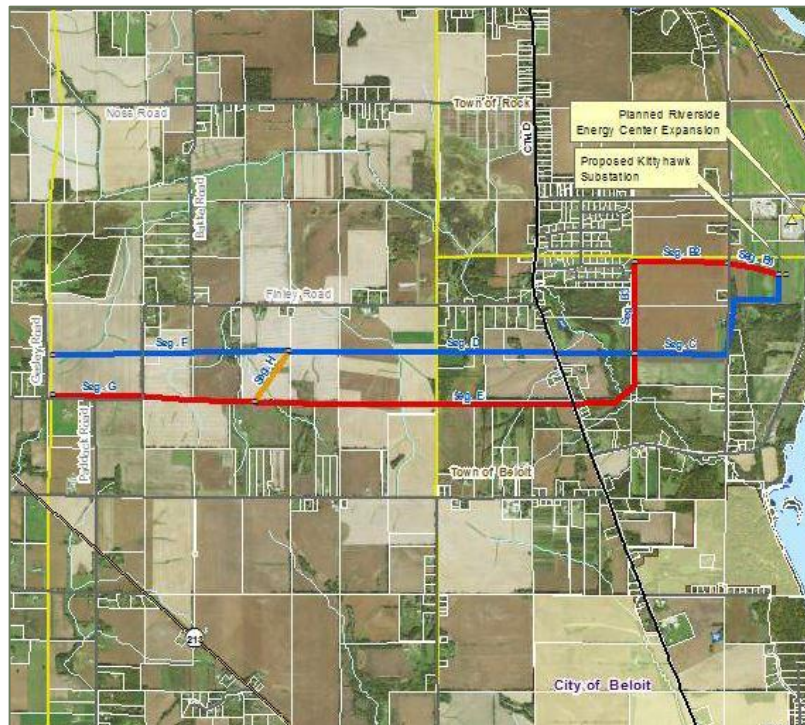


# AGRICULTURAL IMPACT STATEMENT



**DATCP  
#4182**

**Riverside 345 kV Electric  
Transmission Line  
Rock County  
PSC # 137-CE-186**



**WISCONSIN DEPARTMENT OF AGRICULTURE,  
TRADE AND CONSUMER PROTECTION**  
*PUBLISHED SEPTEMBER 26, 2017*  
(CORRECTED 10/16/2017)



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DATCP #4182  
Riverside 345 kV Electric Transmission Line  
Rock County

## **WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION**

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## DATCP SUMMARY OF ANALYSIS AND RECOMMENDATIONS

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The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has prepared this Agricultural Impact Statement (AIS) for the proposed Riverside Electric Transmission Line (DATCP #4182) in accordance with [Wis. Stat. §32.035](#). American Transmission Company LLC (ATC) submitted information about this project to DATCP in July 2017. The 345 kilovolt (kV) double-circuit electric transmission line, if approved, would be constructed primarily along one of two routes, an ATC Preferred Route or an ATC Alternative Route in the town of Beloit, Rock County. ATC has also reviewed a third route, which combines the Preferred Route and the Alternative Route. It is referred to as the ATC Preferred Variation Route. Finally there is a fourth route that combines both of the ATC Preferred and Alternative Routes referred to in this document as the Combination Route. All the routes are approximately 4.5 miles long.

The project would require a 150-foot wide right-of-way (ROW) for most of the route segments. The project requires easements of between 63 and 64 acres of farmland, mostly cropland. Additionally the project includes the construction of a new substation, the Kittyhawk Substation. The Public Service Commission of Wisconsin (PSC or Commission) is the authority that will approve, deny, or make modifications to this project.

As part of its review of the project, DATCP sent a questionnaire to agricultural property owners who may have three or more acres of easement acquired if the proposed project is approved by the PSC. Of the 28 property owners that might be affected by the proposed project, 19 own agricultural properties and 15 of those could have three or more acres acquired for this project. Eight landowners responded to the questionnaire.

Having reviewed all of the materials provided by ATC and the comments from property owners, DATCP does not recommend a specific route due to the similarity of agricultural impacts between routes. However, there does appear to be some advantages to the non-ATC Combination Route of Segments A, C, E, and G. DATCP does recommend the following to the PSC, ATC, and to agricultural property owners to mitigate impacts to farmland and farm operations.

### **Recommendations to the Public Service Commission**

- PSC should consider the possibility of a Combination Route made up of Segments A, C, E, and G. It has fewer impacts to agricultural operations than the potential ATC routes. It would impact the fewest acres of farming operations, fewest acres of cropped fields, fewest acres of prime farmland, and to a great extent avoid the existing pivot irrigation systems.

- DATCP recommends that the approved route not include Segment H as it would have significant impacts to the farming operations of Patricia Klug. If the ATC Preferred Route Variation is approved by the Commission, DATCP would prefer that Segment H be re-located along fence lines to minimize the agricultural impacts to the property.

Segment H crosses land that is enrolled in the Conservation Reserve Program (CRP) and contains drain tiles and grassed drainage areas. Segment H would require large angle structures at both ends and at least one structure in the middle of cropland.

- On property owned by Robert Forrestal & Cynthia Frees, there is one existing agricultural building located within the proposed ROW of Segment D, part of the ATC Preferred Route. The building is 40 feet x 70 feet and used to store agricultural equipment. If the ATC Preferred Route is approved by the Commission, DATCP recommends that ATC work with the landowners to minimize impacts to the use of the building during and after construction and verify that the building is appropriately grounded.
- DATCP recommends that ATC work with property owners and renters to minimize construction impacts to farming operations and existing and planned infrastructure, including irrigation systems, drainage tiles, and grassed waterways.

The following property owners have or are in the planning stages for installing infrastructure (irrigation systems and/or drainage improvements) and may be impacted by one or more of the potential routes.

#### PIVOT IRRIGATION SYSTEMS

- Richard & Shirley Thompson/Hendrick's Land Dev., Seg. B2, B3, and C
- Patricia Klug Trust, (Planned), Seg. F and H
- Whilden R. Hughes, (Tax ID: 004 006003) Seg. F and G

#### GRASSED WATERWAYS and DRAIN TILES

- John Plambeck, Grassed Waterway, Seg. D
- Brown Family Trust, Drainage Tiles and Grassed Waterways, Seg. D and E
- Patricia Klug Trust, Grassed Drainage Areas and Drainage Tiles, Seg. H
- Rocky Creek Estate Co., Drainage Tiles and Grassed Waterway, Seg. F and G



- A number of acres of farmland in this area are operated by renters. DATCP recommends that ATC ensure that renters of agricultural land, as well as farm owners affected by the proposed project be kept up-to-date and informed of construction schedules and potential impacts so that farm activities can be adjusted accordingly.
- DATCP recommends that significant ruts be defined as any rutting with a depth of 6 inches or greater. ATC should be pro-active in preventing the occurrence of significant rutting in agricultural soils. If significant ruts occur, ATC should stop work in the area and either limit the use of heavy construction equipment until soils firm up or install mats for construction equipment to travel on. All significant ruts should be restored as quickly as practicable.
- Jeanne Herring and the Patricia Klug Trust have land enrolled in the Conservation Reserve Program (CRP) and/or the Conservation Reserve Enhancement Program (CREP). The enrolled land may be crossed by Segments E, F, or H. DATCP recommends that ATC work with Ms. Herring, Ms. Klug, and any other participant in a conservation program to minimize impacts to their participation in the CRP or CREP program.
- The following property owners own property within the Goose Creek Drainage District:
  - Robert Forrestal & Cynthia Frees, Segment D
  - Randy Whilden & Judith Hughes, Segment D
  - Jeanne Herring, Segment F

DATCP recommends that ATC work with the county drainage board and the landowners within the drainage district to minimize impacts to surface and subsurface drainage, and restore the drainage patterns to pre-construction function if they are affected by construction activities.

- DATCP recommends that the information ATC receives from farm interviews and those listed in Section VI of this AIS under "Property Owner Comments" should be incorporated into the bid packages and line lists used by the contractors, inspectors, and monitors hired by ATC for this project.
- DATCP recommends that ATC implement training for all managers, monitors, and other appropriate construction personnel for all site-specific permit conditions, statutory requirements, and PSC order conditions related to the protection of agricultural resources.

### Recommendations to ATC

- ATC should consult with affected farmland owners to determine the least damaging locations for transmission structures.
- ATC should consult with the Rock County Conservationist to ensure that construction proceeds in a manner that minimizes drainage problems, crop damage, soil compaction, and soil erosion.
- ATC should, in compliance with the Wis. Stat. §182.017(7)(c)1, strip top soil from pole locations and other excavations and preserve the top soil for replacement during restoration, unless otherwise waived by the landowner.
- Where construction activities have altered the pre-construction drainage of fields, resulting in new wet areas, ATC should work with affected landowners to determine the means to return the agricultural land to pre-construction function. New drainage tiles, regrading, or additional fill may be required to correct the problems that arise after construction is completed.

### Recommendations to Agricultural Property Owners

- Landowners should examine the language of any easement contract carefully and verify that it contains all agreed-to terms. Though landowners may choose to waive any or all of the practices and procedures described in the [Wis. Stat. §182.017](#) (Landowner Bill of Rights), DATCP recommends to only do so with careful consideration.
- Landowners/operators should keep records of the condition of their land within the right-of way (ROW) before, during, and after construction to document any impacts or damage that occurs due to the proposed project. Documentation could include crop yield records and photographs taken every season.
- Landowners should tell ATC the location of any drainage tiles on their property, especially the location of tiles in the vicinity of the ROW. If drainage tiles are damaged by construction activities, landowners should observe and photograph any drain tile repairs to ensure that they are adequately repaired.
- Landowners with conservation easements within the ROW should consult with the conservation program provider to determine if any effects will occur due to the land's alteration or potential removal from the contract. If the landowner is charged a fee for removing or altering the land within the conservation easement, ATC should compensate the landowner for the amount of that fee.

- DATCP recommends that landowners with organic certifications and those working towards organic certification discuss the range and type of substances that are and are not permitted on their land by their certifying entity. This list should be shared with the utility and their contractors.
- DATCP recommends that any affected farm operation that has a written bio-security plan, provide this plan to ATC.
- Electric transmission lines can present a number of safety concerns to farmers and their operations. Safety issues can include contact with electric lines, as well as potential electrical impacts to metal fences, metal buildings, grain bins, irrigation systems, dairy operations, and buried pipelines. DATCP recommends that farm operators discuss any operation or facility safety concerns related to the construction or operation of this electric project with ATC. General information and reference material can be found in Section VIII of this AIS under, "Agricultural Safety near Operating Electric Transmission Lines."

## I. INTRODUCTION

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has prepared this agricultural impact statement (AIS) in accordance with [Wis. Stat. §32.035](#). The AIS is an informational and advisory document that describes and analyzes the potential effects of the project on farm operations and agricultural resources, but it cannot stop a project. The DATCP is required to prepare an AIS when the actual or potential exercise of eminent domain powers involves an acquisition of interest in more than 5 acres of land from any farm operation. The term farm operation includes all owned and rented parcels of land, buildings, equipment, livestock, and personnel used by an individual, partnership, or corporation under single management to produce agricultural commodities.

The AIS reflects the general objectives of the DATCP in its recognition of the importance of conserving important agricultural resources and maintaining a healthy rural economy. DATCP is not involved in determining whether or not eminent domain powers will be used or the amount of compensation to be paid for the acquisition of any property.

As stated in Wis. Stat. §32.035(4)(d):

*Waiting period.* The condemnor may not negotiate with an owner or make a jurisdictional offer under this subchapter until 30 days after the impact statement is published.

The full text of [Wis. Stat. §32.035](#) is included in Appendix B. Additional references to statutes that govern eminent domain and condemnation processes are also included in Appendix B. Links to [Wis. Stat. §182.017](#) and the Landowner Bill of Rights can be found in Appendix C with other sources of information provided in Appendix D.

The proposed project requires a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission of Wisconsin (PSC or Commission) before construction can begin. The PSC will analyze the need for the project and the potential environmental and community impacts in an Environmental Assessment. The Commission will receive testimony and hold a hearing to further assess the impacts of this project. Afterwards, the Commission will approve, modify, or deny ATC's application. Additional information about this project and the PSC review process can be found on the PSC web site: <http://psc.wi.gov/> under the [PSC docket number, 137 CE-186](#).

## II. PROJECT DESCRIPTION

### Overview

American Transmission Company LLC (ATC) proposes to construct a new loop-in, loop-out 345 kilovolt (kV) double-circuit electric transmission line that would connect a new proposed substation (Kittyhawk) to an ATC existing double-circuited 345 kV electric line (W-10/W-4). This project includes the proposed construction of the new 345 kV Kittyhawk Substation. The project is located in the town of Beloit, Rock County. Figures 1 and 2 show the potential project routes and the proposed substation site.

The project area is located between the cities of Beloit and Janesville. Currently a large percentage of the land within the town of Beloit is in agriculture; however, there are numerous development plans for the area. Due to this strong development pressure, the town of Beloit is working towards incorporation into the village of Beloit within the next five to seven years. Within the project area, the land owned by the town of Beloit, south of the proposed Kittyhawk Substation and between Duggan Road and Walters Road is slated for residential development.

ATC submitted an application for this project to the Public Service Commission (PSC or Commission) on June 13, 2017. If the project is approved by the Commission, ATC anticipates acquiring easements starting in February 2018, and construction is expected to begin in August 2018. ATC would place the electric line in service in April 2019.

### Project Purpose and Need

The Riverside project is needed to connect the new Wisconsin Power and Light Co. (WP&L) Riverside Energy Center generation facility to the electric transmission system. The PSC approved the location and need for the new WP&L Riverside generation plant in a separate docket ([PSC Docket 6680-CE-176](#)). ATC is under the regulatory requirement to interconnect new generation.

### Description of Potential Routes

The potential routes identified by ATC begin at the Kittyhawk Substation on land owned by WP&L and continue westerly to connect with the existing ATC line W-10/W-4.

