AGRICULTURAL IMPACT STATEMENT

DATCP #3873

Cardinal-Hickory Creek 345 kV Electric Transmission Line and New Hill Valley Substation

Dane, Grant, Iowa, Lafayette Counties

PSC # 05-CE-146

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

PUBLISHED APRIL 18, 2019

AGRICULTURAL IMPACT STATEMENT

DATCP #3873
Cardinal-Hickory Creek 345 kV Electric Transmission Line and
New Hill Valley Substation
Dane, Grant, Iowa, Lafayette Counties

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

Brad Pfaff, Secretary

Sara Walling, Administrator
Division of Agricultural Resource Management

Lacey Cochart, Director
Bureau of Land and Water Resources

Marilyn M. Weiss, Author
Alice Halpin, Author
Melissa Gilmore, Author

Published April 18, 2019

TABLE OF CONTENTS

TABLES

FIGURES

DATCP SUMMARY OF ANALYSIS AND RECOMMENDATIONS

The Review Process

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has prepared an Agricultural Impact Statement (AIS) for the proposed Cardinal-Hickory Creek project (DATCP #3873) in accordance with Wis. Stat. §32.035. This project includes multiple route choices for a new 345 kilovolt (kV) electric transmission line and two potential locations for a new Hill Valley Substation. The Applicants are the American Transmission Company LLC and its corporate manager, ATC Management Inc. (ATC); ITC Midwest LLC (ITC); and Dairyland Power Cooperative (DPC). In this document the project applicants are referred to collectively as the "Applicants."

Project application materials were submitted to DATCP and the Public Service Commission of Wisconsin (PSC) in April 2018. The PSC is the authority that will approve, deny, or make modifications to this project. Starting in May 2018, the PSC, DATCP, and the Wisconsin Department of Natural Resources (WDNR) made data requests regarding all aspects of the project application. On October 4, 2018, the PSC found the application complete and started its 360-day project review (180 days with a 180-day-extension granted on March 13, 2019).

As part of its review of the project, DATCP participated in the three PSC public scoping meetings held in November 2018. DATCP used the meetings to provide information to affected landowners and receive comments. DATCP also sent a questionnaire to agricultural property owners who may have 3 or more acres acquired as an easement or purchased for this project. DATCP sent questionnaires to 377 property owners representing 89 percent of all potentially affected agricultural acres. 126 landowners responded to the questionnaire. The comments from these agricultural landowners are summarized in Chapters IV – VIII of this document.

The Project and Project Area

The proposed new electric line would start at the existing Hickory Creek Substation in Dubuque County, Iowa and cross the Mississippi River at one of two locations. In Wisconsin, there are multiple potential routes connecting the new high-voltage line from Cassville in Grant County to the Cardinal Substation near Madison in Dane County. A new intermediary Hill Valley Substation would also be built either in the town Eden in Iowa County or in the town of Wingville in Grant County. In addition to this AIS, a Map Book has been prepared which depicts all of the project alternatives. As part of this project, the Applicants propose to construct:

- A new Hill Valley Substation, south of the village of Montfort
- Approximately 100 miles of new 345 kilovolt (kV) electric transmission lines from the Mississippi River through Grant County to the Cardinal Substation in Dane County
- A new 138 kV interconnection between the new Hill Valley Substation and an existing 138 kV electric line (X-16)

- Modifications within the Eden, Stoneman, Nelson Dewey, Cardinal, and Wyoming Valley substations.

Of the 895 property owners that might be affected by this project, 692 own agricultural properties. Approximately 3,700 acres or 77 percent of all potentially affected acres are in agriculture.

The majority of the transmission line structures would be self-supporting steel monopoles, 120 to 175 feet tall with spans between structures that range from 750 to 1,100 feet. The typical right-of-way (ROW) for most of the route segments would be 150-feet wide. Construction is anticipated to begin in October 2021.

The project is located in southwest Wisconsin and crosses the river valleys and steep ridges of the Driftless Area. This area of the state has the highest percentage of land dedicated to farming and the largest number of beef cattle, swine, and dairy goats. On average, farmers own more than 75 percent of the land in the four potentially affected counties. Agriculture in this region includes cropland used for corn and soybeans as well as small grains, pasture for dairy and beef cattle, tree farms, and farm forests. The area is also home to a wide range of organic farms.

The four counties, Dane, Grant, Iowa, and Lafayette are all top agriculture producers. A large percentage of the land is prime farmland and yields are typically among the highest in the state and the country. Besides consistently ranking in the top 10 for acres of corn, soybeans, and alfalfa hay harvested, the region accounts for almost 12 percent of all the milk produced in the state.

Project Effects on Agriculture

Most of the potential routes for this project are cross-country. They run across fields, woodlots, and open areas, following no particular boundaries. Constructing an electric line through the middle of these highly productive farms and fields instead of along field edges or property boundaries often increases the impacts to agricultural operations. This increased impact is felt during construction and long afterwards.

Cross-country routing increases the potential for: soil mixing which can significantly affect future crop yields; damaging agricultural erosion control and/or water management practices and facilities, necessary for farming in hilly environments; interference with fencing and livestock management; contamination of organic farms; and more tree removal causing increased forest fragmentation, interference with forest management plans, and a reduction in farm income from timber.

The cross-country nature of the routes often require electric poles to be located within farm fields. After construction is completed, the areas around these electric poles become islands of non-farmable land that can interfere with existing cropping patterns. Cross-country routes also

require the construction and use of numerous and lengthy access roads to reach structures not accessible by road, causing additional acres of farmland impacts. These off-ROW access roads may be located in less than optimal places for the farmer, especially if they become permanent maintenance roads. Permanent off-ROW access roads are possible for any access road identified in the application.

Due to the increased impacts associated with cross-country routes, DATCP generally prefers routes that follow the edges of fields or property boundaries.

DATCP also prefers routes that contain the least amount of new ROW on farmland soils of highest productivity. One method of accomplishing this is to collocate new lines with existing utility corridors. For this project, many of the routes do partially overlap existing lower-voltage electric ROWs and as such, require fewer acres of new ROW. However because the routes are mostly cross-country, project impacts to farmland and farmland operations would still be significant.

In general, the major project impacts that agricultural land owners are concerned about include:

- Interference with livestock operations and pasture fencing
- Damage to erosion control and water management practices and facilities including grassed waterways, terraces, diversions, contour cropping, drain tiles, and dams
- Disturbance to valuable topsoil through rutting, compaction, topsoil displacement, and soil mixing
- Blockage of access to farmland and buildings
- Changes to land enrolled in conservation easements and tax credit programs resulting in a loss of revenue to farmers
- Damage to farmland forests grown for timber and firewood, used for recreation, and/or enrolled in the Managed Forest Law (MFL) program
- Contamination of organic farms and interference with organic farming practices
- Significant changes to rural view-sheds and property values
- Interference with future property uses affecting planned improvements and development potential
- Issues associated with stray voltage that could affect agricultural facilities and livestock

DATCP Recommendations

Having reviewed all of the materials provided by the Applicants to DATCP and PSC, the comments from agricultural property owners, and publically available data, DATCP does not recommend a specific route. All the routes reviewed for this project would impact significant acres of farmland. However, the Applicants' Preferred Route crosses fewer acres of cropland and pasture and fewer acres of prime farmland than the Applicants' Alternate Route.

Even though no specific route is recommended, DATCP does recommend the following to the PSC, the Applicants, and to agricultural property owners so that impacts to farmland and farm operations can be minimized.

Recommendations to the Public Service Commission

- If the PSC approves a route with residences or agricultural buildings within the ROW, DATCP recommends that the potential impacts of this project to the structures should be reviewed to determine if a minor route modification is warranted. No residence should be located within the approved ROW. If agricultural buildings or structures are located within the approved ROW, the PSC should require the Applicants to work with property owners to minimize impacts to the use of the buildings/structures during and after construction and verify that the buildings/structures are properly grounded.

  The following landowners may have homes or structures within or very near to the ROW of route segments.
  - C R Bishop and Sons (Eastern South Route, Subsegment Q02): Agricultural buildings may be in the proposed ROW
  - Oakdale Farms LTD Partnership/Bloomfield Farms LLC (Eastern South Route Part 1, Subsegment Q02): Agricultural structures are in the ROW
  - Deane and Nancy Thomas (Eastern South Route, Subsegment Q02): Building may be in the proposed ROW
  - Stephen and Korena Esser (Eastern Alt South Route, Subsegments R03, R04): Agricultural building may be in the proposed ROW.
  - Mark Sukowaty (Mount Horeb West Option, Subsegment T05): Residence may be within proposed ROW
  - William L. Kahl LLC (Eastern End, Subsegments Z01B, Y07): Some buildings may be within the proposed ROW.

- Project facilities should not interfere with existing land uses including long-term research projects and air strips. If the Applicants' Alternate Route is approved by the PSC, the Applicants should be required to:
  - Work with the UW Platteville Pioneer Farm (Western South Route Part 2, Subsegment G08) so that project activities do not interfere with its research projects. The farm is concerned that project construction activities could affect its long-term agro-ecology research and water quality study.
  - Verify that the project structures and conductors do not interfere with the use of the existing airstrip (W161) owned by David Forseth (Eastern North Route, Subsegment P09). Modifications to structure type and heights may be necessary so that the use of the airstrip remains safe for take-offs and landings.

- Minor route modifications suggested by landowners to minimize impacts to their farming operations and existing land uses may be appropriate. DATCP recommends that the PSC and the Applicants consider minor route modifications provided that no new property owners would be affected, the difference in the cost would be reasonable, and no significant new environmental impacts would be caused by the modification. An example of this type of modification involves the property owned by Daniel, Elisabeth, and Ralph Springer that would be affected by Subsegments R07 and R08 of the Eastern Alt South Route. The Springers recommend that the route be modified to continue east on Fesenfeld Road and then turn south on Sunny Slope Road, avoiding the center of their cropland. This modification would decrease agricultural impacts, affect no other landowner, and require one less turning structure.

- Paul and Lorrie Adams own agricultural property that could be affected by the Western North Route (Subsegments D05, D08). The Adams are concerned that a small uneconomical remnant would be created in the southwest corner of their property and it would be inaccessible during the growing season. DATCP recommends that if project construction activities during the growing season create inaccessible cropland or cropland that is too small or odd-sized to be farmed, the Applicants should properly compensate the property owners for the temporary loss of the use of the land.

- In the Dane County Routing Area of the project, two agricultural properties are located within the Middleton Drainage District. DATCP recommends that the PSC require the Applicants to work with the Dane 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. The potentially affected landowners are:
  - Jerome Wagner (Subsegments Y05, Y06B, and Z02)
  - William L. Kahl LLC (Subsegments Y06B, Y07, and Z01B)

- Due to the number and range of organic farms potentially affected by the project, a written list of general practices and procedures for working in and near organic farms can be an important proactive tool to insure organic operations are protected. DATCP recommends that a document similar to the one created by ATC (Appendix I) on a previous high-voltage electric project (PSC Docket 5-CE-142) should be created for this project. The document should be included with project environmental documents.

  The organic procedure document should include the protection of organic topsoil, prohibited use of herbicides, protection from herbicide drift, cleaning of construction

vehicles used on organic farms, the proper use and type of untreated (no preservatives) wood mats, and issues with seed application. All appropriate personnel and contractors should be trained on the implementation of these best management practices for constructing in or near organic farmland. Furthermore, the Applicants should work with the owner/operator of each organic farm to determine the appropriate farm-specific practices and substances that should and should not be used on each farm.

- Many of the proposed routes include double-circuiting an existing lower-voltage line onto the new poles with the new 345 kV line. This will require the removal or "wrecking out" of existing structures. During the process of removing existing poles, top soil can be mixed with poorer quality subsoils, topsoil can be lost, and compaction can occur to a greater extent than during typical construction activities. DATCP recommends that a document similar to the one created by ATC (Appendix G) on a previous high-voltage electric project (PSC Docket 5-CE-142) should be created for this project. This document detailing project-specific wreck out procedures in agricultural fields should be included with environmental document and used to train construction personnel.

- Many potentially affected agricultural property owners have land enrolled in conservation easement and tax incentive programs (see Tables 3, 4, 5, 6, and 7 of this document). DATCP recommends that the PSC require the Applicants to work with any participant in a conservation or tax incentive program to avoid or mitigate impacts to these lands, as much as practicable. The landowners should be compensated if, because of the project, the landowner is removed from the program; required to pay financial penalties; or program payments are reduced. The Applicants should also pay for any repairs required by a program for any conservation practice damaged by project construction.

- A number of acres of farmland in this area are operated by renters. DATCP recommends that the PSC should require the Applicants to keep renters of agricultural land, if known, as well as farm owners affected by the proposed project up-to-date and informed of construction schedules and potential impacts so that farm activities can be adjusted accordingly. To the extent practicable, the timing of ROW acquisitions and construction by the Applicants and their contractors should be coordinated with farmers to minimize crop damage and disruption of farm operations.

- DATCP recommends that significant ruts caused by project construction activities should be defined in environmental and agricultural documents as any rutting that has a depth of 6 inches or greater. The Applicants should be proactive in preventing the occurrence of significant rutting in agricultural soils. DATCP recommends that the PSC should require that if significant ruts occur, the Applicants implement mitigation measures that include either: the use of construction mats, using approved alternate access, changing the type of equipment used, and/or temporarily suspending work until the area dries out or firms up. All significant ruts should be restored as quickly as practicable.

- The project area has hilly regions and many portions of routes would cross steep grades. The farms in these areas have instituted a wide range of erosion controls and water management practices and facilities. These facilities include grassed waterways, terraces, diversions, contour cropping, drain tiles, and dams. DATCP recommends that the Applicants work with farmland owners and operators to understand the location and function of these features. The Applicants should be required to avoid these features as much as practicable, and any impacts should be minimized or mitigated. Mitigation may include compensation if the feature needs to be replaced or restored by the landowner.

- Where construction activities have altered the pre-construction drainage of fields, resulting in new wet areas, the PSC should require the Applicants to 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.

- DATCP recommends that the Applicants implement training for all managers, monitors, and other appropriate construction personnel for all permit conditions, statutory requirements, and PSC order conditions related to the protection of agricultural resources.

- The PSC should require the Applicants to draft Construction Management Plans (CMPs) for each construction segment. These plans should be submitted for review and approval by the PSC, WDNR, and DATCP, prior to the start of each construction segment. CMPs should include a detailed map of the construction segment and best management practices for construction in and restoration of all environmental resources as well as for agricultural resources. Agricultural-related issues that should be included in the CMP are general construction practices for the protection of topsoils (during all construction activities including structure removal), management of livestock and pasture fencing, agricultural erosion control facilities and practices, and

protection of organic producers. Plans should include specifics for all areas that would have construction impacts including the ROW, off-ROW access roads, laydown yards, and other temporary work areas.

- Due to the number and range of agricultural properties that would be affected by the project and that construction management would be directed by two different utilities which may operate differently, DATCP recommends that the PSC require the use of Independent Environmental Monitors (IEMs) and Independent Agricultural Monitors (IAMs) for this project. It is reasonable to have IAMs hired to verify that construction avoids or minimizes impacts to agricultural properties. These monitors should be hired with the approval of the PSC, DATCP, and WDNR and all reports generated by these entities should be shared with the PSC, DATCP, and WDNR.

Recommendations to the Applicants

- The Applicants should consult with affected farmland owners to determine the least damaging locations for transmission structures and off-ROW access roads.

- The Applicants should consult with the appropriate county conservationist in the project area to ensure that construction proceeds in a manner that minimizes drainage problems, crop damage, soil compaction, and soil erosion.

- The Applicants should undertake post-construction monitoring to ensure that any damage to agricultural fields or operations from construction activities has been repaired or mitigated. Where construction activities have caused damage to agricultural fields or operations, the Applicants should work with landowners to address the problems, as soon as practicable. Problems could involve construction debris, erosion control devices, altered or damaged fencing, altered field drainage, settled areas, or newly wet areas.

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 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 the Applicants 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, the Applicants 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 not permitted on their land by their certifying entity. This list should be provided to the Applicants and their contractors.

- Dairy operators should contact their local electric power utility to request stray voltage testing of their facilities before project construction starts. Another test should be conducted after the line has been energized to determine if the proposed project is causing any electrical problems on those farms.

- DATCP recommends that affected farm operations that have a written bio-security plan, provide this plan to the Applicants.

- 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 the Applicants. General information and reference material can be found in Chapter XII of this AIS under, "Agricultural Safety near Operating Electrical 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. 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 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.

Supporting the need to fully inform agricultural property owners of the potential exercise of eminent domain, Wis. Stat. §32.035(4)(d) requires a waiting period for easement acquisitions, as follows:

> *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. 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 Cardinal-Hickory Creek Electric Project will require a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission of Wisconsin (PSC). The PSC will analyze the need for the project and the potential environmental and community impacts in an Environmental Impact Statement (EIS). The PSC will receive testimony and hold hearings to further assess the impacts of this project. Afterwards, the PSC will approve, modify, or deny the Applicants' proposed project. Construction on the project cannot begin before the Applicants receive a CPCN from the PSC, as well as permits and approvals from other federal and state regulatory entities.

Additional information about this project can be found on the DATCP web page: https://datcp.wi.gov/Pages/Programs_Services/AISCardinalHickoryCrkProject.aspx.

