative routes were identified along existing roads and section lines. Dairyland also considered rebuilding the transmission line within the existing ROW. Ultimately, Dairyland chose to construct this segment of the proposed Project within the existing ROW based on the feedback received from the public during the Iowa Utilities Board (IUB) informational meetings (discussed in Section 7). Alternative route segments that were considered but eliminated include:

- A 1.3-mile-long alternative route segment was identified that runs north from the Nordness Substation along County Road 42 for approximately 0.7 mile and then turns east and parallels an existing driveway and agricultural field and converges with the existing N-8 line. The alternative segment was identified because it parallels road ROW and section lines and would remove the existing transmission line from an active agricultural field. In addition, it was ultimately removed from consideration because it is located in close proximity (0.1 mile west of) the Washington Prairie Methodist Church, a site that is listed on the National Register of Historic Places (NRHP). One comment received from the public identified the historic and visual significance of this site as a reason to remove this alternative segment from consideration. At the same time, Dairyland had identified other feasible alternatives, so this segment was removed from consideration.
- A 1.4-mile-long alternative route segment was identified that follows the existing ROW from the Nordness substation, east and north to the existing driveway and agricultural field, and then turns east and follows a section line to Centennial Road. The alternative segment then follows Centennial Road north to the intersection with SH-9, where it could interconnect to the new build segment of the proposed Project along SH-9. The alternative segment was identified because it parallels a road ROW and a section line.
- A 1.8-mile-long alternative route segment was identified that follows the existing ROW from the Nordness substation, east and north to the existing driveway and agricultural field. It then turns east and follows a section line to intersect with SH-9, where it could interconnect to the new build segment along SH-9. The segments meets SH-9 at approximately the same location as W4B Road. The alternative segment was identified because it parallels a section line.

3.2.2 Alternatives to New Build Segment: Interconnection with Ludlow Substation

Alternative Routes were identified along existing roads. The alternative along SH-9 was ultimately chosen because it parallels existing road ROW and existing transmission line ROW for the entirety of its length as required by the IUB Franchise Process (Appendix C). Considered but eliminated segments include:

- An alternative route segment was identified that follows SH-9 to the east and crosses the Winneshiek and Allamakee County line, and then proceeds north along Empire Drive for 0.5. The route then turns to the east along a section line approximately 3 miles to where it intersects with the existing Dairyland N-206 69kV transmission line. The route alternative segment could interconnect with the existing 69kV transmission line along Old Stage Road, and into the existing Ludlow Substations at this point. The alternative segment was identified because it parallels a road and a section line.
- An alternative route segment was identified that follows SH-9 to the east and crosses the Winneshiek and Allamakee County line, and then proceeds north along Empire Drive for one mile. The alternative route segment then turns east and parallels N. Line Drive for approximately 3 miles to where it intersects with the existing 69kV transmission line. The alternative route segment could interconnect with the existing 69kV transmission line along Old Stage Road and into the existing Ludlow Substations at this point. The alternative segment was identified because it parallels roads.
- Two alternative route segments were identified between SH-9 and the section line to the north of SH-9. These two connector segments would allow for paths along Apple Road and Ludlow Road. These alternative route segments could then be combined with alternatives described above and would interconnect to the existing 69kV transmission line that interconnects with the existing Ludlow Substation. These alternative segments were identified because they parallel roads.
- An alternative route segments was identified that follows the proposed route along SH-9 and continues past Old Stage Road. The alternative route segment continues approximately 1 mile along SH-9 to Teeple Creek Road, where it would follow Teeple Creek Road toward the north 0.5 mile and where it would interconnect with the existing Ludlow Substation. This alternative segment was identified because it parallels roads.

3.2.3 Alternatives to New Build along State Highway 51

One alternative route was identified along Empire Drive. This alternative would follow the proposed route along SH-9 and across the Allamakee and Winneshiek county line to Empire Road. The route would proceed south along Empire Drive for approximately 11 miles to the point (located just south of the intersection of Empire Drive and Frankville Road) where it would interconnect with the existing segment of the N-8 transmission line that is proposed to be rebuilt. This alternative route was identified because it parallels an existing road. The proposed route along SH-51 was ultimately selected because it parallels an existing state highway ROW instead of a residential road ROW, allows the placement of the proposed route within road ROW to reduce impacts to agricultural operations, and would result in fewer impacts to existing residences.

3.3 Alternative Designs and Construction Methods

Dairyland considered alternative transmission structure types, such as steel monopoles or wood H-frame structures. Dairyland determined that replacing the majority of existing structures with new wood

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monopole structures similar in appearance to the existing structures would result in fewer aesthetic impacts than the alternative structure types. Dairyland 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

Failure to rebuild the 67 year old line would result in increasing maintenance costs as well as reduce reliability to the substations served from this line. This line is old with long spans and does not conform to current Dairyland design standards. The long spans can result in galloping in certain weather conditions, resulting in poor reliability performance.

In addition, Dairyland would continue to purchase some of our member's electricity from ITCM and continue to pay tariff charges. Dairyland is obligated to ensure reliable and low cost electricity to its customers

4. Overview of Applicable Environmental Laws and Executive Orders

Table 3 includes a summary of the laws, EOs, and standards relevant to the proposed Project.

Table 3:
Overview of Applicable Laws, Executive Orders, and Standards

Regulation	Regulatory Agency	Summary
Federal		
Endangered Species Act (ESA), (16 United States Code [USC] § 1531 et seq.; 50 CFR Part 402)	U.S. Fish and Wildlife Service	Establishes lists of threatened or endangered species and their designated critical habitats; requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of listed species or result in adverse modification to designated critical habitat. Under Section 7 of the ESA, federal agencies involved in reviewing or approving a project must consult with the USFWS to evaluate whether any action they authorize, implement, or fund will not jeopardize the continued existence of a federally listed species or result in the destruction or adverse modification of designated critical habitat.
Migratory Bird Treaty Act (MBTA) (16 USC §§ 703–712)	U.S. Fish and Wildlife Service	Prohibits take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird unless expressly permitted by federal regulations or authorized under a MBTA permit.
Executive Order (EO) 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds”	U.S. Fish and Wildlife Service	Directs executive departments and agencies to take certain actions to protect and conserve migratory birds. It provides broad guidelines on conservation responsibilities and requires the development of more detailed guidance in Memoranda of Understanding.
Bald and Golden Eagle Protection Act (BGEPA), (16 USC §§ 668–668d; 50 CFR Part 22)	U.S. Fish and Wildlife Service	Prohibits the “take” of bald and golden eagles without a BGEPA Permit. Take is defined as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.
Plant Protection Act of 2000 (7 USC § 7701 et seq.)	U.S. Department of Agriculture	Under the Plant Protection Act of 2000, the federal government lists 137 regulated noxious weeds.
Clean Water Act (CWA) (33 USC § 1251 et seq.)	U.S. Army Corps of Engineers	Under Section 404 of the CWA, the USACE is responsible for regulating the discharge of dredge or fill material to waters of the U.S., including jurisdictional wetlands. Dredge and fill activities in waters of the U.S., including wetlands, must be authorized through either a nationwide permit, a regional permit (covering various classes of routine activities), or through an individual permit.
		CWA Section 401 stipulates that a federal agency (such as the USACE) issuing a permit or license for a discharge to waters of the U.S. must first have the applicable state or tribe grant or waive a Section 401 water quality certification indicating the discharge will comply with the state’s water quality standards

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**Table 3:
Overview of Applicable Laws, Executive Orders, and Standards**

Regulation	Regulatory Agency	Summary
		Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 USC § 403) prohibits the unauthorized obstruction or alteration of any navigable water of the U.S.
Safe, Efficient Use, and Preservation of the Navigable Airspace (14 CFR 77.9)	Federal Aviation Administration	Locations where potential air space obstruction hazards would be constructed may require submittal of a Notice of Proposed Construction or Alteration to the FAA based on criteria contained in 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace.
National Environmental Policy Act of 1969, as amended (NEPA) 42 USC §§ 4321–4370 (implementing regulations: 40 CFR Parts 1500–1508)	Council on Environmental Quality	Federal law requires evaluation of the potential impacts of major federal actions on historic and cultural resources as a component of the human environment.
National Historic Preservation Act of 1966, as amended (NHPA) 16 USC § 470 et seq. (implementing regulations: 36 CFR Part 60 and 36 CFR Part 800)	National Park Service, State Historic Preservation Office (SHPO)	Federal law requires federal agencies to consider the effects of a federal undertaking on the National Register of Historic Places (NRHP)-listed and NRHP-eligible properties.
EO 12898 (59 FR 7629): Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	U.S. Environmental Protection Agency (lead agency charged with implementing the EO)	Requires each federal agency to make the achievement of environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The EO further directs agencies to conduct their programs and activities in a manner that does not have the effect of excluding persons from participation in them, denying persons the benefits of them, or subjecting persons to discrimination because of their race, color, or national origin.
Farmland Protection Policy Acts (FPPA) (7 CFR Part 657)	U.S. Department of Agriculture	The FPPA authorizes the USDA to develop criteria for identifying the effects of federal programs on the direct or indirect conversion of farmland to nonagricultural uses. For the purposes of the law, federal programs include construction projects sponsored or financed in whole or part by the federal government and the management of federal lands. Farmland protected by the FPPA is either (1) prime or unique farmland, which is not already committed to urban development or water storage, or (2) other farmland, which is of statewide or local importance as determined by the appropriate state or local governmental agency with the concurrence of the Secretary of Agriculture. Farmland subject to FPPA is not required to be currently used for cropland. Farmland can be forestland, pastureland, cropland, or other land. The county soil survey provided by the NRCS determines which soils are protected. When a federal agency is involved in a project, the NRCS completes a Farmland Conversion Impact Rating worksheet, Form AD-1006.
State		
Iowa Code Chapter 478—Electric Transmission Lines	Department of Commerce, Utilities Division, Iowa Utilities Board (IUB)	Transmission lines 69kV or greater must receive approval from the IUB in the form of an electric franchise.

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**Table 3:
Overview of Applicable Laws, Executive Orders, and Standards**

Regulation	Regulatory Agency	Summary
Clean Water Act (33 USC § 1251 et seq.)	Iowa Department of Natural Resources (IDNR), Water Quality, Stormwater Program	CWA Section 402 establishes the NPDES permit program to regulate discharges of pollutants into surface waters. Iowa offers coverage under either a General Permit for activities that fall under established common categories of discharges or an Individual Permit for activities that do not fall under a general category.
567 Iowa Administrative Code, Chapter 71—Flood Plain or Floodway Development—When Approval is Required	IDNR, Floodplain Management Section (Joint Application with the U.S. Army Corps of Engineers)	Chapter 71 of IAC 567 contains administrative thresholds regarding the need for permits associated with construction, excavation, or filling in streams, lakes, wetlands, or floodplains.
CWA Section 401 Water Quality Certification (WQC)	IDNR, Water Resources Section	A Section 401 WQC is required to demonstrate that a project will comply with state water quality standards before USACE can issue a Section 404 permit. IDNR has granted WQC for all Nationwide Permits so long as regional conditions are met.
571 Iowa Administrative Code, Chapter 13—Permits and Easements for Construction and Related Activities on Public Lands and Waters	IDNR, Sovereign Lands Section	Construction, excavation or filling in streams, lakes, wetlands, or on floodplains may require a sovereign lands permit. The IDNR Joint Application is used to determine the applicability of this permit.
481B Iowa Administrative Code—Endangered Plants and Wildlife	IDNR, Threatened and Endangered Species Program	Iowa's Endangered Plants and Wildlife Law prohibits "take" of protected species. Violations are misdemeanors punishable by financial penalties and fines. The IDNR has established a Natural Resource review process to assess the potential to affect environmental resources in Iowa. The review consists of a record review for protected species, rare natural communities, state lands and waters of a project area, and includes review by personnel representing state parks, preservers, recreation areas, fisheries, and wildlife.
Section 106 of the National Historic Preservation Act (NHPA) of 1966	Iowa Department of Cultural Affairs, State Historical Society of Iowa, SHPO, and State Archaeologist	Under Section 106 of the NHPA, federal agencies must take into account the effects of their undertakings (including the issuance of licenses and permits) upon historically-significant districts, sites, buildings, structures, and objects. The State Historical Society of Iowa serves as the SHPO in Iowa.
Local		
Allamakee County Zoning Ordinance and Subdivision Regulations	Allamakee County Board of Supervisors	Zoning ordinance adopted to regulate and restrict the location and use of buildings, structures, and land within unincorporated areas of the county. Construction within certain zoning districts such as the Floodway District or Bluffland Protection District may require acquisition of development permits and/or site plan review prior to construction.
Clayton County	Clayton County Health and Zoning Office	Zoning ordinance adopted to regulate the way land and buildings are used in both urban and rural areas. The intent is to protect an area from incompatible land use encroachments which may be detrimental to the community as a whole. Construction within certain areas, such as a designated floodplain, may require acquisition of development permits and/or site plan review prior to construction.

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**Table 3:
Overview of Applicable Laws, Executive Orders, and Standards**

Regulation	Regulatory Agency	Summary
Zoning Ordinance and Subdivision Regulations of Winneshiek County	Winneshiek County Board of Supervisors	Zoning ordinance adopted to support and promote the creation of orderly land development patterns within unincorporated areas of the county. Pursuant to provisions of Section 508 of the Zoning Ordinance and Subdivision Regulations of Winneshiek County, a Construction Completion Certificate shall be required prior to initiation of any construction or development within any district.

5. Affected Environment, Impacts, and Mitigation and Monitoring

The following sections describe the existing human and natural environment in the area surrounding the proposed Project and the potential environmental effects associated with the construction, operation, and maintenance of the proposed Project, and associated mitigation measures.

Where applicable, each resource addresses the rebuild, retire, and new build segments of the proposed Project separately. The Project segment details (i.e., mileage, location description and counties crossed) are shown in Table 1 and shown in Figure 1.

5.1 Land Use

5.1.1 General Land Use

The proposed Project crosses Allamakee, Clayton, and Winneshiek counties and is surrounded by agricultural land and animal feeding operations with rural farmsteads, open space, and small pockets of deciduous forests, wetland areas, and perennial streams. The rebuild segment is location in Winneshiek, Allamakee, and Clayton counties. The new build and retire segments are located in Winneshiek and Allamakee counties. Each segment's location in counties, township, section and range are included in Table 2 and shown on Figure 1.

Allamakee County

New build segments of the proposed Project are located along SH-9 and SH-51 and are located in Ludlow Township in Allamakee County. Rebuild, new build, and retire segments of the proposed Project are located in Ludlow and Post townships in Allamakee County. Allamakee County has adopted comprehensive zoning and is governed by the Allamakee County Zoning Ordinance and Subdivision Regulations (Allamakee County, no date). Within Allamakee County, the proposed Project would cross land that is zoned Agricultural District (A-1), Floodplain Overlay District (FP), Bluffland Protection District, and Residential (R-1) (Beacon 2016).

The purpose of the A-1 District is to regulate land area appropriate for agriculture and agriculturally related business uses and to protect and reserve areas suitable for nonagricultural use until the land is needed for development. According to Section 202.2 of the Allamakee County Zoning Ordinance, public utilities and support facilities are permitted uses within the A-1 District.