Figure 1: Project Overview Map

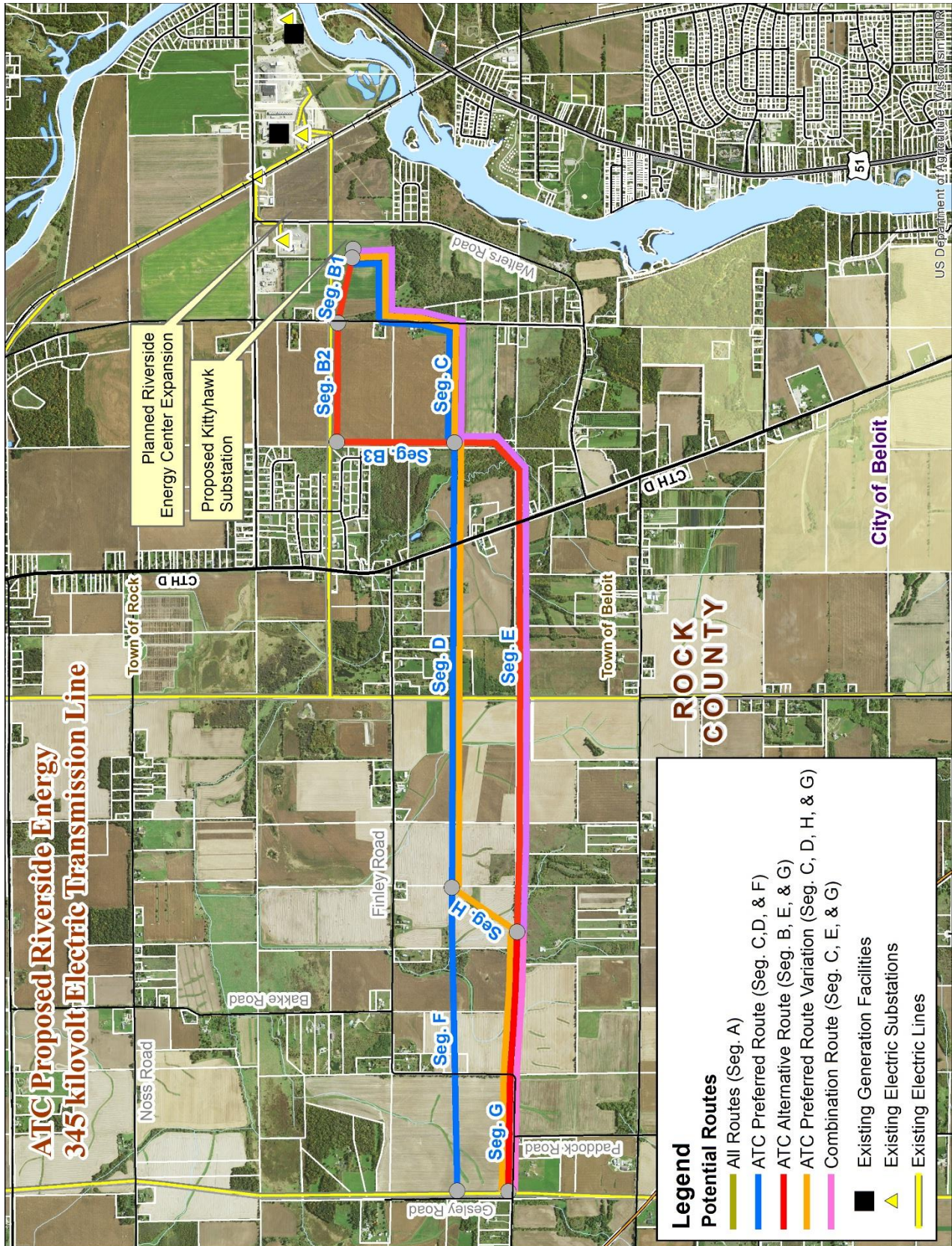
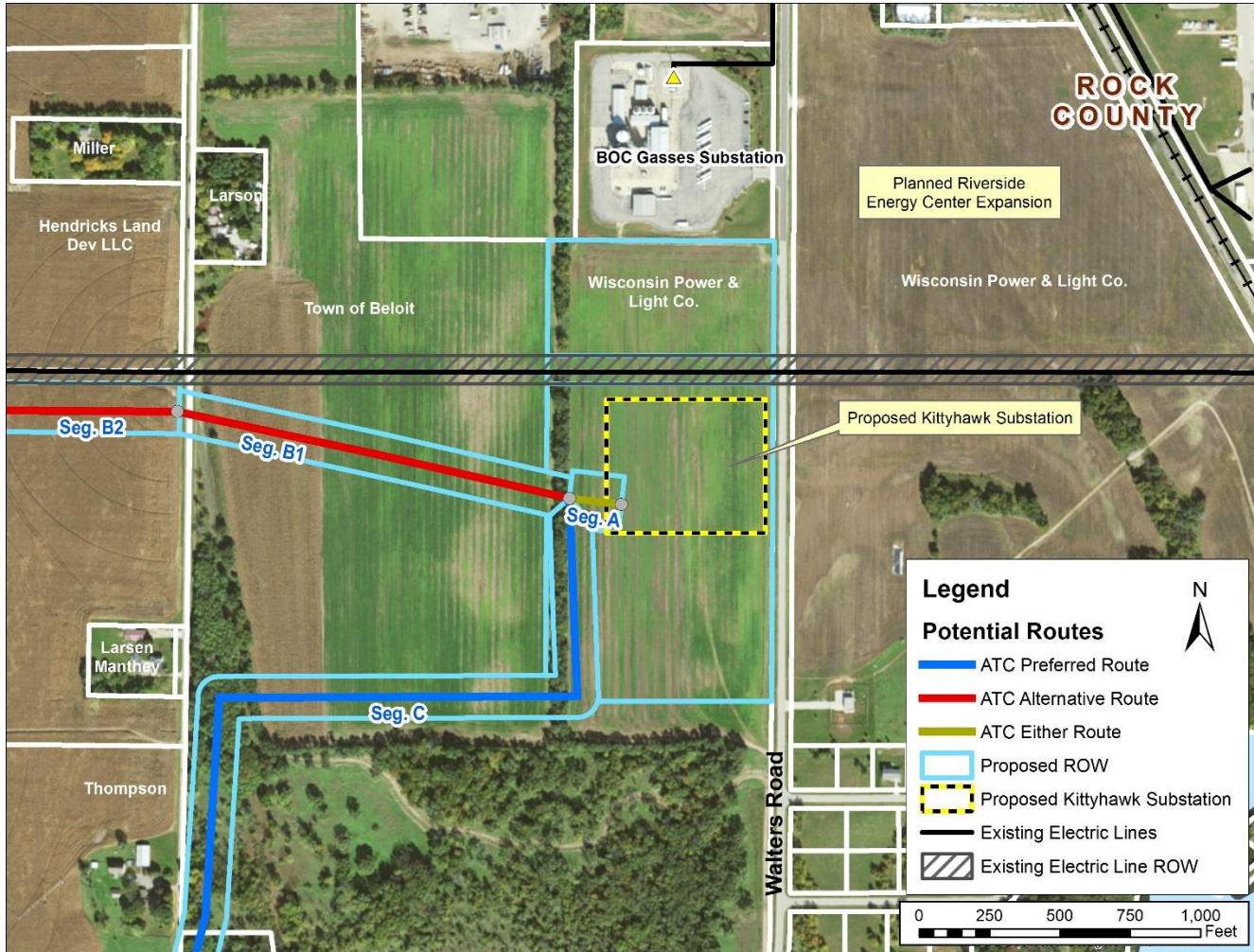


Figure 2: Proposed Kittyhawk Substation



ATC proposes to construct the new electric line along one of two main routes, an ATC Preferred Route or an ATC Alternative Route. Both routes start at its eastern end at the proposed Kittyhawk Substation with a short common segment (Segment A). Segment A is only 186 feet long and lies within WP&L-owned land. From there, the routes described in the application split into either the ATC Preferred Route (Segments C, D, and F), which is 4.2 miles long or the ATC Alternative Route (Segments B1, B2, B3, E, and G), which is 4.5 miles long. A variation of the ATC Preferred Route (ATC Preferred Route Variation) starts with Segments B, C, and D of the Preferred Route and then crosses over on Segment H to the ATC Alternative Route and ends on Segment G. The ATC Preferred Route Variation totals 4.3 miles.

A fourth potential route could be constructed of segments from the ATC Preferred Route and the ATC Alternative Route. It would be routed along Segments A, C, E, and G and be approximately 4.4 miles long.

*ATC Preferred Route (Segments C, D, F):*

- Extends south and west within properties owned by WP&L and the town of Beloit across agricultural fields and undeveloped lands (Segment C)
- Continues south on property owned by the town of Beloit, adjacent to Duggan Road and then crosses over to the west side of the road (Segment C)
- Runs west cross-country along parcel boundaries for approximately 4,700 feet and crosses CTH D (Segments C and D)
- Continues west for the remainder of the route crossing primarily agricultural land for approximately 2.5 miles until it ends at a connection to the ATC existing double-circuit electric line, W-10/W-4 (Segments D and F).

*ATC Preferred Route Variation (Segments C, D, H, and G)*

- Follows the Preferred Route along Segments C and D (see description above)
- Approximately 7,300 feet west of CTH D, the Route Variation departs from Segment D to run diagonally southwest across an agricultural field to the southern end of a parcel (Segment H) and then continues west on Segment G, primarily along parcel boundaries (see Segment G description below)

*ATC Alternative Route (Segments B1, B2, B3, E, G):*

- Extends westerly across land owned by the town of Beloit (Segment B1)
- Crosses over Duggan Rd and continues west cross-country, adjacent to an existing double-circuit electric line, X-39/X-95 (Segment B2)
- Turns south near a western parcel boundary for approximately 3,400 feet until angling southwest cross-country for approximately 4,000 feet (Segments B3 and E)
- Continues west adjacent to parcel boundaries, crosses the roads CTH D and Finley Road, as well as adjacent to the east-west portion of Finley Road (Segments E and G)
- Ends at a connection to the ATC existing double-circuit electric line, W-10/W-4.

*Combination Route (Segments C, E, and G)*

- Extends south and west within properties owned by WP&L and the town of Beloit across agricultural fields and undeveloped lands and adjacent to Duggan Road (Segment C)
- Crosses over to the west side of Duggan Road and continues west for approximately one-half mile (Segment C)
- Turns south near parcel boundaries and then angles southwest and west until reaching CTH D (Segment E)
- Crosses over CTH D and continues west adjacent to parcel boundaries.
- Crosses Finley Road and adjacent to a portion of Finley Road (Segments E and G)
- Ends at a connection to the ATC existing double-circuit electric line, W-10/W-



**Right-of-way (ROW) Requirements**

If approved by the PSC, ATC will acquire easements for the ROW. The easements are private contracts between ATC and the landowner. Easements are required ([Wis. Stat. § 182.017\(7\)\(a\)](#)) to specify all of the following:

- the length and width of the ROW
- the number, type, and maximum height of all structures to be erected on the land
- the minimum height of the transmission lines above the landscape
- the number and maximum voltage of the lines to be constructed and operated

The contract specifies restrictions and rights of both the utility’s and the landowner’s use of the land. Wis. Stat. § 182.017 referred to as the “Landowners’ Bill of Rights” describes many of these rights (see Appendix C). Many of these rights relate to potential mitigation measures to reduce impacts and are expressed as utility requirements.

For this project, minimal ROW sharing is proposed. Only a portion of Segment G would overlap a portion of a local road ROW. Table 1 shows the proposed ROW widths for each segment.

Table 1: Proposed Permanent Easement Widths

<b>Segment</b>	<b>Routes</b>	<b>ROW Width (feet)</b>
A,	All Routes	200
B2	ATC Alternative Route	175
B1, B3	ATC Alternative Route	150
C	ATC Preferred Route, ATC Preferred Route Variation, or Combination Route	150
E	ATC Alternative Route, or Combination Route	150
G	ATC Alternative Route, ATC Preferred Route Variation, or Combination Route	150
D	ATC Preferred Route or ATC Preferred Route Variation	150
F	ATC Preferred Route	150
H	ATC Preferred Route Variation	150

Segment B2 would be located adjacent to but not overlapping the existing double-circuit electric line, X-39/X-95 creating a combined electric ROW width of 275 feet. ATC states that the ROW width for this segment would be 25 feet wider than the 150-foot width required for the majority

of the project to account for a calculated fall distance of the new structures from the existing transmission line.

See Sections VII and VIII of this report for more information about potential construction impacts.

## Substations

### *Existing Paddock, Rockdale, Townline Road, and Rock River Substations*

Modification are proposed at the substations, Paddock, Rockdale, Townline Road, and Rock River. However, all construction activities would occur within the existing fenced areas of these substations and no new foundations are proposed.

### *Proposed Kittyhawk Substation*

WP&L owns 30 acres of land along the west side of South Walters Road, in the town of Beloit. Within the 30 acres, a 6.2-acre fenced substation is proposed (see Figure 2). The substation would be operated by ATC. Additionally an access drive and a stormwater drainage feature would be constructed on the property.

It appears that the WP&L land is currently rented out for cropland. It is possible that in the future this land may be developed.

Typical equipment used in the construction of the new substation includes excavators, drill rigs, concrete trucks, pick-up trucks, and bucket trucks.

## Laydown Areas

ATC has identified three potential laydown yards for this project. Site 1 is located on WP&L land north of the proposed Kittyhawk Substation site and south of the existing BOC Gasses Substation, along the west side of Walters Road. Site 2 is located at the Prairie Avenue Concrete Inc. property, at the northeast corner of CTH G and Philhower Road, in the town of Turtle. Site 3 is located on the Yoss property, north of Townline Road and east of CTH G, in the town of La Prairie.

Site 1 is currently a rented agricultural field. If the land is restored, it may return to agricultural use or, more likely, be developed. Sites 2 and 3 are existing quarries.

If additional laydown areas or temporary workspaces are required, ATC will notify the PSC of these new locations.

### Off-ROW Access Roads

No off-ROW access roads are proposed for this project. ATC intends to access the project along the ROW or directly from public roads that intersect the project ROW. If additional off-ROW access is required, ATC will negotiate voluntary access through private properties and submit the necessary information for these additional impacts to the PSC.

Once construction is complete, any off-ROW access paths created for the project would be restored to pre-construction conditions, or depending upon landowner negotiations and requests, the improvements may be left in place.

### III. PROJECT IMPACTS TO AGRICULTURAL PROPERTIES

#### Easements

Agricultural properties will be impacted by each of the potential ATC routes, as well as the Combination Route. The total ROW and agricultural impacts were determined for each route. The eastern end of the routes (Segments A, B1, and part of Segment C) cross parcels owned by Wisconsin Public Service Corporation (WPS) and the town of Beloit. The parcels are currently cropped and are presumably rented to farmers. Following completion of construction, these lands may be returned to agriculture, but may also be developed at some time in the near future. Table 2 shows the total ROW requirements compared to the portions of the ROWs that are used for agriculture and not owned by a utility or town.

Table 2: Acres of Easements Required from Farm Operations

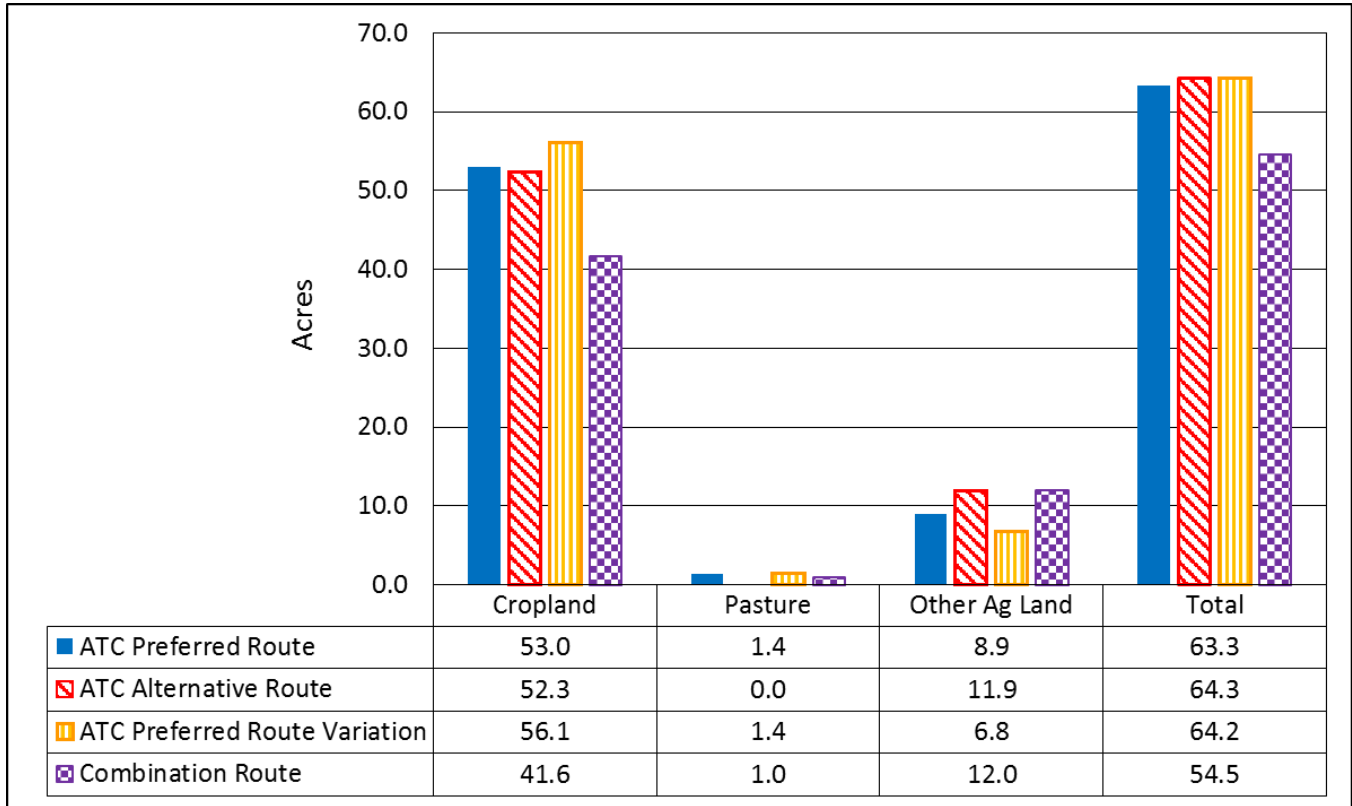
Route	Length (mi)	Total Right-of-Way (acres)	Easements That Would be Acquired from Farm Operations* (acres)	Percentage of Right-of-Way from Farm Operations*
ATC Preferred Route	4.2	76.5	63.3	82.7 %
ATC Alternative Route	4.5	83.3	64.3	77.2 %
ATC Preferred Route Variation	4.3	80.1	64.2	80.1 %
Combination Route	4.4	78.4	54.5	69.5 %

\* Farm Operations excludes rented cropland owned by WP&L or the town of Beloit.