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 05-CE-146.

II. PROJECT DESCRIPTION

Overview

The Cardinal-Hickory Creek Project is a proposal for the construction of about 100-miles of new 345 kilovolt (kV) electric transmission line and, near the village of Montfort, a new substation. The new substation would be called the Hill Valley Substation. The new electric lines would connect from the Hickory Creek Substation in Dubuque County, Iowa to the Cardinal Substation in Dane County, Wisconsin.

The project applicants (Applicants) are the American Transmission Company LLC and its corporate manager, ATC Management Inc. (ATC); ITC Midwest LLC (ITC); and Dairyland Power Cooperative (DPC). The Applicants' proposal includes the following facilities in Wisconsin:

- A new 345 kV/138 kV intermediate substation to be called the Hill Valley Substation and to be located south of the village of Montfort
- A new 34 to 52-mile 345 kV transmission line from a crossing of the Mississippi River to the village/town of Cassville and to a new Hill Valley Substation
- A new 50 to 53-mile 345 kV transmission line from the new Hill Valley Substation to the Cardinal Substation in the town of Middleton
- A new 138 kV interconnection from the new Hill Valley Substation with an existing 138 kV transmission line, X-16
- Modifications within the Eden, Stoneman, Nelson Dewey, Cardinal, and the Wyoming Valley substations.

Construction management, easement acquisition, and operation of the project west of the proposed Hill Valley Substation would be conducted by ITC. Construction management, easement acquisition, and operation of the Hill Valley Substation and the portion of the project east of the Hill Valley Substation would be conducted by ATC. The two companies and their subcontractors may construct and manage the right-of-way (ROW) differently, creating different issues for landowners.

The Applicants have identified two potential locations for crossing the Mississippi River and two major routes from the Mississippi River to the Cardinal Substation. The two major routes intersect at the proposed Hill Valley Substation. Interspersed along these major routes are numerous alternate segments. While the Applicants have identified route options as "Preferred", "Alternate", and "Other", this AIS describes and compares the agricultural impacts for most of the potential route variations.

The application contains 229 miles of potential routes, totaling about 4,200 acres, and involving over 750 property owners. Access roads not along the proposed ROW, laydown yards, and

substation sites would affect additional acres. More than 75 percent of all potentially affected acres involve agricultural properties. Construction is anticipated to begin in October 2021.

As part of its review of the project, DATCP sent a questionnaire to agricultural property owners who may have 3 or more acres acquired as an easement or purchased for this project. DATCP sent questionnaires to 377 property owners representing 89 percent of all potentially affected agricultural acres. 126 landowners responded to the questionnaire. The comments from these agricultural landowners are summarized in Chapters IV – VIII of this document.

The Public Service Commission Role and Review Process

The Applicants submitted application materials for this project to the PSC in April 2018. After requests for additional information, the PSC deemed the application complete on October 4, 2018 and started its 360-day project review (180 days with a 180 day-extension granted on March 13, 2019). The PSC is the authority that will approve, deny, or make modifications to this project. The PSC's approval is not constrained by either the Applicants' "Preferred" or "Alternate" route designations, as it may choose from any combination of route segments described in the application.

Other Regulatory Entities

The Rural Utilities Service (RUS), with the cooperation of the U.S. Fish and Wildlife Service (USFWS) and the U.S. Army Corps of Engineers (ACOE), is currently conducting an environmental review of the project. It intends to publish a final EIS and Record of Decision (ROD) in the winter of 2019/2020. The ROD will focus on routing decisions that could be affected by federal regulations including the crossing of the Mississippi River, federally protected species, and easements required from federally owned/managed lands such as the Upper Mississippi River National Wildlife and Fish Refuge.

The part of the project that would be located in Iowa will require approval from the Iowa Utilities Board (IUB). The IUB will determine if the project is necessary to serve a public use, represents a reasonable relationship to an overall plan of transmitting electricity in the public interest, and meets all other legal requirements (Iowa Code § 478.1(5)).

The Independent Environmental Monitor

For many large utility projects, Independent Environmental Monitors (IEMs) have become a standard requirement by the PSC. IEMs are hired and work on behalf of the PSC as opposed to the Applicants. Construction activities typically subject to monitoring and reporting by the IEM include a wide range of environmental issues such as impacts to wetlands, waterways, protected species, archaeological sites, state and federal properties, and erosion control. The IEM is responsible for reporting incidents and stopping work when construction activities would violate any applicable permit, approval, order condition, or agreement with regulatory agencies. The IEM reports directly to the PSC and consults with the Wisconsin Department of Natural Resources (WDNR) and DATCP.

The Independent Agricultural Monitor

The IEM may or may not be knowledgeable about impacts that are specific to farming and farm operations. For projects that affect significant acres of agricultural land, it may be appropriate for Independent Agricultural Monitors (IAMs) to be retained as well. If the use of IAMs is required by the PSC, they should be independent from the Applicants, similar to the IEMs and report to the PSC, DATCP, and WDNR.

Construction activities subject to review and reporting by IAMs should include activities that might result in the mixing of agricultural soils, erosion of topsoil, soil compaction, impacts to agricultural operations, construction in and near organic farms, removal of electric poles, and issues associated with irrigation and drainage. IAMs should be responsible for verifying that the Applicants comply with any agricultural best management practices and agricultural conditions in the PSC order and any construction environmental documents approved by the PSC.

In the past, only agricultural specialists and no IAMs have been required for large electric transmission projects. The IEM has been tasked with also monitoring agricultural issues. Agricultural specialists, as opposed to IAMs, are entirely chosen and funded by the Applicant with little or no input from DATCP. The Applicants have stated that agricultural specialists could be retained for this project, if necessary, to negotiate mitigation measures with agricultural landowners.

Due to the number and range of affected agricultural properties, that the routes are primarily cross-country through agricultural fields, and that construction management would be directed by two different utilities which may operate differently, DATCP recommends the use of IAMs to monitor agricultural impacts on this project. The PSC should find it reasonable to hire IAMs to verify that construction through agricultural properties avoids or minimizes impacts as much as practicable and to verify that mitigation or restoration is properly performed. These monitors should be hired with the approval of the PSC, DATCP, and WDNR and all reports generated by IAMs should be shared with the PSC, DATCP, and WDNR.

Construction Mitigation Plans

Prior to the start of construction for each construction segment, the Applicants should complete Construction and Mitigation Plans (CMPs). The Applicants should submit draft CMPs for review and approval by the PSC, WDNR, and DATCP, prior to the start of construction. CMPs should include a detailed map of the construction segment and best management practices for construction in and restoration of all environmental resources as well as for agricultural resources. Agricultural-related issues that should be included in the CMP are general construction practices for the protection of topsoils (during all construction activities including structure removal), management of livestock and pasture fencing, agricultural erosion control facilities and practices, and protection of organic producers. Plans should include specifics for all areas that

would have construction impacts including the ROW, off-ROW access roads, laydown yards, and other temporary work areas.

Potentially Affected Counties, Cities, Villages, and Towns

Depending on the route the PSC approves, the Cardinal-Hickory Creek project could impact landowners with properties in many cities, villages, towns, and counties. These locations are listed below.

Table 1: Potentially Affected Locations

County	City, Village, Town	Name	Applicants' Routes and Segments			Access Roads and Laydown Yards
			Proposed	Alternate	Other	
Dane	Town	Blue Mounds	X			X
	Town	Cross Plains	X	X	X	X
	Town	Middleton	X	X	X	X
	Town	Springdale	X		X	X
	Town	Vermont		X		X
	Village	Blue Mounds	X			X
	Village	Mount Horeb	X			X
Grant	Town	Beetown	X			X
	Town	Cassville	X	X	X	X
	Town	Clifton	X	X	X	X
	Town	Ellenboro	X			X
	Town	Harrison		X		X
	Town	Liberty	X			X
	Town	Platteville		X	X	X
	Town	Potosi		X		X
	Town	South Lancaster	X			X
	Town	Waterloo	X	X		X
	Town	Wingville	X	X	X	X
	Village	Cassville	X	X	X	X
	Village	Livingston			X	
	Village	Montfort	X	X		X
Iowa	City	Dodgeville	X		X	X
	Town	Arena		X		X
	Town	Brigham	X		X	X
	Town	Dodgeville	X	X	X	X
	Town	Eden	X	X	X	X
	Town	Highland		X		X
	Town	Linden	X		X	X
	Town	Mifflin		X	X	X
	Town	Ridgeway	X			X
	Town	Wyoming		X		X
	Village	Barneveld	X		X	X
	Village	Cobb	X			
	Village	Rewey		X		X
	Village	Ridgeway	X			
Lafayette	Town	Belmont		X		X
	Town	Elk Grove		X		X

Many units of government have voiced their concerns about this project through resolutions. Some units of government, organizations, and private landowners have also requested full party status to participate in the legal portion of the PSC process, as well.

The Applicants will apply for permits and authorizations governed by local ordinances (county, town, village, or city) that relate to matters of public safety. Local permit and authorization requirements vary but generally include road crossing permits, road authorizations, and noise abatement. The Applicants are not required and will not pursue local permits or approvals involving siting or land use, such as conditional use, shoreland protection, floodplain, and zoning which the Applicants feel are adequately addressed through the PSC review processes. Local units of government may provide their comments and concerns to the PSC so they may be considered and addressed.

Project Purpose and Need

The DATCP AIS program is not set up to determine the adequacy of the need for the project or conduct any cost-benefit analyses. The need and purpose of the Cardinal-Hickory Creek project will be fully described in the PSC EIS and analyzed within the PSC review process. In order for the PSC to approve this project, the PSC must find that the need and cost for the project are reasonable and the project meets a range of other criteria.

In brief, the Applicants propose that the Cardinal-Hickory Creek project would facilitate the transfer of energy produced by wind facilities to the west of Wisconsin, reduce congestion on the transmission system between Iowa and Wisconsin, increase reliability, and lower wholesale energy costs. The estimated cost for this project is approximately $0.5 billion dollars.

Project Schedule

If the project is approved by the PSC, the Applicants anticipate acquiring ROW easements starting in April 2021 with construction beginning in October 2021. Project construction is anticipated to start on the new substation in October 2020 and on the transmission line in October 2021. The preliminary in-service date for the project is December 2023.

Right-of-Way Requirements

The ROW is a strip of land that is acquired as an easement to construct, operate, and maintain a power line. The Applicants will acquire easements for the route(s) approved by the PSC. Most of the routes require a 150-foot-wide ROW. Easements are private contracts between the Applicants and the landowner. New easements are required by Wis. Stat. §182.017(7)(a) to include the specific location of the easement and the type of electric structure(s) to be constructed on the property.

For this project, the Applicants intend to acquire new high-voltage easements for the project's ROW. Where the project ROW would overlap part of an existing electric transmission line

easement, the Applicants may release the unneeded existing ROW after all construction is completed. In most cases, the new easement will be significantly wider than the former lower-voltage easement.

In addition to existing electric line easements, many Cardinal-Hickory Creek route segments partially overlap the properties and easements used for highways, roads, natural gas lines, and railroads.

For the route segments sited along highways and roads, the Applicants plan to locate structures a minimum of six feet onto private property, though topography and other obstacles may require the structures to be located further away from the road. For routes that are located along WisDOT highways, the Applicants have worked with WisDOT prior to submitting the application. After a route is chosen, the Applicants will continue to work closely with WisDOT to determine the appropriate placement of structures so that they will not interfere with existing highway needs and any planned highway construction. Coordination and consultation will also be required between the Applicants and affected railroad and utility companies for approval of structure locations.

Project ROWs and Existing Transmission Line ROWs

The project is routed along several existing 69 kV, 138 kV, and 161 kV electric transmission lines. Where the new 345 kV electric line would follow an existing transmission corridor, the lower voltage line generally would be dismantled and strung on the new 345 kV electric monopoles, creating a double-circuited configuration with at least 6 conductors on each pole.

Typically, when lines are double-circuited, the lower voltage line is taken out of service until it is reconstructed on the new poles. However, the potentially-affected lower-voltage lines for this project cannot be taken out of service and still reliably maintain electric service to the region. The Applicants propose to first construct the new transmission structures offset from the existing electric line alignments, keeping the existing lines in-service until they can be transferred to the new poles. Once the new double-circuit lines are placed in service, the lower voltage structures would be removed. This procedure would temporarily require a much wider construction easement than typical.

Existing transmission structures that do not have foundations and are located in cropland are typically cut off and the structures removed to a minimum of four feet below grade. Any soil removed in the process should be segregated, topsoil from subsoils, and the subsoils should not be mixed or deposited on any cropland soils. If necessary, topsoil can be brought in so that at the former pole location so that the layer of topsoil is similar to the surrounding topsoil depth and topography.

The Applicants may release existing lower-voltage easements that are no longer required, after construction is completed.

Electric Transmission Structures

The two types of foundations typically used for high-voltage electric projects are concrete caisson foundations and direct-embedded foundations. Other alternative foundations may be used to minimize environmental impacts. A majority of the proposed transmission line structures for this project are self-supporting steel monopoles with reinforced concrete caisson foundations. The excavations for the structure foundations would range from 5 to 12 feet in diameter with depths from 20 to 60 feet. Depending on soil conditions, foundations may be drilled deeper than 60 feet. For direct-embedded foundations, excavated holes would typically range from 3 to 6 feet in diameter and 20 to 30 feet in depth.

The structures are anticipated to range from 120 to 175 feet tall and spaced 750 to 1,200 feet apart, depending on final engineering. Some of the more typical structures and ROW configurations that are likely to be used for this project across agricultural properties are presented in Appendix E.

The life expectancy for the proposed steel structures range from 60 to 80 years.

Routes

Due to the vast number of route/segment combinations, this document has divided the routes into five general routing areas. They are the:

- Mississippi River Routing Area with 4 route options
  - Nelson Dewey North
  - Nelson Dewey South
  - Stoneman North
  - Stoneman South
- Western Routing Area with 2 route options
  - Western North
  - Western South
- Hill Valley Substation Area with 2 potential substation sites
- Eastern Routing Area with 2 route options
  - Eastern North
  - Eastern South
- Dane County Routing Area

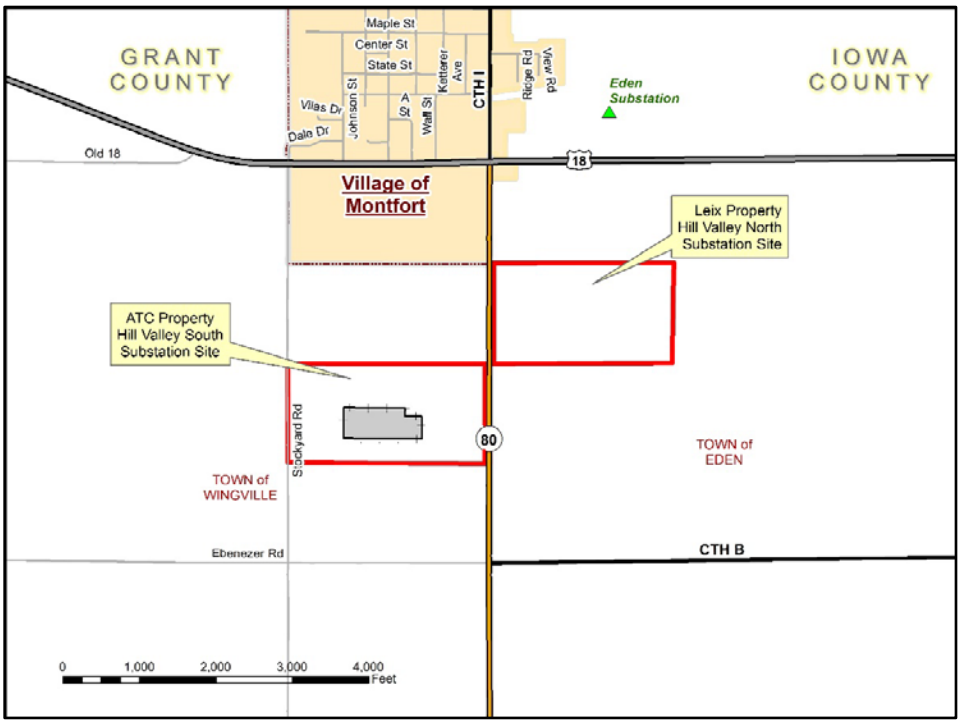
Accompanying this document is a Map Book which shows all potential route segments and substation sites.

Chapters IV to VIII of this document list and compare the potential agricultural impacts for all potential segments. Chapter IX compares the Applicants' Preferred and Alternate routes overall. This document identifies the length and acres of impacts for each routing option, as well as the

land use and type of farmland soils. Appendix F contains descriptions and definitions for farmland soils and land use categories used throughout this document.

Substation Sites

Figure 1: Potential Substation Sites



The Applicants identified two potential sites for the new Hill Valley Substation. The 80-acre South Site is located in the town of Wingville, Grant County and is currently owned by ATC. The 74-acre North Site is owned by Donald and Timothy Leix and located in the town of Eden, Iowa County. The substation, access drive, and stormwater drainage facilities would require approximately 22 acres. The entire substation would be surrounded by a security wall approximately 25 feet high. Both sites are currently used to grow corn, soybeans, and alfalfa.