The Floodway District is defined as the area covered by the base flood area identified as 100-year floodplains on the flood insurance rate map (Allamakee County 2009). The Beacon (local government geographic information system for the web online mapping tool) was used to identify the approximate location of the Allamakee County Floodway Districts that are crossed by the proposed Project (Beacon 2016). According to the Allamakee County Zoning layer, the proposed Project would cross Floodway Districts at several points along the new build and rebuild segments of the proposed Project. Corresponding mapped 100-year floodplains crossed by the proposed Project are identified on Figure 5. A Floodplain Development Permit is required prior to any floodplain development (Allamakee County

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2009). Construction of public utilities within the Floodway District is a permitted use and must conform to the development regulations outlined in Section 301.6 of the Allamakee County Zoning Ordinance.

The Bluffland Protection District is designated to limit the process of erosion, protect groundwater, promote safe locations to build, provide safe and accessible routes for emergency vehicles, protect sensitive natural features, and preserve the scenic qualities of bluffs in Allamakee County. The boundaries of the Bluffland Protection Districts were identified using the Allamakee County mapping website. This district is designated in areas near surface water bodies are rivers, and areas with extreme slope. Based upon a telephone conversation with the Allamakee County Zoning Administrator on November 18, 2016, public utilities are exempt from Bluffland Protection District permitting requirements and therefore no Bluffland Protection Permit would be required for the proposed Project.

The purpose of the R-1 District is to regulate land area appropriate for single-family residential use on scattered single lots 3 acres or more (Allamakee County 2009). According to Section 203.2 of the Allamakee County Zoning Ordinance, public utilities and support facilities are permitted uses within the R-1 District.

A Site Plan Application is required to develop a tract of land for non-farm single-family and multi-family dwelling units, commercial or industrial use (Allamakee County 2016). Based upon a telephone conversation with the Allamakee County Zoning Administrator on November 18, 2016, the Site Plan Application is submitted in order to comply with all zoning ordinance required permits, including floodplain permits.

Future land use information was not available for Postville and Ludlow townships in the Allamakee County Comprehensive Plan or on the county's website.

Clayton County

The rebuild segment of the proposed Project is located in Grand Meadow Township in Clayton County. Clayton County has adopted comprehensive zoning and is governed by the Clayton County Zoning Ordinance (2011). The zoning ordinance is available on the county website; however; zoning maps are not available on the county website. The county also has a Floodplain Management Ordinance, which identifies three overlay districts: Floodway District (FW), Floodway Fringe District (FF), and General Floodplain District (FP). According to the Floodplain Management Ordinance, utility transmission lines are considered a special use in these three Floodplain Management districts. In accordance with the Clayton County Zoning Ordinance, a Special Exception Permit is required for the installation of utilities, including transmission lines that are placed within these floodplain districts.

Existing or future land use information was not available for Clayton County in the Clayton County Comprehensive Plan Draft Update of Goals and Policies (2002) or on the county's website. Dairyland would consult with Clayton County prior to constructing the proposed Project to verify whether permits would be required.

Winneshiek County

New build, rebuild, and retire segments of the proposed Project are located in Springfield, Frankville, and Bloomfield Townships in Winneshiek County. Winneshiek County has adopted comprehensive zoning and is governed by the Zoning Ordinance and Subdivision Regulations of Winneshiek County (Winneshiek County 2015). Within Winneshiek County, the proposed Project would cross land that is zoned Agricultural District (A-1) and Urban Fringe Residential District (R-1). Winneshiek County zoning district location information was obtained on The Beacon (Beacon 2016). There is no formal floodplain overlay district; however, buildings or structures shall not obstruct drainage courses and floodways (Winneshiek County 2015).

The purpose of the A-1 District is to reserve areas suitable for nonagricultural use until the land is needed for development (Winneshiek County 2015). Public utilities, including substations, are an allowed use in the A-1 District (Winneshiek County 2015).

The purpose of the R-1 District is to provide low density, single, and two-family dwellings relying on individual wells and septic systems and to encourage clustered development on common wells and septic systems. Public utility distribution systems, including substations, are an allowed use in the R-1 District (Winneshiek County 2015).

Pursuant to provisions of Section 508 of the Zoning Ordinance and Subdivision Regulations of Winneshiek County, a Construction Completion Certificate is required prior to initiation of any construction or development within any district (Winneshiek County 2015).

The Winneshiek County Comprehensive Smart Plan (Winneshiek County 2012) was reviewed to identify mapped future land use for the area within Springfield, Frankville, and Bloomfield Townships that are crossed by the proposed Project. This plan identifies the future land use crossed by the proposed Project as agricultural, although the majority of the new build will be located within or adjacent to existing road ROWs. Utility lines are considered a compatible use within the agricultural district, therefore proposed Project appears to be compatible with future planned land uses (Winneshiek County 2012).

5.1.2 Land Use Analysis by Project Component

Rebuild

The rebuild portion of the proposed Project has two segments, one in Winneshiek County and one in Allamakee and Clayton counties. The approximate 3.0 miles of rebuild in Winneshiek County would be located in the A-1 District. The approximately 6.6 miles of rebuild located in Allamakee County would be located in A-1 District and would also cross some areas of the Bluffland Protection Overlay District. Approximately 2.6 miles of rebuild would be located in Clayton County. All rebuild sections would be located within the existing 69kV transmission line ROW where agricultural and rural land uses make up the majority of land uses in the Project area.

New Build

The new build portion of the proposed Project has two segments: one oriented east to west along SH-9, located in Winneshiek and Allamakee counties, and another oriented north to south along SH-51, located

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in Allamakee County. Approximately 5.7 miles of new build in Winneshiek County would be located in the A-1 District adjacent to SH-9, and 0.2 mile would be located in R-1. The remaining 5.6 miles of new build along SH-9, Old Stage Road, and through an agricultural field in Allamakee County and would be located in the A-1 District. This new build section would be located adjacent to the R-1 zone in Allamakee County; however, Dairyland could avoid these by micro siting to the south side of SH-9. The approximately 6.1 miles of new build located along Highway 51 in Allamakee County would be located in A-1 District, and would also cross some areas of the Bluffland Protection Overlay District. The new build segment is located parallel to state highways or local roads and existing transmission line ROW for the entirety of its length.

Retire

The retire segment of the proposed Project is located in Winneshiek (9.9 miles) and Allamakee (2.5 miles) counties. The approximately 9.9 miles of retire segment in Winneshiek County would be located in the A-1 District. The approximately 2.5 miles of the retire segment in Allamakee County would be located in A-1 District, and would cross some areas of the Bluffland Protection Overlay District. The segment of the proposed Project that would be retired crosses agricultural and rural land uses.

Proximity to Residences and Schools

No residences are located within the Project ROW for any of the Project segments. Approximately 71 total residences are located within 500 feet of the Project ROW. The number of residences in proximity to the proposed Project are listed in Table 4 and shown on the Sheet Maps in Appendix B.

**Table 4:
Project Components in Proximity to Residences**

Proximity to Residences	Project Component			Entire Project
	Rebuild	New Build	Retire	Total
Residences located within the Project ROW (40 feet on either side of route centerline)	0	0	0	0
Residences located within 500 feet of the Project ROW (between 40–500 feet on either side of route centerline)	12	53	6	71

The closest school to the proposed Project is East Elementary School in Allamakee County, and it is located approximately 1.9 miles northeast of the new build segment of the proposed Project. Schools in proximity to each of the proposed Project components are listed in Table 5.

**Table 5:
Project Components in Proximity to Schools**

School	Project Component		
	Rebuild	New Build	Retire
School in Proximity to Component	John Cline Elementary School, NW 4.6 miles in Winneshiek County	East Elementary School, NE 1.9 miles in Allamakee County	South Winneshiek Middle School, SW 3.8 miles in Winneshiek County

5.1.3 Prime and Important Farmland

Prime farmland is shown on Figure 6. Proposed Project crossings of prime farmland and farmland of statewide importance for each component is listed in Table 6 below.

Table 6:
Project Component Crossings of Prime Farmland

Type of Farmland	Project Component		
	Rebuild	New Build	Retire ¹
Length crossing prime farmland	3.1 miles	6.7 miles	4.0 miles
Number of structures to be placed in prime farmland	53 structures	126 structures	51 structures
Length crossing prime farmland if drained	0.9 miles	0.1 miles	0.8 mile
Number of structures to be placed in prime farmland if drained	12 structures	1 structure	10 structures
Length crossing farmland of statewide importance	6.8 miles	10.0 miles	6.4 miles
Number of structures to be placed in farmland of statewide importance	120 structures	191 structures	85 structures

¹ Miles of Project ROW and structures denoted in retire section would be removed.

5.1.4 Formally Classified Land

Formally classified lands are areas that have a formal classification or designation, such as federal, state or local parks, federal, state, or locally managed lands, designated trails, wildlife and game refuges, and other lands with federal, state, or local classifications or designations. Only one formally classified land, Historic Forest Stands, was identified within the Project area (IDNR 2005). No other formally classified lands are crossed by the proposed Project. In addition, the proposed Project does not cross any municipal boundaries.

Historic Forest Stands, managed by the IDNR, are crossed by the proposed Project (Figure 7). Historic Forest Stands crossed by the proposed Project are listed in Table 7. Historic Forest Stands represent forested areas as they were originally described by district foresters in their forest stewardship and project plans. The historic forest stands generally correspond to a specific species distribution, but can also reflect differences in the age of the trees, different management recommendations, or even soil types within a forested area. The IDNR Forestry Bureau does not have details of these lands that are readily available through data or program information and state forest management rules do not appear to apply to these Historic Forest Stand areas.

Table 7:
IDNR Historic Forest Crossings by Project Component

Project Component	Length in miles by County			Total Length (miles)
	Allamakee	Clayton	Winneshiek	

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**Table 7:
IDNR Historic Forest Crossings by Project Component**

Project Component	Length in miles by County			Total Length (miles)
	Allamakee	Clayton	Winneshiek	
New Build	0.1	0.0	0.2	0.3
Rebuild	0.4	0.2	0.1	0.7
Retire	0.0	0.0	0.4	0.4

5.1.5 General Land Use Impacts

Impacts to land use resulting from construction, operation, maintenance, and decommissioning of the proposed Project are expected to be less than significant.

Temporary impacts within the existing transmission line ROW and within newly acquired ROW would be limited to impacts occurring during construction and are not anticipated to be significant. Landowners may be restricted from accessing the Project ROW while construction activities are taking place (vegetation clearing, transmission structure installation, conductor stringing, and conductor tensioning) at each transmission structure location. Access to the structures would be via existing access roads and along the edge of adjacent roads and agricultural fields. One new permanent access road for the purposes of construction access will be required for the proposed Project. Minor vegetation clearing will be required to widen the existing ROW's and along the new segments of line. Overland access would cross existing or use entrances from local roads, field roads, and private driveways on the new line segments. Other temporary impacts include disturbance at each transmission structure location, approximately 12–16 square feet of temporary disturbance at each transmission structure and up to 2 acres of temporary disturbance at two laydown areas. Areas of temporary disturbance would be revegetated and returned to pre-existing conditions after construction.

Permanent impacts are expected to be less than significant. The permanent area of disturbance for the proposed Project would be limited to the approximately 12-square-foot footprint of each structure and one access route that would remain in place at the request of a land owner and would be approximately 5,685 square feet. Landowners whose properties are crossed by the proposed Project would be permitted to continue using their land in the same manner that they currently do, although height restrictions concerning the use of tall equipment under the new transmission line would apply. Land owners would also need to use caution when working around structures with guy wires.

In areas where the proposed Project would cross floodplain overlay district, Dairyland would work with Allamakee County to obtain the appropriate floodplain permit. Based upon guidance provided by Allamakee County, a Site Plan Application would be submitted to fulfill this permitting requirement. Dairyland would also work with Winneshiek County to obtain a Construction Completion Certificate prior to construction. Since zoning maps for Clayton County were not readily available, Dairyland would consult with Clayton County prior to constructing the proposed Project to verify whether permits would be required.

Impacts resulting from the proposed Project would be further reduced by implementing the mitigation measures described below (Section 5.1.8) and in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*. Impacts by Project component and county are included in the Tables 8-10.

Rebuild

Temporary impacts within the existing transmission line ROW would be limited to those occurring during construction and are not anticipated to be significant. For the segments of the proposed Project that would be rebuilt, approximately 206 single pole transmission structures would be constructed and would result in approximately 2,472 square feet of permanent land disturbance within the existing ROW.

Table 19 shows the length and impacts of the rebuild segment by county.

No residences are located within the Project ROW for the rebuild segment. Dairyland is currently in the process of working with landowners to obtain easements to construct the proposed Project and maintain the 80-foot-wide ROW.

Construction and operation of the rebuild segment of the proposed Project is not anticipated to have significant effects on land use because the land use would remain the same as the current use of an electric transmission line.

**Table 8:
Approximate Length and Impacts of Rebuild by County**

Project Segment	County	Structures per County	Square Feet of Disturbance per County
Rebuild	Winneshiek (3.0 miles)	53	636
	Allamakee (6.6 miles)	106	1,272
	Clayton (2.6 miles)	47	564
Total	12.2 miles	206 structures	2,472

New Build

Temporary impacts during construction of the transmission line within newly acquired ROW would be limited to those occurring during construction and are not anticipated to be significant. For the new build segment of the proposed Project approximately 337 single pole transmission structures would be constructed and would result in approximately 4,044 square feet of permanent land disturbance. Acquisition and use of a new 80-foot-wide ROW would result in permanent impacts where minor vegetation and minor tree clearing would be required to allow for safe operation of the proposed Project; however, the new build segment parallels existing roadways for the majority of its length and crosses lands previously cleared for road construction or agricultural purposes. Table 20 shows the length and impacts of the new build segment by county.

No residences are located within the ROW for the new build segment. Dairyland is currently in the process of working with landowners to obtain easements to construct the proposed Project and maintain the 80-foot-wide ROW.

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Construction and operation of the new build segment of the proposed Project would result in permanent land disturbance and changed land use. Construction and operation of the new build segment of the proposed Project is not anticipated to have significant effects on land use since the alignment of the transmission line centerline is on the edges of agricultural fields and located adjacent to road ROW for the majority of its length and Dairyland has chosen a route that does not require the displacement of any residential or agricultural properties. Any impacts to land use resulting from the proposed Project would be further reduced by implementing the mitigation measures described below (Section 5.1.8).

**Table 9:
Approximate Length and Impacts of New Build by County**

Project Segment	County	Structures by County	Square Feet of Permanent Disturbance by County
New Build	Winneshiek (5.9 miles)	118	1,416
	Allamakee (11.7 miles)	219	2,628
	Clayton (0.0 miles)	0	0
Total	17.6 miles	337 structures	4,044

Retire

Temporary impacts within the existing transmission line ROW would be limited to those occurring during removal of transmission structures and are not anticipated to be significant. Landowners may be restricted from accessing the Project ROW during construction activities associated with retirement and removal of the existing transmission line. Temporary impacts would include disturbance at each transmission structure location, approximately 12–16 square feet per structure, and up to 2 acres of temporary disturbance at the laydown area. Areas of temporary disturbance would be returned to natural conditions or adjacent land uses after construction. Access to the existing transmission line structures that would be removed as part of the transmission line retirement would be via access routes shown in Appendix A. Where access routes shown on the maps in Appendix B are not located on maintained roads or driveways, overland travel would be utilized to access the transmission line. Table 21 shows the length and impacts of the retire segment by county.