Table 2 shows that there are small difference between the ROW requirements for any of the potential routes. The Combination Route crosses the fewest acres of farm operations.

The required ROWs of the three potential routes cross similar types of farmland. Most of the agricultural properties are cropped (see Figure 3). ATC has stated that no farm buildings or structures will be acquired for this project.

Figure 3: Acres of Farmland Affected by Potential Routes



### Transmission Poles

All transmission poles for this project are anticipated to be tubular steel monopole double-circuited poles. They would have a weathering steel dark brown finish. Concrete foundations are proposed for all structures. Typical structures will have 8-foot diameter foundations. Any location where the line would require an angle or a dead-end structure, the foundations would be twelve feet in diameter.

Using the typical span widths for each of the segments, Table 3 shows the number of each type of foundations that can be anticipated for each route segment.

Table 3: DATCP-Estimates of Transmission Pole Characteristics

Seg.	Route	Structure Height (feet)	Span Length (feet)	DATCP-Est. Poles with 8-Ft. Diam. Foundations	DATCP-Est. Poles with 12-Ft. Diam. Foundations
A	All Routes	140 feet	225	0	1
B1	ATC Alternative Route	120 - 140	650 - 750	2	0
B2	ATC Alternative Route	110 - 140	500 - 750	4	0
B3	ATC Alternative Route	110 - 160	600 - 1,100	3	1
C	ATC Preferred Route, ATC Preferred Route Variation, or Combination Route	120 - 150	600 - 1,000	4	4
D	ATC Preferred Route or ATC Preferred Route Variation	100 - 150	550 - 1,050	12	0
E	ATC Alternative Route or Combination Route	90 - 140	550 - 950	14	2 for Alt. Rte 3 for Comb. Rte
F	ATC Preferred Route	120 - 150	650 - 1,000	8	0
G	ATC Alternative Route, Preferred Route Variation or Combination Route	130 - 160	750 - 950	7	0
H	ATC Preferred Route Variation	110 - 140	650 - 1050	1	2 (one at each end of the segment)

Table 4 shows the DATCP-estimated number of poles that would be required for each described route. The ATC Alternative Route would require the greatest number of structures overall, though potentially requiring the fewest poles in cropland. Of note, the ATC Preferred Route Variation crosses diagonally through cropland and would require a transmission pole to be located in the middle of a farm field as well as large angle structures at either end.

Table 4: DATCP Estimates of Transmission Poles for Potential Routes\*

Route	Estimated Number of Poles		Estimated Number of Poles in Cropped Fields	
	8-Ft. Diam. Foundations	12-Ft. Diam. Foundations	8-Ft. Diam. Foundations	12-Ft. Diam. Foundations
ATC Preferred Route	24	4	21	1
ATC Alternative Route	30	4	18	1
ATC Preferred Route Variation	24	7	21	3
Combination Route	25	8	21	3

\* All numbers are estimated based on aerial photos and typical span lengths. Final engineering may require more or fewer structures.

## IV. AGRICULTURAL SETTING

The following information is intended to describe the existing agricultural sector for Rock County in general terms and to aid agricultural property owners in their easement negotiations with ATC. Section VI, Agricultural Landowner Impacts discusses the specific potential impacts from this project and the concerns of agricultural property owners. The majority of the data provided in this section was obtained from the USDA, National Agricultural Statistic Service.

### Agricultural Productivity

Rock County agriculture is diverse, but its largest revenue comes from corn for grain, milk, and soybeans. It is also a statewide leader in the production of nursery and greenhouse plants, poultry and eggs, hogs and pigs, and sheep and lambs.

Table 5 shows the acres harvested of selected crops in Rock County for the years from 2011 to 2015. Over the five-year period, the number of acres of soybeans harvested increased steadily, and the number of acres of winter wheat harvested declined. All of the other crops had variability in the number of acres harvested.

Table 5: Acres of Selected Crops from 2011 to 2015

Crop	Harvested Acres				
	2011	2012	2013	2014	2015
Corn for Grain	157,000	146,000	137,400	150,500	143,200
Soybeans	79,900	82,200	82,800	91,800	96,600
Alfalfa Hay	13,500	15,100	15,700	20,200	15,700
Winter Wheat	13,900	NA	11,300	NA	8,150

\* NA = data not published

### Land in Agriculture

Rock County is classified as an urban county, which is defined as a county having 100 or more residents per square mile. Rock County in 2016 had a population of 159,886 (Wisconsin DOA), with a density of approximately 222 residents per square mile. This is a population density of about two and one half times the average density for the state as a whole (approx. 88 residents per square mile). According to the USDA NASS 2012 Census of Agriculture, over three-fourths of Rock County land (76.7 percent) is used for agriculture. Rock County is more intensively farmed than the state-wide average of 42 percent of the land in farms. Agricultural land uses include other uses such as woodland and wetland not actually under cultivation or used for pasture or grazing.

In Rock County from 2007 to 2012, the acres of land in farms increased by over 2.7 percent. This is in contrast to the 4.1 percent decrease in the amount of land in farms observed for the state as a whole (USDA NASS 2012 and 2007 Census of Agriculture). The increase in Rock County



farmland is possible due to the conversion of marginal land to agricultural production as farmers try to increase revenue and decrease expenses in the face of low commodity prices. The statewide trend towards less land in farms may be the result of commercial and residential development pressures.

**Number and Size of Farms**

Statewide, there was an 11.1 percent loss in the number of farms while in Rock County, the loss was less severe at 3.0 from 2007 to 2012 (Table 6). During the same period, the county and state size distribution of farms have remained relatively stable. The greatest change occurred in the decline in percentage of very small farms in Rock County and a slight increase in the percentage of farms that are 50 to 179 acres in Rock County (Table 7).

Table 6: Change in the Number of Farms between 2007 and 2012

Location	Number of Farms 2012	Number of Farms 2007	Change in the Number of Farms	Percent Change
Rock County	1,509	1,556	47	-3.0%
Wisconsin	69,754	78,463	8,709	-11.1%

Table 7: Farm Size Distribution in Monroe County and Wisconsin

Location	0 to 49 Acres		50 to 179 Acres		180 to 499 Acres		More than 500 Acres	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rock County, 2007	708	46%	442	28%	256	16%	150	10%
Rock County, 2012	666	44%	443	30%	245	16%	155	10%
Wisconsin, 2007	24,756	31%	29,765	38%	17,837	23%	6,105	8%
Wisconsin, 2012	22,428	32%	25,502	37%	15,688	22%	6,136	9%

**Property Taxes and Values**

Table 8 details the 2015 average property tax, assessed value, and sale price per acre of agricultural land in Rock County, urban counties, and all Wisconsin counties. The assessed values and property taxes are based on the use value of “agricultural land”. Agricultural land is defined by statute as, “...land, exclusive of buildings and improvements, and the land necessary for their location and convenience, that is devoted primarily to agricultural use.” (Wis. Stat. §70.32(2)(c)1g) In addition to being used to compute easement values; property taxes, assessed values, and land sales data provide information on the demand for land in the county. Land values are used as collateral for farm operation loans. High values make farm expansions more expensive.

Table 8: Farmland Taxes and Values

Location	2015 Dollars per Acre of Farmland		
	Average Tax	Assessed Value*	Sale Value
Rock County	\$5.04	\$240	\$6,719
Urban Counties	\$3.53	\$199	\$7,325
Wisconsin	\$3.15	\$170	\$5,131

Source: USDA, National Agricultural Statistic Service and Wisconsin Department of Revenue.

\* The assessed value is an "equalized value" calculated by DOR to correct for variability in estimating the taxable value of real property across municipalities.

The 2015 average property taxes on Rock County farmland were 42.8 percent higher than the average for urban counties and 60.0 percent higher than the average for Wisconsin. The average assessed value of farmland in Rock County was 25.1 percent higher than the urban counties' average and 41.2 percent higher than the state of Wisconsin as a whole. The average sale price of farmland in Rock County was lower than the average for urban counties (8.3 percent) and substantially higher than the average for the state as a whole (30.9 percent higher). Sale price data does not include farmland sold and converted to nonfarm use nor farmland with buildings or improvements.

**Farmland Preservation**

Wisconsin's Farmland Preservation Program (FPP) provides counties, towns, and landowners with tools to aid in protecting agricultural land for continued agricultural use and to promote activities that support the larger agricultural economy. Through this program, counties adopt state-certified farmland preservation plans that map areas identified as important for farmland preservation and agricultural development based upon reasonable criteria. Most of the property that this project crosses is zoned A-1 Farmland Preservation. DATCP certified the Rock County Farmland Preservation Plan in 2015. The plans identify farmland preservation areas in the county and local governments may choose to adopt an exclusive agricultural zoning ordinance to ensure that landowners covered by the ordinance are eligible to claim farmland preservation tax credits. Such an ordinance must also be certified by DATCP.

Within these farmland preservation areas, local governments and owners of farmland can petition for designation by the state as an Agricultural Enterprise Area (AEA). This designation highlights the importance of the area for agriculture and further supports local farmland preservation and agricultural development goals. Designation as an AEA also enables eligible landowners to enter into farmland preservation agreements. Through an agreement, a landowner agrees to voluntarily restrict the use of his/her land for agriculture for fifteen years. None of the land that could be acquired for this project is part of an AEA.

Both AEAs and FPP zoning areas are required to follow the state soil and water conservation standards to protect water quality and soil health.

### Conservation Reserve Program

The Conservation Reserve Program (CRP) offers farmers financial incentives to convert highly erodible or environmentally sensitive cropland to permanent vegetative cover by planting species that will enhance the environment.

Two property owners have land enrolled in the CRP. One acre of Jeanne Herring property, along a waterway is enrolled in the CRP. The ATC Preferred Route (Segment F) would cross this waterway within Ms. Herring's property. Additionally, 6.2 acres of land owned by the Patricia Klug Trust is also enrolled in the CRP. Routes that require construction along either Segments F or H may affect Ms. Klug's participation in the program.

DATCP recommends that ATC work with Ms. Herring, Ms. Klug, and any other program participant to minimize impacts to their participation in the CRP. If practicable, transmission poles should be located outside of CRP land. Any impacts caused by the construction of the project should be remediated so that the resources are returned to pre-construction function and if impacts cannot be avoided, the landowners should be compensated for any revenue lost.

### Conservation Reserve Enhancement Program

The Conservation Reserve Enhancement Program (CREP) pays landowners to install filter strips along waterways or to return continually flooded fields to wetlands while leaving the remainder of the adjacent land in agricultural production. CREP is a joint effort between the federal, state, and county governments.

Both the ATC Preferred and the ATC Alternative Route would require easements from Jeanne Herring's property which appears to be enrolled in the CREP Program which would expire in September of 2018.

DATCP recommends that ATC work with Ms. Herring and any other property owner program participant to minimize impacts to their participation in the CREP. If impacts cannot be avoided, then the landowner should be compensated for any revenue lost.

### Drainage Districts

Drainage districts are formed to manage excess water from participating lands. Properties along Segments D and F of the ATC Preferred Route cross 3 properties that are part of the Goose Creek Drainage District. The district is listed as active. The landowners that are part of this district include:

- Robert Forrestal & Cynthia Frees, Segment D
- Randy Whilden & Judith Hughes, Segment D
- Jeanne Herring, Segment F

DATCP recommends ATC work with the county drainage board and the landowners within the drainage district to minimize impacts to surface and subsurface drainage and if impacted by construction activities, the drainage patterns are restored to pre-construction function.

## V. FARMLAND SOILS

### **Farmland Soil Definitions**

Farmland soil is classified by the USDA based on its ability to produce crops. Protecting prime farmland, prime farmland, if drained, and farmland of statewide importance should be a priority for construction projects.

#### *Prime Farmland*

Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

#### *Prime Farmland if Drained*

This farmland is prime farmland but requires draining in order to have the best combination of physical and chemical characteristic for producing food, feed, forage, fiber, and oilseed crops.

#### *Farmland of Statewide Importance*

The criteria for defining and delineating this soil are to be determined by the appropriate state agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. In some states, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by state law.

#### *Non-prime soils*

Non-prime soils have limitations in terms of agricultural production and may be more susceptible to damage from electric line construction.

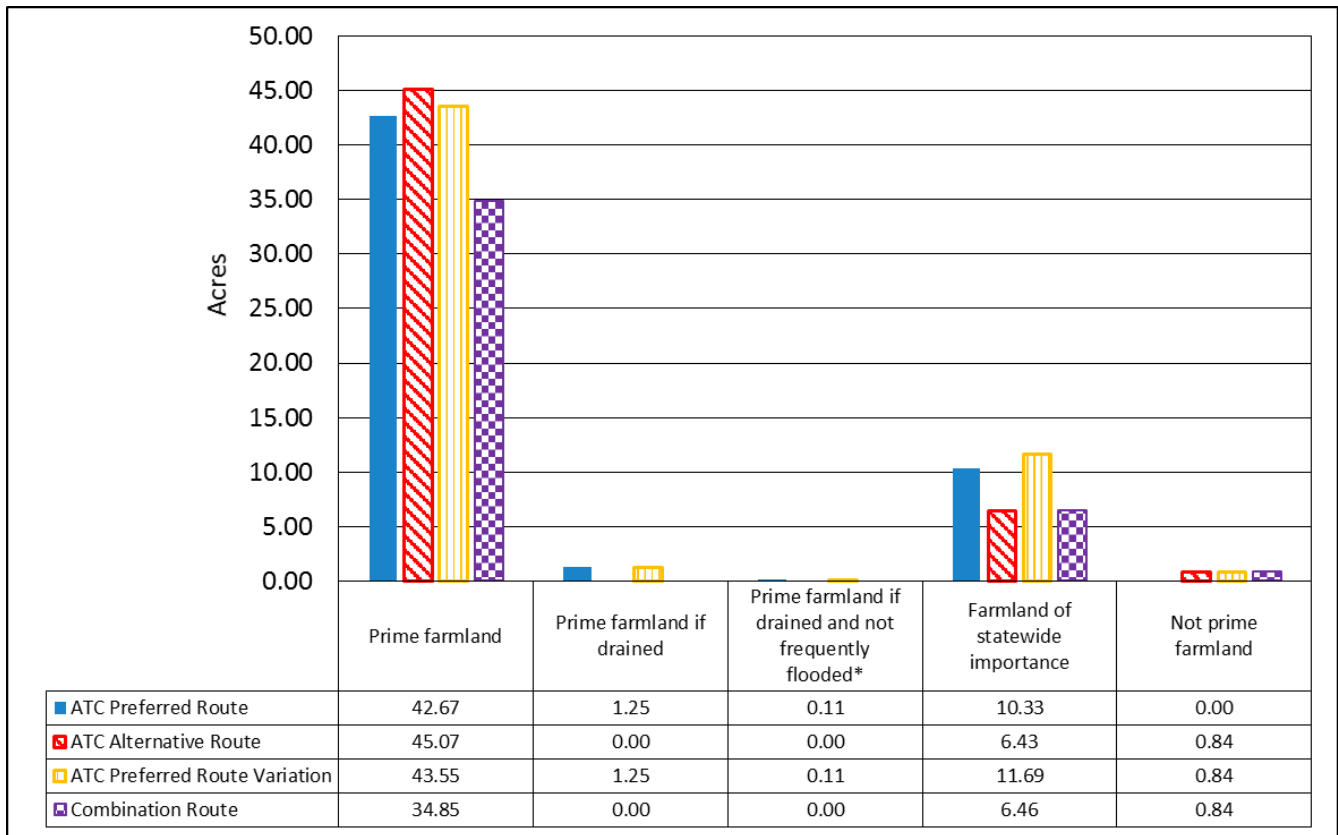
### Farmland Soils Affected by the Proposed Project

If the project is approved by the PSC, the project routes could impact between 42 and 57 acres of cropland and pasture. Potentially impacted cropland and pasture for the four routes are:

- ATC Preferred Route – 54.36 acres
- ATC Alternative Route – 52.33 acres
- ATC Preferred Route Variation – 57.43 acres
- Combination Route - - 42.15 acres

Figure 4 details the acres of cropland and pasture that are identified as prime farmland, prime farmland if drained, prime farmland if drained and not frequently flooded, and farmland of statewide importance that would be potentially impacted by the different project routes.