The South Site was purchased by ATC in January of 2018 from a willing seller. The Applicants learned about the owner's interest in selling the land prior to submitting the project application. The site has the advantage of an existing 138 kV electric line, potentially reducing the amount of new ROW required for connections to the new substation.

The location of the new substation will be determined by the PSC.

Laydown Yards and Other Temporary Work Spaces

Laydown yards will be required throughout the construction area for the setup of job trailers and the storage and staging of construction equipment and materials. Sixteen laydown yards have been identified by the Applicants. The typical laydown yard is about 10 or more acres with a minimum 30-foot-wide driveway for access.

Many laydown yards are gravel pits or areas with hard surfaces. Of the sixteen potential laydown yards, the following five would affect agricultural properties.

Table 2: Proposed Laydown Yards Affected Properties

Property Owner	ID	Town/Village	County	Land Use	Acres
JEWISON, JOSEPH AND REGINA	LY-8	Town of Platteville	Grant	Other Agricultural Land	11.53
LEIX, DONALD, TIMOTHY AND CYNTHIA	LY-2	Village of Montfort	Grant	Cropland	12.79
NEHLS, KENNETH A	LY-5	Town of Waterloo	Grant	Pasture	17.30
SPENSLEY, DAVID AND MARJORIE	LY-9	Town of Belmont	Lafayette	Cropland	18.86
WILLIAM L. KAHL LLC	LY-17	Town of Middleton	Dane	Quarry and Other Agricultural Land	13.90

Three agricultural property owners who would have a laydown yard sited on their property provided comments to DATCP.

- Laydown yard LY-2 is owned by Donald, Timothy, and Cynthia Leix (Leix Farms, Inc.). The land affected by the proposed laydown yard is primarily used for hay, corn, and pasture.
- Laydown yard LY-5 is owned by Kenneth Nehls. Almost 18 acres of his pasture would be required for LY-5. Of his 110 acres, Mr. Nehls has enrolled 70 acres in the Conservation Reserve Program (CRP). LY-5 is part of the CRP-enrolled land.
- Laydown yard LY-17 is a quarry owned by William L. Kahl

Both the owners of the Leix Farms and William Kahl could have other parts of this project potentially affecting their properties. Their concerns are discussed later in this document.

In addition to laydown yards, helicopter landing zones and pads will be required. Typical heavy-lift helicopters require one to two acres for the helicopter to land and take-off and to transport and store tower assemblies and equipment. Typical light-duty helicopters require a 50- by 50-foot landing pad. No specific helicopter land zones/pads are identified in the project application. The Applicants will identify and submit for PSC review, all helicopter landing zones/pads, once a route is approved by the PSC.

Work platforms are also sometimes needed in areas of steep topography. Construction work platforms would be about 30 by 30 feet.

In a few instances wire pulling operations may require a temporary workspace outside of the ROW. The Applicants intend to find voluntary temporary access from cooperative landowners.

After construction is completed, laydown yards and other temporary works spaces will be returned to their pre-construction conditions. Landowners may request any improvements that were made to the land be left in place.

If different or additional laydown yards or temporary workspaces are required beyond those identified in the project application and supporting materials, the Applicants will notify the PSC of

these new locations and submit the necessary information in accordance with Wis. Admin. Code § PSC 111.71.

Off-ROW Access Roads

For purposes of construction or maintenance, most of the proposed transmission structure locations can be accessed along the ROW or directly from public roads that intersect the ROW. This project will require the construction of some transmission structures in areas where access along the ROW is prevented by steep slopes, extensive areas of waterways and wetlands, or other protected resources. At these locations, additional access roads will be needed. These off-ROW access roads would be approximately 30 feet wide, though difficult terrain may require wider roads for construction vehicles to safely maneuver. The off-ROW roads may also be less than 30 feet wide.

The Applicants have identified specific locations and landowners who may be impacted by these off-ROW access roads. Many of the proposed off-ROW access roads make use of existing farm lanes, driveways, or cleared forest roads or trails. New roads and less substantial existing lanes may need improvements to allow for the safe movement of construction equipment. Improvements may include vegetation removal, grading, the addition of gravel, erosion control, or temporary construction mats. Eminent domain may be used to acquire any access roads identified in the project application.

Some of the off-ROW access roads identified in the application may be required for long-term maintenance of the new line and will not be restored to pre-construction conditions after construction is completed. These access roads will be permanent. After construction is completed, all other off-ROW access roads will be restored to pre-construction conditions, unless the landowners request the road and any other improvements be left in-place.

During the final stages of construction planning, off-ROW access roads may be refined. If the Applicants find that additional off-ROW access roads are needed other than those specified in the project application, the Applicants will notify the PSC of these new locations and submit the necessary information in accordance with Wis. Admin. Code § PSC 111.71.

III. Agricultural Landowner Concerns

ROW Easements

Electric transmission lines are built on easements acquired from landowners. The purchase of land is typically reserved for substations. Easements are private contracts between the Applicants and the landowner.

New easements are required by Wis. Stat. §182.017(7)(a) to include 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 easement contract will specify restrictions and rights of both the utility's and the landowner's use of the land.

Landowner Bill of Rights

The "Landowner Bill of Rights" is part of Wis. Stat. §182.017. The statute lists a wide range of rights and responsibilities connected with the construction and operation of transmission lines for landowners and utilities. Primarily, the statute applies to impacts from electric lines which are or will be 100 kV or greater and longer than one mile. Additionally, the lines must be built after 1976. Issues detailed in this statute include:

- a list of specifics that easements must contain
- just compensation and what it must include
- how topsoil must be protected
- restoration requirements for topography and waterways
- construction timing for agricultural production areas
- debris and stone removal
- the repair or compensation for impacts to fences, drain tiles, and crops
- electric grounding for farm facilities
- weed control and the use of herbicides
- ownership and harvesting of any required tree removals
- liability for injuries and access to private property
- interference with television and radio reception

Landowners may be asked to waive some or all of the rights listed in this statute. No landowner is required to waive any of these rights. The complete statute is included in Appendix C.

Compensation for Yield Losses

The Applicants intend to work with landowners to pay for crop damages, compaction, and potential future crop loss caused by the construction of this project. Yield losses would be identified and agreed to in a Damage Report supplied by the landowner once construction has started. Landowners/operators should keep records of the condition of their land within the ROW and any other areas of construction activity before, during, and after construction to document impacts or damage caused by the project. Documentation could include crop yield records and photographs taken every season. The US Department of Agriculture (USDA) Custom Rate Guide will be used by the Applicants as a guideline for crop damage payments and yields will be based on the reports issued by the National Agricultural Statistics Service (NASS). The NASS provides the average yield by crop, by county. Some NASS information is included in this report in Chapter X, "Agricultural Settings". Compaction claims depend on who would repair the compaction, the farmer or the construction crew.

The Applicants may hire an agricultural specialist to assist in determining appropriate mitigation methods and costs.

Transmission Structures and Impacts to Cropland

Loss of Farmland from Transmission Structures

When electric transmission structures are located within cropland, an area larger than the foundation is lost from production. Large farm equipment cannot maneuver close to these structures without risking damage. Therefore, a portion of the land surrounding the pole and its foundation becomes inaccessible and unusable. The exact acres lost depends on the size of the foundation, the size and maneuverability of the farm equipment, and existing cropping patterns. Structures located in the middle of a field will affect more cropland than those located at the edge of a field.

Calculating the Field Effect of Structures

The following simplified equation can be used to estimate farmland lost due to the placement of transmission structures. This is a conservative estimate and actual figures may vary greatly.

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

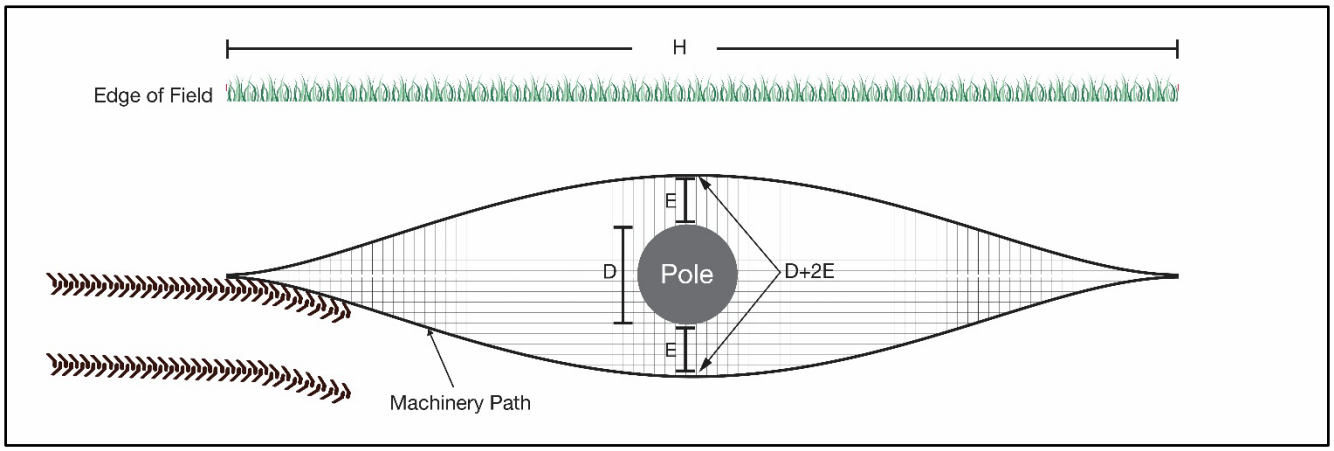
A = Inaccessible area (square feet)

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 and foundation (feet)

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

Figure 2: In-Field Effect of Pole Location



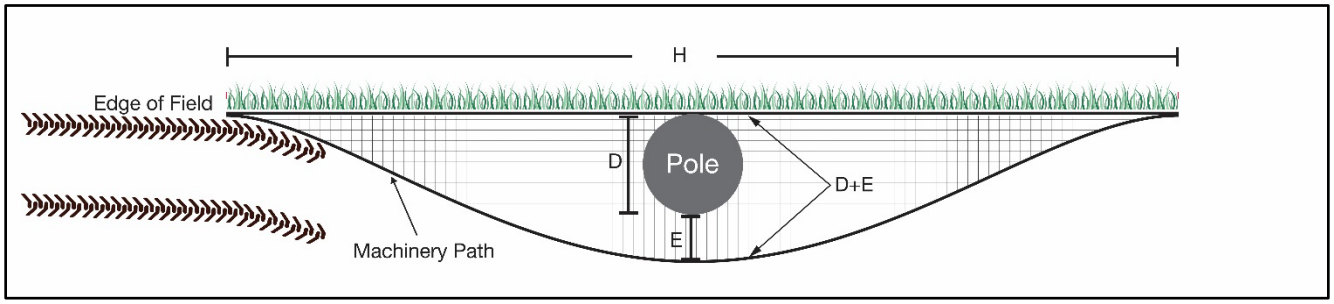
For example, if the pole and foundation is 8 feet in diameter, an additional 4 feet of clearance on either side of the pole is required in order to safely navigate equipment, and the avoidance path would be 40 feet in length, then the inaccessible cropland would be as follows:

A = $^{2}/_{3}$ x [40 x (8+4+4)] = approximately 427 square feet

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

A = $^{2}/_{3}$ x H (D+E)

Figure 3: 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 = $^{2}/_{3}$ x 40 (8+4) = approximately 320 square feet

The 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 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 structure and becomes damaged.

Removal of Existing Transmission Structures

Many of the proposed routes include double-circuiting an existing lower-voltage line onto the new poles with the new 345 kV line. This will require the removal of the existing pole. Poles in cropland without foundations are typically cut off and the structures removed to a minimum of four feet below grade. During the process of removing these poles, topsoil can be mixed with subsoils, compacted, or lost. DATCP recommends that structure removal or "wrecking out" procedures be created and appropriate construction personnel trained on the procedures. A well-established procedure will serve to protect the agricultural use of the land so that the land quickly recovers its productivity. A sample of a wreck out procedure from a previous high-voltage electric transmission project (PSC Docket 5-CE-142) is included in Appendix G.

Appraisal Process

In Wisconsin, the acquisition of easements by utilities with eminent domain authority is stipulated under Wis. Stat. §32.06. Additional information about the appraisal process and landowners rights can be found in publications from the Wisconsin Department of Administration on its website (doa.wi.gov), under the search term, "Relocation Assistance". One of the publications, "The Rights of Landowners under Wisconsin Eminent Domain Law" is included in Appendix H of this document.

The utility makes a financial offer to landowners using the fair market value of the easement plus any anticipated damages to the parcel or agricultural operations. The fair market value is the price that a willing buyer would pay to a willing seller in the market. This is 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.

The utility is required to provide landowners with information about their rights in this process before negotiations begin. Wis. Stat. §32.035(4)(d) requires the utility to 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 (including this project), may negotiate with landowners prior to approval from the PSC, only if the utility advises the landowner that the utility does not have the authority to acquire the property by condemnation at that time (Wis. Stat. §32.03(5)(c)). The utility has condemnation authority only after the project is approved by the PSC.

Landowners should keep in mind that easements are contracts. The signed 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 attorney hired has expertise and experience in eminent domain law and procedures. A web link for finding an attorney is provided in Appendix D.

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. 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. DATCP certified the Farmland Preservation Plans for Grant County in 2011, Iowa County in 2017, Lafayette County in 2017, and Dane County in 2017.

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 to agriculture for fifteen years. No 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.

Prime Farmland

Farmland soils are classified by the USDA based on their ability to produce crops. Protecting prime farmland and prime farmland, if drained or protected from flooding should be a priority for utility construction projects. Definitions of the types of USDA of farmland soils are listed in Appendix F. In this report, under each of the potential route and route options, the acres of impacted farmland soils are listed. Typically, DATCP recommends considering routes that contain the least amount of new ROW on farmland soils of highest productivity.

Organic Farms

This project will impact a number of farms that use organic practices, are working towards an organic certification, or are certified organic. Care must be taken to protect the farming operation and its organic status. Organic farmers should provide the Applicants and its subcontractors with a list of the types of substances, materials, seeds, or practices that are not permitted on the land by their certifying entity. Prior to the start of construction, appropriate construction methods should be agreed-to between the landowner and the Applicants. More information about organic farming and potential impacts from a utility project are discussed in Chapter XII, "Potential Impacts of Transmission Line Construction on Agriculture."

Based on information provided in comments and additional data, the following table lists the property owners who may have organic farms affected by the project, depending on the route approved by the PSC. There may be additional organic farms or farms with organic practices affected by the project who did not comment.

Table 3: Potentially Affected Organic Farms

Route	Landowner	Certifier	Type	Subsegments
Western North	HELMUTH, DANIEL D JR AND IVA S (VALLEY VIEW FARM)	Midwest Organic Services Association Inc.	Crops	D08
	HERSHBERGER, HENRY AND CLARA (LONG LANE FARM)			D08
	WEPKING FARMS PARTNERSHIP (IHM ORGANIC VIEW FARMS LLC)	Organic Tilth		D04, D05
Western South	ALLGYER, BENJAMIN AND LYDIA (BENJAMIN ALLGYER FARM)	Midwest Organic Services Association Inc.	Crops, Livestock	H03
	BEILER, ELMER AND ANNA	Natures International Certification Services	Crops, Livestock	H06
	ESH, STEPHEN AND DRUSILLA	Midwest Organic Services Association Inc.	Crops, Livestock	H02, H03
	FEHRENSEN, WOLF-GEOG (GARY WEDIG)	Midwest Organic Services Association Inc.	Crops, Livestock	G08

Route	Landowner	Certifier	Type	Subsegments
Western South cont'd.	KINSINGER, ANDREW AND SARAH (MAPLE SHADE FARM)	Natures International Certification Services	Crops, Livestock	H06
	MARTIN, BETTIE (WILSON ORGANIC FARMS)			H06
Eastern North	DOLAN, DAVID (DOLAN FARMS)	Midwest Organic Services Association Inc.	Crops, Livestock	P05, P06
	EVANS, LESLIE AND LINDA			P06
	HOLBERG, GARY AND HEIDI			P07
	MEUDT, KEVIN (DOLAN FARMS)		Organic bee keepers	P07
	STRONCEK, GREGORY AND LEA DOLAN-STRONCEK (SEVEN SEEDS FARM LLC)			P07, P08
	MIESS, KEVIN AND SHERRY (MIESS ORGANIC FARM LLC)	Midwest Organic Services Association Inc.	Crops, Livestock	P03
Eastern South	BICKFORD, PAUL (BICKFORD FARMS INC)	Natures International Certification Services	Crops	S08, S09
	CAYGILL, DAVID AND MICHELLE (CAYGILL FARM)	Midwest Organic Services Association Inc.	Crops, Livestock	Q02
	DOLAN, WILLIAM AND ROSE CENITE	Midwest Organic Services Association Inc.	Crops, Livestock	S01
	HANSON, KEVIN AND SHEILA (4K & S DAIRY)			Q02
Eastern Alt South	DAMMEN, LARRY AND KAY			R09

Due to the number and range of organic operations that would be affected by many of the potential project routes, DATCP recommends that the Applicants produce a list of standard procedures for protecting organic soils and practices. Appendix I contains a sample of general practices that were used on a previous high-voltage electric transmission project (PSC Docket 5-CE-142). While there may be different procedures required by different organic certifying entities or landowners, Appendix I appears to be an example of a reasonable list of best management practices for the protection of most organic farms. All appropriate personnel and contractors should be trained on the implementation of a project-specific best management practices for constructing in or near organic farmland.