Temporary impacts during decommissioning within the existing transmission line ROW would be limited to those occurring during construction and are not anticipated to be significant. Decommissioning of the retirement segment of the Project, would remove approximately 159 single pole transmission structures and would result in approximately 1,908 square feet of land to be returned to natural conditions or adjacent land uses (e.g., crop and pasture lands, forest, and wetlands), depending on landowner preference. No residences are located within the Project ROW for the retirement segment. Decommissioning of the retirement segment of the proposed Project would return the land to its original condition.

Table 10:
Approximate Length and Impacts of Retire by County

Project Segment	County	Structures per County	Square Feet of Disturbance per County
Retire	Winneshiek (9.9 miles)	126	1,512
	Allamakee (2.5 miles)	33	396
	Clayton (0.0 miles)	0	0
Total	12.4 miles	159 structures	1,908

5.1.6 Prime and Important Farmland Impacts

Temporary impacts to agricultural activities and prime farmland are expected to be less than significant and would be limited to the disturbance around the foundation of each structure and along temporary access routes. All disturbed areas surrounding new structures and along access routes would be revegetated following construction of the new transmission line. Operation of the transmission line would not interfere with continued use of the surrounding areas for agricultural uses.

Permanent impacts to prime farmland and farmland of statewide importance are also expected to be less than significant and would be limited to the footprint of the transmission structures. The proposed Project centerline crosses prime farmland, farmland of statewide importance, and prime farmland if drained.

Table 11 summarizes the anticipated permanent impacts to prime farmland, prime farmland if drained, and farmland of statewide importance. Impacts to prime farmland and farmland of statewide importance were calculated using the engineered transmission line design.

Table 11:
Project Components Crossings of Prime Farmland

Type of Farmland	Project Component			Total	Net Total**
	Rebuild	New Build	Retire*		
Length crossing prime farmland	3.1 miles	6.7 miles	4.0 miles	9.8 miles installed, and 4.0 miles removed	5.7 miles
Number of structures to be placed in prime farmland	53 structures	126 structures	51 structures	179 new structures installed and 51 structures to be removed	128 structures
Length crossing prime farmland if drained	0.9 mile	<0.1 mile	0.8 mile	0.9 mile installed and 0.8 mile removed	0.1 mile
Number of structures to be placed in prime farmland if drained	12 structures	1 structures	10 structures	13 new structures and 10 structures to be removed	3 structures
Length crossing farmland of statewide importance	6.8 miles	10.0 miles	6.4 miles	16.8 miles installed and 6.4 miles removed	10.4 miles

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**Table 11:
Project Components Crossings of Prime Farmland**

Type of Farmland	Project Component			Total	Net Total**
	Rebuild	New Build	Retire*		
Number of structures to be placed in farmland of statewide importance	120 structures	191 structures	85 structures	311 new structures and 85 structures to be removed	226 structures
Total	10.8 miles/185 structures	16.7 miles/318 structures	Remove 11.2 miles/146 structures	27.5 miles/503 structures installed and 11.2 miles/146 structures to be removed	16.3 miles/357 structures to be installed

Dairyland anticipates no more than 2,148 square feet of permanent disturbance in prime farmland, no more than 156 square feet of permanent disturbance in prime farmland if drained, and no more than 3,732 square feet of permanent disturbance in farmland of statewide importance. No permanent access routes would be constructed on prime farmland or farmland of statewide importance.

Dairyland sent a letter to the NRCS in May 2015 concerning potential impacts to prime farmland as a result of the proposed Project and also sent an email on March 9, 2017. On April 6, 2017 the NRCS responded that since the majority of the construction work is within ROW and any impact to prime or statewide important farmland would be minimal. Therefore, a Farmland Protection Policy Act (FPPA) Form AD-1006 is not necessary (Appendix C).

5.1.7 Formally Classified Land Impacts

Formally classified lands within the Project area include Historic Forest Stands (Figure 7). No other formally designated or classified lands are crossed by the proposed Project.

Rebuild

The rebuild component of the proposed Project would cross approximately 0.4 mile, 0.2 mile, and 0.1 mile of Historic Forest Stands in Allamakee, Clayton, and Winneshiek counties, respectively. These crossings would result in eight structures to be replaced and 96 square feet of disturbance in Historic Forest Stands. Since the rebuild segment is replacing the current land use, significant impacts are not expected.

New Build

The new build segment of the Project would cross less than 0.1 mile in of Historic Forest Stands in Allamakee County and approximately 0.2 mile in Winneshiek County. These crossings would result in two structures and 24 square feet of disturbance in Historic Forest Stands. The new build would be considered a new disturbance; however; the proposed Project would be located adjacent to an existing road for the majority of the new build segment of the proposed Project, and would not change the character of the forest stand, since it is already fragmented by the existing road.

Retire

The retire segment of the proposed Project would remove approximately 0.4 mile of transmission line from Historic Forest Stands in Winneshiek County. These crossings would result in six structures to be removed and 72 square feet of disturbance to be returned to forest use in Historic Forest Stand land.

5.1.8 Land Use Mitigation and Monitoring

In addition to implementing the BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, the following mitigation measures would be implemented to reduce potential impacts to land use:

- The removal of landscaping would be avoided whenever possible.
- Access to all residences would be maintained during construction.
- Residents would be notified of construction activities prior to the start of construction.
- Disturbed areas would be reseeded according to landowner requests.

5.2 Vegetation

5.2.1 Vegetation

The Project ROW is located within Driftless Area of Iowa, which was bypassed by the last continental glaciation. The lack of glaciation allowed landforms such as steep valleys, sandstone bluffs, spring-fed creeks, and flat ridges to maintain their topography to the present day. According to the USDA, “The rugged topography led to more examples of remnant natural communities than are found in other regions of the Upper Midwest” (USDA 2015).

The Driftless Area supports a diversity of plants and animals, including uncommon species of birds of woodland and grassland habitats, reptiles, amphibians, and native fish found in the cold water streams.

A summary of the percentage distribution of land cover types crossed by the Project ROW, as identified by data obtained from the National Land Cover Database (NLCD), is provided as Table 12. The NLCD is a 16-class categorization of land cover based on satellite imagery and provides a broad description of land cover types. Land cover data are generally indicative of certain types of land use.

Table 12:
Land Cover Types Crossed by the Project ROW

NLCD Land Cover Type ¹	Rebuild Acres ²	New Build Acres ²	Retire Acres ²	Total Acres All Components ²
Open Water	0.0	0.0	0.0	0.0
Developed, Open Space	4.4 (1%)	17.7 (4%)	17.2 (5%)	39.2 (10%)
Developed, Low Intensity	1.5 (<1%)	49.0 (12%)	5.0 (1%)	55.6 (14%)
Developed, Medium Intensity	0.0	0.6 (<1%)	0.0	0.6 (<1%)
Developed, High Intensity	0.3 (<1%)	0.0	0.0	0.3 (<1%)
Barren Land	0.0	0.0	0.0	0.0
Deciduous Forest	9.5 (2%)	3.1 (1%)	2.5 (1%)	15.1 (4%)
Evergreen Forest	0.0	0.0	0.0	0.0

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**Table 12:
Land Cover Types Crossed by the Project ROW**

NLCD Land Cover Type ¹	Rebuild Acres ²	New Build Acres ²	Retire Acres ²	Total Acres All Components ²
Grassland/Herbaceous	6.4 (2%)	20.2 (5%)	8.3 (2%)	34.9 (9%)
Pasture/Hay	25.6 (6%)	14.85(4%)	16.8 (4%)	56.9 (14%)
Cultivated Crops	71.1 (17%)	65.8 (16%)	70.8 (17%)	207.6 (51%)
Woody Wetlands	0.0	0.0	0.0	0.0
Emergent Herbaceous Wetlands	0.0	0.0	0.0	0.0

- 1 Note that the majority of developed land consists of areas identified by the NLCD as the ROW along the roads that parallel the proposed Project.
- 2 Percentages shown equal total land cover type within the Project ROW.

The acreages identified in Table 12 are consistent with a review of aerial photography of the Project area. The vegetation likely includes species associated with disturbed areas along roadways, residential yards, and field edges such as smooth brome (*Bromus inermis*), cheat grass (*Bromus tectorum*), sweet clover (*Melilotus albus*), dandelion (*Taraxacum officinale*), Queen Anne’s lace (*Daucus carota*), and a variety of wheat grasses.

The two construction laydown areas would each be approximately 2 acres in size. The laydown sites are farm fields; no vegetation clearing would be required.

5.2.2 Vegetation Impacts

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

For the segment of the proposed Project that is to be rebuilt, the transmission line would continue to be maintained in the manner in which it has been maintained for the past 60 years: overhanging vegetation would be trimmed and the ROW would be periodically mowed. Along access routes that traverse forested areas with overhanging or overgrown woody vegetation, some trimming would be necessary to permit passage within a cross-sectional area measuring approximately 20 feet in height and width.

The use of the laydown areas would not result in any permanent impacts to vegetation. Upon completion of construction, Dairyland would revegetate the disturbed areas to pre-construction conditions.

Overall, impacts to vegetation are anticipated to be less than significant because the rebuild segment of the proposed Project would be located within an existing utility ROW, the new build segment would be located within a new ROW that is located adjacent to existing road ROWs within cultivated croplands, and

the retire segment of the proposed Project would be allowed to fully revegetate. Permanent impacts would be primarily limited to the footprint of transmission structures and one access route that would remain in place at the request of a land owner and would be approximately 5,685 square feet. No permanent impacts resulting from the use of the temporary laydown areas during construction are anticipated. If vegetation is disturbed due to the use of overland access and the temporary laydown areas, Dairyland would revegetate disturbed areas to pre-construction conditions.

5.2.3 Vegetation Mitigation and Monitoring

In addition to implementing the BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, the following mitigation measures would be implemented to reduce potential impacts to vegetation:

- Dairyland 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 per landowners' preferences.
- Vegetation monitoring would take place until 70 percent of the original cover is attained or applicable permit conditions are otherwise satisfied.

5.3 Floodplains

5.3.1 Floodplains

Floodplain data were obtained from the Federal Emergency Management Agency (FEMA). The proposed Project crosses a total width of approximately 1.6 miles (8,545 feet) of 100-year floodplains over all of the Project components. However, FEMA floodplain maps for Winneshiek County have not been completed (confirmed in a telephone conversation with the Winneshiek County Planning and Zoning Office on September 21, 2016). Table 13 shows the waterbodies associated with the floodplains as well as the approximate floodplain width that is crossed by each segment of the proposed Project. No floodplains are crossed in Clayton County.

Table 13:
Floodplains Crossed by the Project ROW

Project Component	County	Township, Range	Section	Waterbody	Structures within Floodplain	Approximate Width (feet)
Rebuild	Allamakee	96N, 6W	9	Upper Branch Yellow Creek	1	262
					0	4
					0	283
					0	64
					2	1,025
			22	Williams Creek	1	339
Total floodplain crossing width for Rebuild						1,977
New Build	Allamakee	97N, 6W	2	Teeple Creek	2	375
			2	Unnamed	0	143
			2	Unnamed	1	147

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**Table 13:
Floodplains Crossed by the Project ROW**

Project Component	County	Township, Range	Section	Waterbody	Structures within Floodplain	Approximate Width (feet)
			3	Unnamed	2	560
			4	Unnamed	2	397
			8	Unnamed	0	107
			21	Unnamed	3	803
			28	Unnamed	0	63
			33	Unnamed	0	101
		96N, 6W	5	Upper Branch Yellow Creek	0	159
		9	Upper Branch Yellow Creek	0	255	
Total floodplain crossing width for New Build						3,110
Retire	Allamakee	96N, 6W	5	Upper Branch Yellow Creek	0	242
					0	167
					1	308
		96N, 6W	6	1	423	
		96N, 6W	6, 31	5	2,318	
Total floodplain crossing width for Retire						3,458

5.3.2 Floodplains Impacts

The proposed Project would result in 10 new transmission structures being placed in 100-year floodplains along the new build segment of the proposed Project within Allamakee County, and 4 structures along the rebuild segment of the Project would be placed within floodplains. Permanent disturbance in floodplains would be limited to the area needed for the new structures and would result in a new permanent disturbance of 120 square feet along the new build segment. In addition, along the rebuild segment, approximately 48 square feet of permanent impacts would occur, although Dairyland would remove 48 square feet of existing structures within the floodplain. Dairyland would coordinate with Allamakee County to obtain a floodplain permit, if required, for the placement of the new and replacement structures within the floodplain. Dairyland confirmed during a phone call with the IDNR on October 6, 2016, that no state floodplain permitting would be required for the placement of transmission line structures within designated floodplains (IDNR 2016a).

During construction, ground cover and soils would be temporarily disturbed. Effects resulting from the removal of groundcover and soils in floodplains would be temporary in nature and the area not occupied by the transmission structures would be reclaimed and revegetated to pre-construction conditions. Potential floodwater displacement could occur where structures are placed in floodplains. Based on the low volume of potential floodwater displacement, impacts on flooding are not anticipated.

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

Construction of transmission structures in floodplains would follow the same procedures as identified in Section 1.4, and when possible Dairyland would span floodplains in order to reduce impacts to floodplains. However, given the size of floodplains crossed, the proposed Project would require the placement of 4 structures within floodplains along the rebuild segment of the proposed Project and 10 structures within floodplains along the new build segment of the proposed Project. Along the rebuild segment of the proposed Project Dairyland would place the new structures in approximately the same location as the existing structure, and there would be no net impact on the floodplain at these locations. If necessary, county floodplain permits would be obtained for construction within in the floodplains at these locations. The locations of structures within floodplains are shown on Sheet Maps in Appendix B. Dairyland would span all waterways and would minimize the placement of structures in low areas near waterways to the extent practicable.

Based on preliminary engineering, construction of the proposed Project would require approximately 1.3 miles of temporary overland access in 100-year floodplains. Overland access may require minor grading and/or minor vegetation clearing and would consist of driving equipment across low-lying vegetation along field edges or adjacent to the edge of a road ROW. As a result, no impacts to floodplains from the use of or construction of overland access are anticipated.

The use of up to five TCSBs would be required for temporary construction access. TCSBs only require a permit from the IDNR if they cross a waterbody with an upstream drainage area of greater than 100 square miles. No TCSBs would be installed over waterbodies with an upstream drainage area of 100 square miles or greater; no state permits would therefore be required.

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

5.3.3 Floodplain Mitigation and Monitoring

In addition to implementing the BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, the following mitigation measures would be employed to reduce potential impacts to floodplains:

- Dairyland would coordinate with the USACE, IDNR, and local authorities for approval of structure locations.
- Dairyland would follow all floodway development requirements as outlined in Section 301.6 of the Allamakee County Zoning Ordinance. Since zoning maps for Clayton County were not readily available, Dairyland would consult Clayton County to determine whether a floodplain permit is required.
- Dairyland would obtain all permits listed in Section 7 of this EA.
- Dairyland would preserve existing natural vegetation to the extent practicable.
- Dairyland would restore temporary ground disturbance within 100-year floodplains caused by construction activities by revegetating the area impacted to pre-construction conditions.