Figure 4: Soils Classification for Cropland and Pasture within ROW



\* Includes land that is either protected from flooding or not frequently flooded during the growing season.

Figure 4 shows that the potential routes would affect a similar range of farmland soil types currently in crops and pasture. All would affect prime farmland more than not prime farmland. However, the Combination Route would affect the fewest acres of prime farmland and no prime farmland if drained.

Table 9 lists the soils located on lands that are cropped or pastured and may be affected by a project route.

Table 9: Soils in Cropland and Pasture Potentially Affected by Project Routes

Soil	Farmland Class	ATC Preferred Route (Acres)	ATC Alternative Route (Acres)	ATC Preferred Route Variation (Acres)	Combination Route (Acres)
Dresden silt loam, 0 to 2 % slopes	P	3.00	0.00	3.00	0.00
Griswold loam, 2 to 6 % slopes, eroded	P	11.38	4.45	11.07	4.45
Griswold loam, 6 to 12 % slopes, eroded	S	0.00	0.91	0.00	0.91
Lorenzo loam, 2 to 6 % slopes	S	1.47	0.05	1.47	1.13
Lorenzo loam, 6 to 12 % slopes, eroded	S	4.65	1.69	4.65	0.65
Otter silt loam	P-D-F	0.11	0.00	0.11	0.00
Rockton loam, 2 to 6 % slopes	P	5.71	7.90	6.14	7.90
Rockton loam, 6 to 12 % slopes, eroded	S	1.25	2.87	0.62	2.87
Rodman-Lorenzo complex, 6 to 12 % slopes, eroded	S	0.00	0.61	0.00	0.61
Sebewa silt loam, 0 to 2 % slopes	P-D-F	6.20	0.00	1.25	0.00
Sogn loam, 6 to 12 % slopes, eroded	X	0.00	0.84	0.84	0.84
Troxel silt loam, 0 to 3 % slopes	P	7.19	7.57	5.71	6.16
Warsaw silt loam, 0 to 2 % slopes	P	0.00	15.56	7.19	7.19
Warsaw silt loam, 2 to 6 % slopes	P	0.41	0.00	0.41	0.00
Warsaw silt loam, 6 to 12 % slopes, eroded	S	2.64	0.00	3.37	0.00
Winnebago silt loam, 2 to 6 % slopes, eroded	P	8.77	9.59	10.04	9.16
Winnebago silt loam, 6 to 12 % slopes, eroded	S	1.58	0.29	1.58	0.29
<b>Total</b>		<b>54.36</b>	<b>52.33</b>	<b>57.45</b>	<b>42.15</b>

Farmland Class Key: P = Prime farmland / P-D = Prime if drained / P-D-F = Prime if protected from and not frequently flooded / S = Farmland of statewide importance / X = Not prime farmland

## VI. AGRICULTURAL LANDOWNER IMPACTS

### Required Easements

Table 10 lists the acres of agricultural easements that would be acquired for each of the potential routes. Additional non-agricultural acres would be required for the construction of this project.

Table 10: Acres of Potential Easements from Affected Farmland Owners

Property Owner	ATC Preferred Route	ATC Alternative Route	ATC Preferred Route Variation	Combination Route
BERLYN & DIANE WALKER	0.00	3.84	0.00	3.84
BROWN FAMILY TRUST	9.16	9.24	9.16	9.24
CHARLES & MARIANNE KUECKER	0.00	1.77	0.00	1.77
DAVID TYRER	0.00	3.61	0.00	3.61
DAVID & JILL MALKOW	0.00	3.49	0.00	3.49
DEAN & JACQUELINE CAVEY	3.61	1.78	3.61	1.78
DON CHESEBRO	3.54	0.00	3.54	0.00
HENDRICKS LAND DEV LLC	0.00	14.49	0.00	0.00
JAMES & JANET FINLEY	1.00	0.00	1.00	0.00
JEANNE HERRING	4.67	2.11	2.11	2.11
JOHN FAHRNEY	1.37	0.00	0.00	0.00
JOHN PLAMBECK	6.51	0.00	6.51	0.00
PATRICIA A KLUG TRUST	4.44	1.13	5.93	1.13
RICHARD & SANDY GILBERTSON	4.35	3.34	4.35	7.57
RICHARD & SHIRLEY THOMPSON FAMILY REV TRUST	5.04	4.43	5.04	4.90
ROBERT FORRESTAL & CYNTHIA FREES	3.35	0.00	3.35	0.00
ROCKY CREEK ESTATE CO	3.10	6.44	6.44	6.44
RANDY WHILDEN & JUDITH HUGHES	13.24	8.74	13.26	8.74
<b>Totals</b>	<b>63.38</b>	<b>64.41</b>	<b>64.30</b>	<b>54.65</b>

### Loss of Farmland from Transmission Pole Structures

When electric transmission poles are located within cropland, an area larger than the foundation is lost from production. Large farm implements cannot maneuver close to these structures without risking damage to the farm equipment. Therefore, a portion of the land surrounding the poles becomes inaccessible and unusable. The exact acres lost due to the poles depend on the size of the foundation, the size and maneuverability of the farm equipment, and existing cropping patterns. Also, a pole located in the middle of a field will affect more cropland than one constructed at the edge of a field. A simplified equation can be used to estimate the acreage of



farmland that could be potentially lost due to transmission structures. This is a conservative estimate and actual figures may vary greatly.

To approximate the area of farmland that could become inaccessible around a transmission structure in the middle of a field, the following equation may be useful.

$$A = \frac{2}{3} \times [H \times (D+E+E)]$$

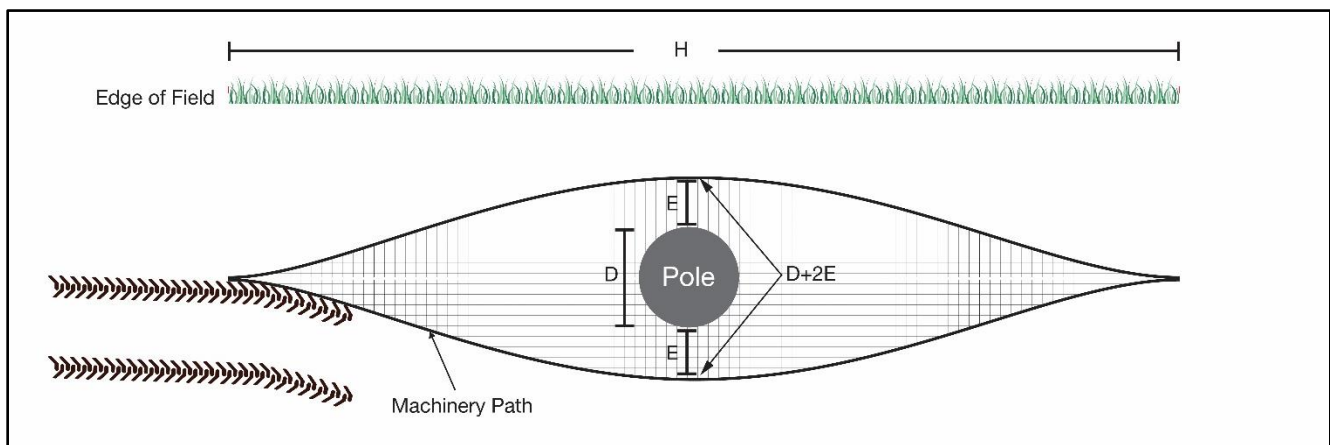
**A** = Inaccessible area (square feet)

**H** = Horizontal distance (feet) from the point where the agricultural equipment begins to turn to avoid the structure to the point where the machine is back on its regular travel path

**D** = Diameter of the pole (feet)

**E** = Additional distance from the pole that equipment must travel to safely avoid accidents with the pole (feet)

Figure 5: In-Field Effect of Pole Location



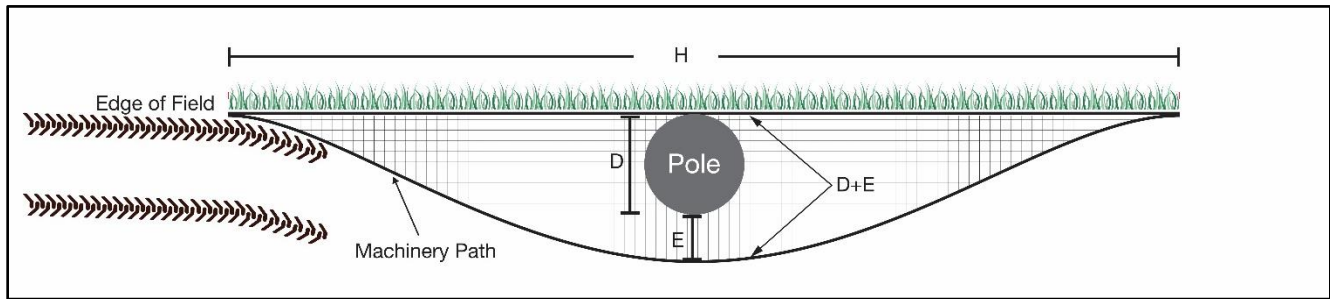
For example, if the structure is 8 feet in diameter, requires an additional 4 feet of clearance on either side of the pole in order to safely navigate equipment, and the avoidance path would be 40 feet in length, then the inaccessible cropland would be as follows:

$$A = \frac{2}{3} \times [40 \times (8+4+4)] = \text{approximately } 427 \text{ square feet}$$

If the pole is located along a field edge, the calculation for area of inaccessible land is as follows:

$$A = \frac{2}{3} \times H (D+E)$$

Figure 6: Field Edge Effect of Pole Location



Using the numbers from the previous example, a conservative estimate of the inaccessible area surrounding the pole would be as follows:

$$A = \frac{2}{3} \times 40 (8+4) = \text{approximately } 320 \text{ square feet}$$

The square feet of cropland that is no longer accessible should be considered lost when negotiating easement payment amounts. [Wis. Stat. §182.017\(7\)\(b\)](#) states that in determining just compensation for the easement, damages shall include losses caused by placement of the line and associated facilities near fences or natural barriers such that lands not taken are rendered less readily accessible to vehicles, agricultural implements and aircraft used in crop work.

Farming around transmission line poles can be difficult, particularly when larger farm equipment is used. Attempts to reduce the area that cannot be cropped by planting closer to the pole than is prudent, may increase the likelihood that the equipment makes contact with the pole and becomes damaged.

### DATCP Survey of Agricultural Property Owners

DATCP sent a questionnaire to agricultural property owners who could have easement acquisitions of three acres or more. Of the 28 property owners along the routes, 19 own agricultural properties and 15 could have three or more acres acquired for the proposed project. Eight property owners responded and their comments are summarized below.

### Property Owner Comments

**Farmland Owner:** Richard & Shirley Thompson  
**Route:** Segments B-3 and C (All Routes)

Both the ATC Preferred Route and the ATC Alternative Route would require easements along the edges of Thompson cropland. Some of the Thompson farmland is rented to Walsh Family Farm LLC. The Thompsons are most concerned about fencing, irrigation, their residence, and farm buildings. Aerial views show a center-pivot irrigation system. ATC should work with landowners to verify that pole placement and construction activities do not interfere with the irrigation system or the irrigation of cropland.

**Farmland Owner:** Robert Forrestal & Cynthia Frees  
**Route:** Segment D (ATC Preferred Route or ATC Preferred Route Variation)

The ATC Preferred Route would require an easement along the southern boundary of his parcel. It would cross cropland as well as woodland. The cropland is prime farmland and they report that it has the highest productivity of all the acreage currently owned. Eight acres of land is rented to Ronald Downing. An existing 40 foot X 70 foot building is located within the proposed easement. Additionally, a drainage tile of unknown location reportedly connects from CTH D to the creek. The property owners are concerned about impacts to the existing building, underground drainage tiles, grassed waterways, property access, and productive cropland lost to transmission structures.

**Farmland Owner:** Dean & Jacqueline Cavey  
**Route:** Segments D and E (All Routes)

The Caveys own a parcel that is half cropland and half woodland. The landowners have planted between 100 and 150 trees each year for the last 5 years and earn income or use the woods for firewood. The ATC Preferred Route would require an easement along the northern boundary of his parcel. The ATC Alternative Route would angle across the southeastern corner of the parcel. Twenty-two acres of farmland are rented to Ronald Downing.

The Caveys are most concerned about minimizing impacts to a stream that both routes cross, as well as the loss of the woodlands on the property. Both routes would require tree removal from the woods that provide protection to the stream. The landowners believe that the ATC preferred route would have greater impacts to the property including the loss of good hunting land, good timber and farm land. The Carveys support the ATC Alternative Route.

**Farmland Owner:** John Plambeck  
**Route:** Segment D (ATC Preferred Route or ATC Preferred Route Variation)

The ATC Preferred Route would cross through the middle of the Plambeck farm. He owns 82 acres of cropland with 6 acres of woodland. Most of the farmland is rented to Jim Hodge (JSD, Inc.).

The landowner is most concerned about construction impacts to grassed waterways and preserving the normal water drainage, particularly along the east side of the property. Mr. Plambeck just installed a new access road that might be affected by the project. He is concerned about the placement of transmission poles and how they might interfere with access to his property and cropping patterns. Mr. Plambeck is also concerned about the development potential of his parcel and loss of land value.

**Farmland Owner:** Brown Family Trust  
**Route:** Segments D and E (All Routes)

All the routes cross through the middle of the Brown Family Trust properties. The Trust has 192 acres in cropland, 10 acres in waterways, and another 8 acres used for a home and farm buildings. The farm grows corn, soybeans, hay and wheat. Most of the farmland is rented to Michael Brown.

The entire property is within the Farmland Preservation Program. The property is crisscrossed with drainage tiles and grassed waterways. It is important for construction activities to minimize damage to the drainage tiles and drainage features. If construction activities do damage the drainage of the field, ATC should work with the landowner to repair the damage and return the field to pre-construction function.

**Farmland Owner:** Patricia Klug Trust  
**Route:** Segments E, F, G, and H (All Routes)

All potential routes pass through the Klug Trust property. Segments F and H pass through the middle of cropland. Most of the property is rented to Randy Hughes. Ms. Klug is most concerned about Segment H crossing through drain tiles and drainage ways. The location of either the ATC Preferred Route (Segment F) or the Preferred Route Variation (Segment H) may prevent the installation of a planned center-pivot irrigation system. Additionally, 6.2 acres of the property are enrolled in the CRP. Ms. Klug suggests that if the approved route includes the use of Segment H, the segment should be relocated along the fence row to minimize impacts to the farm operations.

DATCP recommends that ATC work with Ms. Klug as well as any renters of the cropland to locate transmission structures so as to minimize impacts to the current and future operation of the farmland.

**Farmland Owner:** Jeanne Herring  
**Route:** Segments F and G (ATC Preferred and ATC Alternative Routes)

The ATC Preferred and ATC Alternative Routes would require easements on the property owned by Jeanne Herring. The ATC Preferred Route would cross through the middle of cropland, as well as 15 acres of woodland/grassland that is used for hunting. The ATC Alternative Route, ATC Preferred Route Variation, and the Combination Route would cross along the southern boundary of the property. Most of the farmland is rented to Mike Brown.

One acre of Ms. Herring's property is enrolled in CRP where it borders a waterway crossed by Segment F. The property owner is most concerned about preserving the drainage of the property. Based on the potential impacts to her farmland and CRP land, she would prefer the ATC Alternative Route be chosen.

**Farmland Owner:** Rocky Creek Estate Co.  
**Route:** Segments F and G (All Routes)

All routes cross through the cropped fields of the Rocky Creek Estate Company. The property includes 122 acres of cropland, half in corn and half in soybean. Some or all of the cropland may be rented to Mr. Mark Gunn.