Lands Enrolled in Incentive Programs

Portions of farmlands are often enrolled in incentive programs that are administered by federal, state, and/or county governments. These programs require proper management of the resources in return for financial incentives. DATCP recommends the Applicants identify these lands, prior to the start of construction, and work with landowners to understand the function of and management plans used on these resources. Many properties are enrolled in more than one program. Impacts to the resource should be avoided or minimized as much as practicable. Any impacts caused by the project should be remediated so that the resource can be returned to pre-construction function, if possible. If impacts cannot be avoided, the landowners should be compensated for any revenue lost from these incentive programs, as a result of the project.

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. Land taken out of CRP is often transitioned into row crop production, potentially causing an increase in soil erosion. For electric projects, transmission poles should be located outside of CRP land, as much as practicable.

Based on information provided in comments, the following table lists the project-affected property owners who may have land enrolled in CRP. Actual impacts will depend on the route approved by the PSC. There may be additional landowners with CRP lands affected by the project who did not comment.

Table 4: Potentially Affected CRP Parcels

Route	Landowner	Subsegments
Western North	ADRIAN, DOUGLAS AND JENNIFER	D04
	MOORE RESIDENCE	D04
	PIGEON CREEK LAND LLC	D04
	WEISS, GERALD (PROGRESSIVE PLUS)	D04
	WEPKING FARMS PARTNERSHIP (IHM ORGANIC VIEW FARMS LLC)	D04, D05
Western South	ABING, CARL AND ELIZABETH	E06, E07
	HOWE, KENNETH AND JAMIE PLOESSL-HOWE	E07
	RILEY, MICHAEL AND JUDITH	E19
	UDELHOFEN, PATRICK AND WENDY	E16
Eastern North	BUTTERIS, DANIEL AND JUDITH	P03
	D'ANGELO, BETSY	P07, P08, P09
	EVANS, LESLIE AND LINDA	P06
	FOSTER, THOMAS AND CAROL (O'CONNELL FARMS LLC)	P09
	KRITZ, MARY M AND DOUGLAS T GURAK	P09
	STANFIELD, DAVID J AND SANDIE	P09
Eastern South	BETTNER, ROY	Q06, R13, R14, R15, S01, S02, S03
Eastern Alt South	EVELYN M MUELLER REVOCABLE TRUST	R03
Mount Horeb East Option	LAUFENBERG, RICHARD AND JOANN	U02
Laydown Yard	NEHLS, KENNETH A	LY-5

Conservation Reserve Enhancement Program

The Conservation Reserve Enhancement Program (CREP) pays landowners to install conservation practices such as filter strips along waterways or to return continually flooded fields to wetlands while leaving the remainder of the adjacent land in agricultural production. Landowners agree to install and maintain the conservation practice for the duration of the CREP contract. CREP is a joint effort between the federal, state, and county governments. CREP may permit overhead electric lines to cross over CREP-enrolled lands, depending on the practice. However, if the practice is a riparian buffer, the land within the ROW may be taken out of the program. CREP also limits the building of electric facilities within these areas. Permanent utility access roads are not allowed across CREP land, though temporary roads may be permitted, provided the conservation practice is reestablished.

The following table lists landowners with CREP-enrolled lands that may be potentially affected by the project. There may be additional landowners with CREP lands affected by the project who did not comment. The Applicants identified one owner with CREP-enrolled property, Blackhawk Hills. However, based on the Applicants' maps, Blackhawk Hills CREP land should be narrowly avoided by Subsegment P03.

Table 5: Potentially Affected CREP Parcels

Route	Landowner	Subsegments
Western North	ADRIAN, DOUGLAS AND JENNIFER	D04
	KLAAS, TODD AND LARRY AND SHERRY (KLASS PINE KNOB FARMS)	D08
	LOLWING, JOSEPH AND ANNETTE	D08
	LOY, LEON MARK	D08
	OKEY, KENT	D04
	PALLEN, CONRAD AND DEBRA	D08
	WEBER, GERALD J	D04
Western North and Hill Valley Substation Area	HEINER TRUST AND RESIDENCE	L02, L03, D08, D09A
Western South	HOWE, KENNETH AND JAMIE PLOESSL-HOWE	E07
	WAMSLEY RESIDENCE (EAGLE VIEW REAL ESTATE LLC)	E07
	WRIGHT, CHARLES AND BARBARA	E09, E10
Western South, and Livingston West and East Options	COULTHARD FAMILY FARM INC (HAROLD J AND DALE E COULTHARD)	H09, I01, I02, I05, J01
Livingston West and East, Eastern South, and Eastern Alt South	BIDDICK INC (JASON BIDDICK)	I08, I09, J01, J02, J04, K01, Q02, R03
Eastern North	FOSTER, THOMAS AND CAROL (O'CONNELL FARMS LLC)	P09
	PECK, MARK	P09
	ANDERSON, RICKIE AND JUDY	S13
Eastern South	OAKDALE FARMS LTD PARTNERSHIP	Q02
Eastern Alt South	DARREL CORNISH FAMILY TRUST (BERNICE CORNISH)	R06
	HALE, LARRY AND SHANE (MASTERS PROPERTIES LLC)	R05, R06, R09
	MASTERS, MAT	R09
	OAKDALE FARMS LTD PARTNERSHIP	R09
Mount Horeb East Option	LAUFENBERG, RICHARD AND JOANN	U02

Conservation Stewardship Program

One agricultural property owner has commented that his land is enrolled in the Conservation Stewardship Program (CSP). CSP is for working lands and provides financial incentives to help build on existing conservation efforts. There may be additional CSP participants affected by the project.

Table 6: Potentially Affected CSP Parcel

Route	Landowner	Subsegment
Western South Route Part 1	Brent Wiest	E01

Managed Forest Law Program

Many farmers own forested land enrolled in the state's Managed Forest Law (MFL) program. The MFL program, managed by WDNR, encourages landowners to conduct sustainable forestry in exchange for a reduction in property taxes.

For the construction of this project, the Applicants will remove all trees from the full width of the ROW. The Applicants may also remove trees outside of the ROW, if the trees are determined by the utility to be a "danger" tree because they are dead, diseased, dying, leaning, or somehow compromised.

Where trees are removed for this project, the area would be removed from the MFL program. This would cause a reduction of income to the farm. The MFL program requires that not more than 20 percent of the land be in a non-productive state (not growing trees). If the amount of productive woodland falls below 80 percent, the property might be dropped from the program and the property owner would suffer a monetary loss.

DATCP recommends that the Applicants work with landowners to minimize the amount of tree clearing from wood blocks and properties enrolled in the MFL program.

The following table lists the agricultural property owners who may own land enrolled in the MFL program and may be affected by the project. There may be additional landowners with MFL woodlands not identified in the table.

Table 7: Potentially Affected Agricultural Landowners with MFL-Enrolled Parcels

Route	Landowner	Subsegments
Western North	HAINES LAND LLC	D08
	GLASSON, ERIC AND CHRISTINE	D09A
	MAZEWSKI, GENE	D08
	MILLIN RESIDENCE	D04
	REYNOLDS, PRESTON AND VIRGINIA	D08
	SCHWARZMANN, JOSEPH AND JUDITH	D08
	WEISS, GERALD (PROGRESSIVE PLUS)	D04
Western South	HEIMKE, KARL AND ELIZABETH	E10
	HOWE, KENNETH AND JAMIE PLOESSL-HOWE	E07
Eastern North	ADAMS, WILLIAM (CHESS) AND KATHRYN	P05
	APPERT, RONALD	P05
	BALISLE, LINDA	P09
	BETHEL HORIZONS FOUNDATION INC.	P06, P07
	BUTTERIS, DANIEL AND JUDITH	P03
	CAMIS, THEODORE AND JUNE LTD PARNERSHIP	P02
	CARLOCK, AARON AND KAREN	P09
	D'ANGELO, BETSY	P08
	FORBESS, ROBERT	P06
	FOSTER, THOMAS AND CAROL AND TRUST	P09
	FRAME, JOHN AND JENNIFER	P09
	FROST, JOSEPH AND NANCY	P02
	GORECKI, DANIEL	P09
	HALLICK, JOHN AND JAMIE AND RICK SCHMIDT	P09
	HALVERSON, DENNIS AND VERNON AND EVELYN	P07
	JAMES, JERRY RAY	P02
	KIRSCHBAUM, STANLEY JR	P05
	KLOCK, MARSHALL AND JANET REV TRUST	P05
	KRITZ, MARY M AND DOUGLAS T GURAK	P09
	MALCHESKI, JAMES AND PATRICIA	P09
	MEUDT BROTHERS (DODGE VIEW FARMS INC)	P07
	MICKELSON DAIRY LLC (CRAIG MICKELSON)	P09

Route	Landowner	Subsegments
Eastern North cont'd.	PEAT, MARGARET	P05
	SENDECKE, JAMES	P02
	STANFIELD, DAVID J AND SANDIE	P09
	SWEENEY, GERALD	P09
	TOWNSEND, FRED AND BARBARA BORNS	P09
	WELP, PAUL AND SARA	P09
	WISPROPMAR LLC	P09
	URNESS, JON AND JUDITH	P09
	URNESS, VIRGINIA	P09
Eastern South	JOHNSON, BRYAN AND BRADLEY	R05

IV. Mississippi River Routing Area

The potential routes from the crossing of the Mississippi River to the beginning of the Western Routes are described in this chapter. Included are references to the accompanying Map Book. Almost all of the potential route segments in the Mississippi River Routing Area would be collocated with lower voltage electric lines along existing ROWs.

Route Descriptions

Map Book Figure 1

Two potential routes cross the Mississippi River from Iowa. They cross into Wisconsin either at the Nelson Dewey Substation in the town of Cassville or at the Stoneman Substation in the village of Cassville. Both crossing locations can connect to the Western North Route or the Western South Route. For either crossing, federal approval is required for the crossing of the Mississippi River and for an easement across the Upper Mississippi River National Wildlife and Fish Refuge.

After crossing the river, the Nelson Dewey North Route connects to the Western North Route and the Nelson Dewey South Route connects to the Western South Route. Similarly, the Stoneman North Route connects to the Western North Route and a Stoneman South Route connects to the Western South Route.

The Nelson Dewey North Route has the additional option of being routed along either side of the Nelson Dewey Substation. Subsegment A01B is routed along the west and north boundary of the Nelson Dewey Substation (Option 1). Subsegments A01C and C02A are routed along the south and east boundaries of the Nelson Dewey Substation (Option 2). Neither Subsegment A01B or Subsegments A01C and C02A cross agricultural properties.

The following tables describe the potential routes and route impacts of the Mississippi River Area.

Table 8: Mississippi River Area - Acres Affected

Option	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Nelson Dewey North Option 1	A01A, A01B, A02, A03	1.5	25.1	7.1 (28%)	3.0	12%
Nelson Dewey North Option 2	A01A, C02A, A01C, A02, A03	1.5	24.0	6.7 (28%)	3.0	13%
Nelson Dewey South	A01A, C02A, C02B, C04	1.8	30.0	3.4 (11%)	13.3	44%
Stoneman North	B01, B02, C01, C03	1.8	32.9	11.7 (36%)	21.2	64%
Stoneman South	B01, B02, B03, B04	1.1	19.6	7.6 (39%)	10.4	53%

Table 9: Mississippi River Area - Off-ROW Access Roads

Route	Subsegment Connections	Area (acres)	Acres in Agriculture	Percentages In Agriculture
Nelson Dewey North Route Option 1	A02, A03	1.5	<0.1	3%
Stoneman Routes	C01 and B02/B03	1.0	1.0	100%

Note: No off-ROW access roads are required for the other Nelson Dewey Route options.

The Nelson Dewey North Route crosses the Mississippi River to the Nelson Dewey Substation property. In Wisconsin, the single-circuit line angles east and parallels two existing 138 kV lines (X-15/X-16) for a short distance (Subsegment A02). The route crosses a railroad and County Trunk Highway (CTH) VV. It would then become double-circuited with the X-16 138 kV electric line (Subsegment A03). The Nelson Dewey North Route continues northeast across State Trunk Highway (STH) 133 and Dietrich Heights Road. The route ends at the western end of the Western North Route (Subsegment D01). Short off-ROW access roads across mostly non-agricultural land would be required.

The Nelson Dewey South Route parallels an existing 138 kV electric line (X-15) to the top of the bluff. It crosses the railroad and CTH VV (Subsegment C02B). It then turns southeast and becomes double-circuited with the existing X-15 line. The new line would be offset from the existing alignment by about 75 feet. The route crosses STH 133, Dietrich Heights Road, and STH 81 (Subsegment C04) to connect to the Western South Route (Subsegment E01). No off-ROW access roads are required for the Nelson Dewey South Route.

The Stoneman Crossing is located about 1.3 miles downriver from the Nelson Dewey Crossing. Both Stoneman options start with Subsegments B01 which would be collocated with an existing 161 kV line (Q02D), then continue through the village of Cassville on Subsegments B02 and B03 as a single-circuit line, and across non-agricultural properties. The route then travels northeast across STH 133.

The Stoneman North Route turns northwest across STH 81 and then north to connect to the Western North Route (Subsegment D01), in the town of Cassville.

The Stoneman South Route continues northeast (Subsegments B03 and B04) until connecting to the Western South Route (Subsegment E01). Subsegment B04 would be double-circuited with an existing 69 kV line (N-11).

Both Stoneman Route options require slightly less than one acre of agricultural land owned by Cathy Tennessen for one off-ROW access road. The access road would connect to the intersection of Subsegments B02, B03, and C01.

Farmland Types and Soils

The Nelson Dewey South Route and both Stoneman Routes would affect prime farmland. Including the one proposed off-ROW access road, Nelson Dewey South would affect 1.1 acres,

Stoneman North would affect 1.43 acres, and Stoneman South would affect 1.0 acres of prime farmland. The Nelson Dewey North Route would affect the fewest agricultural acres (3.0 acres), 1.5 acres of pasture, and no cropland, or prime farmland. The Stoneman North Route would affect the most agricultural acres (22.1 acres) and the most cropland (4.8 acres).

Impacts to Agricultural Properties

The agricultural landowners below could be affected by the Mississippi River Area routes.

Table 10: Mississippi River Area – Potentially Affected Agricultural Landowners

Agricultural Landowners	Nelson Dewey North (acres)	Nelson Dewey South (acres)	Stoneman North (acres)	Stoneman South (acres)
BREUER, PAUL	- -	5.60	0.84	- -
DEGENHARDT, ARLENE	1.98	- -	- -	- -
ESSER BROTHERS LTD PARTNERSHIP	- -	6.43	1.12	0.10
JUNK, WAYNE AND ARLENE	0.13	- -	4.05	- -
KIRSCHBAUM, GARY AND SUZANNE	- -	- -	5.22	- -
TENNESSEN, CATHY	- -	- -	10.90	9.66
YUNK, GARY AND VICTORIA	0.89	1.25	- -	- -
TOTALS	**3.00**	**13.28**	**22.11**	**9.76**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

The comments from two agricultural landowners that could be affected by routes in the Mississippi River Routing Area are summarized below.

Farm Owner: Paul Breuer
Routes (Subsegments): 5.6 acres Nelson Dewey South (C02B), 0.8 acres Stoneman North (C01, C03)

Paul Breuer's cropland and woodland would be affected by the Nelson Dewey South Route and one off-ROW access road for the Stoneman North Route. The woodland includes walnut and oak trees. Mr. Breuer is concerned that the project might affect a creek on his land.

Farm Owners/Operator: Gary and Suzanne Kirschbaum / Richard Junk
Routes (Subsegments): 3.0 acres Nelson Dewey South (C02B, C04), 6.8 acres Stoneman North (C01, C03), 0.7 acres for an off-ROW access road

Cropland and woodland owned by the Kirschbaums would be affected by either the Nelson Dewey South or the Stoneman North Routes and may be required for one off-ROW access road to the Western North Route. The renter grows corn, soybeans, hay, and oats in rotation and also uses the pasture for 6 head of beef cattle. The owners are concerned about impacts to fencing on their property. They also sell firewood from their woodlot.

Summary

The Nelson Dewey North Route would affect the fewest acres in agriculture. Much of the land affected by the Nelson Dewey and Stoneman Routes is not in agriculture. Additionally, most of the routes partially overlap existing electric line ROWs.

The affected agricultural land is heavily wooded and the routes would require tree clearing to expand the existing ROWs. Wood from these property owners is often sold for firewood or other uses. It is important that landowners are consulted about wood ownership and are appropriately compensated.

V. Western Routing Area

Western North Route

The Western North Route connects from either the Nelson Dewey North or the Stoneman North routes to the Hill Valley Substation Site Area. The alternative to the Western North Route is the Western South Route which is described in the following section. The descriptions in this section include references to the accompanying Map Book.

Route Description

Map Book Figures 1–6

The Western North Route (Subsegments D01, D03, D04, D05, D08, and D09A) extends cross-country across the width of Grant County. It travels northeast from the town of Cassville to the town of Wingville, ending at the Hill Valley Substation Area. It crosses through the towns of Beetown, South Lancaster, Ellenboro, Liberty, and Clifton, as well as passing just southeast of the city of Lancaster. Almost all of this route is across agricultural land.