5.4 Water Quality

5.4.1 Water Quality

Waterways crossed by the proposed Project were identified using the U.S. Geological Survey (USGS) National Hydrography Dataset. Review of these resources identified 10 perennial, 31 intermittent, and 9 ephemeral waterbody crossings located along the proposed rebuild and new build segments of the proposed Project. The retire segment of the proposed Project has 13 perennial, 19 intermittent, and 4 ephemeral waterbody crossings. Of these 86 total waterbody crossings, 56 are of unnamed waterbodies; three of which have state or local designations or impairments (e.g., designated trout streams, outstanding or exceptional waters, impaired waters, etc.). The named waterbodies crossed by the proposed Project are shown on (Figure 5) and listed in Table 14. Waterbodies that are crossed multiple times by the proposed Project are only listed in the table once.

Table 14:
Named Waterbodies crossed by the Project

Project Component	County	Township/Range/Section	Waterbody	Flow Regime	Designated Use River	Impaired Waters 303(d) ¹	Outstanding Resource Waters ²
Rebuild	Allamakee	96N 6W Sec 9	Upper Branch Yellow Creek	Intermittent	No	No	No
		96N 6W Sec 9	Yellow River	Perennial	Yes	Yes, biological integrity, organic enrichment/low dissolved oxygen, pH	No
		96N 6W Sec 22	Williams Creek	Perennial	Yes	No	No
	Clayton	95N 6W Sec 2	Hickory Creek	Intermittent	No	No	No
New Build	Allamakee	96N 6W Sec 5	Upper Branch Yellow Creek	Intermittent	No	No	No
		97N 6W Sec 2	Teeple Creek	Intermittent	No	No	No
	Winneshiek	97N 7W Sec 5	Trout Creek	Perennial	No	No	No
		97N 7W Sec 9	Trout River	Perennial	Yes	No	No
Retire	Allamakee	97N 6W Sec 31, 96N 6W Sec 5 and 6	Upper Branch Yellow Creek	Intermittent	No	No	No
	Winneshiek	97N 7W Sec 36	Upper Branch Yellow Creek	Intermittent	No	No	No

1 IDNR (2010)

2 IDNR (2015)

The Yellow River would be crossed by the rebuild segment of the proposed Project in Allamakee County, and it is identified as an impaired water on the Section 303(d) list of impaired waters. The Yellow River is listed as impaired for biological integrity, organic enrichment/low dissolved oxygen, and pH. No other impaired waters are crossed by the proposed Project.

The IDNR surface water data was reviewed to identify any Protected Waters that may be present within the Project area (IDNR 2015a, 2014). Surface waters are classified for protection of beneficial uses and are further subdivided into general use segments and designated use segments (Iowa Administrative

Code, Chapter 61 Section 61.3 (455B). General use segments are intermittent watercourses that do not typically support aquatic communities and are protected for livestock, wildlife watering, noncontact recreation, crop irrigation, and incidental water withdrawal for industrial, agricultural, and domestic use. Designated use segments maintain water flow throughout the year or are intermittent features that contain pooled areas that would support a viable aquatic community. Designated use segments are protected for the same uses as the general use segments as well as for recreational use and aquatic life. Three rivers with designated use are crossed by Project. The Trout River would be crossed by the new build segment just east of Decorah. The Yellow River and Williams Creek would be crossed by the rebuild segment of the proposed Project northeast of Postville, Iowa. Outstanding Iowa Waters are defined as a surface water that IDNR has classified as an outstanding state resource water in the water quality standards and are protected from unnecessary pollution (IDNR 2014). Outstanding Iowa Waters occur within the Project area but are not crossed by any Project features (Figure 5).

Groundwater in the Project area consists of Cambrian-Ordovician sandstone aquifers. Average depth to the groundwater varies, with the water table near the waterbodies crossed (e.g., Yellow River, Upper Branch Yellow Creek, Williams Creek, Trout River, etc.) being potentially less than 10 feet below the ground surface. According to the Iowa Water Science Center of the USGS, average groundwater levels in the Project area range between 18 and less than 5 feet below the ground surface (USGS 2016a). Bedrock in Allamakee, Clayton, and Winneshiek counties typically outcrops at the land surface, ridgetops are often capped by less than 50 feet of Quaternary sediment, and valley floors are usually underlain by 10 to 70 feet of alluvium (IGWS 2011).

5.4.2 Water Quality Impacts

Of the 86 waterway crossings by the proposed Project (Section 5.4), up to 5 would need to be crossed with construction vehicles due to access constraints. Waterways that cannot be avoided would use TCSBs to minimize impacts to the features. The TCSBs would enable heavy equipment to cross the waterways in areas where one side of the waterway is not accessible via overland travel. Placement of the TCSBs would be outside the jurisdictional boundary of the waterway. It is not anticipated that a permit for TCSBs would be required from IDNR or USACE so long as the TCSB is located outside the ordinary high water mark (OHWM). Should a TCSB be required within the OHWM of a water body, Dairyland would work with IDNR and USACE to obtain the required permits. One river, the Yellow River, would be crossed by the proposed Project in Allamakee County, and it is identified as an impaired water on the Section 303(d) list of impaired waters. The Yellow River is listed as impaired for biological integrity, organic enrichment/low dissolved oxygen, and pH. However, the nature of Project activities, which would include linear areas of ground disturbance and the use of erosion and sediment control BMPs, is not likely to impact these impairments along the Yellow River.

Three rivers intersected by the proposed Project are designated use river segments: Yellow River, Trout River, and Williams Creek. These waters are protected for recreational use as well as for aquatic life. The Project would avoid impacts to these features by spanning the features. Ground disturbance adjacent to each water feature would be minimized through the implementation of BMPs including erosion and sediment control devices.

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Ground-disturbing construction activities including the operation of construction vehicles adjacent to waterways involves some risk to water quality; ground disturbance resulting from excavation, grading, and construction traffic may lead to sediments reaching surface waters. Impacts are unlikely provided that erosion control measures and mitigation measures listed in Section 5.4.2 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.

5.4.3 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:

- Dairyland 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 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.
- Dairyland would utilize appropriate IDNR suggested stormwater and erosion control methods to protect surface waters at TCSB locations.
- Construction activity would not be permitted below the ordinary high water line of any water body. With the exception of the five possible streams requiring TCSBs, construction contractors would not drive across streams crossed by the proposed Project.
- TCSBs, when necessary, would be placed outside of the ordinary high water line (jurisdictional boundary) of the waterway.
- Dairyland would obtain permits listed in Section 7 of this EA.

5.5 Wetlands

5.5.1 Wetlands

The USACE and IDNR regulate a permitting process for work that may impact wetlands. Examples of circumstances that may require a permit include excavation in or placement of any material into wetlands. Desktop data was analyzed to identify locations where wetlands may be present in the rebuild, new build, and retire segments of the proposed Project.

Waters of the U.S. (WoUS) are regulated by the U.S. Environmental Protection Agency (EPA) and USACE under Sections 401 and 404 of the Clean Water Act (CWA). Resources regulated under Sections 401 and 404 include wetland areas, natural ponds, impoundments, and waterways such as rivers and streams. The Rock Island District of the USACE has jurisdiction over wetlands and other WoUS in the Project area. The USACE regulates certain utility line projects under the Nationwide Permit (NWP) 12—Utility Line Activities. NWP 12, as defined by USACE, covers activities including any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. A NWP 12 is applicable to project with permanent impacts to WoUS below 0.5 acre. A PCN is required under NWP 12 when permanent impacts exceed 0.1 acre. Temporary impacts to wetlands occurring during construction are generally not counted towards regulatory thresholds so long as the temporarily impacted areas are returned to their original condition upon completion.

The IDNR is responsible for administering the CWA Section 401 Water Quality Certification process for any project requiring a Federal permit that would result in impacts to waters of the U.S., a process by which IDNR will verify that the proposed Project does not result in violations of State water quality standards.

There are also “Designated Wetlands” in Iowa that are protected under Iowa Code Subsection 459.102(22). Designated wetlands are defined as areas located on federal lands consisting of natural areas of two or more acres that are mostly under water or waterlogged during the growing season. No Designated Wetlands are mapped within the rebuild, new build, or retire segments of the proposed Project.

The presence of wetlands and other WoUS are summarized below by project segment and were evaluated in the Project area using publically available information including:

- The U.S. Fish and Wildlife Service (USFWS) online *Wetlands Mapper* tool (USFWS 2016c) depicts wetlands that had been mapped as part of the National Wetland Inventory (NWI) program.
- The USGS produces the National Hydrography Dataset (NHD), which maps perennial and intermittent streams, ponds, and lakes. The online database *NHD Viewer* tool (USGS 2016b) was queried for the rebuild, new build, and retire segments of the proposed Project. These streams indicate areas that may contain streams that could have a wetland fringe or feed wetlands nearby. The USGS also is responsible for topographic mapping. Topographic maps can be used to identify landforms that could hold water and form a wetland (i.e., depressional landscapes).
- The NLCD was queried to enhance the ability to identify probable wetlands located within for all three ROWs.

Rebuild

There are 4 mapped NWI wetlands and 32 NHD flowlines that intersect the proposed rebuild segments of the proposed Project. NLCD describes the dominant vegetative cover in the rebuild segment of the proposed Project as cultivated crops with pasture/hay with pockets of deciduous forest.

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One NWI-mapped wetland and two mapped NHD features are located in the northeastern portion of the rebuild segment. An NWI-mapped freshwater emergent wetland found in the northeastern segment of the rebuild is located approximately 0.5 mile west of centennial road and 0.5 mile north of 200th Street in Winneshiek County (Appendix B, Sheet Map 1). The rebuild ROW intersects the wetland for approximately 280 feet, although no structures would be placed within the mapped wetland. One perennial NHD mapped feature intersects the rebuild segment on three separate occasions, and one intermittent NHD mapped feature intersect the rebuild segment once ((Appendix B, Sheet Map 2).

In the southern portion of the rebuild segment there are three mapped NWI features and 17 NHD-mapped features within the ROW. One NWI mapped freshwater scrub/shrub riparian and one riverine wetland (Yellow River) are located where the rebuild segment crosses the Yellow River (Appendix B, Sheet Map 17). The Yellow River riverine wetland is approximately 40 feet wide at the proposed crossing and the scrub/shrub wetland is approximately 190 feet wide. Combined, this crossing is approximately 230 feet wide. An additional NWI-mapped wetland identified as a freshwater pond is located approximately 0.1 mile north of Lybrand Drive and 0.5 mile west of Bethel Road. The freshwater pond crossing would be approximately 200 feet, although no structures would be placed within the pond.

New Build

NLCD generally characterizes the land cover in the new build segment of the proposed Project as cultivated crops and low-intensity developed areas (existing road ROWs) with areas of pasture/hay interspersed. Areas in and around the intersection between the new build and the Trout River are generally categorized as deciduous forest. The new build segment intersects one NWI wetland, and in 18 locations the new build crosses NHD flowlines. The new build ROW crosses Trout Creek, Trout River, Teeple Creek, and the Upper Branch of the Yellow Creek once. One intermittent tributary to Trout Creek, four intermittent tributaries to Trout River, five intermittent tributaries to Teeple Creek, and four intermittent tributaries to the Yellow River also intersect the new build segment of the proposed Project.

The new build ROW is located almost entirely along the existing road ROW of SH-9 and SH-51. Any wetlands in the new build ROW have likely been altered by the construction and maintenance of these highways.

Retire

The ROW of the retire segment of the proposed Project intersects an NWI wetland located between the ROW centerline and Frankville Road on the Upper Branch of the Yellow River for approximately 450 feet. The retirement centerline is not located in the NWI wetland polygon. This wetland is described as a Freshwater Forested/Shrub wetland. NLCD describes vegetative cover in the retire segment of the proposed Project as mostly cultivated crops with some pasture/hay and some deciduous forest.

Thirty-six NHD flowlines are crossed by the retire segment of the proposed Project. Eight perennial and six intermittent NHD flowlines are tributaries to the Upper Iowa River. Two intermittent and one perennial NHD flowlines are tributaries to the North Fork of the Yellow River, and three NHD flowlines are intermittent tributaries to the Yellow River. Near the retirement intersection with 111th Avenue, the retirement segment runs parallel to and crosses the upper branch of Yellow Creek several times over

approximately 0.7 mile, and again approximately 500 and 700 feet west of the intersection between the retirement segment and Frankville Road.

5.5.2 Wetland Impacts

Wetlands and other WoUS are protected under Sections 404 and 401 of the CWA. The USACE and the IDNR are the agencies that are responsible for ensuring compliance with the CWA. NWI, NHD, and NLCD data were analyzed to identify locations where wetlands and other WoUS may be present in the rebuild, new build, or retire segments of the proposed Project. The data were compiled and provided to the USACE Rock Island District on May 15, 2015, to determine whether there would be effects to jurisdictional wetlands or other WoUS within the Project ROW. The USACE provided a letter response on June 23, 2015, which stated that the proposed Project would not require a Department of the Army Section 404 permit (Appendix C). The USACE determination letter states that, "No indication of discharge or dredged or fill material was found to occur in waters of the U.S. (including wetlands). Therefore, this determination resulted."

Wetland impacts for the rebuild, new build, and retirement segments of the proposed Project are discussed below.

Rebuild

The rebuild segment intersects NWI-mapped wetlands in four locations and intersects NHD flowlines 32 times. Temporary impacts to wetlands are anticipated to be minimal. The rebuild segment of the proposed Project would be completed within an existing transmission line ROW. Based upon a review of available desktop resources, avoidance of temporary impacts to wetlands would be accomplished through layout design and BMPs according to the methods outlined in Section 5.5.2. As currently designed, no rebuild structures are located within NWI-mapped wetlands.

If existing transmission structures for the existing N-8 transmission line are found to be located in wetlands, impacts to these wetlands are possible. If existing poles are found to be located in wetlands, the structures would be cut off at ground level with a chainsaw, cut into smaller segments, and moved by hand to the nearest upland area or access road.

The installation of replacement poles would be placed outside the wetland if practicable. If a replacement pole is unavoidably placed within a wetland, the permanent impacts to the wetland (12 square feet) would be less than the 0.1 acre threshold required for a PCN under NWP 12. The Project would follow guidance provided by the USACE and abide by the general and regional conditions of the nationwide permit program.

The rebuild segment of the proposed Project ROW intersects two NWI-mapped wetlands at the Yellow River, one of which is described as a freshwater forested scrub/shrub wetland. Although this wetland is described as forested, trees would not need to be removed because the existing transmission line ROW vegetation has been maintained. New impacts to the trees and shrubs in this location is not expected.

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After the implementation of BMPs and layout design, temporary impacts to wetlands along the rebuild segment of the proposed Project would be minimized by implementing mitigation measures listed in Section 5.5.2.