The parcel contains several grassed waterways and some drain tiles. The location of the drain tiles is unknown. The landowner is concerned about pole locations and their interference with his agricultural operations as well as the development potential of his parcel and loss of land value.

### Appraisal and Compensation

The acquisition of easements by utilities with eminent domain authority in Wisconsin is stipulated under Wis. Stat. § 32.06. Additional information about the appraisal process and landowners rights can be found in a Wisconsin Department of Administration publication, "The Rights of Landowners under Wisconsin Eminent Domain Law" at the website:

[http://doa.wi.gov/Documents/DEHCR/Relocation/WI\\_Eminent\\_Domain\\_Law32\\_06.pdf](http://doa.wi.gov/Documents/DEHCR/Relocation/WI_Eminent_Domain_Law32_06.pdf)

The utility makes an offer to landowners for an easement with compensation based on the fair market value of the easement to be acquired and any anticipated damages to the parcel. The fair market value means the price that a willing buyer would pay to a willing seller in the market. This will be based on at least one full narrative appraisal for each property the utility intends to acquire. The appraisal must be presented to the landowner.

Additionally, landowners have the right to obtain their own appraisal of their property. They will be compensated for the cost of this appraisal by the utility if the following conditions are met:

- The appraisal must be submitted to the utility or its designated real estate contractor within 60 days after the landowner receives the initial utility appraisal.
- The appraisal fee must be reasonable.
- The appraisal must be a full, narrative appraisal
- The appraisal must be completed by a qualified appraiser.

The amount of compensation for the easement is established during the negotiation process between the utility and the individual landowner. Landowners can also negotiate additional stipulations from the utility and additional payments.

The utility is required to provide landowners with information about their rights in this process before negotiations begin. [Wis. Stat. § 32.035\(4\)\(d\)](#) additionally stipulates that the utility not negotiate with a landowner or make a jurisdictional offer until 30 days after the AIS is published. However, electric projects that require a CPCN from the PSC (most 345 kV proposed electric lines), may negotiate with landowners prior to approval from the Commission, only if the utility

advises the landowner that the utility does not have the authority to acquire the property by condemnation ([Wis. Stat. § 32.03\(5\)\(c\)](#)).

Landowners should keep in mind that any easement they sign with a utility is an individual contract. The easement contract is binding to the landowner and any future owners of the land, until the contract is dissolved. Though landowners can choose to waive any of their rights, DATCP recommends to only do so with careful consideration. When considering whether or not to sign an easement, landowners should examine the language carefully and verify that it contains all agreed-to terms. Landowners should be familiar with the Landowners' Bill of Rights (Appendix C) so as to determine if additional conditions and/or payments should be negotiated with the utility. Landowners may want to seek legal advice if they have any questions about this process, and should make sure that any attorneys hired have expertise and experience in eminent domain law and procedures. More reference information can be found in Appendix D.

## VII. CONSTRUCTION PROCESS

If the project is approved by the PSC, construction on the new electric line will begin after the utility has secured most necessary permits and ROW easements. To ensure that the company has a complete and intact route, most negotiations with landowners are concluded prior to the start of construction.

Transmission line construction typically requires several different activities at any given location. Construction activities include surveying and ROW marking, erosion control installation, clearing, construction matting, material staging, auguring, structure installation, structure setting, wire stringing and clipping, and cleanup and restoration.

### Activities Prior to the Start of Construction

Prior to the start of construction, soil borings are conducted along the potential ROWs to determine the specific soil conditions and characteristics. This provides sufficient information to engineer the final design of the line. Also, some state and federal permits require environmental surveys to be conducted, which include wetland, species, and archeological surveys. However, no activity can be conducted on private land, prior to the project's approval by the PSC without the utility first obtaining landowner permission in writing (Wis. Stat. § 182.017(7)(h)).

Landowners should be informed of the schedule of construction as early as possible, so that farming operations are disrupted as little as possible and the cost of those disruptions are accounted for in the landowner and utility easement negotiations. Also, since construction while the ground is frozen greatly reduces the risk of soil compaction, Wis. Stat. § 182.017(7)(c)3 requires the utility to, insofar as is practicable and when the landowner requests, schedule any construction across agricultural land when the ground is frozen. However, it is often not practicable to alter the construction schedules once established.

### Surveying and Marking the ROW

The first construction step involves surveying and staking the edge of the ROW and flagging any special land use or environmental feature (e.g. trails, streams, wetlands). This activity typically has minimal impact and is completed by a two-person crew traveling by foot, all-terrain vehicle (ATV), or pick-up truck. This work must be conducted within the PSC-approved ROW. Landowner permission in writing is necessary to conduct any work off of the approved ROW.

### Erosion Controls Installation

Erosion control methods and materials vary depending on the specific construction activities and site soil and slope conditions at the time of construction. All erosion control measures needed to maintain stable site conditions are installed based on location-specific best management practices (BMPs).

### Construction Matting

Construction matting is effectively used for a number of purposes. It provides access through wetlands or other unstable soil areas. Mats are used when soils are wet to limit compaction, rutting, and soil disturbances. Across farms with organic farming practices, a barrier of geotextile fabric overlain by mats provides a barrier between work activities and the underlying soil and plants. Mats are sometimes used to impede the spread of invasive species. Construction matting may consist of timber, composite or hybrid timber mats. Truck, forwarders, forklifts, or skid loaders and are used to install the mats. Matting is removed when construction vehicle access is no longer required along the ROW. Mat removal is done before restoration.

### Clearing the ROW

The ROW is cleared of all vegetation for the full width of the ROW.

A mower is used to clear cropped fields and upland shrubby grasslands. ROW in sedge meadows and shrub/scrub wetlands might also be mowed.

In areas where the ROW crosses trees, the landowner must be afforded a reasonable time by the utility to harvest any trees located within easement boundaries. If the landowner fails to do so, the landowner still retains title to all trees cut by the utility (Wis. Stat. § 182.017(7)(e)). Tree removal can be accomplished by several types of equipment. Whole tree processors capable of cutting a standing tree at its base, removing all limbs, and sawing the tree trunk into consistent log lengths or poles are a very efficient way to clear open mature woodlands. In woodlands with a thick cover or immature understory trees, hand clearing with chainsaws may be done, as well. Chainsaws may be used to clear smaller diameter trees adjacent to stream channel. Generally any pole timber or saw logs are stacked on the edge of the ROW in upland locations and the smaller diameter limbs and branches are chipped or burned on the ROW. The cut logs are the property of the landowner and wood chips may be spread on the ROW, piled for the landowner, or chipped directly into a truck and hauled off the ROW.

Vegetation from some trees can be toxic to livestock. A more detailed discussion of this issue is included in Section VIII of this AIS in, "Trees and Other Woody Vegetation." All debris from these trees are to be removed from actively pastured areas to prevent its contact with livestock. This material will not be stockpiled on-site.

A fence crew operates with the clearing crew. The utility should work with landowners to identify pastures that contain livestock so as not to disrupt farming operations. The utility is required to repair to its original condition any fence damaged as a result of construction. If fence cutting is necessary, a temporary gate will be installed. Any such gate will be left in place at the landowner's request (Wis. Stat. § 182.017(7)(c)5.).



### Staging of Materials

Electric transmission structures and other construction materials are hauled to staging areas near work areas. Trucks, loaders, and cranes are needed to deliver and unload materials.

### Off-ROW Access Roads

Access roads to the ROW are sometimes required to avoid greater impacts. They are typically along existing ROWs, including public roads and farm roads. Sometimes temporary access roads are necessary and some may cross agricultural lands. Temporary access roads across private lands will be negotiated with the affected landowner. Their construction and use should not interfere with existing surface drainage patterns. After construction is completed, the land will be restored to its original condition, or upon approval from the property owner, the access road may be left in place.

### Auguring and Blasting

Excavation is required for all structures. In most soils, the excavation for the transmission structure can be augured using a standard drilling rig. Topsoil should be segregated from subsoils and reserved for later use during restoration (Wis. Stat. §182.017(7)(c)1). Excess soils from excavations may be spread in upland areas or hauled to an offsite disposal location, depending on the setting and the property owner's wishes.

When bedrock is close to the surface or when subsoils consist of large boulders and large cobbles, blasting might be required to complete the excavation. Explosives are placed in holes drilled into the rock and the structure site is covered with blasting mats to keep the rock and debris loosened by the blast from scattering over a wide area. Following the blast, the blasting mats and loosened debris are removed and the drilling rig is used to auger through the broken rock until the appropriate depth is reached.

### Dewatering

If water is encountered during the auguring process, de-watering may be needed. Options for dewatering include: pumping the water from the excavation to a suitable upland area and allowing it to slowly percolate into the soil, pumping water into filter bags to limit the silt that is discharged, or pumping the water directly into a tanker truck and transporting it to a suitable upland for release onto the soil surface.

When subsurface soils consist of unconsolidated materials, such as gravel or cobbles, the excavation might need to be continually flooded to prevent the side walls from collapsing. When the appropriate depth is reached, a casing is inserted into the excavation and the water is pumped out. Removal of the water from the excavation will be similar to the dewatering options described above.

Release of pumped water in agricultural fields may be suitable but can have long-lasting adverse effects if too much water is allowed to flood the fields. Suitable locations for dewatering must be carefully chosen and monitored.

### Structure Installation

Structures can be installed with a concrete foundation or directly embedded. Based on the structure location within the project and the site specific soil characteristics, the type of structure installation will be determined during the final engineering process. Typical equipment for this phase of construction includes pick-up trucks, dump trucks, backhoes, drill rigs, cranes, vacuum trucks, tanker trucks, and concrete trucks.

A drill rig is used for excavating the necessary hole for the structure.

For reinforced concrete foundations, a rebar cage and anchor bolts are placed into the excavation. The excavation is then filled with concrete to a point where the rebar cage and anchor bolts are covered, typically leaving a one to two feet of foundation above the surface. The complete caisson is allowed to cure. In general the excavated holes for the concrete foundations range from six to nine feet in diameter and may be 25 to 30 feet in depth or greater depending on soil conditions.

Cleanup of the foundation site involves the removal and proper disposal of the spoils. If the structure is in cropland or wetland, the spoils are moved to an upland location approved by the landowner or trucked off the property to an off-site disposal area such as a quarry. Excavated spoils consist of non-organic material including rocks, gravel, and sand. This material should never be spread on cropland or pasture. In some upland locations and with the landowner's permission, subsoils may be spread across the soil surface around the tower site and graded to ensure drainage moves away from the tower. In non-agricultural upland areas, the disturbed soils are usually mulched and/or seeded with annual oats or rye grass, which germinate quickly and help to stabilize the soil surface giving native vegetation an opportunity for reestablishment.

### Structure Setting

Steel transmission structures are transported from the staging area to the foundation locations in sections. After the direct embed is set or the concrete caisson is cured, the remainder of the steel pole structure is mounted to the base, or a direct-embedded structure is set in the excavation. Typical equipment for this phase of construction includes cranes, bucket trucks, pick-up trucks, and dump trucks.

In areas, where ground-based cranes are not suitable due to soft or wet ground, steep terrain, or environmentally protected areas, helicopters can be used to transport and erect the steel structures. This may reduce the need for extensive access roads or matting and the resulting impacts.

### Wire Stringing and Clipping

After all the structures within a segment are set, the wires are pulled and clipped into place. Large reels of rope are staged on the ROW and the individual ropes are drawn through the pulleys from tower to tower. The wire conductor is then attached to the ropes and pulled into place. The pulleys are removed and the conductors are attached to the insulators and properly tensioned. This activity requires access to each structure with either a bucket truck or helicopter. Wire set-up areas containing reel trailers, wire pullers, and related equipment are located at each end of the wire pull.

### Cleanup and Restoration

Following the completion of construction activities, the area is restored to preconstruction conditions. Wis. Stat. § 182.017(7)(c)4 requires that all debris be cleared and all stones and rocks resulting from construction activity be removed upon construction completion. This cleanup includes removing construction mats, temporary clear span bridges, and any other material or debris from the ROW. Disturbed soils are then graded so that the topography and slopes are returned to preconstruction conditions. All ruts and depressions are restored. Stockpiled topsoils and subsoils are put back in the property order wherever soils had been stripped and segregated. New topsoil is brought in and spread on agricultural locations where topsoil has been lost or seriously mixed with subsoils. Compacted agricultural soils are decompacted to return the soil structure to its original condition.

Areas where crops are not present, such as roadsides, pastures, old fields, upland woods, and wetlands, may be seeded with native seed mixes (or other appropriate seed mixes approved by the landowner and mulched with certified weed-free mulch. In some cases, where it is reasonable to allow the natural ground cover to re-establish itself, annual grasses may be sown to minimize the potential for erosion while re-establishment is occurring. In wetlands, excavated surface soils or the organic layer might be spread around the foundation enhancing the re-establishment of the original wetland vegetation.

Any drainage tiles or other agricultural features that were damaged by construction must be repaired or replaced, or the landowner must be compensated. Also, all landowner protections listed in Wis. Stat. § 182.017(7)(c) must be met unless waived by the landowner in the easement contract.

In residential and urban areas, negotiated easements may detail the replacement of landscaped vegetation with low-growing plants. Any driveways, curbs, or roads damaged need to be repaired or replaced.

Erosion control and ROW monitoring continues until there is sufficient vegetative growth in the ROW. Following completion of restoration and re-establishment of vegetation within the ROW, all temporary restoration erosion control devices not designed to be left in place are removed and

properly disposed. All temporary bridges are removed. All remaining construction-related materials, markers, and debris are removed.

## VIII. POTENTIAL ADVERSE IMPACTS OF TRANSMISSION LINE CONSTRUCTION ON AGRICULTURE

Agricultural operations and productivity can be adversely affected during the construction of the electric line. These impacts include but are not limited to:

- Interference with farm operations in the ROW and adjacent areas
- Interruption of or damage to irrigation systems
- Alteration of surface and subsurface drainage systems
- Impacts to grazing areas, row crops, and existing fencing
- Flooding due to dewatering activities during construction
- Use of prohibited substances on farms that are following organic practices

After construction is completed, some impacts may affect agricultural productivity years afterwards, not only in the ROW but in the adjacent fields as well. These long-term potential impacts include but are not limited to:

- Several years of yield reductions due to construction activities, erosion, the mixing of topsoil and subsoils, and/or deep compaction
- Ponding from altered surface and subsurface drainage profiles
- Inadequate restoration resulting in alteration to the original land contours
- Construction debris left in fields
- ROW restoration that is inconsistent with landowners cropping plans
- Opportunistic weed growth

### Topsoil Mixing

#### *Potential Adverse Impact*

Good agricultural topsoil is an invaluable resource that should be preserved. Mixing of topsoil with the underlying subsoil and/or parent material will reduce tilth, organic matter content and cation exchange capacity, and alter soil structure and distribution of particle sizes (particularly water stable aggregates). Once mixed, full restoration may require transporting new topsoil of similar quality from an off-site location. This will add costs to the project and may still not fully return the agricultural field to pre-construction productivity.

Topsoil mixing can occur under wet or dry conditions during the grading and re-grading of the ROW. Significant long-term agricultural productivity impacts can occur as a result of soil mixing if deep ruts are created during construction and the topsoil layer is shallow.

Soil mixing is a greater danger when soils are wet. The moisture and precipitation pattern expected during construction must be taken into account in planning adequate mitigation measures to protect topsoil from mixing. In some soils, one inch of summer rainfall over five of ten days can cause significant rutting with normal construction equipment traffic.

### *Measures to Avoid Topsoil Mixing/Inversion*

To prevent the mixing of topsoils with subsoil layers, proper monitoring of erosion control techniques is necessary to keep top soil within the ROW. Furthermore, construction activities should not occur during wet conditions, if the ROW is not matted. If topsoil is mixed with subsoils, new topsoil should be brought in so that the negative effects are minimized.

## **Soil Compaction**

### *Potential Adverse Impact*

Equipment used to construct electric transmission lines has the potential to compact soil and reduce soil productivity on the farmland traversed during construction. Compaction reduces the uptake of water and nutrients by crops, restricts rooting depth, decreases soil temperature, increases the proportion of water-filled pore space at field moisture capacity, decreases the rate of decomposition of organic matter, decreases pore size and water infiltration, and increases surface runoff. The greater the depth at which soil compaction occurs, the more persistent it is.