The Western North Route would be double-circuited with an existing 138 kV electric line (X-16) for its entire 32-mile length. For most of the route, the new 345 kV line would be offset to the north of the existing electric line by about 75 feet. The new ROW would overlap the existing ROW width between 3 and 95 feet. Between Stage Road and STH 129 and from Laplatte Road to the new substation area, the new alignment would be located south of the existing electric line so as to avoid impacts to existing structures.

Table 11: Western North Route - Acres Affected

Route	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentage In Agriculture
Western North	D01, D03, D04, D05, D08, D09A	32.4	587.2	204.1 (35%)	546.2	93%

Table 12: Western North Route - Off-ROW Access Roads

Route	Subsegment Connections	Area (acres)	Acres in Agriculture	Percentage In Agriculture
Western North	All subsegments	129.0	127.1	98%

The Western North Route crosses Settlement Road, Hauger Lane (twice), STH 81, Rattlesnake Road, CTH U, Black Jack Road, Grant River Road, Five Points Road, Bee Lane, CTH N, Boice Creek Road, Old Potosi Road, Stage Road, U.S. Highway (USH) 61, STH 129, Muldoon Lane, Lincoln Road, CTH A, Coon Hollow Road, Ridge Road, Sleepy Hollow Road (twice), Scenic Road, Pine Knob Road, CTH E, Hopewell Road, Rock Church Road, La Platte Road, Ebenezer Road, and Stockyard Road.

Ninety-one off-ROW access roads would be required for the construction and potentially, the continued maintenance of the new electric line. About 20 percent of the agricultural land affected by this route is for off-ROW access roads. Almost all agricultural landowners that would be impacted by the project ROW would also be impacted by off-ROW access roads.

Farmland Types and Soils

Approximately 64 percent of the agricultural land affected by this route and its many off-ROW access roads is across cropland and pasture. Another 31 percent of the affected agricultural land is used for residential areas, farm buildings, farm roads, woodlands, and wetlands. The Applicants have identified the specialty farms crossed by this route as tree farms.

Table 13: Western North Route - Agricultural Land Use

Agricultural Land Use	ROW (acres)	Off-ROW Access Roads (acres)	Totals (acres)	Percentages
Cropland	246.12	74.31	320.43	48%
Pasture	107.60	2.81	110.41	16%
Idle or Fallow Field	31.43	0.23	31.66	5%
Specialty Farmland (tree farms)	0.79	0.34	1.13	<1%
Other Agricultural Land	160.22	49.70	209.92	31%
Totals	**546.16**	**127.39**	**673.56**	**100%**

About 20 percent of the route is across agricultural land that is classified as prime and prime if drained farmland soils. Slightly more than half of the affected agricultural land (54 percent) is not prime farmland.

Table 14: Western North Route - Farmland Soils

Farmland Soil Classification	ROW (acres)	Off-ROW Access Roads (acres)	Totals (acres)	Percentages
Prime farmland	100.24	28.37	128.62	19%
Prime farmland if drained	1.22	0.33	1.55	<1%
Farmland of statewide importance	133.97	43.64	177.61	26%
Not prime	310.73	55.05	365.78	54%
Totals	**546.16**	**127.39**	**673.56**	**100%**

Impacts to Agricultural Properties

The Western North Route would affect 151 property owners of which 132 are agricultural properties. Out of the affected 132 agricultural property owners, 109 would also have additional acres required for off-ROW access roads. The table below identifies the agricultural property owners affected by the Western North Route. Those with asterisks before their name would also be affected by off-ROW access roads.

Table 15: Western North Route - Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres
*ADAMS, PAUL AND LORRIE	12.41
*ADAMS, TIMOTHY AND AMY	9.14
*ADRIAN, DOUGLAS AND JENNIFER	12.61
AXTELL, BART	1.20
*BAHL, DONALD J AND RUTH C BAHL TRUST	9.53
BOLK, SUSAN AND MARGARET BAGLEY	5.08
*BUTTLES, ELAM AND BARBARA	16.61
*CHAMBLISS, GLENN	1.18
*CLAUER, KEVIN	12.95
*COON HOLLOW ROAD LLC	6.45
*DRISCOLL, WILLIAM AND JOAN	4.11
ERRTHUM, LARRY	3.41
*ESSER BROTHERS LIMITED PARTNERSHIP	6.06
*FEIST, GERALD AND PATRICIA	15.75
*FOLEY, MICHAEL AND JOSHUA LUDWIG	11.99
*GLASSON, ERIC AND CHRISTINE	4.76
GOOD HOPE LAND COMPANY LLC	1.01
*GRANEY, ROGER AND JANET	9.31
*GRANVILLE INCOME TRUST	1.67
*GRISWOLD, PATRICK E. AND JANE M.	2.02
*GUDENKAUF, BERNICE TRUST	2.05
*HAFNER, SCOTT	9.96
*HAINES LAND LLC	7.65
*HALE, DARLEEN	3.36
*HAMPTON, RANDALL AND RONALD	6.41
*HARPER, STUART AND SALLY	5.64
HAUK, FRANCIS	5.65
*HEINER RESIDENCE	8.88
*HELMUTH, DANIEL JR. AND IVA	8.82
*HERSHBERGER, HENRY AND CLARA	16.97
*HI-VIEW SHORTHORNS INC.	6.14
HUGHES, DAVID AND SUSAN ANDERSON	9.63
*JASPER, DALE AND BARBARA	2.49
*JUNK, WAYNE AND ARLENE	13.28
KALINS, KEVIN	4.82
*KATZUNG, DARREN S.	1.47
KELLY, DENNIS	4.79
*KIRSCHBAUM FAMILY TRUST	6.14
*KITE, DAVID JR.	15.67
*KITE, JAMES AND LINDA	2.81

Agricultural Property Owners	Acres
LENZ, JAMES AND KATHLEEN	1.19
*LENZ, PETER AND CAROL	4.63
*LOLWING, JOSEPH AND ANNETTE	9.04
*LOY, DAVID AND AMY	12.47
*LOY, LEON M	16.86
*MAJESTIC VIEW LAND LLC	19.62
*MAZEWSKI, GENE	3.85
*MCMAHON, DAVID	5.29
MCMAHON, MARK AND ANDREA	2.36
*MILLER, LLOYD AND KATHERINE	3.24
*MILLIN RESIDENCE	4.49
*MOORE RESIDENCE	11.12
*MORROW, LYLE	11.03
*MUMM, HEATH	5.92
*NISLEY, HENRY AND ELIZABETH	1.94
NOEL, JOHN M AND DEBRA A TRUST	4.85
*OKEY, KENT	6.64
*PAGENKOPF, BURDETTE AND PHYLLIS	3.69
*PAGENKOPF, DANIEL AND NANCY	10.05
*PALLEN, CONRAD AND DEBRA	3.67
*PIGEON CREEK LAND LLC	4.64
*PITZEN, CHARLES AND CASSINDA	2.08
*RAGATZ, BRADLEY AND MISTY	13.78
RAGATZ, JONATHON AND ALLISON	1.08
REUTER, JEFF AND ELLEN	1.65
*REYNOLDS, PRESTON AND VIRGINIA	5.71
*RIEDL, WALTER L. AND LINDA A.	6.41
*SCHROEDER, PATRICK R.	1.20
*SCHROEDER, PATRICK AND KAREN	12.81
*SCHWARZMANN, JOSEPH AND JUDITH	4.74
*SNIDER, KURT	17.52
STADER, MATTHEW AND BECKY	2.75
*STADER, ROBERT AND TERESA	7.88
*STELPFLUG TRUST	2.07
*TOAD VALLEY LLC	20.49
VESPERMAN, DAVID AND LINDA	1.95
*WASHBURN RESIDENCE	10.45
*WEBER, GERALD	5.37
*WEISS, GERALD	14.64
*WHITTY, DANIEL C. TRUST	1.84

Agricultural Property Owners	Acres
KLAAS, HELEN	1.60
*KLAAS, LARRY J AND SHERRY J KLAAS TRUST	7.20
*KLAAS, TODD	17.85
*KOETHE, LULA	8.26
LEASE, BERNARD AND MACKENZIE	1.47

Agricultural Property Owners	Acres
*WIEST, LAWRENCE	10.28
*WEPKING FARMS PARTNERSHIP	14.97
*ZENZ, JOSEPH	25.04
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	15.69

*Landowners identified with an asterisk would be impacted by an off-ROW access road, if this route is approved.

Western North Route Comments

Comments from the following 19 potentially affected agricultural landowners are summarized below.

Farm Owner: Paul and Lorrie Adams
Route (Subsegments): 10.3 acres Western North (D05, D08), 2.11 acres for off-ROW access roads

The property owners are concerned that during construction of the line, a small uneconomical remnant would be created in the southwest corner of their property. If that area is not accessible during the growing season, the Adams should be compensated for the loss of crop yields from that portion of their land, as well as the land required for the ROW and the off-ROW access roads. They have concerns about the impact of the ROW to their stand of walnut trees as well as issues associated with stray voltage on their cow herd. The proposed off-ROW access road would pass through the middle of their farmstead. During construction, the use of the access road may interfere with their farming operations.

DATCP recommends that if the Western North Route is chosen by the PSC, the Applicants work with the property owners to minimize impacts to their operation and if necessary, adequately compensate the landowners for additional costs they incur because of the project.

Farm Owners \ Operator: Douglas and Jennifer Adrian \ Eugene Adrian
Route (Subsegment): 11.6 acres Western North (D04), 1.2 acres for off-ROW access roads

Douglas and Jennifer Adrian own 106 acres of cropland and 89 acres of wooded pasture. Typically, 35 acres of corn is grown. The owners harvest timber and firewood from their woodlands. They also have 35 acres of land in CRP or CREP. The route would cross cropland and wooded pasture. The owners have drain tiles in one field along Rattlesnake Road. The route could affect a large machine shed and fencing.

Farm Owners \ Operator: Elam and Barbara Buttles \ Andrew Buttles
Route (Subsegment): 11.5 acres Western North (D08), 5.1 acres for off-ROW access roads

Mr. and Mrs. Buttles own 227 acres of land consisting of 107 acres of cropland, 58 acres of pasture, 57 acres of woodland, and use 5 acres for buildings. Corn and soybeans are grown and heifers and a small poultry flock are raised on the farm. The owners are concerned that the route would affect their grassed waterways and pasture fencing. They are also concerned about the proximity of the heifer shed to the ROW and that project construction could disturb the heifers.

Farm Owner \ Operators: Kevin Clauer \ Jim Zenz and Terry Strief
Route (Subsegment): 9.7 acres Western North (D04), 3.2 acres for off-ROW access roads
Mr. Clauer owns 160 acres of land consisting of 64 acres of cropland and 96 acres of pasture. The cropland is used to grown corn and the pasture accommodates 40 head of beef cattle. This farm is under the FPP. Mr. Clauer is concerned about the potential negative effect of this project on the three dams on his property.

Farm Owners \ Operator: Gerald and Patricia Feist \ Patrick Schroeder
Route (Subsegment): 14.2 acres Western North (D08), 1.6 acres for off-ROW access roads
Mr. and Mrs. Feist own 174 acres of land which includes 68 acres of cropland, 50 acres of pasture, 50 acres of woodland, and 5 acres for buildings. This farm is included in the FPP. Trees are periodically harvested from the woodland. The project could affect cropland, pasture, woodland, and two grassed waterways. The owners are concerned that the project could permanently damage the quality of their soils by bringing stones up to the surface, mixing soil layers, and compacting soils. Pasture fencing might need to be altered during construction to keep livestock out of the construction zone. The owners are also concerned about impacts to cropland and pasture that could affect their rental income during and after construction.

Farm Owners: Randall and Ronald Hampton
Route (Subsegment): 5.4 acres Western North (D01), 1.5 acres for an off-ROW access road
The Hamptons own 700 acres of land and rent 52 acres of cropland from Catherine Tennessen. The Hamptons grow corn, soybeans, and hay, and raise 100 head of beef cattle and 250 head of sheep/goats. The route could affect cropland and pasture, as well as grassed waterways and a fence.

Farm Owner \ Operator: Francis Hauk \ Camel Ridge Farms
Route (Subsegment): 5.7 acres Western North (D03, D04)
Mr. Hauk owns 64 acres of land consisting of 45 acres of cropland, 19 acres of woodland, and 2 acres for buildings. The renter grows corn and soybeans on the land. The route could affect his cropland and grassed waterways.

Farm Owners: Daniel Jr. and Iva Helmuth
Route (Subsegment): 7.5 acres Western North (D08), 1.3 acres for off-ROW access roads
The Helmuths own 197 acres of land consisting of 113 acres of cropland, 61 acres of pasture, 20 acres of woodland, and 3 acres for buildings. They grow corn and raise 7 head of replacement dairy cattle. This farm is certified for organic production by Midwest Organic Services Association, Inc. The owners are concerned that the project could affect their organic status and pasture fencing.

Farm Owners: Larry J. and Sherry J. Klaas Irrevocable Trust and Todd Klaas
Operator: Todd Klaas Pine Knob Farms
Route (Subsegment): 17.8 acres Western North (D08), 7.2 acres for Off-ROW access roads
Larry and Sherry Klaas (Klaas Irrevocable Trust) own 295 acres. Their son, Todd Klaas owns 625 acres. Both properties are operated by Todd Klaas (Klaas Pine Knob Farms). Corn, soybeans,

hay, and wheat are grown on the land. They have a 225-cow dairy operation with 200 replacement dairy cattle. Land from both owners are enrolled in CREP. Their concerns include the potential negative impact to the three creeks that would be crossed by the proposed off-ROW access road, disturbance and compaction of productive soils, stray voltage, and interference with their phone and TV reception from the operating line.

Farm Owners \ Renter: Millin Residence \ Gary Stelpflug
Route (Subsegment): 3.7 acres Western North (D04), 0.8 acres for off-ROW access roads
The Millins own 69 acres of land consisting of 64 acres of woodland and 5 acres of cropland. The cropland is rented to Mr. Stelpflug who grows corn and soybeans in rotation. 60 acres of the woodland is enrolled in the MFL program. The proposed route and access road could affect cropland and woodland, as well as some fencing. The property owners are concerned about the effect the project could have on their timber revenue.

Farm Owners: Moore Residence
Route (Subsegment): 9.5 acres Western North (D04), 1.6 acres for an off-ROW access road
This property is 160 acres which includes 15 acres of cropland, 140 acres of woodland, and 5 acres for buildings. Four acres of the cropland are in corn with the remaining 11 acres enrolled in CRP. The woodland includes marketable timber of oak and walnut, as well as firewood. The owners are concerned that construction of the electric line will increase erosion potential on their farm. The route passes close to the residence and the Moores are concerned about the new electric line causing interference with radio/TV reception or causing problems for other types of electronics. The Moores would prefer the new line be constructed on the south side of the existing transmission line instead of the north side.

Farm Owner \ Operator: John M. Noel and Debra A. Noel Irrevocable Trust \ Kurt Snider
Route (Subsegment): 4.8 acres Western North (D04)
The Trust owns 40 acres of land consisting of 30 acres of woodland and 10 acres of cropland. The route would affect cropland on this property.

Farm Owner: Pigeon Creek Land LLC
Route (Subsegment): 4.5 acres Western North (D04), 0.1 acre for an off-ROW access road
This property consists of 40 acres of cropland, 50 acres of pasture, 50 acres of woodland, and 25 acres for buildings. 46 acres are enrolled in CRP. They grow corn and raise 80 head of beef cattle. The woodland is used for timber and firewood.

Farm Owners: Patrick and Karen Schroeder
Route (Subsegment): 10.8 acres Western North (D08), 2.0 acres for off-ROW access roads
The Schroeders own 700 acres of land and rent additional farmland from Pat Feist and Joseph and Judith Schwarzmann. The Schroeders typically grow 450 acres of corn, 220 acres of soybeans, 360 acres of hay, and 130 acres of wheat. They also run a 400-cow dairy operation with 250 replacement dairy cattle. This farm is covered by the FPP. The route could affect grassed waterways in their cropland. In addition, much of their farmland soil is a red clay, a soil

sensitive to compaction. There are shade trees in their pastures that could be affected by the project.

Farm Owners \ Operator: Joseph and Judith Schwarzmann \ Patrick Schroeder
Route (Subsegment): 4.6 acres Western North (D08), 0.1 acres for off-ROW access road
The Schwarzmanns own 166 acres of land consisting of 60 acres of cropland, 25 acres of pasture, 66 acres of woodland, 10 acres with a pond and streams and 5 acres for buildings. In an average year the renter grows 15 acres of corn, 15 acres of soybeans, and 30 acres of hay. The woodland is enrolled in the MFL program. The route and the off-ROW access road could negatively affect a grassed waterway and fencing, income they receive from the woodland, and the removal of trees could cause increased erosion.

Farm Owner: Toad Valley LLC
Route (Subsegment): 16.7 acres Western North (D04), 3.8 acres for off-ROW access roads
Toad Valley LLC owns over 600 acres of land including 380 acres of cropland, 200 acres of pasture, 25 acres of woodland, and 15 acres for buildings. Corn, soybeans, and hay are grown. The farm also has 35 beef cows.