New Build

The new build ROW intersects one NWI wetland and NHD flowlines in 18 locations. The Project would span the NWI wetland and NHD flowlines to avoid permanent impacts to these features. The new build follows existing roads to the extent possible. The Project would utilize the existing roads to minimize impacts to potential wetlands or other WoUS during construction. Although the new build does use existing roads to the extent practicable, temporary impacts to wetlands or other WoUS are possible during construction and along portions of the new build where construction of temporary access routes would be required. Impacts to wetland or other WoUS would be minimized using BMPs.

Through the implementation of BMPs and layout design, temporary impacts to wetlands along the new build segment of the proposed Project are not anticipated.

Retire

The retire segment of the proposed Project ROW does not intersect NWI wetlands, although it does intersect NHD flowlines in 36 locations. The retirement work would be completed within an existing transmission line ROW, and the use of BMPs would minimize temporary impacts to waterbodies. After the N-8 retirement, the ROW would return to agricultural or natural conditions. Access routes would be temporary, no trees would need to be removed, and no grading would be required. If access routes are required, the proposed Project would follow the BMPs to minimize impacts to the wetlands. No fill or dredging would be required to remove the existing transmission line poles. If existing poles are found to be located within wetlands, they would be cut off at ground level with a chainsaw, cut into smaller portions, and moved by hand to the nearest upland area or access road.

5.5.3 Wetland Mitigation and Monitoring

Based upon available desktop wetland location data, wetland impacts would be avoided to the extent practicable through Project design and the identification of access routes that minimize the need for wetland crossings with heavy construction equipment. In addition to implementing the BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, the following mitigation measures would be employed to reduce potential impacts to wetlands:

- Construction would occur during periods of dry or frozen ground conditions if possible.
- Temporary construction matting would be used to minimize impacts in wetlands if construction cannot occur during periods when the ground is dry or frozen or if construction must occur in wetland locations with low stability conditions.
- Dairyland would monitor construction activities and require the use of impact avoidance measures and appropriate impact minimization practices (e.g., erosion and sedimentation control, low ground pressure equipment, matting).
- For the retire segment of the proposed Project, the poles would be cut off at ground level with a chainsaw, cut into smaller segments, and moved by hand to the nearest upland area or access road.

- Dairyland would obtain all permits listed in Section 7 of this document.

Dairyland would coordinate with the USACE and the WDNR to determine other protocols that should be followed to minimize and mitigate impacts to wetlands in the overall Project ROW.

5.6 Threatened and Endangered Species

5.6.1 Threatened and Endangered Species

Dairyland coordinated with the USFWS and the IDNR to investigate the potential for federally and/or state-listed special-status species to occur along the Project ROW. Eight federally listed species were identified by USFWS Information for Planning and Conservation (IPaC) project planning tool on November 18, 2016, as occurring near the Project ROW (Table 15; USFWS 2016a). No areas of USFWS-mapped critical habitat occur along the Project ROW. Dairyland submitted a species consultation letter to the USFWS regarding possible impacts to the listed species on May 15, 2015. In addition, Dairyland requested specific location information regarding northern long-eared bat roost trees and hibernacula on April 7, 2016. Dairyland spoke with the USFWS Rock Island Field Office on June 16, 2016, and the USFWS stated during the telephone conversation that they see no effect to the listed species based upon the proposed Project impacts. IDNR did not identify any state-rare species, significant natural resources, or site-specific records that would be impacted by the proposed Project. Dairyland submitted a consultation letter to the IDNR on May 15, 2015, requesting that the IDNR review and comment on the potential impacts on protected species from the proposed Project. In its response dated May 29, 2015, the IDNR stated that they did not find any site-specific records of rare species or significant natural communities that would be impacted by the proposed Project (Appendix C). No state-protected species or natural communities, therefore, would be affected by the proposed Project.

Habitat along the existing ROW was identified/characterized through aerial photography interpretation, direct contact with agencies, and review of available internet resources (e.g., USFWS Environmental Conservation Online System, NatureServe Explorer). The following includes a description of each federally listed species potentially occurring within the Project ROW.

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**Table 15:
Federally Listed Species Known or Believed to Occur Near the Project ROW**

Species	County of Occurrence	Status	Habitat	Project Evaluation
Northern long-eared bat (<i>Myotis septentrionalis</i>)	Allamakee Clayton Winneshiek	Threatened with 4(d) rule	Underneath bark, in cavities, or in crevices of both live and dead trees. May also roost in cooler places like caves and mines.	Summer habitat (April 1–September 30) is present along the Project ROW. Summer habitat includes forested areas and non-forested areas, such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. No winter habitat (aka hibernacula; October 1–May 15) are known to occur in the area.
Higgins eye pearlymussel (<i>Lampsilis higginsii</i>)	Allamakee Clayton	Endangered	Areas with deep water and moderate current. Occurs in the Iowa River, Mississippi River, and Wapsipinicon River.	None of the rivers in which it is known to occur cross the Project area. No impacts.
Spectaclecase (Cumberlandia monodonta)	Clayton	Endangered	Large rivers often clustered in firm mud and in sheltered areas such as beneath rock slabs, between boulders and under tree roots.	Potential habitat within the Project area. Project area would avoid impacts to streams and rivers. No Impacts.
Sheepnose mussel (<i>Plethobasus cyphus</i>)	Allamakee Clayton	Endangered	Large rivers and streams usually found in shallow areas with moderate to swift currents	Potential habitat within the Project area. Project area would avoid impacts to streams and rivers. No impacts.
Northern wild monkshood (<i>Aconitum noveboracense</i>)	Allamakee Clayton	Threatened	Shaded to partially shaded cliffs, algific talus slopes, or on cool, streamside sites.	Not likely to be impacted as habitat within the Project area is primarily cultivated crop and pasture/hay with pockets of deciduous forest.
Prairie bush-clover (<i>Lespedeza leptostachya</i>)	Allamakee Clayton Winneshiek	Threatened	Dry to mesic prairies. Potential habitat statewide and known to occur in Winneshiek.	Given the species range and presence of potentially suitable pasture areas within the Project area, likelihood of occurrence is moderate.
Western prairie fringed orchid (<i>Platanthera praeclara</i>)	Allamakee Clayton Winneshiek	Threatened	Wet prairies and sedge meadows. Potential habitat statewide though not currently known to occur in Project Counties.	Given the species range and presence of potentially suitable pasture areas within the Project area, likelihood of occurrence is moderate.
Iowa Pleistocene snail (<i>Discus macclintocki</i>)	Clayton	Endangered	North-facing algific talus slopes of the Driftless Area.	Not likely to be impacted as habitat within the Project area is primarily hayfields and road ROWs.

Sources: USFWS Environmental Conservation Online System (<https://ecos.fws.gov/ipac/>); NatureServe Explorer (<http://explorer.natureserve.org/>)

Northern Long-Eared Bat

The USFWS indicated that the northern long-eared bat is distributed statewide in Iowa. Habitat for the summer may include day roosts in buildings or under tree bark or shutters. Hibernation sites often occur in mines or caves, and this species may co-hibernate with other species. Foraging habitat includes forested hillsides and ridges and small ponds or streams. Mating occurs in the fall, with delayed fertilization in the spring, and young produced between May and July.

Aerial photography was reviewed to assess the potential for the northern long-eared bat to occur within the Project ROW. Based on this review, no winter habitat and only minimal summer habitat was identified. There are no known hibernacula or roost trees in Allamakee, Clayton, or Winneshiek counties (USFWS 2016b). Potential summer roosting habitat within the Project ROW could occur where areas with trees are adjacent to the Project ROW.

Dairyland contacted the USFWS on April 7, 2016, and asked the USFWS to review the location of the proposed Project location to satisfy the requirements of the 4(d) rule, which would allow Dairyland to construct the proposed Project without obtaining a permit from the USFWS. Dairyland included a map produced by the USFWS of known northern long-eared bat hibernacula and roost trees within Iowa (USFWS 2016b) in their correspondence with the USFWS. Review of the *Known Northern Long-Eared Bat Hibernacula and Roost Trees in Iowa* map indicates that no known hibernacula are located within Winneshiek, Allamakee, or Clayton counties. Dairyland also contacted the USFWS on March 9, 2017, regarding the proposed Project. USFWS responded and provided a new contact that would provide coordination on the proposed Project. Dairyland reached out to the USFWS contact again on March 27, 2017 asking if USFWS had any questions. USFWS responded on March 29, 2017 with some questions regarding the number of tree that would be cleared and when they would be cleared. Dairyland provided answers to the USFWS questions on March 29, 2017. Dairyland emailed the USFWS on April 4, 2017 to verify that they had received the answers to their questions and to determine if the USFWS had any additional questions. On April 13, 2017, USFWS contacted Dairyland via email stating that USFWS does not see any issue with the Project regarding northern long-eared bats, and provided Dairyland with a voluntary Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form, to be used as a reference and kept in Dairyland's records of the Project. Appendix C contains all the USFWS correspondence. Dairyland would coordinate with the USFWS regarding potential impacts to the northern long-eared bat if there are any significant changes to the proposed Project.

Higgins Eye Pearly mussel

The Higgins eye pearly mussel is a federally endangered freshwater mussel known to occur in the Iowa, Mississippi and Wapsipicon rivers. The proposed new build segment crosses Trout Creek and the Trout River. Trout Creek feeds into the Trout River, a tributary to the Iowa River. The rebuild segment crosses the Yellow River and Williams Creek, a tributary to the Yellow River, which then feeds into the Mississippi. The likelihood of occurrence in these areas is low.

Spectaclecase

The spectaclecase is a federally endangered freshwater mussel known to occur in large rivers of Iowa. The proposed Project crosses Trout Creek and the Trout River. Trout Creek feeds into the Trout River, a tributary to the Iowa River. The rebuild segment crosses the Yellow River and Williams Creek, a tributary to the Yellow River, which then feeds into the Mississippi. The likelihood of occurrence in these areas is moderate.

Sheepnose Mussel

The sheepnose mussel is a federally endangered freshwater mussel known to occur in large rivers and streams of Iowa. The proposed Project crosses Trout Creek and the Trout River. Trout Creek feeds into

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the Trout River, a tributary to the Iowa River. The rebuild segment crosses the Yellow River and Williams Creek, a tributary to the Yellow River, which then feeds into the Mississippi. The likelihood of occurrence within these areas is moderate.

Northern Wild Monkshood

The northern wild monkshood is listed as threatened and is known to occur in Allamakee and Clayton counties. This flowering plant occurs in talus slopes of the Driftless Area in which the Project area occurs. Flowering occurs from June through August. No critical habitat has been designated for this species. This plant is known to occur within the Driftless Area National Wildlife Refuge, of which portions are within 3 miles of the Project ROW. However, the preferred habitat for the plant is not known to occur within the ROW. Therefore, the likelihood of occurrence is low.

Prairie Bush-Clover

The prairie bush-clover is listed as threatened and is known to occur in Iowa. This clover occurs primarily in prairies that have been or are presently used as pasture. Flowering occurs from mid-July through early August, but this species takes several years to develop from the seedling to flowering stage. Plants are in fruit from mid-August through mid-September. No critical habitat has been designated for this species. Land cover along the existing N-8 transmission line route and the new build segment is primarily classified as cultivated crop by the NLCD. The majority of the remaining land cover along the transmission line is classified by the NLCD as pasture/hay with pockets of deciduous forest. Given the species range and presence of potentially suitable pasture areas within the Project area, likelihood of occurrence is moderate. While the USFWS stated that they do not have any concerns regarding threatened and endangered species for the Project, Dairyland attempted to contact the USFWS on May 5, 2017 to obtain specific written confirmation of a no effect or not likely to adversely affect determination regarding the prairie-bush clover. This correspondence is included in Appendix C.

Western Prairie Fringed Orchid

The western prairie fringed orchid is restricted to west of the Mississippi River and is known to occur in Iowa. This orchid species can be found in mesic to wet tallgrass prairies and sedge meadows, and depends upon sphinx moths for nocturnal pollination. The orchid generally blooms from mid-June to late July but does not readily flower in dry areas or during times of drought and may be dormant for up to eight years. This orchid species is dependent upon periodic disturbance such as fire, mowing, or grazing. No critical habitat has been designated for this species. Suitable habitat does exist within Project ROW; however, known occurrences do not occur within the counties of the Project area. Suitable habitat may exist within the Project area in grassland and pastures; therefore, there is a moderate likelihood of occurrence of this species in the ROW. While the USFWS stated that they do not have any concerns regarding threatened and endangered species for the Project, Dairyland attempted to contact the USFWS on May 5, 2017 to obtain specific written confirmation of a no effect or not likely to adversely affect determination regarding the western prairie fringed orchid. This correspondence is included in Appendix C.

Iowa Pleistocene Snail

The Iowa Pleistocene snail is listed as endangered and is known to occur in Clayton County. This snail is found primarily in talus slopes of the Driftless Area, including portions of the Driftless Area National Wildlife Refuge, which is located within 3 miles of the Project area. However, preferred habitat is not known to occur within the ROW. Therefore, the Iowa Pleistocene snail is not expected to be impacted.

Bald and Golden Eagle

The bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). Bald eagles are known to occur in Allamakee, Clayton, and Winneshiek counties; Allamakee County has the highest known nesting density of bald eagles in the state of Iowa (IDNR 2015). The preferred habitat for bald eagles includes large trees in isolated areas near large areas of surface water, large complexes of deciduous forest, coniferous forest, wetland, and shrub communities. Large lakes and rivers with nearby tall pine trees are preferred for nesting. Although no field studies have been conducted, the Project ROW would occur in predominantly disturbed habitats (i.e., road ROW), which would limit the potential nesting habitat. There are some forested patches within the Project ROW or in the Project area that could include potential nesting habitat for bald eagles. Bald eagles occur in Iowa year-round and are regularly counted by the IDNR during mid-winter surveys. In 2015, IDNR counted 141 bald eagle nests in Allamakee County. There is one bald eagle nest located greater than 660 feet from the Project ROW near Highway 9. No nests were identified in or near the ROW.

Although the golden eagle is not known to breed in Iowa, they do occur in bluff country habitat (including Allamakee County) during winter. The Project ROW occurs outside of this habitat, and likelihood of occurrence is low.

As summarized in Table 15 and in the text above, the northern long-eared bat, the prairie bush-clover, and the western prairie fringed orchid are the only federally listed species likely to occur within the Project ROW. In addition, bald and golden eagles may be present in the Project area. Bald eagles may occur in the vicinity of the Project area, although neither the USFWS nor the IDNR identified any specific bald eagle nest locations within the Project ROW. The golden eagle does not breed in Iowa, and the Project area is unlikely to provide wintering habitat for golden eagles.

5.6.2 Threatened and Endangered Species Impacts

The Project ROW crosses a complex landscape of varying ecological regions within the Driftless Area of northeastern Iowa (Section 5.2). However, the proposed Project is located within largely agricultural and developed road ROW areas, which have been significantly modified from their original habitats. Based upon the proposed Project location within these agricultural and developed road ROWs, responses from both the USFWS and the IDNR stated it is unlikely that the proposed Project would have impacts on listed threatened and endangered species as discussed in Section 5.6 and provided in Appendix C.