Yield loss caused by soil compaction may range between 10 and 50 percent for a variety of crops ([Wolkowski, R. & Lowery, B., \(2008\), Soil Compaction: Causes, Concerns, and Cures, University of Wisconsin Extension, publication A3367](#)). The magnitude of yield loss is dependent on a number of factors including, soil type, degree of compaction, and water availability. Compaction is most evident when the crop is under additional stress such as during drought or excessively wet conditions.

The factors that influence whether a soil becomes compacted include the weight of the construction equipment traveling, soil moisture, and soil texture. As axle load increases, the depth of compaction can increase. When traffic loads are relatively lightweight, less than 10 tons per axle, the soil generally does not compact below the 8-10 inch range. Compaction at this depth normally can be decompacted with typical farm tillage equipment. Heavier construction equipment can compact soils to a depth that cannot be removed by conventional tillage. Wet soils can also increase the risk for compaction. Sometimes, the plow layer may appear dry, but the subsoil may still be saturated resulting in the potential for significant compaction during construction. Also, soil texture may be a good indicator of potentially sensitive soils. Fine soils, such as clay or silty clay loams have a greater risk of becoming compacted.

### *Soil Restoration*

Electric line construction can cause damage to agricultural productivity from deep soil compaction if proper construction methods are not implemented or proper decompaction is not performed. However, with the proper techniques, timing, and equipment, there are few subsoils that cannot be adequately decompacted.

Prevention of rutting and compaction is easier than restoring the soil structure after it has been damaged. The most effective method to reduce compaction and rutting in construction ROWs is the use of construction matting. To further minimize soil compaction without mats, low-impact machinery with wide tracks can be used in low-lying areas or in areas with saturated or sensitive soils. When soils are wet, heavy construction equipment may cause significant rutting and compaction. Significant rutting is defined as ruts greater than 6 inches deep.

After construction is completed, the ROW will be compacted to some degree. Deep ripping of the ROW may be accomplished through the use of an industrial V-ripper, chisel plow, or para plow, which will help restore the soil structure to pre-construction productivity.

Following decompaction, penetrometer measurements can be taken to ensure proper decompaction has occurred at representative sites throughout the topsoil and subsoil profile. Moisture conditions should be comparable on and off the construction ROW and throughout the soil horizon at the time of sampling in order to get accurate readings.

## **Drainage**

### *Potential Adverse Impacts*

Proper field drainage is vital to a successful farm operation. Construction of an electric transmission line can disrupt improvements such as drainage tiles, grassed waterways, and drainage ditches, which regulate the flow of water on farm fields. If drainage is impaired, water can settle in fields and cause substantial damage, such as killing crops and other vegetation, concentrating mineral salts, flooding farm buildings, or causing hoof rot and other diseases that affect livestock.

Construction-caused soil compaction may cause ponded water where none existed prior to construction. Also, damaged drain tiles may not be readily apparent after construction due to dry conditions. Therefore, it may take several years for drainage problems to become apparent.

### *Mitigation Measures*

DATCP recommends that landowners notify the utility about the existence and location of drainage systems or planned drainage systems that could be affected. Field conditions should be documented by the landowner prior to the start of construction so it can be compared with post-construction conditions.

The utility may use matting when crossing existing drain tiles to evenly distribute the weight of heavy equipment and/or use low ground impact construction equipment to prevent damage. However if tiles are damaged, the utility must repair or replace the tile.

Where construction activities have altered the pre-construction drainage of fields, resulting in new wet areas, DATCP recommends the utility work with the landowner to determine the means to return the agricultural land to pre-construction function. New drainage tiles, regrading, or additional fill may be required to correct the problems that arise after construction is completed.

If a landowner is planning to install drainage tile within the next three years and drainage locations have been documented in writing, these documents should be provided to the utility prior to construction.

## **De-watering**

### *Potential Adverse Impacts*

During the auguring for the structure foundation, dewatering of the excavation may be necessary. Improper dewatering can result in soil erosion; sedimentation and deposition of gravel, sand, or silt onto adjacent agricultural lands; and inundation of crops.

### *Mitigation Measures*

The utility should identify low areas and hydric soils where excavation is likely to collect water as well as upland areas suitable for the discharge of the accumulated water. Discharge locations must be in compliance with current drainage laws, local ordinances, DNR permit conditions, and the provisions of the Clean Water Act. Discharge locations must be well-vegetated areas that prevent the water from returning to the ROW and prevent the deposition of gravel or sediment onto fields, pastures, or watercourses. Water can first be pumped through filter bags to capture much of the sediment from the water. If deposition of water onto cropland is unavoidable, crops should not be inundated for more than 24 hours. Crops inundated for more than 24 hours may incur severe damage. The utility should compensate the landowner for any damage to agricultural fields caused by de-watering activities. Discharge of water from non-organic farms should never be allowed to flow onto organic farm operations.

## **Irrigation**

### *Potential Adverse Impacts*

Electric line construction can interfere with the operation of field irrigation systems. Many crop fields are irrigated with center-pivot or lateral-move irrigation systems. If irrigation systems are disrupted by construction, crops outside of the proposed ROW could be negatively affected by a lack of water.



### *Mitigation Measures*

The utility should discuss the location of all existing irrigation systems and how construction of the transmission line might impact their use. If irrigation systems will be disrupted, the utility should notify the landowner beforehand and establish a mutually acceptable amount of time that the system will be taken out-of-service. The maximum period of time that irrigation systems can be taken out-of-service without reducing yields on field corn is 5 to 7 days during the period from silking - tasseling to the finished crop. Earlier delays in meeting irrigation requirements may result in smaller plants, but should not reduce grain production significantly. Vegetable crops will have a shorter period between irrigations.

DATCP recommends that all irrigators along the transmission ROW document irrigation information for their fields, including amount and frequency of irrigation; and weather conditions such as rainfall and temperature for the growing season prior to the start of construction. Pre- and post- construction records will assist the landowner in identifying stressed crops caused by the utility's disruption of the irrigation system. Stressed crops could potentially result in reduced yields.

Any damages to the system (well, pumping plant, irrigation system – center-pivot, traveling large volume sprinkler, buried supply lines, electrical supply lines) caused by construction activities should be repaired by the utility as soon as possible.

Where transmission line structures are placed in or along irrigated fields where none existed before, they may interfere with the movement of irrigation equipment. DATCP recommends that the utility work with all irrigation operators to reconfigure the irrigation equipment where necessary and to compensate them for any portion of their cropland where the irrigation system can no longer reach.

### **Erosion and Conservation Practices**

#### *Potential Adverse Impacts*

Both topsoil and subsoil along the project routes are valuable resources. Construction activities can destabilize soil horizons and cause top soil to erode and potentially migrate off of the ROW. During wet conditions, risks to soil from erosion are increased as exposed soils are moved downslope. Areas with steeper slopes can be subject to greater soil loss from erosion by water. Silt and very fine sand, and certain clay textured soils tend to be more susceptible to erosion.

Wind erosion can also be a concern in areas where windbreaks must be removed from the ROW. Factors that affect wind erosion include degree of ped formation, surface roughness, wind speed, soil moisture, and vegetative cover. Sandy loams, loamy sands, and sands are most susceptible to wind erosion. Wind erosion decreases as soil moisture increases. Significant erosion can have an adverse effect on long-term productivity of agricultural lands. Where the ROW runs up and

down gently sloping soils, the collection of surface runoff in the tracks left by construction equipment can erode significant amounts of soil in fields.

Many agricultural fields have existing erosion control practices such as diversion terraces, grassed or lined waterways, outlet ditches, water and sediment control basins, vegetated filter strips, etc. These can be damaged by construction activities.

Soil erosion can affect crop yields through the loss of natural nutrients and applied fertilizers. Seeds and plants can be disturbed or completely removed from the eroded site. Organic matter, manure, and crop residue can be transported off the field through erosion. Pesticides can also be carried off the site with eroded soil.

### *Mitigation Measures*

Erosion control practices must be carefully followed to minimize construction-related impacts. If the project is approved, an Erosion Control Plan will be developed to meet the requirements outlined in Wis. Admin Code chs. [NR 216](#) and [NR 151](#). The plan will provide guidance on revegetation and site stabilization. Disturbed areas will be monitored weekly and after rain events as required by NR 216.

WDNR standards are described on the website:

<http://dnr.wi.gov/topic/stormwater/standards/index.html>.

Temporary erosion controls must be properly maintained on agricultural lands on a daily basis throughout construction and restoration. Whenever necessary, they must be reinstalled until permanent erosion controls are installed or restoration is completed.

The best method to control erosion is the growth of a vegetative cover. As soon as practicable the land should be returned to cropland or seeded with the appropriate species mix.

If any existing erosion control practices such as diversion terraces, grassed or lined waterways, outlet ditches, water and sediment control basins, vegetated filter strips, etc. are damaged by construction activities, the utility must restore the features to pre-construction condition and function.

## **Temporary Access Roads**

### *Potential Adverse Impacts*

Temporary access roads may need to be created to allow personnel and construction equipment to access the construction corridor. Where possible, existing public or private roads are used. However, in some locations these are not available or suitable.

Temporary access roads may cross agricultural fields. The potential negative effects of building access roads across agricultural lands include the potential mixing of topsoil with subsoil, soil compaction, erosion, and interference with existing drainage, irrigation, and farming operations.

Any of these impacts can result in the loss of agricultural productivity on affected soils after construction is completed.

### *Mitigation Measures*

The utility must consult with landowners before siting any temporary access roads through private property. Where new access roads are constructed on agricultural land and the land requires grading, the utility should strip and stockpile the topsoil for later reuse during restoration. ([Wis. Stat. § 182.017\(7\)\(c\)](#)). Access roads should also be designed to allow proper drainage and minimize soil erosion. Geotextile construction fabric may be placed below any imported rock used to build the road, in order to protect the subsoil.

If desired by the landowner, temporary roads will be left in place after construction. If access roads are removed, Wisconsin statutes require that the land be restored to its original condition and contours (Wis. Stat. § 182.017(7)(c)). Any disturbance to drainage tiles or drainage patterns should be remediated by the utility or its contractors. If additional topsoil is necessary to restore the farmland, the new topsoil should be of similar quality to adjacent soils.

## **Trees and Other Woody Vegetation**

### *Adverse Impacts*

The utility removes all woody vegetation including trees and brush from the full width of the ROW, prior to the start of construction. No trees will be permitted to regrow or be replanted in the ROW after construction is completed.

Affected landowners maintain ownership of any trees that are removed ([Wis. Stat. § 182.017\(7\)\(e\)](#)). The utility is required to inform the landowner in a reasonable amount of time prior to the start of construction so that the landowner can harvest any trees located within the easement boundaries. If the landowner fails to do so, the landowner still retains title to all trees cut by the utility. Typically any timber or saw logs are stacked on the edge of the ROW in upland locations for the landowner's disposition. Smaller diameter trees and limbs may be chipped and either spread on the ROW or piled on the edge of the ROW for the landowner's use, or disposed of by burning or hauling off-site by the utility.

Agricultural property owners have trees on their property for many uses. They may have:

- a woodlot for income, firewood, or recreational use
- tree crops (nurseries, orchards, Christmas tree farms)
- a fencerow used as a windbreak to reduce erosion
- trees to shade livestock
- trees planted as a visual and/or sound barrier from a highway or other land usage

- ornamental trees, shade trees, fruit trees for personal use, or other landscaping around the residence and out buildings for aesthetic value

Both the existence of a woodlot or tree crops provide financial benefit to the landowner. Windbreaks in the form of a single row of trees may protect for a distance downwind of approximately 10 to 12 times the height of the windbreak. Therefore taller trees in a windbreak will protect a larger area of cropland than shorter trees. Tree lines can serve as a herbicide barrier between organic farm parcels and conventional operations. Removal of this barrier may allow herbicide drift to affect an organic farm operation. Shade trees in pasture benefit livestock. Heat above 75 degrees Fahrenheit can negatively affect livestock by inhibiting feed intake and result in lower milk production in dairy animals and lower weight gain in meat animals. Planted trees can have sentimental value or add aesthetic enjoyment to the property. Removal of any trees from a property can decrease overall market value of the property.

Some parts of trees contain compounds that are toxic if eaten by livestock. Cornell University identifies these potential risks to livestock

(<http://poisonousplants.ansci.cornell.edu/php/plants.php?action=display&ispecies=cattle>):

- Seeds, leaves, and bark from wild cherries, black cherry, bitter cherry, choke cherry, and pin cherry trees (*Prunus spp.*) to all grazing animals
- Acorns and young leaves from oak trees (*Quercus spp.*) for all grazing animals
- Bark, leaves, and seeds from a black locust trees (*Robinia pseudoacacia*) to horses and cattle
- Leaves, twigs, roots, unripe fruit from elderberry bushes (*Sambucus canadensis*) to cattle and goats
- Fruit from horse chestnut, buckeye trees (*Aesculus spp.*) to cattle and goats
- Needles and young shoots from Ponderosa pine (*Pinus ponderosa*) to cattle

Chipped wood from these trees or other tree parts may present a danger to livestock when the ROW is returned to pasture after construction is completed.

### ***Mitigation Measures***

While, landowners are compensated for the loss of trees that must be removed and may also be compensated for the future loss of tree crop within the easement, mitigation can also be addressed through the routing choices such as, avoiding routes that fragment major forest blocks and adjusting pole placement to minimize the need for tree removal.

Additionally, DNR guidelines should be strictly adhered to for preventing the spread of exotic invasive plant species and diseases such as [oak wilt](#) and [Heterobasidion root disease](#).

Where trees serve an agricultural function such as livestock shade or windbreaks, or if they provide an aesthetic value, landowners should be adequately compensated for the full loss of the

function of the trees. Compensation should include any additional structures that would need to be constructed in order to serve the same function as the former trees. An appraiser who has experience and expertise in valuing trees should be consulted to ensure that landowners receive fair compensation that includes all of the value those trees provide.

If some of the trees might be considered toxic to livestock and the ROW would be returned to pasture use, the utility should work with the landowner to identify potential risks. If the landowners have specific livestock concerns, trees such as wild cherry and black walnut must not be stockpiled or disposed so that the wood or wood parts could be accessible to livestock.

## Fencing

### *Potential Adverse Impacts*

The construction process may necessitate severing fences that are located across the ROW. Changes to existing fence lines can interfere with grazing activities, particularly for rotational grazing operations that depend on precise, scheduled grazing in particular areas.

### *Mitigation Measures*

If transmission line construction divides a pasture, access between the divided parcels could be restricted. If the utility needs to cut any fences during construction, the utility must install a temporary gate ([Wis. Stat. § 182.017 \(7\)\(c\)5.](#)). Severe disruption of grazing operations should be avoided as much as possible by modifying routes or by consultation with the landowner regarding timing of construction activities. Prior to construction, the utility should work with landowners to identify grazing operations adjacent to the ROW. The utility should develop an access plan for the livestock or else compensate the farmer for the costs related to restrictions on grazing. At no time should livestock be allowed to wander onto the ROW.

## Weed Control

### *Potential Adverse Impacts*

Disturbance of the land by construction activities may allow opportunistic weeds to take root where none existed prior to the construction activities. Noxious weeds may be spread from parcel to parcel by construction equipment and activities. A location where weeds are likely to take root are the newly disturbed areas surrounding the new electric support structures.

Periodic transmission ROW maintenance activities can also cause the infestation of invasive species, especially from mowing and clearing of vegetation.

The introduction of weeds and invasive species may reduce crop yields as they compete with the crop for the same resources. They can interfere with harvesting or harbor problem insects and crop diseases. Weeds once established, tend to spread if they are not managed through

mechanical or chemical activities. Weed management can be especially troubling for organic farms that have limited methods for controlling weeds.

### *Mitigation Methods*

Agricultural property owners should be aware that construction activities may cause weed growth where none existed prior to construction. The utility should, based on the wishes of the landowner, re-establish vegetation in the ROW as soon as possible after construction is completed and the mats are removed. Vegetated ROWs will reduce the likelihood of weeds establishing themselves in the newly disturbed area. Furthermore, the utility is responsible for controlling weeds and brush around the transmission line facilities after construction and during the operation of the line. This management may include the use of herbicides, but no herbicide can be used by the utility or its contractors for weed and brush control without the written consent of the landowner ([Wis. Stat. § 182.017\(7\)\(d\)](#)). The statute also states that if the weed and brush control is undertaken by the landowner by written agreement, the landowner shall be compensated for these services.