Farm Owner: Gerald Weiss and Progress Plus LLC
Route (Subsegment): 9.9 acres Western North (D04), 4.7 acres for off-ROW access roads
The owners have 350 acres consisting of 242 acres of cropland, 65 acres of pasture, 26 acres of woodland, and 17 acres for buildings. Typically, 120 acres of corn, 45 acres of soybeans, and 75 acres of hay are grown. He also raises 110 head of beef cattle. 202 acres of this farm are enrolled in the CRP, 26 acres are enrolled in the MFL program, and all of the farm is covered by the FPP. The proposed project could affect terraces, diversions, grassed waterways, and contour cropping as well as barbed-wire fencing. Mr. Weiss is very concerned that the route crosses through the middle of his MFL-enrolled land.

Farm Owner \ Operator: Wepking Farms Partnership (Catherine Bayuk, General Partner) \ Ihm Organic View Farms LLC
Route (Subsegment): 13.5 acres Western North (D04, D05), 1.5 acres for off-ROW access roads
The Wepking Farms partnership owns a number of parcels southeast of the city of Lancaster between USH 61 and STH 129. The 210-acre property includes 95 acres of cropland, 78 acres of pasture, 5 acres of woodland, 5 acres of idle land, 22 acre in CRP land (Monarch Habitat 15 year agreement), and 5 acres used for buildings. In an average year, the operator grows 40 acres of corn, 35 acres of soybeans, and 20 acres of hay. They also raise 60 head of beef cattle. This farm is certified for organic production by Oregon Tilth.

The project could affect the organic certification of this operation. The owners are concerned that the proposed location of the ROW, structures, and off-ROW access roads could cause the destruction of conservation efforts that include grassed areas, contour strips, and dirt dams; loss of shade trees used by the beef cattle; loss of pine windbreaks more than 40 years old and used

to reduce soil erosion; damage to two manmade water dams in the pasture, and interference or damage to a 22-acre monarch butterfly habit plot which is in its second year of a 15-year program. The owners also stated that the Western North Route crosses over their fencing eight times which if removed might affect farming operations. The project might inhibit the development of an organic composting operation.

Farm Owner: Joseph Zenz (Zenz Farms LLC)
Route (Subsegment): 19.9 acres Western North (D04, D08), 5.2 acres for off-ROW access roads

Mr. Zenz owns 500 acres of land and rents additional land for his farm operation. In an average year he grows 1,100 acres of corn and 1,100 acres of soybeans. He also raises 100 head of beef cattle. This farm is included in the FPP. He has 30 acres of trees that he does not expect to be affected by the project. Mr. Zenz is concerned that the project would affect grassed waterways on his property.

Western South Route

Map Book Figures 2 and 7–14

The Western South Route is the alternative to the Western North Route described in the previous section of this document. The Western South Route extends east from the town of Cassville, passes to the south of the city of Platteville, turns north, passes east or west of the village of Livingston, and ends at the Hill Valley Substation Area. For much of its length, the new 345 kV line would be double-circuited with existing electric lines.

Route Descriptions

The analysis of the Western South Route is broken into 4 parts.

- **Western South Route Part 1**
  (Subsegments E01, E03, E04, E06, E07, E09, E10, E12, E13, E14, E16, E18, E19, G01 and F01)
- **Platteville North** (Subsegments F02, F03, and G06A) or **Platteville South** (Subsegments F04, F06, and G04)
- **Western South Route Part 2**
  (Subsegments G06B, G08, G09, H01, H02, H03, H06, H07, and H09)
- **Livingston West** (Subsegments J01, J02, J03, J04, and K01) or **Livingston East** (Subsegments I01, I02, I05, I06, I07, I08, I09, and K01)
  Livingston West and Livingston East include the common Subsegment, K01

Table 16: Western South Route Components – Acres Affected

Route Portion	Subsegment	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Western South Part 1	Segment E, Subsegment G01 and F01	24.4	444.5	128.2 (29%)	433.8	98%
Platteville North	F02, F03, G06A	1.6	28.1	- -	27.4	98%
Platteville South	F04, F06, G04	1.6	29.2	5.0 (17%)	24.3	83%
Western South Part 2	G06B, G08, G09, H01, H02, H03, H06, H07, H09	17.9	324.9	133.8 (41%)	316.4	97%
Livingston West	Segment I and K01	7.1	128.7	47.7 (37%)	127.7	99%
Livingston East	Segment J and K01	5.2	93.5	48.2 (52%)	93.1	100%

Table 17: Western South Route Components – Off-ROW Access Roads

Route Portion	Subsegment Connections	Area (acres)	Acres in Agriculture	Percentages In Agriculture
Western South Part 1	E01, E04, E06, E07, E09, E10, E13, E14, E16, E19, G01	77.3	74.5	96%
Platteville North	F03	0.8	0.7	88%
Platteville South	- -	- -	- -	- -
Western South Part 2	G06B, G08, G09, H01, H07	6.8	6.0	88%
Livingston West	- -	- -	- -	- -
Livingston East	I06, IO8, IO9	0.6	0.6	100%

Map Book Figures 2 and 7-8

Western South Route Part 1 (Segment E and Subsegments G01 and F01), in Grant County, starts in the town of Cassville and passes through the towns of Waterloo, Potosi, Harrison, and Platteville. The proposed line would be double-circuited with X-15, an existing 138 kV line. Much of the new ROW would overlap the northern portion of the existing line's ROW by about 50 feet.

The route crosses Millstream Lane, Cadwell Road, STH 133/Great River Road, Adrian Hollow Road, West Haas Road, and Chaffie Hollow Road. East of the Chaffie Hollow Road, the route dips south and the new line would cross to the south side of the existing transmission line alignment. The route then crosses E. Park Lane and CTH N. East of CTH N, the route crosses back to the north side of the existing electric line alignment and continues across Dugway Road, Dutch Hollow Road, Reynolds Ridge Road, CTH U, and Old Potosi Road.

Map Book Figure 8

At Stage Road (Subsegment E12), the X-15 line ties in to the existing Potosi Substation tap structure. The new and existing double-circuited line continues east. It then turns southeast, briefly departing from the existing alignment for approximately 1,400 feet (Subsegment E14). The new single-circuit 345 kV line crosses Buena Vista Lane and USH 61 before again rejoining the existing X-15 line alignment.

Map Book Figures 8-9

The 345 kV/X-15 double-circuit line continues east along the north side of the existing X-15 alignment, crossing Rockville Road, West Road, Big Platte Road, Bennett Lane, Stanton Road,

Harrison Road, Morris Road, and Maple Glen Lane. West of Southwest Road, the X-15 line continues east along its current alignment into the Hillman Substation. The new 345 kV line becomes a single-circuit, briefly traveling south (Subsegment G01) and then east (Subsegment F01) cross-country.

Map Book Figure 10

The Western South Route would use either the Platteville North (Subsegments F02, F03, G06A) or the Platteville South (Subsegments F04, F06) option. For both options, the new 345 kV line continues east as a single-circuit line, cross-country, and along new ROW. The route options cross CTH D. Platteville South allows for some corridor sharing with USH 151.

Map Book Figures 10-13

The Western South Route Part 2, (Subsegment G06B) turns south and crosses USH 151. It then turns east along the south side of College Farm Road. The route crosses Pleasant Valley Road, turns northeast crosses College Farm Road again and STH 80 to parallel along the east side of USH 151. It then turns east, crossing to the north side of the existing 138 kV line (X-14). From this point, the line would be double-circuited with the X-14 transmission line. The existing H-frame structures of the X-14 line would be replaced with double-circuited monopoles for approximately 3.7 miles. The double-circuited line would cross into the town of Elk Grove in Lafayette County.

The route briefly parallels Ipswitch Road then turns north (Subsegment G09) and becomes a single-circuit transmission line again as it crosses into the town of Belmont. Extending north for approximately 2 miles, the cross-country route would pass over CTH XX and USH 151. From the north side of USH 151 (Subsegment H01), the route continues north until reaching Mitchell Hollow Road. It then would become double-circuited (Subsegment H02) with an existing 69 kV line (Y-105). The route stair-steps north and west along the existing line's alignment, briefly paralleling CTH B.

The route (Subsegments H03-H09) turns northwest and north paralleling along the east side of Sunny Lane/Sunnydale Road and crossing W Mound Road. It continues north paralleling along the east side of Sunnydale Road/CTH G, 2nd Street, CTH A, Argall Rd/Lower Mifflin Road, CTH E/Rundell Road, and ending at Bollant Road. At two locations the alignment would depart from the current Y-105 alignment. One is in the vicinity of Sunnydale Road up to W Mound Road. The second location is at the village of Rewey where the route departs from the existing line's alignment to bend around the west side of the village as a single-circuit line.

Map Book Figure 13

There are two route options around the village of Livingston, Livingston West (Segment J) or Livingston East (Segment I).

Livingston West would be a single-circuit line routed primarily along roads. It first travels west along the north side of Bollant Road, crosses into Grant County, and travels along the south side of STH 80. It crosses STH 80. Upon reaching the intersection of Rock Church Road and Old 80 Road, the route turns north along the east side of Old 80 Road until reaching CTH E. It crosses CTH E and continues north and east cross-country until turning east along the south side of Martinville Road. It would then become double-circuited with the existing Y-105 electric line and continue north along the existing electric alignment (Subsegment K01) until reaching the intersection of STH 80 and Ebenezer Road.

Livingston East would continue north double-circuited with the Y-105 electric line along CTH E mostly along the Y-105's existing alignment. Just after Bollant Road, the route crosses to the west side of CTH E for one span to avoid structures and then returns to the east side of CTH E. At the intersection of CTH E/CTH XX and Enloe Road, the route turns west along the north side of CTH E for a short distance (Subsegment I07). The route then departs from the existing Y-105 alignment, turns north cross-country to CTH X and then west along the north side of CTH X (Subsegment I08, I09). The existing Y-105 electric line would be relocated from its current location along STH 80 and continue to be double-circuited with new 345 kV line on its new alignment. Where the route meets STH 80, it (Subsegment K01), it would continue north on the existing Y-105 alignment until the intersection of STH 80 and Ebenezer Road.

Both Livingston East and West would require almost entirely new ROW across agricultural lands. The Livingston East Option is shorter and would affect fewer acres of land. Additionally, a greater percentage of Livingston East would overlap the existing ROW of lower-voltage electric lines.

Farmland Types and Soils

The agricultural land affected by the Western South Route Part 1 and Part 2 is overwhelmingly used as cropland and pasture with minor amounts of idle or fallow fields and specialty farmland. About one-third of the land is prime farmland and prime if drained or protected from flooding, another third is farmland of statewide importance, and the remainder is not prime farmland.

Table 18: Western South Route Parts 1 and 2 - Agricultural Land Use

Agricultural Land Use	Western South Route Part 1 (acres)	Western South Route Part 2 (acres)	Subtotals
Cropland	251.02	235.25	486.27
Pasture	56.74	21.47	78.21
Idle or Fallow Field	17.21	- -	17.21
Specialty Farmland (tree farms)	0.49	- -	0.49
Other Agricultural Land	182.83	65.95	249.78
Totals	**508.29**	**322.68**	**830.97**

NOTE: Acres in this table include off-ROW access roads

Table 19: Western South Route Parts 1 and 2 - Farmland Soils

Farmland Soil Classification	Western South Route Part 1 (acres)	Western South Route Part 2 (acres)	Subtotals
Prime farmland	63.59	205.38	268.97
Prime farmland if drained	1.41	10.14	11.55
Prime farmland if protected from flooding	5.39	2.36	7.75
Farmland of statewide importance	156.93	93.99	250.92
Not prime	280.97	10.81	291.78
Totals	**508.29**	**322.68**	**830.97**

NOTE: Acres in this table include off-ROW access roads

Table 20: Western South Route, Platteville Options - Agricultural Land Use

Agricultural Land Use	Platteville North (acres)	Platteville South (acres)
Cropland	25.90	23.99
Other Agricultural Land	2.20	0.30
Totals	**28.10**	**24.29**

NOTE: Acres in this table include off-ROW access roads

Table 21: Western South Route, Platteville Options – Farmland Soils

Farmland Soil Classification	Platteville North (acres)	Platteville South (acres)
Prime farmland	17.46	20.63
Farmland of statewide importance	10.00	3.66
Not prime	0.64	- -
Totals	**28.10**	**24.29**

NOTE: Acres in this table include off-ROW access roads

The Platteville North Option affects a few more acres of cropland than the Platteville South Option. The Platteville South Option affects a few more acres of prime farmland.

Table 22: Western South Route, Livingston Options - Agricultural Land Use

Agricultural Land Use	Livingston West (acres)	Livingston East (acres)
Cropland	85.73	54.34
Pasture	4.11	8.89
Other Agricultural Land	38.20	30.72
Totals	**128.04**	**93.94**

NOTE: Acres in this table include off-ROW access roads

Table 23: Western South Route, Livingston Options – Farmland Soils

Farmland Soil Classification	Livingston West (acres)	Livingston East (acres)
Prime farmland	114.04	77.32
Prime farmland if drained	- -	2.74
Prime farmland if protected from flooding	1.14	- -
Farmland of statewide importance	12.74	11.86
Not prime	0.12	2.03
Totals	**128.04**	**93.94**

NOTE: Acres in this table include off-ROW access roads

More acres of agriculture, cropland, and prime farmland would be affected by the Livingston West Option as opposed to the Livingstone East Option.

Impacts to Agricultural Properties

The various components of the Western South Route would affect between 167 and 180 agricultural property owners as follows:

- Western South Route Part 1 and Part 2 would affect 174 property owners of which 151 are agricultural
- Platteville North Option would affect 7 property owners of which 6 are agricultural
- Platteville South Option would affect 5 property owner of which 4 are agricultural
- Livingston West Option would affect 25 property owners of which 23 are agricultural
- Livingston West Option would affect 13 property owners of which 12 are agricultural

Approximately half of the agricultural property owners would also have additional acres required for off-ROW access roads. The following tables identifies the acres that would be acquired from agricultural property owners, depending on the route chosen by the PSC. Those with asterisks before their name would also be affected by off-ROW access roads.

Table 24: Western South Route Part 1 – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres
*ABING, CARL AND ELIZABETH	23.03
*BAUSCH RESIDENCE	25.72
*BAUSCH, KEVIN F	3.31
*BAUSCH, PATRICK	7.88
BELLMEYER, JUDY	5.15
BENNETT, OWEN	3.35
BOOK, ROBERT AND JOAN	5.90
BUSSAN, WILLIAM AND JEAN	1.20
*COOLEY, CHRISTOPHER AND KIM	1.86

Agricultural Property Owners	Acres
*MATTHEW COLE TRUST	7.86
*MEIER, DOUGLAS AND SANDRA	7.88
MORSHEAD, RANDALL	2.50
*MUMM, JOHN AND BRIAN	15.96
OLIVERIO/SCHAMBOW RESIDENCE	9.91
PALZKILL, GARY	4.87
*PATCLE, JOHN AND CHERYL	12.41
*PLOESSL, JOSEPH AND DENISE	14.51
*PLUEMER BROTHERS LAND LLC	9.14

Agricultural Property Owners	Acres
*CROGHAN, WILLIAM C	3.92
CULLEN, SCOTT AND CHRISTIAN	1.39
*DEMMER, KENNETH AND JEANINE	14.31
DEMUTH TRUST	2.47
DIMICK, NICHOLAS AND NATHAN	3.39
*ESSER BROTHERS LIMITED PARTNERSHIP	5.67
*FECHT, JOHN AND CAROL FECHT	14.78
*FECHT, JOHN J	1.22
*FOLKS, GERALD	4.90
*FRITZ, MIKEL AND PAMELA	14.04
*GRINDE, H BROOKE AND JOCELYN	12.09
HAAS, ROBERT AND BRIDGET	2.26
HEIMKE, KARL AND E ELIZABETH	9.01
HENRY, GARY	1.74
*HOWE , KENNETH AND JAMIE PLOESSL-HOWE	15.24
*HUBERT, DOUGLAS AND JILL	8.12
*JACOB EASTLICK TRUST	2.67
*JANTZEN, LESTER AND DOROTHY	4.76
JEIDY, DORIS	4.57
*JENTZ, WAYNE J	6.35
*KEY, KATHLEEN	4.78
*KINYON, CHARLES M JR AND SHERYL L	1.04
KRUSER, EDWARD SR AND DENNIS	9.61
KUSTER, BETH	1.18
*LEIBFRIED, DANIEL AND BRADFORD	21.87
*LEIBFRIED, LOUIS AND PAMELA	6.23
LEY, WILLIAM AND JACQUELINE	1.63