Dairyland has determined that tree clearing may be required along portions of the proposed Project. Accordingly, Dairyland sent a follow-up request to the USFWS asking for confirmation that tree clearing after July 31st would have no impact on the northern long-eared bat or its habitat and to request data with

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regard to known roost trees and hibernacula in the Project area. USFWS responded and provided a new contact that would provide coordination on the proposed Project. Dairyland reached out to the USFWS contact again on March 27, 2017 asking if USFWS had any questions. USFWS responded on March 29, 2017 with some questions regarding the number of tree that would be cleared and when they would be cleared. Dairyland provided answers to the USFWS questions on March 29, 2017. Dairyland emailed the USFWS on April 4, 2017 to verify that they had received the answers to their questions and to determine if the USFWS had any additional questions. As of April 5, 2017, Dairyland has not received a response from the USFWS. USFWS correspondence can found in Appendix C.

Although no known northern long-eared bat hibernacula or roost trees occur within the counties crossed by the proposed Project (USFWS 2016b), Dairyland has committed to avoiding tree clearing during the pup season (June 1 through July 31), to further reduce potential impacts on the northern long-eared bat.

Based on the analysis completed above in Table 15, RUS has determined that the proposed Project “may affect, not likely to adversely affect” threatened or endangered species or critical habitat in accordance with Section 7 of ESA. In addition, the IDNR determined that the proposed Project is not likely to impact any state-listed threatened or endangered species.

5.6.3 Threatened and Endangered Species Mitigation and Monitoring

Dairyland would not implement any species- or site-specific mitigation measures within the Project area for federally or state-listed threatened and endangered species because no impacts to threatened and endangered species or natural communities were identified during consultation with the USFWS and IDNR. To reduce overall project impacts to habitat and water quality, Dairyland would avoid impacts on wetlands to the extent feasible and implement standard erosion and sediment control BMPs. In addition, Dairyland would avoid tree clearing during the northern long-eared bat pup season (June 1 through July 31) to minimize any potential impacts to that species. Monitoring of the Project area would occur throughout the duration of the proposed Project in accordance with applicable permit conditions.

5.7 Fish and Wildlife Resources

5.7.1 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.). The Project ROW consists primarily of cultivated crops. Agricultural fields within the Project ROW may provide stopover habitat for waterfowl and other migratory birds 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. Species that may occur in these habitats include small mammals, such as voles, shrews, mice, squirrels, and rabbits, and larger mammals, such as coyotes, raccoons, foxes, and white-tailed deer; 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.

5.7.2 Fish and Wildlife Resource Impacts

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

5.7.3 Fish and Wildlife Resource Mitigation and Monitoring

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

5.8 Cultural Resources

5.8.1 Cultural Resources

In July 2015, Dairyland’s cultural resources consultant, Mississippi Valley Archaeological Center (MVAC), conducted a Literature Review of the proposed Project area. The results of the review are provided as Appendix D. MVAC used the Iowa I-Sites Database (I-Sites) to identify a list of previous surveys and previously recorded sites within 1 mile of the existing N-8 transmission line. According to I-Sites, 10 previous Phase I archaeological surveys have been conducted, and very small portions of two previous surveys overlap the Project ROW. The two previous surveys that overlap the Project ROW are listed in Table 16 (MVAC 2015).

Table 16:
Previous Archeological Surveys in Project Area

County	Type of Survey	Project Type	R&C Number	Year Conducted	Project Component
Winneshiek	Phase I survey	89 electrical distribution poles for line replacement	R&C# 110396028	2011	New Build (along SH-9)
	Phase I and Phase Ia survey	Portions of the N-8 transmission line	R&C# 021196066	2002 and 2003	Rebuild, New Build

According to the I-Sites review, eight previously recorded sites occur within 1 mile of the proposed Project however; none of the previously recorded sites occur within the Project ROW. Nine cemeteries are located within 1 mile of the proposed Project, and two are located adjacent to the Project ROW, as described in Table 17.

Table 17:
Previous Archeological Surveys in Project Area

County	Cemetery Name	Location to proposed Project Component
Winneshiek	North Washington/Pioneer Cemetery	Cemetery located opposite side (north) of Valdres Road, from Rebuild (south) in Winneshiek County
Allamakee	Zalmona Church Cemetery	Cemetery located opposite side (south) of SH-9, from New Build (north) in Winneshiek County

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There are two NRHP-listed sites located within 1 mile of the proposed Project. The Washington Prairie Methodist Church is located approximately 0.3 mile north of the rebuild segment and the Frankville School is located approximately 1.5 miles east of the retirement segment. The Washington Prairie Methodist Church was built in 1863 and was added to the NRHP in 1980 (NPS 1980) and the Frankville School was built in 1872 and was added to the NRHP in 1978 (NPS 1978). The NHPA (80 Stat. 915, 16 USC 470 et seq., as amended), authorizes the Secretary of the Interior to expand and maintain a National Register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering and culture. Listing of a site, district, building, or structure does not impose restrictions on what property owners may do with a designated property (MVAC 2015).

In October and November 2016, MVAC conducted a Phase I Archaeological Survey of the proposed Project (Appendix D). The Area of Potential Effect (APE) along the proposed Project is approximately 1 meter wide by 28.5 miles long. Both pedestrian survey and shovel testing were employed. Additionally, approximately two acres of access roads were pedestrian surveyed (MVAC 2016).

During the Phase I survey, three areas with historic debris were observed near the proposed Project. The first one was between Cedar Avenue and Hardin Road/100th Street in Clayton County, where some concrete rubble was found along the centerline of the proposed Project near a structure location. This small amount of concrete was stacked in a low area at the base of a slope, with one brick visible. It was in a very small grassy area surrounded by agricultural fields. The concrete was not on the surface, but rather appeared to be in a hole in the grassy area and not in context. The surrounding plowed fields were thoroughly inspected and no other structural materials were present. The material might have been stacked to fill in a sinkhole. As MVAC personnel were walking along the same property near an existing creek, they noticed that more concrete rubble material was in the creek and was used to make a makeshift bridge. Historic maps did not show any structures in this area from the late 1800's into the 1930's, and 1930's aerial photos did not show any structures in this area (MVAC 2016).

A second area of rubble was located between Hardin Road/100th Ave and Sunset Drive in Allamakee County. MVAC personnel pedestrian surveying in a plowed field along the proposed Project centerline adjacent to a property fence noted a piece of heavy equipment sitting near the centerline, with piles of soil and some pieces of thin, modern-looking cinderblock. It appeared that the landowner had recently removed the cinderblock. The hole where this soil had come from was inspected, and a few other pieces of modern-looking cinderblock were present, but in not in any kind of pattern. This area was a low spot surrounded by gradual slope on all sides. It appeared that whatever had been present was not a structure, but possibly some kind of makeshift drainage. Historic maps did not indicate any structures in this area from the late 1800's into the 1930's, and historic 1930's aerial photos did not show any structures (MVAC 2016).

A third area with historic debris was located east of the existing Nordness Substation, at the western end of the proposed Project in Winneshiek County. A small modern farm dump was found near the centerline of the existing Dairyland transmission line, near an existing structure and where one of the new structures would be placed. This was a small weedy area, approximately 40 feet by 40 feet, with some scrubby growth. This relatively modern dump contained broken pieces of metal farm machinery, an old transmission line or telephone pole, plastic, rusted metal fencing, rusted metal waste, and a small pile of

limestone. The limestone was located only in one corner of the dump, was clearly redeposited, and appears to have come from another location. The plowed fields surrounding this dump were examined, and no foundation material or other indicators of a building, such as window glass or nails were observed. Historic maps indicate that there was a historic creamery somewhere near this area, but it appears to have been farther to the northeast. Aerial photos from the 1930's did not show any structures near this dump area (MVAC 2016).

No previously recorded archaeological sites overlap the proposed Project ROW. In addition, no historic cemeteries are within the Project APE. Two cemeteries are located near the proposed Project ROW, but are on the opposite side of the road, and will not be affected by construction actions (MVAC 2016).

5.8.2 Cultural Resource Impacts

No previously recorded sites and no cultural resources were identified along the proposed route during the Literature Review performed by MVAC (Appendix D).

In October and November 2016, MVAC conducted a Phase I archaeological survey (Appendix D) of the proposed Project area. The APE along the proposed Project is approximately 1 meter wide by 28.5 miles long. Both pedestrian survey and shovel testing were employed.

No previously recorded archaeological sites overlap the proposed Project ROW. In addition, no historic cemeteries are within the Project APE. Two cemeteries are near the proposed Project ROW, but are on the opposite side of the road, and will not be affected by construction actions. No cultural material was recovered during the 2016 archaeological survey. No impacts to cultural resources are anticipated to result from construction of the proposed Project.

Based on a review of the literature search, Phase I survey, and consultation with the State Historic Preservation Office (SHPO, RUS is proposing that a finding of no historic properties affected is appropriate for the proposed Project in accordance with Section 106 of the NHPA. Dairyland submitted a form requesting SHPO Comment and Consultation on a Federal Undertaking and received a response from the SHPO (Appendix D) on January 20, 2017 stating that a formal 30-day comment period had begun and would end on February 19, 2017. The form indicated that no historic properties would be affected by the proposed Project. The letter further stated that if SHPO fails to respond within those 30 days, then the SHPO has waived its opportunity to comment and the agency may either (1) proceed to the next step in the process based upon the agency's finding and determination, or (2) consult directly with the Advisory Council on Historic Preservation. As of May 5, 2017 Dairyland has not received a response or comment from SHPO. Dairyland also submitted coordination letters containing results of the literature search and a description of the proposed Project to Indian Tribes for review and comment (Appendix D).

With regard to NRHP-listed sites, no impact is anticipated on either the Washington Prairie Methodist Church or the Frankville School. The Washington Prairie Methodist Church is located 0.3 mile north of the rebuild segment of the proposed Project and the front of the church faces west. Views from the church toward the south (where the transmission line would be rebuilt) are largely blocked by two forested areas and a farmstead. Additionally, the transmission line, as proposed, would be constructed in the same

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location where it is currently located and structures would be similar in material (single pole wood structures) and height as the existing transmission line. The Frankville School is located approximately 0.5 mile north of the retirement segment of the proposed Project. No impacts to this property are anticipated as the transmission line would be removed from its current location and no new project facilities would be constructed in its place.

5.8.3 Cultural Resource Mitigation and Monitoring

In addition to implementing the BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, the following mitigation measures would be employed to reduce potential impacts to cultural resources:

- Supervisory construction personnel would be instructed on the protection of cultural resources, with reference to relevant laws and penalties and the need to cease work in the location if cultural resource items are discovered.
- If human bone or cultural resources are discovered during construction, work would be immediately suspended and Dairyland would contact the RUS and the UI Office of the State Archeologist Burials Program Director or State Archaeologist.

5.9 Air Quality

5.9.1 Air Quality

Allamakee, Clayton, and Winneshiek counties, and all proposed Project components, are in attainment with national ambient air quality standards (AAQS) for all criteria pollutants (ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead). The only areas in Iowa currently not meeting AAQS are in the southeastern part of the state, where parts of Muscatine County are designated as “nonattainment” with respect to the AAQS for sulfur dioxide; and in the southwestern part of the state, where parts of Pottawattamie County are designated as “nonattainment” with respect to the AAQS for lead (EPA 2015).

5.9.2 Air Quality Impacts

Construction of the proposed Project would result in relatively small amounts of construction equipment exhaust emissions, and if soil along the access routes is loose and dry, there would be some potential for fugitive dust emission. Air emissions are expected to be similar over the rebuild, new build and retire segments of the proposed Project.

Iowa Administrative Code 567.23(2) (c) states that that no person shall allow materials to be transported without taking precautions to prevent the particulate matter from becoming airborne. Temporary impacts from fugitive dust would be minimized or avoided by using mitigation measures as described below.

Emissions resulting from corona-related ozone and nitrogen during operation of the transmission line are discussed in Section 5.13.

5.9.3 Air Quality Mitigation and Monitoring

In addition to implementing the BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, the following mitigation measures would be employed to reduce potential impacts to air quality:

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

5.10 Visual Resources

5.10.1 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 the Driftless Area of northeastern Iowa, which is characterized by steep valleys, sandstone bluffs, spring-fed creeks, and flat ridges. The predominant land use in the area is agriculture. The vegetation within the Project area includes fallow and active croplands surrounded by native plant communities and oak savannahs. The proposed Project area is dominated by smooth brome, cheat grass, sweet clover, dandelion, Queen Anne's lace, and a variety of wheat grasses. Riparian vegetation is also present in the proposed Project area and is associated with rivers, creeks and other perennial drainages that traverse the landscape. Perennial rivers and creeks traverse the landscape and 10 would be crossed by the rebuild and new build segments, including Trout Creek and Trout River in the northern portion of the Project area, and Yellow River and Williams Creek in the southern portion of the Project area. The new build segment of the proposed Project would parallel existing roadways for the majority of its length within a newly acquired 80-foot-wide ROW. The rebuild segment would be rebuilt in within the existing ROW.

Man-made modifications that have modified the Project area include dispersed residences associated with agricultural lands and associated ancillary structures (e.g., barns, maintenance sheds, fences, and animal feeding operations). Local infrastructure modifications within the area (Figure 1) include U.S. Highway 52, SH-9 and SH-51, county roads, local paved and unpaved roads, communication towers, a railroad corridor, the existing Nordness and Postville substations, and electrical distribution lines including the existing Postville-Decorah 69kV transmission line. In addition, four public and one private airports are located within 8 miles of the proposed Project ROW. Postville is located approximately 1.3 miles west of the proposed Project's southern terminus and Decorah is located approximately 1.0 mile north of the proposed Project's northern terminus.

Potential visually sensitive areas would be limited to the areas around rural residences and recreational users associated with private recreational snowmobile trails in the Project area, a canoe route along the Yellow River, and the Tri City Golf Club near the southern portion of the Project area. A list of the trails crossed by the proposed Project are provided in Table 18 below and are shown on Figure 7.

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In addition, the Driftless Scenic Byway (Cherry Valley Drive) traverses the rebuild segment near the southern terminus of the proposed Project (Figure 7). The Driftless Scenic Byway was designated a state scenic byway in July 2000, after the Iowa Department of Transportation determined the roadway allowed the touring public to view some of Iowa's most aesthetically appealing natural and scenic attractions (Iowa Byways no date). The Iowa Department of Transportation State Scenic Byway Program was established to identify, protect, and enhance roadways in Iowa which exemplify the state's scenic and historic resources. The State Scenic Byway Program is carried out through volunteer work and cooperation between interested citizens, organizations, local governments, and the DOT (IDOT 2016a). Based upon a conversation with the IDOT on November 16, 2016, the State Scenic Byway program does not have any regulatory requirements regarding utilities crossing a designated scenic byway.