DATCP recommends that the utility make every effort, within the scope of the landowner's wishes, to leave the ROW with as few impacts from weeds, as practicable.

## **Construction Debris**

### *Potential Adverse Impacts*

Often after construction is completed, there may be a significant amount of construction debris remaining on the field. Prior to reseeding the ROW, the utility will police the area and remove signage, mat debris, litter, spoil piles, etc. If large pieces of debris or rocks are left in the field, agricultural machinery may be damaged when the landowner first works the land.

### *Mitigation Measures*

The utility is required to clear all debris and remove all stones and rocks resulting from construction activity upon completion of construction ([Wis. Stat. § 182.017\(7\)\(c\)4](#)). This is most effectively accomplished by utility personnel walking the ROW and removing the construction debris and rocks prior to laying down any seed and before releasing any cropland back to the farmer for planting. Landowners should contact the utility if construction debris has not been satisfactorily removed from the ROW or if remaining debris causes any damage to agricultural equipment.

## **Seeding and Seedbed Preparation**

### *Potential Adverse Impacts*

Seeding over the ROW without consulting with the landowner may interfere with cropping plans or may result in a cover crop that is not consistent with the landowner's plans.

### *Mitigation Measures*

The utility should reseed areas disturbed by construction activities following final clean-up. Seed mixes will be determined in consultation with the landowner, if appropriate. Any seedbed preparation and seeding done by the utility must be done at the correct time and at the proper depth to promote adequate seed-soil contact on cropland or pasture requiring seeding. Seeding is to be completed immediately after seedbed preparation, if weather permits. Temporary erosion controls will be used if weather does not permit immediate seeding. If seeding is done outside of recommended windows, temporary erosion control methods such as mulching or temporary cover will be used.

### **Crop Rotation and Dairy Operations**

#### *Potential Adverse Impacts*

A common dairy rotation may include 2 to 3 years of field corn, followed by soybeans, and then 3 years of alfalfa. Construction activities across fields may affect the yield and/or quality of the alfalfa crop that the farming operation needs to feed its herd. If construction activities cause a delay in alfalfa seeding, it may cause a shortage of alfalfa forage or the field may contain an increase percentage of grass. Some operators may choose to alter their crop rotation schedule and plant extra years of row crops to avoid the likelihood of an alfalfa crop that doesn't meet the operation's quantity or quality forage needs. If any of these occur, the operator will be negatively impacted due to a shortage of alfalfa forage and would need to do some or all of the following: buy haylage or hay, obtain more corn silage, and/or provide protein supplements such as soybean oil meal. All these alternatives would increase costs to the operator.

#### *Mitigation Measures*

Dairy operators need to know the construction schedule well in advance in order to make adjustments to their crop rotation schedule. Due to the high cost of seeding alfalfa, some operators may decide to plant a row crop during the year of construction and maybe even the year following construction to have an additional opportunity for tillage to further decompact the soils. Other operators may choose to keep a field in alfalfa but may have decreased quality or quantity of yields due to construction impacts. Fertilization (top-dress) of the forage field with potassium (K20) may enhance alfalfa plant density. With advanced knowledge of the construction schedule, dairy operators can determine how best to provide forage for the herd and the associated costs for these adjustments.

The utility should provide dairy operations with as much advance information as possible about the construction schedule on individual properties and compensate the landowner for any increased costs associated with construction impacts to forage requirements.

## Electrical Interference with Precision Farming and Other Technologies

### *Potential Adverse Concerns*

Many farmers currently use precision agriculture, also known as satellite farming, or site specific crop management. This technology uses global positioning systems (GPS) and global navigation satellite system (GNSS) to locate precise positions in a field and relate it to spatial and temporal variability in growth limiting factors. Instead of applying a uniform rate of fertilizers, herbicides and pesticides, rates of application can be varied depending on measured variables at different locations. Farmers have had concerns that close proximity to power lines may interfere with farm equipment's ability to accurately receive the satellite signals needed to guide the field position of variable-application farm equipment.

Other concerns of electrical interference concern radio and television reception.

### *Mitigation Measures*

Regarding precision farming, no interference with satellite signals is anticipated. Utilities that cause damage to GPS-based or other farm equipment due to the operation of electric transmission line must compensate landowners for the damage ([Wis. Stat. § 182.017\(7\)\(b\)](#)). Additionally transmission lines do not usually interfere with normal television and radio reception. In some cases, interference is possible at a location close to the ROW due to weak broadcast signals or poor receiving equipment. If interference occurs because of the transmission line, the utility is required to remedy problems so that reception is restored to its original quality ([Wis. Admin. Code § PSC 113.0707\(3\)](#)).

## Bio-security

### *Potential Adverse Impacts*

Construction activities can spread weeds, diseases, chemicals, and genetically-modified organisms (GMO's) that can cause significant economic losses to farms, and may have greater negative impacts on certified organic farms.

### *Mitigation Measures*

The utility should actively work toward avoiding contact with livestock and manure during the construction process to reduce the risk of biosecurity issues occurring. If avoidance is not possible the utility should work with the farmers to develop protocols specific to the landowner's farm operation. If the farmer has a biosecurity plan in-place, the utility's personnel and contractors should follow all posted directives regarding bio-security on farms.

DATCP recommends that any affected farm operation that has a written bio-security plan, provide this plan to the utility. The utility's employees and contractors should become familiar with these plans and develop appropriate procedures to comply with these plans.



## Organic Farms

### *Potential Adverse Impacts*

For certified organic farms and farms working towards certification, contamination concerns can involve a broad range of substances. Prohibited substances may be spread to organic farms directly via construction machinery or carried indirectly by water flowing onto fields. Pesticides can also drift onto adjacent organic farm properties, if wind direction and speed are not appropriately monitored.

### *Mitigation Measures*

Care must be taken by the utility and their contractors where construction crosses farmland that is following organic practices. Organic top soil is difficult to replace. Where soil on organic farms is excavated or bored into, the topsoil should be segregated from subsoils and set aside to be used during restoration activities. No herbicide should be used on organic farms and additional precautions must be taken with herbicide use on land adjacent to organic farms in order to prevent herbicide drift or herbicide-dissolved water flow onto organic fields. [Wis. Admin. Code § ATCP 29.50\(2\)](#) states that no pesticides (includes herbicides) may be used in a manner that results in pesticide overspray or significant pesticide drift. Any oil or fuel spill on these farms could prevent or remove the certification of the farm.

DATCP recommends that landowners with organic certifications and those working towards organic certification discuss the range and type of substances that are and are not permitted on their land by their certifying entity. This list should be shared with the utility and their subcontractors. Any substances that are not approved for use in organic production should not be used on these properties. Additionally, prior to the start of construction, appropriate methods should be agreed-to between the landowner and the utility to avoid the potential for any unintentional contacts including herbicide applications from adjacent ROW acreage to drift onto the organic farm. Often construction areas are underlain with geotextile fabric to effectively limit the potential for prohibited substances from contaminating the organic farmland. The utility should also not apply seed to certified organic farms prior to consultation with the landowner.

## Construction Noise and Dust

### *Potential Adverse Impacts*

During each phase of construction, noise and dust is generated. In addition to the typical construction techniques, blasting may be necessary and helicopters may be used. Noise may cause dairy and beef cattle to stampede, break through fences, and escape from the farm property. Fur animals and poultry are particularly sensitive to noise.

### *Mitigation Measures*

The utility should work with farmers to determine potential sensitive animals and provide appropriate advance warning of construction activities so that farmers can take the necessary steps to safe guard their animals. Dust should be kept at a minimum when practicable.

## **Agricultural Safety near Operating Electrical Transmission Lines**

### *Safety Standards*

Transmission lines must meet the requirements of the Wisconsin State Electrical Code. The code establishes design and operating standards and sets minimum distances between wires, poles, the ground and buildings. While the Wisconsin State Electrical Code represents the minimum standards for safety, the electric utility industry's construction standards are generally more stringent than the Wisconsin State Electrical Code requirements.

There are many safety issues that will be of concern to farmers as it relates to equipment and facilities near and under the electric lines. Besides the following brief overview of issues, more information about electrical safety on farms can be found at:

- Midwest Rural Energy Council: <http://mrec.org/agricultural-wiring-stray-voltage/>
- Bonneville Power Administration:  
<https://www.bpa.gov/news/pubs/generalpublications/lusi-living-and-working-safely-around-high-voltage-power-lines.pdf>

### *Stray Voltage and Dairy Farms*

Once a route is chosen by the PSC, and before construction begins, Neutral-to-Earth-Voltage (NEV) testing is offered to all identified dairy farms that are within one-half mile of the approved transmission line and are fed by a paralleling electric distribution line. Distribution lines are considered parallel or collocated if the line is less than 150 feet from the proposed transmission line and parallel for more than 1,000 feet. This testing will measure the amount of cow contact voltage that exists on the farm before construction of the transmission line. Once the project is constructed, the NEV testing will be performed again to verify that any NEV levels present on the farm are still below allowable limits set by the PSC. Farms with confined animals in the project area that were not offered testing, can request that their facilities be tested.

Additional information and personnel to assist with stray voltage issues can be found at:

- Public Service Commission:  
<https://psc.wi.gov/Pages/Programs/StrayVoltageHomePage.aspx>
- Midwest Rural Energy Council (MREC):  
<http://mrec.org/agricultural-wiring-stray-voltage/stray-voltage>
- Rural Electric Power Services:  
[https://datcp.wi.gov/Pages/Growing\\_WI/StrayVoltage.aspx](https://datcp.wi.gov/Pages/Growing_WI/StrayVoltage.aspx)

### *Contact with Electrical Lines*

The most significant risk of injury from any electric line is the danger of contact between an object on the ground and an energized conductor. Unlike wiring in a home, the conductors of overhead transmission lines are not enclosed by an insulating material. Electrical contact can occur even if the two objects do not actually touch because electricity can arc across an air gap.

The most important safety practice is to avoid placing yourself or any object too close to a high-voltage overhead line. Safe distances vary with different line voltages. Additionally, lines sag closer to the ground as air temperature increases. It's important that individuals never bring themselves, or any object too close to an overhead electric line. This includes not lifting, elevating, building or passing under an electric line with any object, equipment, facility, or vehicle that could come close to the energized wires. As a general precaution, when near an electric line, never put yourself or any object any higher than 14 feet above the ground.

If tall equipment will be routinely passing under or in close proximity to an electric line, such as bale wagons, bale elevators, grain augers, cranes, large combines, or antennas on equipment, farmers should always check with the utility to determine the safe clearance distances to specific lines.

Farmers working near electric lines should:

- Always lower portable augers or elevators to their lowest possible level (under 14 feet) before moving or transporting and be aware of your surrounding when raising them.
- When moving large equipment or high loads near an electric line, always use a spotter, someone to help make certain that contact with the electric line does not occur.
- Be aware of increased height when loading and transporting larger tractors with higher antennas.
- Never attempt to raise or move an electric line to help clear a path.
- Never raise ladders, poles, pipes, or rods near electric lines. Nonmetallic material such as lumber, tree limbs, and hay can conduct electricity under certain circumstances such as if they contain moisture and/or are dirt-covered.

### *Electric Line Proximity to Fences*

Barbed wire and woven wire fences insulated from ground on wood posts can assume an induced voltage when located near power lines. The utility is required to supply and install any necessary grounding of fences (Wis. Stat. § 182.017(7)(c)8.).

Proper grounding of fences is recommended, if the fence meets any of the following criteria:

- it is located within the ROW
- it parallels the electric line within 125 feet of the outside conductor and is longer than 150 feet
- it parallels the line 125 to 250 feet from the outside conductor and is longer than 6,000 feet.

If it is necessary to move or work on fences that meet this criteria, the fences should remain solidly grounded while the work is being done.

In situations where a fence cannot be grounded (electric fences, for example), a filter may be installed to remove voltages induced by the electric lines. Do not use fence chargers that are not approved by Underwriters' Laboratories, Inc. They may carry voltages and currents that are hazardous to anyone touching the fence — even if power lines are not present.

After the new line is energized and there is a shock-related problem with a fence, it should be determined if the fence is properly grounded. The landowner should contact the utility to determine if the electric line is the cause of the problem, and if so, the utility should make the appropriate fix.

For any concerns related to the electric line and its proximity to an existing or a proposed fence, the farmer should contact the utility.

More information may be obtained from the Midwest Rural Energy Council:

[http://fyi.uwex.edu/mrec/files/2011/02/ElectricFencers\\_MREC\\_051.pdf](http://fyi.uwex.edu/mrec/files/2011/02/ElectricFencers_MREC_051.pdf)

### *Electric Line Proximity to Grain Bins*

The National Electrical Safety Code requires electric lines to be at least 18 feet above the highest point on any grain bin with which portable augers and other portable filing equipment is used. Horizontal clearances and other setbacks for grain bins vary greatly depending on dimensions and electric line voltages. Landowners with grain bins should work with the utility to verify new lines have the proper setbacks.

### *Electric Line Proximity to Irrigation Systems*

Irrigation systems can be operated safely under an electric line. However, to avoid electrical contact with powerlines, two very important safety practices should be observed at all times:

- While moving irrigation pipe under or near power lines, keep the equipment in a horizontal position to prevent accidental contact with overhead lines.
- Electricity can be conducted through water, so never allow the irrigation system to spray a continuous stream onto an electric line or a pole structure.

Central pivot irrigation systems installed near or under electric lines can develop hazardous shock potentials during operation and maintenance. To eliminate these hazards:

- Provide a good electrical ground for the pivot point.
- Do not touch the sprinkler pipe or its supporting structures when the system is operating under or parallel to and near an electric line.
- Perform repairs/maintenance of the system with the sprinkler pipe perpendicular to the electric line.

### *Electric Line Proximity to Buried Pipelines*

Existing underground pipelines that run parallel to an electric line may corrode if the pipelines are not properly grounded. Landowners should identify potentially problematic pipelines to the utility so that it can be determined if additional grounding is necessary to protect the integrity of the pipelines. If new pipelines are planned, landowners should work with the utility to determine appropriate locations in the vicinity of the electric line and grounding requirements.

### *Static Discharges*

Under certain conditions, a perceptible electrostatic voltage can be induced on objects near the electric line, such as large vehicles, machinery, or metal buildings. This can happen when the object is near an electric line and is insulated from the ground. When a person or animal touches the object, a shock can be felt similar to the static shock received from shuffling across a carpet and then touching a doorknob. The static discharge is momentary, but can be painful. The magnitude of the static discharge depends on the voltage of the transmission line, distance from the conductors, size or length of the object, its orientation to the conductors, and the extent of grounding of the object to the earth.

This condition can be corrected by effectively grounding the object to the earth. The utility is required to supply and install any necessary grounding of a landowner's machines and buildings (Wis. Stat. § 182.017(7)(c)8.). The utility should also correct any grounding problems for irrigation systems or other improvements to the property that are affected by the new electric line.

### *Refueling Near Electric Lines*

Although there has been no report of an accidental ignition of fuel caused by spark discharges induced from an electric line field, it is recommended that vehicles only refuel outside of the ROW.