Agricultural Property Owners	Acres
*POST, STEVEN AND ANN	4.77
REDING, JEREMY	4.52
*REYNOLDS, DANIEL AND BRENDA	18.53
REYNOLDS, THOMAS AND DEBRA	1.17
*REYNOLDS, WAYNE AND KAREN	5.36
REYNOLDS, WILLIAM AND MARY	4.55
*RILEY, MICHAEL AND JUDITH	7.53
*SCHWAB, BART T	1.62
*SCOTT FARM ENTERPRISES INC	7.08
SEDBROOK, RICHARD AND NANCY	8.43
*SEDGWICK, ROBERT II	5.48
*UDELHOFEN, JOANNE	1.54
*UDELHOFEN, JOHN AND ANGELA	2.00
UDELHOFEN, PATRICK AND WENDY	9.07
UPPENA, JEROME AND ELAINE	1.39
UPPENA, MICHAEL	3.14
*VOSBERG FRANCIS L FARMS LLC	3.98
WAMSLEY RESIDENCE	3.74
*WEBER, STEVEN AND KIMBERLY	10.31
*WIEST RESIDENCE	13.72
*WIEST, BRAD A	2.28
WIEST, BRENT	4.53
*WIEST, TODD	8.48
*WRIGHT, CHARLES AND BARBARA	21.38
*YAGER IRREVOCABLE TRUST	7.69
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	4.26

Table 25: Western South Route Part 2 – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres
ALLGYER, BENJAMIN AND LYDIA	1.71
BEILER RESIDENCE	4.60
BEILER, ELMER AND ANNA	4.07
BELLMEYER, JUDY	2.28
*BOARD OF REGENTS OF STATE	1.85
*BOARD OF REGENTS OF STATE COLLEGES	7.14
BUNKER, C ROBERT AND ELAINE	12.03
CHASE, ROBERT AND RITA	7.68
CLARE, PAT - TRUSTEE	5.00
CLARE, PATRICK	11.70

Agricultural Property Owners	Acres
LEE, WILLIAM AND DAWN	1.03
LUDLUM, DIANE	1.90
MAGBY, JOHN AND SARAH ANN	8.24
MARTIN, BETTIE	4.12
MCCANN LAND LLC	1.15
MCNETT, ARTHUR	4.92
MCNETT, CRYSTAL	7.62
*NODOLF, DANIEL	13.56
*PLATTEVILLE PROGRESSIVE PROPERTIES LLC	6.30
ROBINSON, STEVE AND JOSEPH	3.94

Agricultural Property Owners	Acres
CLASEN, DONNA RAE	11.44
EDGE, DALE AND IRENA	3.51
ESH, STEPHEN AND DRUSILLA	9.83
FEHRENSEN, GERT TIMO	6.83
*FEHRENSEN, WOLF-GEORG AND ANTJE AND EVA AND GERT TIMO	23.07
FIRST NAT'L BANK AND TRUST	25.45
GRABER, WILLIAM AND JOYCE	8.29
GRANT COUNTY REAL ESTATE SERVICES INC	1.84
HARMS, JAMES	3.50
*KING, MAHLON AND KATIE	4.00
KINSINGER, ANDREW AND SARAH	3.81
KLEIN, LEONARD AND JUDITH	7.95
KLEIN, MICHAEL	7.95
KLEIN, MICHAEL AND AMY	3.92
KLINGE, DOROTHY	4.81

Agricultural Property Owners	Acres
SANDER, KENT AND MARY ANN	1.34
SCHAEFER, DAVE AND LISA AND ANTJE FEHRENSEN	15.67
SCHAMBOW, KEITH AND ROGER	9.76
*SCHURZ, GUY L	6.22
SIEGERT, DONALD J - TRUSTEE	8.42
STANTON, DARRIN	1.12
STEINBACK, DOUGLAS JR AND JANICE	9.17
STOLTZFOOS, ISAAC AND BARBARA	1.02
STOLTZFUS, ELI AND MIRIAM	10.43
VOIGTS, LARRY AND KIMBERLY	2.28
WALTER/KEMINK RESIDENCE	2.98
*WEIGEL, THOMAS AND KELLI	9.39
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	7.63

Table 26: Western South Route, Platteville Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Platteville North (acres)	Platteville South (acres)
BELLMEYER, JUDY	7.25	7.55
*BENNETT, OWEN	0.66	- -
HARMS-MYERS, TAMMY	1.08	2.29
IREANE LANDIS REVOCABLE TRUST	4.43	- -
*SANDER, KENT AND MARY ANN	4.69	5.03
*WHITCHER, KENNETH AND FERN	9.99	9.41
Totals	28.10	24.29

Table 27: Western South Route, Livingston Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Livingston East (acres)	Livingston West (acres)	Common Subsegment K01 (acres)
ALLEN, JEFFREY AND REBECCA	17.61	- -	- -
BIDDICK INC	- -	8.88	4.72
BIDDICK, JAMES AND LINDA LEE	5.76	10.23	
*BIDDICK, JASON	13.14	- -	14.26
COULTHARD, HAROLD J AND DALE E	7.73	- -	- -
*GENE N SMITH LIVING TRUST	10.64	- -	- -
GINGERICH, JOSEPH AND VERA	- -	1.46	- -
*GRUNENWALD, DIANE	3.64	- -	- -

Agricultural Property Owners	Livingston East (acres)	Livingston West (acres)	Common Subsegment K01 (acres)
IVERSON, RICKY AND ALISA	--	1.00	--
IVERSON, RONALD AND JUDY	--	5.78	--
JINKINS, CHARLES	--	5.21	--
JINKINS, JOHN, THOMAS, AND MARK	--	11.23	--
KIELER REVOCABLE TRUST	--	2.92	--
KRAMER, EUGENIA	--	--	3.76
MCCARTHY/BOLLANT RESIDENCE	--	10.98	--
PARJIM FARMLAND HOLDINGS LLC/FAMILY LUCKY 7 FARM LLC	--	10.00	--
PROCHASKA, JEAN	--	--	3.52
RILEE B REVOCABLE TRUST	--	4.00	--
ROWE/LOY RESIDENCE	--	1.52	--
RUNDELL REVOCABLE TRUST	--	1.08	--
SCHAEFER, DAVE AND LISA AND ANTJE FEHRENSEN	--	16.66	--
TONKIN, BRUCE AND SUSAN	--	--	8.54
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	0.03	1.66	0.29
Totals	58.55	92.61	35.09

Western South Route Comments

The comments from the following 33 agricultural landowners that could be affected by the Western South Route components are summarized below.

Western South Route Part 1 Comments

Farm Owners: Carl and Elizabeth Abing
Renters: David and Mike Schauff rent 133 acres / Pat and Dennis Bausch rent 100 acres
Route (Subsegments): 17.2 acres Western South Part 1 (E06, E07), 5.8 acres for off-ROW access roads

The Abings own 480 acres of land consisting of 250 acres of cropland, 197 acres of pasture, 80 acres of woodland, and 3 acres for buildings. Corn, soybeans, and hay are grown. They typically raise 30 head of beef cattle. 16.7 acres are enrolled in CRP. Their woodland is cut for firewood and some of the larger trees can be cut for timber. The project would cross cropland and pasture on their property. All of their fields have grassed waterways and there is a dam in the pasture that the owners want protected from construction activities. The route and the off-ROW access roads could affect field and pasture fencing. The owners are concerned that heavy construction equipment will damage their soils and disrupt crop production.

Farm Owner: Patrick Bausch
Route (Subsegments): 7.7 acres Western South Part 1 (E01, E03, E04), 0.2 acres for an off-ROW access road

Mr. Bausch owns 1,100 acres of land and rents additional farmland. In an average year, he grows 600 acres of corn, 600 acres of soybeans, and 50 acres of hay. He also raises 200 head of beef cattle. The proposed project would cross his cropland and pasture.

Farm Owner \ Operators: Judy Bellmeyer \ Tim Clare and Sons (Saddle Ridge Farm)
Potential Impacts (Subsegments):

- 5.2 acres Western South Part 1 (G01, F01)
- 7.3 acres Platteville North (F02, F03, G06A)
- 7.6 acres Platteville South (F04)
- 2.3 acres Western South Part 2 (G06B)

Ms. Bellmeyer owns 896 acres of land and rents 806 acres to Mr. Clare. Impacts to the land owned by Ms. Bellmeyer depends on the route approved by the PSC. The cropland has grassed waterways and buildings that could be affected by the project. The project could affect some of her best Tama soils. She is concerned that the project could negatively affect property values and limit the potential for development of this land. She is also concerned that her renter would no longer want to rent the land with a newly-constructed transmission line, negatively affecting her income.

Farm Owners \ Operator: Robert and Joan Book \ Gary Stelpflug
Route (Subsegments): 5.9 acres Western South Part 1 (E12, E13)
Mr. and Mrs. Book own 450 acre of cropland which is rented to Mr. Stelpflug.

Farm Owner \ Operator: Gerald Folks \ Mikel Fritz
Route (Subsegments): 4.8 acres Western South Part 1 (E16), 0.1 acres for an off-ROW access road
Mr. Folks owns 42.5 acres of land consisting of 25 acres of cropland and 17.5 acres of woodland. Mr. Fritz grows corn and soybeans in rotation. The woodland includes 10 acres of walnut trees. The project would affect cropland and woodland on his property. He is concerned that construction personnel will not stay on the ROW.

Farm Owners \ Operator: Kenneth Howe and Jamie Ploessi-Howe \ William Hauk
Route (Subsegments): 14.2 acres Western South Part 1 (E07), 1.1 acres for off-ROW access roads
The Howes have 89 acres of cropland that Mr. Hauk grows corn and soybeans in rotation. They also have 20 acres of pasture used for two horses, 136 acres of woodland, and 5 acres for buildings. This farm includes 41.62 acres in CRP, 34.65 acres in CREP, and 200 acres in the MFL program. The woodland provides firewood and is periodically logged. The project could affect drainage tiling on the cropland, grassed waterways on the CREP-enrolled land, pasture, and woodland. The buildings that could be affected include the house, barn, sheds, an outdoor wood furnace, and a shop for repairing equipment. The owners are concerned that the project will disturb wildlife habitat on their property. They are strongly opposed to this project, but if it is built, they would like it to be placed further away from their home on the other side of the hill.

Farm Owners \ Operator: Douglas and Jill Hubert \ Mike Futz
Route (Subsegments): 6.8 acres Western South Part 1 (E16), 1.3 acres for an off-ROW access road
Mr. and Mrs. Hubert own 80 acres of land consisting of 25 acres of cropland and 55 acres of woodland. Typically, they grow 18 acres of corn and 7 acres of soybeans. The farm is enrolled in

the FPP. The Huberts are concerned about the project affecting their fencing. They do not object to the proposed project as long as it follows the existing transmission line route.

Farm Owners: Douglas and Sandra Meier
Route (Subsegments): 6.4 acres Western South Part 1 (E07, E09), 1.5 acres for off-ROW access roads
Mr. and Mrs. Meier own 70 acres of land consisting of 53 acres of pasture and 17 acres of cropland. The cropland is used to grow hay and they also raise 12 head of beef cattle. The project could affect their pasture.

Farm Owner / Operator: Gary Palzkill / Joseph Majenis
Route (Subsegment): 4.9 acres Western South Part 1 (E14)
Mr. Palzkill owns 21 acres of land consisting of 17 acres of cropland, 2.5 acres of pasture, and 1.5 acres for buildings. All of the cropland is rented to Mr. Majenis. Mr. Majenis grows corn, soybeans, and hay in rotation. Mr. Palzkill also raises 6 head of beef cattle.

Farm Owners: Michael and Judith Riley
Route (Subsegment): 5.8 acres Western South Part 1 (E19), 1.7 acres for an off-ROW access road
The Rileys own 94 acres of land consisting of 27 acres of cropland, 20 acres of pasture, and 47 acres of woodland. The cropland is enrolled in CRP. The route crosses cropland, pasture, and woodland on their property. They are concerned that the project will affect their new fencing.

Farm Owner: Scott Farm Enterprises, Inc. (Rocky Skemp)
Route (Subsegment): 6.3 acres Western South Part 1 (E19), 0.8 acres for an off-ROW access road
This property is 1,030 acres and includes 550 acres of cropland, 300 acres of pasture, 278 acres of woodland, and 2 acres for buildings. In an average year, the owner grows 380 acres of corn and 170 acres of soybeans. The owner already has a transmission line on his property and does not have any concerns about this proposed line.

Farm Owners: Patrick and Wendy Udelhofen
Route (Subsegment): 9.1 acres Western South Part 1 (E16)
The Udelhofens own 105 acres of land and rent additional land from Matt Cole. The Udelhofens typically grow 65 acres of corn. They also have 32 acres enrolled in CRP. The route could affect a grassed waterway in their pasture, as well as the fencing. They are concerned that construction could damage their soils. The owners state that the existing electric ROW has not been maintained and weeds have taken over the easement. They are concerned this would occur for this project, as well.

Farm Owner: Robert Vosberg (formerly owned by Vosberg Francis L Farms LLC)
Route (Subsegment): 4.0 acres for off ROW Roads for Western South Part 1 (E19)
Mr. Vosberg owns 780 acres of land consisting of 520 acres of cropland, 167 acres of pasture, 90 acres of woodland, and 3 acres for buildings. In an average year he grows 200 acres of corn, 180 acres of soybeans, 100 acres of hay, and 40 acres of oats. He also raises 100 head of beef

cattle. Mr. Vosberg is concerned about the two lengthy access roads proposed across his property, if the Western South Route is chosen. He is concerned that the project would affect his barbed wire fencing. The cropland soils that would be affected by the route are high-quality Fayette soils. He is concerned that construction crews will damage his cropland.

Farm Owner: Brent Wiest
Route (Subsegment): 4.5 acres Western South Part 1 (E01)
Mr. Wiest owns 120 acres of land and rents additional land for his operation. He grows corn and soybeans on 240 acres of cropland. The route crosses cropland and potentially, land enrolled in the Conservation Stewardship Program (CSP). Mr. Wiest has applied to participate in the CSP for Monarch butterfly habitat. The route also crosses grassed waterways used for drainage and a grass buffer used for erosion control. There is also a fence line that Mr. Wiest anticipates will need to be removed for the project.

Platteville Options Comments

Farm Owner \ Operators: Judy Bellmeyer \ Tim Clare and Sons (Saddle Ridge Farm)
Potential Impacts (Subsegments):

- 7.3 acres Platteville North (F02, F03, G06A)
- 7.6 acres Platteville South (F04)

Ms. Bellmeyer has land that may be impacted by both Platteville Route options, as well as the Western South Route Part 1 and Part 2. The full text of her comments are included in the Western South Route Part 1 section above.

Farm Owners: Southwest Equestrian Center LLC / Tammy Harms-Myers
Route (Subsegment): 1.1 acres Platteville North (F02, F03), 2.3 acres Platteville South (F04, F06)
The equestrian center would be affected by both the Platteville Route options. The company boards about 20 horses and Ms. Harms-Myers is concerned about stray voltage from the new operating line. She is also concerned that the project may affect a new building and fencing planned for the property.

Western South Route Part 2 Comments

Farm Owners: Benjamin and Lydia Allgyer
Route (Subsegment): 1.7 acres Western South Part 2 (H03)
The 154 acres owned by the Allgyers are certified organic by the Midwest Organic Services Association, Inc.

Farm Owners: Elmer and Anna Beiler
Route (Subsegment): 4.1 acres Western South Part 2 (H06)
Mr. and Mrs. Beiler own 95 acres of land consisting of 55 acres of cropland, 35 acres of pasture, and 5 acres for buildings. In an average year, they grow 27 acres of corn, 20 acres of hay, and 8 acres of tobacco. They also have a 46-cow dairy operation with 14 replacement dairy cattle. This farm is certified by Nature's International Certification Services for organic production. The owners are concerned that the new line will create induced currents on their fencing which is

connected to their dairy facilities. There are also water lines running under the fencing that could be affected by induced currents.

Farm Owner \ Operator: Judy Bellmeyer \ Tim Clare and Sons (Saddle Ridge Farm)
Potential Impacts (Subsegments): 2.3 acres Western South Part 2 (G06B)
Ms. Bellmeyer has land that may be impacted by Western South Route Part 2, as well as both Platteville Route Options and the Western South Route Part 1. The full text of her comments are included in the Western South Route Part 1 section above.

Farm Owners: Robert and Rita Chase
Route (Subsegment): 7.7 acres Western South Part 2 (G08)
Mr. and Mrs. Chase own 346 acres of land and rent 42 additional acres from Kenneth Kramer. In an average year, they grow 160 acres of corn, 130 acres of soybeans, 50 acres of hay, and 20 acres of oats. They also raise 30 steers. The route could affect cropland with grassed waterways and pasture fencing.

Farm Owner: James Harms
Route (Subsegment): 3.5 acres Western South Part 2 (G06B)
Mr. Harms owns 120 acres of cropland planted with seed corn and soybeans in rotation. He rents all of his farmland to Schweigert Farms. The route may affect grassed waterways on the property. The landowner is concerned about a potential loss of rental income.

Farm Owners: Andrew and Sarah Kinsinger (Maple Shade Farms)
Route (Subsegment): 3.8 acres Western South Part 2 (H06)
The Kinsingers operate an organic dairy and vegetable farm certified by Natures International Certification Services.

Farm Owner \ Operator: Bettie Martin \ Wilson Organic Farms
Route (Subsegment): 4.1 acres Western South Part 2 (H06)
Ms. Martin owns 150 acres of land and rents 40 acres to Wilson Organic Farms. This farm is certified for organic crop production. They also raise 50 head of beef cattle. The route could affect new fencing along the property line. Ms. Martin is concerned about a potential loss of income because of the project.