**Table 18:
Trails Crossed by the Project and Associated Features**

Project Component	County	Owner	Trail Type	Point Location
Rebuild	Clayton	Private	Snowmobile	West of U.S. Hwy 18—Coral Ave intersection
	Winneshiek	Private	Snowmobile	East of County Rd 42—Valdres Rd intersection
New Build	Winneshiek	Private	Snowmobile	East of State Hwy 9—Frankville Rd intersection
Retire	Winneshiek	Private	Snowmobile	West of Centennial Rd—200 th St intersection

Source: <http://www.claytoncountysnowbirds.com/MAPS/Clayton%20County%20Snowbirds%20Trail%20Map%202013-2014.pdf>

5.10.2 Visual Resource Impacts

Construction of all segments of the proposed Project would create direct short-term effects to visual resources by introducing vehicles, equipment, materials, and a workforce during the construction period. Viewers would see transmission line structure assembly and erection and conductor stringing activities. Visual effects from construction activities would not be significant because of the short-term duration of the construction timeframe, anticipated to be an intermittent 4 to 5 days at each structure.

Sensitive viewsheds include the views from local residences. Residences located adjacent to the Project ROW have views that range from unobstructed to partially or intermittently screened by vegetation located between the residence building and the existing and new ROWs. Twelve residences are located within 500 feet of the rebuild segment, 53 residences are located within 500 feet of the new build segment, and six residences are located within 500 feet of the retire segment of the proposed Project. No residences are located within the Project 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.

Sensitive viewers would include recreational users of trails that are crossed by the proposed Project as shown in Table 19.

**Table 19:
Trails Crossed by the Project**

Project Component	Trail Crossing and Location
Rebuild	Snowmobile trail west of SH-9 and Centennial Road
	Snowmobile trail along U.S. Highway 18 in Postville
New Build	Snowmobile trail north of County Road W4B, and south of SH-9
Retire	Snowmobile trail crossing Centennial Road, south of the Nordness substation

Rebuild

The proposed transmission structures would be single-pole wood structures that are similar in form and color to the existing structures on the rebuild segment of the proposed Project being replaced. For the segment of the proposed Project that is to be rebuilt, the alignment for the new transmission line would be offset from the existing alignment within the existing Project ROW to allow the existing transmission line to remain in service during construction of the new transmission line.

The rebuild segment of the proposed Project would cross the Driftless Scenic Byway also known as County Road 838 (Cherry Valley Drive), northeast of Postville, Iowa. Impacts to this scenic byway are expected to be insignificant because the Project is replacing an existing transmission line.

The rebuild segment of the proposed Project would not have a significant effect on visual resources in the long-term because the replacement structures for the segment of the proposed Project that is to be rebuilt would be similar in form and color as the structures being replaced.

New Build

The proposed new build transmission structures would be single-pole wood structures that are similar in form and color to the existing structures on the rebuild segment of the proposed Project. For the new build segment of the proposed Project, the alignment for the new transmission line would be located along the existing SH-51 and SH-9 corridors, in an area that was previously disturbed by those roads. For the new build, approximately 16.5 miles of the new line would be located within a new 80-foot-wide ROW and would parallel existing roads, and approximately 1.1 miles would be located along an existing utility ROW through and agricultural field near the existing Ludlow Substation.

The proposed Project would not be out of character with the aesthetic character of the existing landscape because many man-made features (e.g., high-voltage transmission lines, substations, distribution lines, communication towers) are common within the area.

Retire

The retirement segment of the proposed Project would involve removing approximately 188 structures from the existing placement and restoring the area to conditions consistent with adjacent lands. The proposed removal of transmission structures would result in a positive impact to the visual setting of the existing transmission line to be removed.

5.10.3 Visual Resource 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 implementing the BMPs described in

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Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities, the following mitigation measures would be employed to reduce potential impacts to aesthetic resources:

- Existing undisturbed trees, shrubs, and native vegetation would be preserved to the extent possible to maintain visual contrast in the landscape.

5.11 Transportation

5.11.1 Transportation

Transportation corridors in proximity to the proposed Project consist of private residential roads, county roads and highways, U.S. and interstate highways, and railroads. The proposed Project crosses 25 residential roads, 1 county road, 2 state highways, and 1 U.S. highway. Table 20 shows all of the roads crossed by the proposed transmission line and associated average annual daily traffic volumes. Some of the roadways would be crossed multiple times and each crossing is noted in Table 20. The southern rebuild segment of the proposed Project crosses the Chicago, Milwaukee, St. Paul, and Pacific Railroad.

**Table 20:
Roads Crossed by the Project and Associated Average Annual Daily Traffic Volumes**

Project Component	County	Road Name	Traffic Count	Traffic Year	Crossing Location
Rebuild	Allamakee	Cherry Valley Drive	250	2013	East of Minert Road
		Lybrand Drive	60	2009	West of Bethel Road
		Sunset Drive	80	2009	West of Williams Creek Road
		Yellow River Drive	320	2013	North of Lybrand Drive
	Clayton	100 th Street	150	2013	West of Williams Creek Road
		Cedar Avenue	30	2013	South of 100 th Street
		U.S. Highway 18	3,210	2013	East of Coral Avenue
	Winneshiek	County Road W42	930	2013	South of Lincoln Hwy Road
Valdres Road		110	2009	West of Centennial Road	
New Build	Allamakee	114th Avenue	110	2013	South of SH-9
		SH-9 ¹	2610	2013	East of 114th Avenue
		SH-9 ¹	2610	2013	West of Pole Line Road
		Pole Line Road ¹	100	2013	South of SH-9
		SH-9 ¹	2610	2013	West of Apple Road
		Apple Road	50	2009	North of SH-9
		SH-9 ¹	3560	2013	East of Apple Road
		SH-9 ¹	3560	2013	West of Ludlow Road
		Ludlow Road	40	2009	North of SH-9
		SH-9 ¹	3560	2013	East of Ludlow Road
		SH-9 ¹	3560	2013	West of Old Stage Road
		Old Stage Road	680	2013	South of North Line Road
		Teeple Creek Road	40	2009	South of North Line Road
		SH-9 ¹	3560	2013	East of Apple Road
		SH-51	1370	2013	North of Picnic Woods Drive

**Table 20:
Roads Crossed by the Project and Associated Average Annual Daily Traffic Volumes**

Project Component	County	Road Name	Traffic Count	Traffic Year	Crossing Location
		Picnic Woods Drive	60	2009	West of SH-51
		SH-51	1370	2013	South of Picnic Woods Drive
		Countryside Drive	60	2009	East of SH-51
		Bethlehem Drive	70	2009	East of SH-51
		Hawkweed Drive	45	2009	East of SH-51
	Winneshiek	Valdres Road	110	2009	West of Centennial Road
		Centennial Road ¹	640	2013	West of SH-9
		Frankville Road ¹	1080	2013	South of SH-9
		SH-9 ¹	2610	2013	East of Frankville Road
		SH-9 ¹	2610	2013	West of 133rd Avenue
Retire	Allamakee	Frankville Road ¹	1,080	2013	East of Pole Line Road
		Pole Line Road ¹	70	2013	South of Frankville Road
		SH-51	1,370	2013	South of Lange Road
	Winneshiek	111 th Avenue	50	2013	North of 164 th Street
		127 th Avenue	30	2009	South of 175 th Street
		134 th Avenue	10	2009	North of 160 th Street
		145 th Avenue	40	2009	South of 170 th Street
		170 th Street	70	2009	East of Centennial Road
	Centennial Road ¹	640	2013	North of County Road W46	

1 Denotes a road that is crossed by the proposed Project in more than one location.

The closest airport to the proposed Project is the Decorah Municipal Airport, located approximately 1.3 miles northwest of the rebuild segment of the proposed Project in Winneshiek County. The closest heliport is the Winneshiek Medical Center Heliport, located 3.7 miles northwest of the rebuild segment of the proposed Project in Winneshiek County. Airports in proximity to the proposed Project are shown, by component, in Table 21.

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*

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- *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.*

**Table 21:
Airports in Proximity to the Proposed Project**

Project Component	County	Name	Public/Private	Distance to Project (miles)
Rebuild	Clayton	Monona Municipal	Public	8.2
	Fayette	Dale Delight	Public	4.4
	Winneshiek	Decorah Municipal	Public	1.3
		Winneshiek Medical Center Heliport	Private	3.7
New Build	Allamakee	Waukon Municipal	Public	3.7

No communication towers are located within the Project ROW, although one communication tower is located 330 feet south of the rebuild segment of the proposed Project in Clayton County.

5.11.2 Transportation Impacts

Effects to transportation resulting in construction of the proposed Project are not expected to be significant and would be temporary in nature. Construction crews would use roadways and/or farm roads and overland travel to access structure locations and to string conductor along the proposed 69kV transmission line route and to remove existing transmission structures. 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 transportation for construction crews would have a significant impact on traffic volumes or flow on local roadways or state/county highways. Any increases in traffic would be short-term in nature and would be limited to the construction time period near individual transmission structures.

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

No impacts to airports or heliports during construction or operation of the proposed Project are anticipated. The closest private airport is located 3.7 miles northwest of the proposed Project area, and the closest public airport is located 1.3 miles northwest of the proposed Project. Dairyland used the FAA Notice Criteria tool to determine whether the new transmission structures would require Dairyland to file a notice to construct with the FAA (FAA 2015). The screening tool indicated that the proposed Project exceeds the Notice Criteria on 244 structures. Dairyland filed Form 7460-1 for all 244 structures that exceeded notice criteria (Appendix D). Based on an aeronautical study completed by the FAA, all 244 structures filed resulted in a “Determination of No Hazard to Air Navigation” (Appendix D).

The proposed Project crosses one railroad corridor along the rebuild segment north of the Postville Substation. Dairyland would coordinate with the railroad company to obtain any necessary permits prior

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to construction. Conductor stringing at the railroad crossing is estimated to require only a few hours and temporary guard or clearance poles would be installed to ensure that conductors do not obstruct the railroad tracks during stringing. Construction of the proposed Project would not impede railroad operations, so no impacts to railroads are anticipated.

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

5.11.3 Transportation Mitigation and Monitoring

In addition to implementing those BMPs described in *Dairyland's Manual for Transmission Lines and Substation Construction and Maintenance Activities*, 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 cleaned 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 poles may be installed to ensure that conductors do not obstruct traffic during stringing or removal.

5.12 Health and Safety

5.12.1 Health and Safety

All Dairyland facilities are designed, constructed, operated, and maintained to meet or exceed applicable standards of design and performance set forth in the NESC. Specific health and safety measures associated with overhead transmission lines are discussed below.

Voltage on any wire (conductor) produces an electric field. The intensity of the electric field is proportional to the voltage of the transmission line and distance from the wires. 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 wires. EMF extends outward from the wires and decreases rapidly with distance. There is no federal or Iowa state standard for transmission line EMF.

Additional information can be found in the Electric Power Research Institute (EPRI) brochure on EMF. This brochure is available online at:

<http://www.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=00000003002006827>

5.12.2 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 69 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 Project is a valid consideration with any high voltage facility. DPC's transmission line design is in accordance with the NESC 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 Project than presently exists from existing similar facilities in the area.

5.12.3 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.

5.13 Corona, Audible Noise, Radio and Television Interference

5.13.1 Corona

Corona is the electrical breakdown of the air near high voltage conductors into charged particles. Corona consists of audible noise (AN) and radio and television interference from electromagnetic interference, both of which are described below.

5.13.2 Audible Noise

AN may consist of a variety of sounds of different intensities across the entire frequency spectrum. AN is measured in units of decibels on a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more "weight." The A-weighted decibel (dBA) scale corresponds to the sensitivity range for human hearing. Noise levels capable of being heard by humans are measured in A-weighted decibels. Table 22 shows noise levels associated with common everyday sources.

Table 22:
Common Noise Sources and Levels

Sound Pressure Level (dBA)	Typical Sources
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**Table 22:
Common Noise Sources and Levels**

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

Source: NPC (2011)

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

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

5.13.3 Corona, Audible Noise, Radio, and Television Interference Impacts

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 AN would result outside the Project ROW. Corona-related ozone and nitrogen oxide emissions are the primary air quality concerns related to transmission line operation. The concentration of ozone caused by corona is a few parts per million near the conductor and is not measurable at any distance from the conductor.

The construction of the new-build segment of the proposed Project would result in AN from the transmission line. The construction of the rebuild segment of the proposed Project would also result in AN from the transmission line; however, this segment would involve replacing an existing 69kV transmission line; therefore, no additional AN would be added to the proposed Project. Temporary short-term noise increases would occur for the proposed Project (rebuild and new-build segments) in areas where construction and staging are taking place. Indirect effects from post construction activities, which would include the AN effects from the transmission line and inspection and maintenance activities (new-build and rebuild segments), would be insignificant because of their short duration and infrequency. The AN generated during construction would be caused by foundation construction, assembly and erection of the

transmission line structures, removal of 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 23. Shaded areas indicate reference noise levels.

**Table 23:
Construction Equipment Noise Levels**

Equipment	Typical Noise Levels 50 feet from Source (dBA) ¹
Rural area during daytime ¹	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 ²	87
Peak combined equipment ³	89
Lawn mower	90

Note: shaded areas indicate reference noise levels.

- ¹ Source: DOT (2006) except as noted.
- ² Yantak (2007)
- ³ 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 (referred to as Leq) at a reference distance of 50 feet (DOE 2002). This noise level is approximately equivalent to noise experienced on a sidewalk next to a busy urban street. Noise decreases with distance at a rate of approximately 6 dBA per doubling of distance from the noise source. Based on this attenuation rate, at distances above 0.25 mile, peak construction noise would be approximately 61 dBA, or equivalent to normal conversation at 6 feet.

Noise from heavy machinery during construction of the proposed transmission line may create a short-term nuisance to nearby residents. Dairyland 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 Dairyland's general

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experience that when the radio or television receiver is located outside the Project ROW, very few problems with radio or television reception are encountered. There are no communication towers located within the proposed Project ROW, and the closest communications tower to the proposed Project is approximately 330 feet south of the proposed Project ROW. At this distance, impacts to the communication tower are not anticipated.

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 Project ROW, consistent with the operation of the existing transmission line. However, Dairyland is committed to taking all reasonable steps to assure area landowners that the proposed Project would not interfere with radio or television reception. In cases where there is a demonstrable effect from the transmission line on reception, very often simple corrective steps, such as checking line hardware for loose or defective hardware and repairing or replacing defective items is sufficient to solve the problems. In a very limited number of cases, it has been necessary to take more extensive corrective steps such as relocating individual television or radio antenna systems or installing systems where none previously existed. In most cases, however, it is possible to entirely avoid radio and television interference by appropriate routing steps and by post-construction adjustments of line hardware.

5.13.4 Corona, Audible Noise, Radio, and Television Interference Mitigation and Monitoring

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

5.14 Socioeconomic and Community Resources

5.14.1 Socioeconomic and Community Resources

Data from the U.S. Census in 2010, the most recent data available, were used to assess population and income data for the counties in the Project area.

Allamakee County

Rebuild, new construction and retire segments of the proposed Project are located in Allamakee County. According to the 2010 U.S. Census, Allamakee County had a total population of 14,330, a 2.3-percent decrease since the 2000 census. General 2010 Census demographics for Allamakee County show a 51.1 percent male and 48.9 percent female distribution of the predominantly (96.1 percent) white population (U.S. Census 2015a). Per capita income in the county (\$21,349) is approximately 16 percent lower than the statewide average of \$25,335. Unemployment in Allamakee County was 3.8 percent, higher than the statewide average (3.6 percent) for the year 2010 (U.S. Census 2010).