## IX. MAILING LIST

GOVERNOR SCOTT WALKER 115 E CAPITOL	SEN TERRY MOULTON AGRICULTURE COMMITTEE 310 S CAPITOL
REP LEE NERISON AGRICULTURE COMMITTEE 310 N CAPITOL	RESOURCES FOR LIBRARIES (15) DOCUMENT DEPOSITORY PROGRAM 2109 SOUTH STOUGHTON ROAD
STATE DOCUMENTS SECTION THE LIBRARY OF CONGRESS 10 FIRST ST S E WASHINGTON DC 20540-0001	LISA TOLLEFSON ROCK COUNTY CLERK 51 SOUTH MAIN ST JANESVILLE WI 53545
JOSH SMITH ROCK COUNTY ADMINISTRATOR 51 SOUTH MAIN ST JANESVILLE WI 53545	KARRY DEVAULT TOWN OF BELOIT, CLERK 2871 S AFTON ROAD BELOIT WI 53511
NICK BAKER ROCK COUNTY UW EXTENSTION AGENT 51 SOUTH MAIN ST JANESVILLE WI 53545	THOMAS SWEENEY ROCK COUNTY CONSERVATIONIST 440 N US HWY 14 JANESVILLE WI 53546
BELOIT PUBLIC LIBRARY 605 ECLIPSE BLVD BELOIT WI 53511	BELOIT DAILY NEWS 149 STATE STREET BELOIT WI 53511
ROBERT FORRESTAL & CYNTHIA FREES 2135 E MEMORIAL DRIVE JANESVILLE WI 53545	DEAN & JACQUELINE CAVEY 3807 S AFTON ROAD BELOIT WI 53511-8760
JOHN PLAMBECK 2968 WAUBESA AVE MADISON WI 53711-5965	PATRICIA KLUG TRUST c/o PATRICIA KLUG 3414 W FINLEY ROAD BELOIT WI 53511-8729
ROCKY CREEK ESTATE CO c/o WALTER STEFFENS 2110 CHURCH ST JOHNSBURG IL 60051-5908	RICHARD & SHIRLEY THOMPSON FAMILY REV TRUST 3918 S DUGGAN RD BELOIT WI 5311-8808
AMERICAN TRANSMISSION COMPANY LLC JULIE HANSON 5303 FEN OAK DRIVE MADISON WI 53718-8810	

Copies of the final AIS will be emailed to the following:

- Newspapers - Agri-View and Country Today.
- Jeanne Herring

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## APPENDIX A: ACRONYMS

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AIS	Agricultural Impact Statement
AEA	Agricultural Enterprise Area
ATC	American Transmission Company LLC
BMP	Best Management Practices
CPCN	Certificate of Public Convenience and Necessity
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CTH	County Trunk Highway
DATCP	Department of Agriculture, Trade, and Consumer Protection
DNR	Department of Natural Resources
FPP	Farmland Preservation Program
NASS	National Agricultural Statistics Service
NRCS	Natural Resources Conservation Service
PSC	Public Service Commission of Wisconsin
ROW	Right-of-Way
STH	State Trunk Highway
WP&L	Wisconsin Power and Light
USDA	U.S. Department of Agriculture

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## APPENDIX B: DATCP STATUTES FOR AGRICULTURAL IMPACT STATEMENTS

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DATCP is required to prepare an AIS whenever more than five acres of land from at least one farm operation will be acquired for a public project if the agency/company acquiring the land has the authority to use eminent domain for property acquisitions. DATCP has the option to prepare an AIS for projects affecting five or fewer acres from each farm if the proposed project would have significant effects on a farm operation. The entity proposing a construction project is required to provide DATCP with the necessary details of the project so that the potential impacts and effects of the project on farm operations can be analyzed. DATCP has 60 days to make recommendations, and publish the AIS. DATCP provides the AIS to affected farmland owners, various state and local officials, local media and libraries, and any other individual or group who requests a copy. Thirty days after the date of publication, the project initiator may begin negotiating with the landowner(s) for the property.

[Wisconsin Statute § 32.035](#) is provided below and describes the Wisconsin Agricultural Impact Statement procedure and content.

**(1) DEFINITIONS.** In this section:

- (a) "Department" means department of agriculture, trade, and consumer protection.
- (b) "Farm operation" means any activity conducted solely or primarily for the production of one or more agricultural commodities resulting from an agricultural use, as defined in s. 91.01 (2), for sale and home use, and customarily producing the commodities in sufficient quantity to be capable of contributing materially to the operator's support.

**(2) EXCEPTION.** This section shall not apply if an environmental impact statement under s. 1.11 is prepared for the proposed project and if the department submits the information required under this section as part of such statement or if the condemnation is for an easement for the purpose of constructing or operating an electric transmission line, except a high voltage transmission line as defined in s. 196.491(1) (f).

**(3) PROCEDURE.** The condemnor shall notify the department of any project involving the actual or potential exercise of the powers of eminent domain affecting a farm operation. If the condemnor is the department of natural resources, the notice required by this subsection shall be given at the time that permission of the senate and assembly committees on natural resources is



sought under s. 23.09(2)(d) or 27.01(2)(a). To prepare an agricultural impact statement under this section, the department may require the condemnor to compile and submit information about an affected farm operation. The department shall charge the condemnor a fee approximating the actual costs of preparing the statement. The department may not publish the statement if the fee is not paid.

**(4) IMPACT STATEMENT.**

(a) *When an impact statement is required; permitted.* The department shall prepare an agricultural impact statement for each project, except a project under Ch. 82 or a project located entirely within the boundaries of a city or village, if the project involves the actual or potential exercise of the powers of eminent domain and if any interest in more than 5 acres from any farm operation may be taken. The department may prepare an agricultural impact statement on a project located entirely within the boundaries of a city or village or involving any interest in 5 or fewer acres of any farm operation if the condemnation would have a significant effect on any farm operation as a whole.

(b) *Contents.* The agricultural impact statement shall include:

1. A list of the acreage and description of all land lost to agricultural production and all other land with reduced productive capacity, whether or not the land is taken.
2. The department's analyses, conclusions, and recommendations concerning the agricultural impact of the project.

(c) *Preparation time; publication.* The department shall prepare the impact statement within 60 days of receiving the information requested from the condemnor under sub. (3). The department shall publish the statement upon receipt of the fee required under sub. (3).

(d) *Waiting period.* The condemnor may not negotiate with an owner or make a jurisdictional offer under this subchapter until 30 days after the impact statement is published.

**(5) PUBLICATION.** Upon completing the impact statement, the department shall distribute the impact statement to the following:

- (a) The governor's office.
- (b) The senate and assembly committees on agriculture and transportation.

- (c) All local and regional units of government that have jurisdiction over the area affected by the project. The department shall request that each unit post the statement at the place normally used for public notice.
- (d) Local and regional news media in the area affected.
- (e) Public libraries in the area affected.
- (f) Any individual, group, club, or committee that has demonstrated an interest and has requested receipt of such information.
- (g) The condemnor.

### **STATUTES GOVERNING EMINENT DOMAIN**

The details governing eminent domain as it relates to utility projects are included in Wis. Stat. ch. 32 (<http://docs.legis.wisconsin.gov/statutes/statutes/32.pdf>).

DATCP recommends that farmland owners concerned about eminent domain powers and the acquisition of land should review this statute in its entirety. Additionally, landowners may wish to consult with an attorney who should have expertise in eminent domain proceedings. Any Wisconsin licensed appraiser should be knowledgeable in partial takings.

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## APPENDIX C: WISCONSIN STATUTE §182.017 AND THE LANDOWNERS' BILL OF RIGHTS

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### 182.017 Transmission lines; privileges; damages.

**(1g)** DEFINITIONS. In this section:

**(a)** "Commission" means the public service commission.

**(b)** "Company" means any of the following:

**1.** A corporation, limited liability company, partnership, or other business entity organized to furnish telegraph or telecommunications service or transmit heat, power, or electric current to the public or for public purposes.

**2.** An independent system operator, as defined in s. 196.485(1)(d).

**3.** An independent transmission owner, as defined in s. 196.485(1)(d m).

**4.** A cooperative association organized under ch. 185 or 193 to furnish telegraph or telecommunications service.

**5.** A cooperative association organized under ch. 185 to transmit heat, power, or electric current to its members.

**6.** An interim cable operator, as defined in s. 66.0420 (2) (n).

**7.** A video service provider, as defined in s. 66.0420 (2) (zg).

**(bm)** "Municipal regulation" means any contract, ordinance, resolution, order, or other regulation entered into, enacted, or issued by a municipality before, on, or after July 2, 2013.

**(c)** "Municipality" means a city, village, or town.

**(cq)** "Telecommunications service" means the offering for sale of the conveyance of voice, data, or other information, including the sale of service for collection, storage, forwarding, switching, and delivery incidental to such communication regardless of the technology or mode used to make such offering.

**(ct)** "Urban rail transit system" means a system, either publicly or privately owned, which provides transportation by rail in a municipality to the public on a regular and continuing basis and which begins service on or after July 2, 2013.

**(d)** "Video service network" has the meaning given in s. 66.0420 (2) (zb).

**(1r)** RIGHT-OF-WAY FOR. Any company may, subject to ss. 30.44 (3m), 30.45, 86.16, and 196.491 (3) (d) 3m. and to reasonable regulations made by any municipality through which its transmission lines or systems may pass, construct and maintain such lines or systems with all necessary appurtenances in, across or beneath any public highway or bridge or any stream or body of water, or upon any lands of any owner consenting thereto, and for such purpose may acquire lands or the necessary easements; and may connect and operate its lines or system with other lines or systems devoted to like business, within or without this state, and charge reasonable rates for the transmission and delivery of messages or the furnishing of heat, power, or electric light.

**(2) NOT TO OBSTRUCT PUBLIC USE.** But no such line or system or any appurtenance thereto shall at any time obstruct or incommode the public use of any highway, bridge, stream or body of water.

**(3) ABANDONED LINES REMOVED.** The commission after a public hearing as provided in s. 196.26, and subject to the right of review as provided in ch. 227, may declare any line to have been abandoned or discontinued, if the facts warrant such finding. Whenever such a finding shall have been made the company shall remove such line, and on failure for 3 months after such finding of abandonment or discontinuance, any person owning land over, through or upon which such line shall pass, may remove the same, or the supervisors of any town within which said lines may be situated, may remove the said lines from the limits of its highways, and such person or supervisors shall be entitled to recover from the company owning the lines the expense for labor involved in removing the property.

**(4) LOCATION OF POLES.** In case of dispute as to the location of poles, pipes or conduits, the commissioners appointed in condemnation proceedings under ch. 32 may determine the location. In no case, except where the owner consents, shall poles be set in front of or upon any residence property, or in front of a building occupied for business purposes, unless the commissioners find that the same is necessary and the court may review the finding.

**(5) TREE TRIMMING.** Any company which shall in any manner destroy, trim or injure any shade or ornamental trees along any such lines or systems, or, in the course of tree trimming or removal, cause any damage to buildings, fences, crops, livestock or other property, except by the consent of the owner, or after the right so to do has been acquired, shall be liable to the person aggrieved in 3 times the actual damage sustained, besides costs.

**(6) MUNICIPAL FRANCHISE REQUIRED.** No lighting or heating corporation or lighting or heating cooperative association shall have any right hereunder in any municipality until it has obtained a franchise or written consent for the erection or installation of its lines from such municipality.

**(7) HIGH-VOLTAGE TRANSMISSION LINES.** Any easement for rights-of-way for high-voltage transmission lines as defined under s. 196.491(1)(f) shall be subject to all of the following conditions and limitations:

**(a)** The conveyance under ch. 706 and, if applicable, the petition under s. 32.06 (7), shall describe the interest transferred by specifying, in addition to the length and width of the right-of-way, the number, type and maximum height of all structures to be erected thereon, the minimum height of the transmission lines above the landscape, and the number and maximum voltage of the lines to be constructed and operated thereon.

**(b)** In determining just compensation for the interest under s. 32.09, damages shall include losses caused by placement of the line and associated facilities near fences or natural barriers such that lands not taken are rendered less readily accessible to vehicles, agricultural implements and aircraft used in crop work, as well as damages resulting from ozone effects and other physical phenomena associated with such lines, including but not limited to interference with telephone, television and radio communication.

**(c)** In constructing and maintaining high-voltage transmission lines on the property covered by the easement the utility shall:

**1.** If excavation is necessary, ensure that the top soil is stripped, piled and replaced upon completion of the operation.

**2.** Restore to its original condition any slope, terrace, or waterway which is disturbed by the construction or maintenance.

**3.** Insofar as is practicable and when the landowner requests, schedule any construction work in an area used for agricultural production at times when the ground is frozen in order to prevent or reduce soil compaction.

**4.** Clear all debris and remove all stones and rocks resulting from construction activity upon completion of construction.

**5.** Satisfactorily repair to its original condition any fence damaged as a result of construction or maintenance operations. If cutting a fence is necessary, a temporary gate shall be installed. Any such gate shall be left in place at the landowner's request.

**6.** Repair any drainage tile line within the easement damaged by such construction or maintenance.

**7.** Pay for any crop damage caused by such construction or maintenance.

**8.** Supply and install any necessary grounding of a landowner's fences, machinery or buildings.

**(d)** The utility shall control weeds and brush around the transmission line facilities. No herbicidal chemicals may be used for weed and brush control without the express written consent of the landowner. If weed and brush control is undertaken by the landowner under an agreement with the utility, the landowner shall receive from the utility a reasonable amount for such services.

**(e)** The landowner shall be afforded a reasonable time prior to commencement of construction to harvest any trees located within the easement boundaries, and if the landowner fails to do so, the landowner shall nevertheless retain title to all trees cut by the utility.

**(f)** The landowner shall not be responsible for any injury to persons or property caused by the design, construction or upkeep of the high-voltage transmission lines or towers.

**(g)** The utility shall employ all reasonable measures to ensure that the landowner's television and radio reception is not adversely affected by the high-voltage transmission lines.

**(h)** The utility may not use any lands beyond the boundaries of the easement for any purpose, including ingress to and egress from the right-of-way, without the written consent of the landowner.

**(i)** The rights conferred under pars. (c) to (h) may be specifically waived by the landowner in an easement conveyance which contains such paragraphs verbatim.

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## APPENDIX D: ADDITIONAL INFORMATION SOURCES

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### [DATCP \(datcp.wi.gov\)](http://datcp.wi.gov)

- [Farmland Preservation](#)
- [Agricultural Impact Statements](#)
- [Wisconsin Farm Center](#): provides services to Wisconsin farmers including financial mediation, stray voltage, legal, vocational, and farm transfers

### [Department of Administration \(doa.wi.gov\)](http://doa.wi.gov)

[Relocation Assistance](#) includes several publication on landowner rights under Wisconsin eminent domain law

- [Wisconsin Relocation Rights Residential](#)
- [Wisconsin Relocation Rights for Businesses, Farm and Nonprofit Organizations](#)
- [The Rights of Landowners under Wisconsin Eminent Domain Law](#), Procedures under sec. 32.06 Wis. Stats. (Condemnation procedures in matters other than highways, streets, storm & sanitary sewers, watercourses, alleys, airports and mass transit facilities)

### [Public Service Commission of Wisconsin \(psc.wi.gov\)](http://psc.wi.gov)

- PSC project webpage for [docket 137-CE-186](#)
- [PSC Publications](#):
  - Electric Transmission
  - Electric and Magnetic Fields
  - Environmental Impacts of Transmission Lines
  - Impacts of Substations
  - Right-of-Ways and Easements for Electric Facility Construction in Wisconsin
  - Transmission Line

### American Transmission Company ([www.atcllc.com](http://www.atcllc.com))

- [ATC Project Website](#)
- [A Guide to Agricultural Use of American Transmission Co. Rights-of-Way](#)
- [ATC Real estate and right-of-way webpage](#)

### [Department of Natural Resources \(dnr.wi.gov\)](http://dnr.wi.gov)

- [Energy and utility projects](#)
- [Managed Forest Law](#)

[U.S. Department of Agriculture \(www.usda.gov\)](http://www.usda.gov)

- [National Agricultural Statistics Service](#)
- [Web Soil Survey](#)
- [Soil Quality – Urban Technical Note No. 1, Erosion and Sedimentation on Construction Sites](#)

[Wisconsin Department of Safety and Professional Services \(dsps.wi.gov\)](http://dsps.wi.gov)

- Look-up for state certification status of different types of [real estate appraisers](#)

[State Bar of Wisconsin \(www.wisbar.org\)](http://www.wisbar.org)

- For general legal information and assistance in finding a lawyer

**Background Resources**

- [Wolkowski, R., Soil Compaction: Causes, concerns and cures](#)  
University of Wisconsin-Extension, A3367, 2008.
- Hughes, Jodi D., Tires, traction and compaction, University of Minnesota Extension, website (<http://www.extension.umn.edu/agriculture/tillage/tires-traction-and-compaction/>)









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[https://datcp.wi.gov/Pages/Programs\\_Services/AgriculturalImpactStatements.aspx](https://datcp.wi.gov/Pages/Programs_Services/AgriculturalImpactStatements.aspx)