Clayton County

The rebuild segment of the proposed Project is located in Clayton County. According to the 2010 U.S. Census, Clayton County had a total population of 18,129, a 2.6-percent decrease since the 2000 census.

General 2010 Census demographics for Clayton County show a 50.1 percent male and 49.1 percent female distribution of the predominantly (98 percent) white population (U.S. Census 2015b). Per capita income in the county (\$22,303) is approximately 12 percent lower than the statewide average of \$25,335. Unemployment in Clayton County was 3.6 percent, the same as the statewide average (for the year 2010 (U.S. Census 2010).

Winneshiek County

Rebuild, new construction and retire segments of the proposed Project are located in Winneshiek County. According to the 2010 U.S. Census, Winneshiek County had a total population of 21,056, a 1.2-percent decrease since the 2000 census. General 2010 Census demographics for Winneshiek County show a 49.4 percent male and 50.6 percent female distribution of the predominantly (97.1 percent) white population (U.S. Census 2015c). Per capita income in the county (\$23,608) is approximately 7 percent lower than the statewide average of \$25,335. Unemployment in Winneshiek County was 2.7 percent, lower than the statewide average (3.6 percent) for the year of 2010 (U.S. Census 2010).

5.14.2 Socioeconomic and Community Resource Impacts

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

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

5.14.3 Socioeconomic and Community Resource Mitigation and Monitoring

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

5.15 Environmental Justice

5.15.1 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

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low-income populations.” The analysis pursuant to this EO follows guidelines from the Council on Environmental Quality, Environmental Justice Guidance under the NEPA (CEQ 1997).

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

In compliance with the CEQ guidelines, the minority and economic aspects of the proposed Project were evaluated on a regional basis. Minority and low-income data were analyzed for each census tract that the proposed Project would cross. It should be noted that the census tracts that were analyzed encompass a much larger area than the proposed Project, so the actual population located adjacent to the Project ROW is smaller than what is shown for the census tract. The socioeconomic trends shown by the census tract are expected to be representative of the population located in proximity to the proposed transmission line. Table 24 shows the census data for the state, for the counties crossed by the proposed Project, and for the census tracts crossed by the proposed Project.

**Table 24:
Census Data by County and Census Tracts crossed by the Project**

Location	Project Component	Population	Race Percentages		Per Capita Income	Population Below Poverty Level	Percent of Population Below Poverty Level
			Caucasian	Minority			
2010 Data							
State of Iowa	All	3,046,355	91.3	8.7	25,335	373,867	12.3
Allamakee County	All	14,330	96.0	4.0	21,349	1,602	11.2
Census Tract 9602	New Build	2,591	99	1.0	23,027	270	10.4
Census Tract 9603	New Build	4,088	98.4	1.6	20,424	554	13.6
Census Tract 9605	All	3,178	86.5	13.5	20,074	494	15.5
Clayton County	Rebuild	18,129	97.8	2.2	22,303	2,049	11.3
Census Tract 702	Rebuild	3,525	95.6	4.4	22,760	476	13.5
Winneshiek County	All	21,056	96.6	3.4	23,608	1,450	6.9
Census Tract 9504	All	4,673	98.1	1.9	27,024	217	4.6

Data for 2010 were available for Iowa, and Allamakee, Clayton, and Winneshiek counties, including census tracts within each of these counties that would be crossed by the proposed Project. Use of these datasets represents the most recent available data and provides an appropriate comparison given the low incidence of minority populations across datasets. According to the 2010 data, minority populations are less than 4 percent of the populations in Allamakee, Clayton, and Winneshiek counties. Minority populations within the county census tracts that would be crossed by proposed Project range from approximately 1.0 percent to 13.5 percent, and with the exception of Census Tract 9605 of Allamakee County, are lower than state-level data. Per capita income in Allamakee, Clayton and Winneshiek

counties (including census tracts) are lower than those reported for the state, with the exception of and Census Tract 9504 in Winneshiek County that is higher than that of state as a whole.

Poverty levels in Allamakee, Clayton, and Winneshiek counties are lower than those reported for the state of Iowa, with the exception of Census Tract 9603 and Census Tract 9605 in Allamakee County and Census Tract 702 in Clayton County.

5.15.2 Environmental Justice Impacts

The percentages of minority populations in the census tracts that cross the proposed Project are generally the same as, or lower than, those found in Allamakee, Clayton, and Winneshiek counties, or the state of Iowa, with the exception of Census Tract 9605 in Allamakee County, which is higher than the Allamakee and State of Iowa averages. The percentages of low income populations in Allamakee, Clayton, and Winneshiek counties are lower than the state of Iowa, and associated census tracts crossed by the proposed Project.

Although low income populations would be crossed, the proposed Project is a rebuild of the existing N-8 transmission line, and the new build segments of the proposed Project would be located in census tracts 9602 and 9603 of Allamakee County, which have lower poverty rates than the county and state averages. Therefore, it is anticipated that the proposed Project would have no disproportionate environmental effects to minority and low-income populations within Allamakee, Clayton, and Winneshiek counties.

5.15.3 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.

6. Cumulative Impacts

CEQ regulations define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.70). Also, cumulative impacts are those “which when viewed with other reasonably foreseeable or proposed agency actions have cumulatively significant impacts” (40 CFR 1508.25(a)(2)).

Cumulative impacts occur when the effects of an action are added to the effects of other actions occurring in a specific geographic area and timeframe. The cumulative impact analysis follows CEQ’s guidelines: Considering Cumulative Effects under the NEPA (CEQ, 1997). The steps associated with the analysis include requirements that the assessor:

- Specify the class of actions for which effects are to be analyzed.
- Designate the appropriate time and space domain in which the relevant actions occur.
- Identify and characterize the resources to be assessed.
- Determine the magnitude of effects on the receptors and whether those effects are accumulating.

The cumulative impacts analysis presented in this Section is resource-specific. The temporal and spatial boundaries used for the cumulative impacts analysis are specific to each resource area. For those resources where the spatial boundary is defined as the Project area, this includes the ROW, access routes, and temporary staging areas. For those resources where the temporal boundary is defined as the lifetime of the Project, this is estimated to be 50 years. If the Project is not expected to result in direct or indirect impacts on a resource, then that resource was eliminated from the cumulative impacts evaluation.

Dairyland contacted the land use or zoning administrators of Winneshiek, Allamakee, and Clayton Counties, as well as reviewed the IDOT 2017-2021 Five-Year Highway Program (IDOT 2017) and the Midcontinent Independent Service Operator (MISO) Regional Transmission Organization (RTO) Midwest Transmission Expansion Planning (MTEP) 17 Active Project List (MISO 2017) to identify any past, present, and reasonably foreseeable future actions relevant to the cumulative impact analysis.

Correspondence with each of the county land zoning administrators (Winneshiek 2017, Clayton 2017, and Allamakee 2017) identified one recent past, present, or reasonably foreseeable future land disturbing activity, an expansion of an existing quarry in Allamakee County, that would potentially impact the resources described in this document. The MISO MTEP 2017 list was reviewed, and no proposed projects were identified near the Project Area. The only project identified near the proposed Project is an IDOT bridge deck overlay project along SH 51 across the Yellow River in Allamakee County.

According to Allamakee County (Allamakee 2017), an existing quarry located east of the intersection of SH 51 and Yellow River Drive recently completed a small expansion. The quarry is approximately 1 mile southwest of the rebuild segment of the proposed Project, south of the Yellow River. Potential temporary

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impacts from this quarry expansion could include impacts to water quality, vegetation, air quality, and transportation. As the quarry is currently operational and the expansion is small, there would likely be an insignificant or minor additional impact from the quarry expansion to these resources, as compared to the existing impacts from the quarry. These assumed insignificant or minor impacts, as well as the distance between the proposed Project and the quarry, would not likely lead to any measureable cumulative impacts.

This SH 51 bridge deck overlay project is located at the SH 51 crossing of the Yellow River. This IDOT project is approximately 0.9 mile south of the southern intersection of the retire and rebuild segments of the proposed Project, and approximately 1.2 miles upriver from where the rebuild segment of the proposed Project crosses the Yellow River. Potential impacts from the IDOT project could include impacts to water quality, vegetation, air quality, and transportation. Assuming that the IDOT project follows state construction stormwater guidance for erosion and sediment control, impacts from this IDOT project to water quality, vegetation, air quality, and transportation would likely be short-term in duration and would cause only a minor or insignificant impact during construction. In addition, the IDOT project is schedule for 2019, and the proposed Project is scheduled to be completed in the second quarter of 2018. Therefore, the projects would not likely overlap.

These assumed temporary and minor impacts, coupled with the distance between the proposed Project and the IDOT project and the differing construction schedules, would not likely lead to any measurable cumulative impacts from the projects. Therefore, Dairyland does not anticipate any cumulative impacts as a result of the proposed Project.

7. Agencies Consulted and Permitting Requirements

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

- USFWS concerning federally listed threatened or endangered species and wetlands
- USACE concerning wetlands and floodplains
- IDNR concerning state-listed threatened and endangered species
- Iowa SHPO concerning cultural and historic resources
- Tribal sovereign nations concerning cultural and historic properties of concern
- NRCS concerning prime farmland
- IUB for Franchise Process

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

At the time this EA was submitted to RUS, responses have been received from the IDNR, USFWS, NRCS, and USACE. The IDNR replied by phone directly to Dairyland and indicated that they queried their database and do not expect any impacts to state special status species (IDNR 2015a). The IDNR followed up with an additional response that if listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required. The USFWS replied by phone and stated that they did not expect any impacts to federal special status species and no action was required by Dairyland (USFWS 2015). Dairyland contacted USFWS to confirm that the Project will not impact the NLEB on April 7 and August 26 of 2016, and again on March 9, March 27, March 29, April 4, and April 13 of 2017 (USFWS 2017). Per an email from USFWS on April 13, 2017, USFWS stated that the Project will not have an impact on NLEB, and Dairyland can complete an optional checklist prior to construction to confirm compliance with the 4(d) rule regarding NLEB. The signed NLEB 4(d) rule checklist is provided in Appendix C. The USACE provided a written letter stating that they determined that the proposed Project does not require a Section 404 permit. On April 6, 2017 the NRCS responded that since the majority of the construction work associated with the proposed Project is within ROW and any impact to prime or statewide important farmland would be minimal, a Farmland Protection Policy Act (FPPA) Form AD-1006 would not be necessary (Appendix C).

Dairyland submitted a form requesting SHPO Comment and Consultation on a Federal Undertaking and received a response from the SHPO (Appendix D) on January 20, 2017 stating that a formal 30-day comment period had begun and would end on February 19, 2017. The form indicated that no historic properties would be affected by the proposed Project. The letter further stated that if SHPO fails to respond within those 30 days, then the SHPO has waived its opportunity to comment and the agency may either (1) proceed to the next step in the process based upon the agency's finding and determination, or (2) consult directly with the Advisory Council on Historic Preservation. As of May 5, 2017 Dairyland has not received a response or comment from SHPO.

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The Upper Sioux Community and Winnebago Tribe of Nebraska has determined that they are not aware of any cultural or historic resources in the Project area and they do not expect impacts from the construction and operation of the proposed Project. Both tribes requested that in the event ground disturbance associated with this project inadvertently uncovers any human remains, funerary objects or artifacts that the tribes are notified immediately.

Prairie Island Indian Community responded by letter stating that they would like to participate under Section 106 of the NHPA process (36 CFR 800.2), EO 13175 (11/6/2000), USDA-RUS Tribal Consultation Policy and Iowa Burial Law (COI 263B). The tribe requested addendums to the MVAC cultural literature review report by referencing the newly created Historic Indian Locations Database, and that they believe that Site 13AM142, which is listed as located within one mile of the project area but not on the maps, is a clerical error. Further review of the Site 13AM142 determined that it is not located within one mile of the Project, and it was therefore removed from the revised literature review. They also requested that archaeological and historical Phase 1a background studies and Phase 1 field surveys be conducted for the Project area prior to construction and final engineering. Dairyland provided the revised Literature Review Report and Phase I Archaeological Survey Report to the Prairie Island Indian Community on May 8, 2017. Responses have not been received from any other tribes. The tribal mailing list, Section 106 Consultation letters, and responses are provided in Appendix D.

If Dairyland receives additional responses from interested tribal sovereign nations or agencies, it would appropriately address the concerns and notify RUS of the response.

In addition to those consultations listed above, Dairyland would also be consulting with state resource management agencies and local jurisdiction with regard to the following permits and approvals:

- IDNR NPDES General Permit No. 2 for Storm Water Discharge Associated with Construction Activities
- Winneshiek, Allamakee, and Clayton Counties: Dairyland would coordinate with these counties to determine potential permitting requirements.

Dairyland anticipates applying for all necessary federal, state, and county permits for the proposed Project in 2017. Dairyland would provide RUS with acquired agency permits as the permits are approved.

8. Public Notice and Comment

In compliance with 7 CFR 1970.14, Dairyland 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, Dairyland 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 E.

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

In addition to the public notice and comment period required for the Draft EA, Dairyland was required to conduct public meetings for their application for state approval of new 69kV transmission line through the IUB. The IUB filings and procedures were only conducted for new build segment of the proposed Project. Transmission lines over 69kV must receive approval from the IUB in the form of an electric franchise prior to construction of the proposed Project. The IUB conducted four public meetings on behalf of Dairyland's applications for electric franchise for the new build segment of the proposed Project:

- One meeting in Frankville, Iowa on February 17, 2015
- Two meetings in Waukon, Iowa on March 17, 2015
- One meeting in Frankville, Iowa on March 18, 2015
- One meeting in Frankville, Iowa on April 22, 2015

Notification and materials were determined by Iowa Code § 478.2, IUB Petition for Electric Franchise requirements for informational meetings. The meetings were conducted in an informational meeting format and covered the following topics; landowner legal rights, general description and purpose of the proposed project, general nature of the ROW desired, possibility and process for IUB to grant rights of condemnation to applicant, and a map showing the route of the proposed Project.

Each public informational meeting was attended by approximately 15 people. During the meeting for the rebuild segment of the proposed Project in Winneshiek County, comments were provided that indicated objections to the proposed route. At the time of filing for docket E-22187, the proposed route for this segment was an alternative that utilized new ROW along Road W42. The opposition to the proposed route along W42 stated that objection was due to the route's proximity to historic buildings. Since this informational meeting, Dairyland has formally withdrawn its application for new ROW along the rebuild segment of the proposed Project in Winneshiek County and now plans to rebuild within existing ROW as is described in this EA.

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- Figure 1: Project Overview
- Figure 2: TCSB Typical Drawing
- Figure 3: Transmission Structure Typical Drawing
- Figure 4: Route Alternatives Considered
- Figure 5: Water Resources
- Figure 6: Prime Farmland
- Figure 7: Formally Classified Lands, Recreation Areas, and Historic Places

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Appendix A: Transmission Planning Study

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Appendix B: Sheet Maps

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Appendix C: Agency Coordination

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Appendix D: Cultural Resources Literature Review and Phase I Archaeological Survey

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Appendix E: Notice of Availability Newspaper Advertisement and Legal Notice

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