Farm Owner: Arthur McNett
Route (Subsegment): 4.9 acres Western South Part 2 (H07)
Mr. McNett owns 720 acres of land, of which 710 acres is cropland and 10 acres is for buildings. He rents additional cropland and typically grows 1,000 acres of corn and 500 acres of soybeans. The proposed route would affect his cropland. He has grain facilities next to an existing electric line. Mr. McNett stated that ATC has been easy to work with in the past and he doesn't have any concerns about the proposed project.

Farm Owners: Keith and Roger Schambow
Route (Subsegments): 9.8 acres Western South Part 2 (H09)
The Schambows own 481 acres of land consisting of 381 acres of cropland, 85 acres of pasture, and 15 acres for buildings. In an average year, they grow 210 acres of corn, 100 acres of soybeans, and 70 acres of hay. They also raise 60 steers. The route could affect one grassed waterway and fencing.

Farm Owner \ Operator: Guy Schurz \ Arthur McNett
Route (Subsegments): 6.2 acres Western South Part 2 (H06, H07), 0.02 acres for an off ROW access road
Mr. Schurz owns 205 acres of land consisting of 150 acres of cropland, 50 acres of pasture, and 5 acres for buildings. Mr. McNett rents all of the cropland and grows corn and soybeans in rotation. The route could affect cropland with drainage tiling. Mr. Schurz is very concerned about a loss in his farm's property value.

Farm Owner: UW Board of Regents (UW Platteville Pioneer Farm)
Route (Subsegments): 5.4 acres Western South Part 2 (G08), 3.6 acres for off ROW access roads
This land is part of the UW Platteville Pioneer Farm. They have stated that there is a long-term agro-ecology research project on the property that could be impacted by the new transmission line. The Director of the Pioneer Farm, Charles R. Steiner, stated that they have a very limited land base and any land taken out of production would negatively impact their ability to produce enough feed for their livestock enterprises and meet the requirements of their nutrient management plan. Additionally, for the past 15 years, they have been collecting both surface and groundwater data as part of water quality research at Pioneer Farm. They are concerned about how the construction of this project would impact their water monitoring and existing agricultural research projects.

Livingston Options Comments

Farm Owner: Biddick, Inc. (Jason Biddick)
Potential Impacts (Subsegments)

- 19.0 acres Both Livingston Route Options (K01)
- 9.4 acres Livingston West (J01, J02, J04)
- 13.0 acres Livingston East (I08, I09), 0.1 acre for an off ROW access road
- 1.4 acres Eastern Alt South (R03)
- 0.2 acres Eastern South Part 1 (Q02)

The Biddicks own 2,900 acres and rent additional land including another 33 acres from Jean Prochaska who would also be potentially affected by the project. In total, this farm operates 6,000 acres of cropland, 800 acres of pasture, 200 acres of woodland, and has buildings on 40 acres. In an average year they grow 1,700 acres of corn, 2,700 acres of soybeans, 200 acres of hay, 400 acres of wheat, 500 acres of oats, and 500 acres of popcorn. They also raise 900 beef cattle. 60 acres of this property are enrolled in CREP. Another 560 acres of this land is included in the FPP. The proposed project could affect grassed waterways in the cropland and fencing on the property.

Farm Owners: Harold J. and Dale E. Coulthard
Route (Subsegment): 7.7 acres Livingston East (I01, I02, I05), <0.3 acres along Western South Part 2 and Livingston West
The Coulthards own 440 acres of land consisting of 385 acres of cropland, 25 acres of pasture, 29 acres of woodland, and 1 acre for buildings. They grow corn and soybeans. All of the woodland is enrolled in CREP. The owners are concerned that the project could negatively affect drainage on their property and that the new electric line will be close to their grain bins, grain drier, machine shop, and storage shed.

Farm Owners: Ronald and Judy Iverson
Route (Subsegment): 5.8 acres Livingston West (J03, J04)
Mr. and Mrs. Iverson own 700 acres of land consisting of 540 acres of cropland, 60 acres of pasture, 98 acres of woodland, and 2 acres for buildings. In an average year, the Iversons grow 260 acres of corn, 260 acres of soybeans, and 20 acres of hay. They also raise 18 head of beef cattle. The farm is covered by the FPP. The route would affect cropland on their property. The owners are concerned about the route negatively impacting the visual aesthetics of their land.

Farm Owner \ Operator: Jean Prochaska \ Biddick Inc.
Route (Subsegments): 3.5 acres Both Livingston East and West (K01)
Jean Prochaska owns 33 acres of cropland and uses 3 acres for buildings. The land is rented to the Biddicks. The Prochaska property is enrolled in the FPP. The route could affect grassed waterways in the cropland and fencing on the property.

Farm Owner \ Operator: Gene M. Smith Living Trust \ Double N Cattle Co. (Michael and Matthew Mueller)
Route (Subsegment): 10.2 acres Livingston East (I08, I09), 0.4 acres for an off-ROW access road
The Trust includes 243 acres with 145 acres of cropland, 89 acres of pasture, almost 1 acre of idle farmland, 5 acres for buildings, and 3 acres of waterways and terraces. The renter grows corn, soybeans, hay, and oats. They typically raise 8 beef cows with 8 calves on this farm. The owner is concerned that project construction could lead to soil erosion, especially where it would cross a creek and a spring-fed stream. The route could also affect new fencing and several trees that provide shade in the pasture. The owner is concerned about potential loss of property values and impacts to wildlife.

Farm Owners \ Operator: Bruce and Susan Tonkin \ Stuart Brokopp
Route (Subsegment): 8.5 acres Both Livingston East and West Options (K01)
Mr. and Mrs. Tonkin own 100 acres of cropland. The cropland is rented to Mr. Brokopp to grow corn and soybeans. The Tonkins would prefer to see the project follow the Preferred Route along existing roads rather than the Alternate Route that passes through fields.

Comparison of the Western North and the Western South Routes

The tables below compare the five potential routes between the Mississippi River Area and the Hill Valley Substation Area.

Table 28: Western Routes - Comparison of Affected Agricultural Acres

Route	Options	ROW (acres)	Percent of ROW Shared	Off-ROW Roads (acres)	Total Affected Agriculture (acres)	Total Percentages In Agriculture
Western North	N/A	587.2	35%	129.5	673.2	94%
Western South	Platteville North Livingston East	891.0	35%	85.5	952.5	98%
Western South	Platteville North Livingston West	926.2	33%	84.9	986.5	98%
Western South	Platteville South Livingston East	892.1	35%	84.7	948.7	97%
Western South	Platteville South Livingston West	927.3	34%	84.1	982.7	97%

The Western North Route would affect the fewest acres overall and the fewest agricultural acres. There is little difference between the amounts of acres affected by the various Western South Routes. On average, the Western South Routes would impact just under 1,000 acres of which almost all are in agriculture as opposed to the Western North Route which would affect just under 675 acres. All Western Routes overlap existing ROWs for about one-third of the affected acres, helping to reduce the acres of new ROW required.

Table 29: Western Routes - Comparison of Agricultural Land Use

Route	Options	Cropland (acres)	Pasture (acres)	Idle or Fallow Field (acres)	Specialty Farmland* (acres)	Other Agricultural Land (acres)
Western North	N/A	320.4	110.4	31.7	1.1	209.9
Western South	Platteville North Livingston East	566.5	87.1	17.2	0.5	281.7
Western South	Platteville North Livingston West	597.9	82.3	17.2	0.5	289.2
Western South	Platteville South Livingston East	564.6	87.1	17.2	0.5	279.8
Western South	Platteville South Livingston West	596.0	82.3	17.2	0.5	287.3

NOTE: Acres in this table include off-ROW access roads
*The Applicants have identified the specialty farmland on these routes as tree farms

All four of the Western South Routes Options would affect more acres of cropland than the Western North Route.

Figure 4: Western Routes - Comparison of Agricultural Land Use

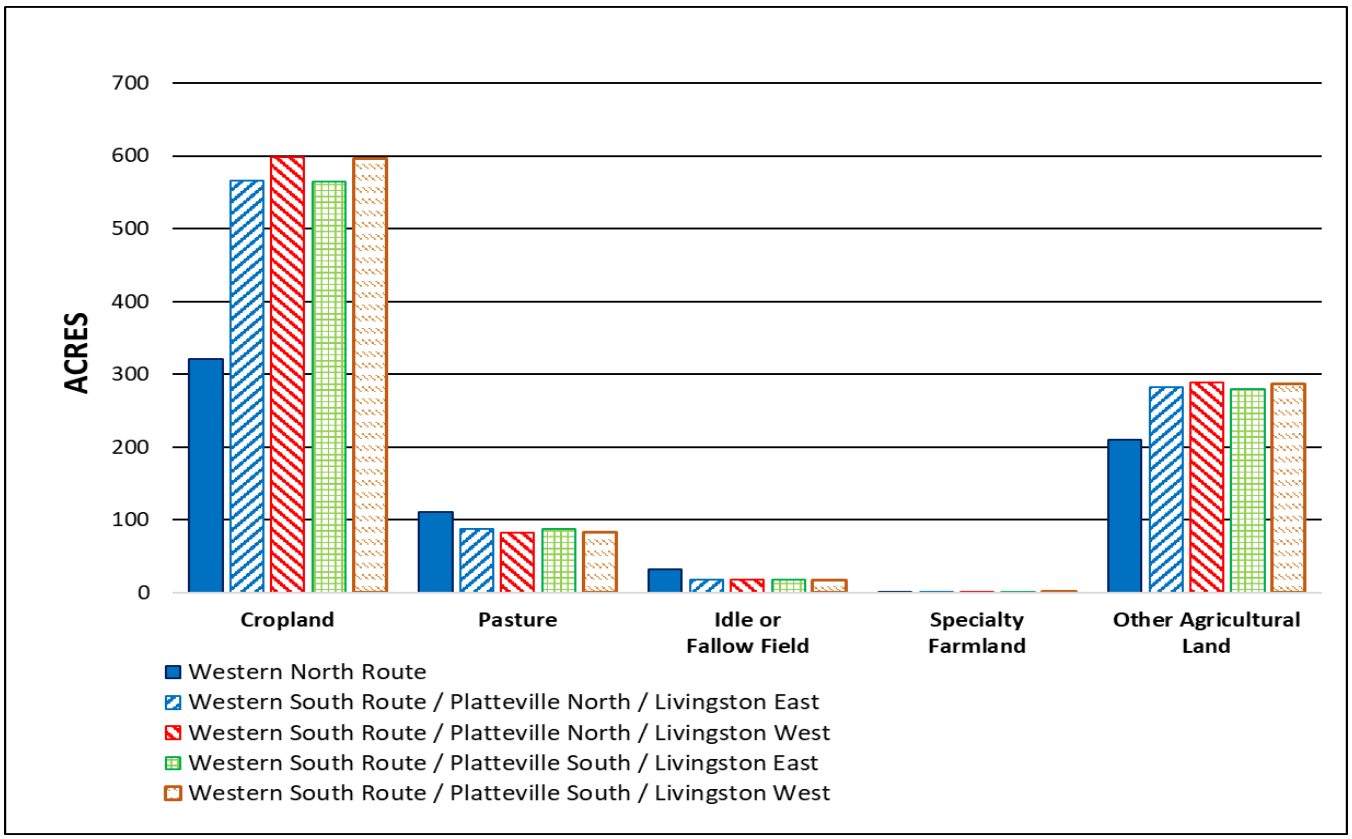


Table 30: Western Routes – Comparison of Farmland Soils for Agricultural Properties

Route	Options	Prime Farmland (acres)	Prime Farmland if Drained (acres)	Prime Farmland if Protected from Flooding (acres)	Farmland of Statewide Importance (acres)	Not Prime Farmland (acres)	Percentages of Prime Farmland* (acres)
Western North	N/A	128.6	1.6	0.0	177.6	365.8	19%
Western South	Platteville North Livingston East	363.8	14.3	7.8	272.8	294.5	40%
Western South	Platteville North Livingston West	400.5	11.6	8.9	273.7	292.5	43%
Western South	Platteville South Livingston East	366.9	14.3	7.8	266.4	293.8	41%
Western South	Platteville South Livingston West	403.6	11.6	8.9	267.3	291.9	43%

* Prime farmland includes prime farmland, prime farmland if drained, and prime farmland if protected from flooding.

The Western North Route affects the fewest acres of prime farmland. Also, the acres of potentially affected prime farmland for this route represents a smaller percentage of the overall impact to agricultural properties. Most of the agricultural land affected by the Western North Route is not prime farmland.

There is little difference between the percentages of farmland soils affected by any of the four Western South Route Options. Most of the land crossed by these options are prime farmland or farmland of statewide importance. The Western South Route Options would affect between 386 and 424 acres of prime farmland. Only about 30 percent of these longer route options are categorized as not prime farmland.

Both the Western North Route and any of the Western South Routes have the advantage of being routed along an existing electric line, thereby reducing the amount of new ROW required for the project. However, because the existing electric lines are cross-country and specifically across fields, the impacts would still be potentially significant to agricultural operations and practices, crop yields, and livestock management. The cross-country nature of the routes coupled with the hilly terrain of the region makes a high number of lengthy off-ROW access roads necessary for the construction of this project, regardless of the route chosen. More than a few of the proposed access roads are more than 4 miles long. Between 50 and 80 percent of the agricultural property owners affected by one of the Western Routes would also have access roads across their land. The off-ROW access roads for the Western North Route would impact the most agricultural acres.

VI. HILL VALLEY SUBSTATION AREA

Potential Subsegments

Map Book Figure 15

There are numerous route variations that could connect the western routes to either of the two substation sites and then connect to the eastern routes. If the South Substation Site were chosen by the PSC, Subsegments D10A, D10B, D10C, and L05 cross land currently owned by the ATC. If the PSC chose the North Substation Site, Subsegments M05 and O01 cross land that would be purchased by the Applicants. Therefore, Subsegments, D10A, D10B, D10C, L05, M05, and O01 have been excluded from the following agricultural property analyses. The remaining 19 subsegments within the Substation Area can be used in a variety of configurations to connect to one or both substation sites. Most of the segments are short and affect a similar set of landowners. For this reason, no potential route configurations are analyzed in this document. Instead, for each subsegment within the Hill Valley Substation Area, the affected acres are listed and the impacts to agricultural property owners are detailed.

Table 31: Substation Area – Acres Affected by Subsegment

Subsegment	Length (miles)	ROW (acres)	Shared ROW (acres)	Acres in Agriculture	Percentages In Agriculture
L01	0.2	4.35	3.04	4.11	94%
L02	0.5	8.41	0.30	8.34	99%
L03	<0.1	0.71	--	0.71	100%
L04	0.3	5.80	--	4.65	80%
M01	0.7	11.71	--	11.71	100%
M02	0.3	4.95	--	4.95	100%
M03	0.4	7.18	--	3.59	50%
M04	0.3	5.07	--	5.07	100%
N01	0.7	11.72	5.78	7.09	61%
N03	0.3	4.89	3.12	4.83	99%
N04	<0.1	0.29	0.15	0.16	55%
N05	0.2	4.24	1.53	2.77	65%
N06	<0.1	0.13	0.05	0.08	62%
N07	0.2	1.41	1.59	0.49	35%
O02	0.5	8.36	--	8.36	100%
O03	0.3	4.35	--	4.35	100%
P01	0.3	5.09	--	4.58	90%
R01	0.3	4.68	2.35	4.07	87%
R02	0.2	3.31	2.36	3.31	100%

Table 32: Substation Area – Off-ROW Access Roads

Off-ROW Access Roads	Subsegment Connections	Area (acres)	Acres in Agriculture	Percentages In Agriculture
L-OR-001	L01, L02	0.54	0.19	35%
L-OR-002	L04, R01	0.54	0.41	76%
N-OR-01	N01	1.19	1.19	100%
N-OR-02	N02	0.44	0.44	100%

Farmland Types and Soils

The next two tables detail the agricultural land use and farmland soils that would be affected by each subsegment with the Substation Area.

Table 33: Substation Area – Agricultural Land Use by Subsegment

Subsegment	Cropland (acres)	Pasture (acres)	Other Agriculture (acres)	Subtotal (acres)
L01	3.15	- -	0.95	4.11
L02	4.94	3.24	0.17	8.34
L03	0.71	- -	- -	0.71
L04	2.90	- -	1.76	4.65
M01	11.71	- -	- -	11.71
M02	4.94	- -	0.01	4.95
M03	2.59	1.00	- -	3.59
M04	5.07	- -	- -	5.07
N01	6.72	0.02	0.35	7.09
N03	4.83	- -	- -	4.83
N04	0.15	- -	0.01	0.16
N05	2.71	- -	0.06	2.77
N06	0.08	- -	- -	0.08
N07	0.45	- -	0.04	0.49
O02	8.36	- -	- -	8.36
O03	4.35	- -	- -	4.35
P01	2.81	1.85	- -	4.66
R01	2.60	- -	1.92	4.52
R02	1.94	- -	1.37	3.31

Table 34: Substation Site Area – Farmland Soils by Subsegment

Subsegment	Prime Farmland (acres)	Farmland of Statewide Importance (acres)	Not Prime (acres)	Subtotal (acres)
L01	2.90	1.21	- -	4.11
L02	2.04	6.29	- -	8.34
L03	0.23	0.48	- -	0.71
L04	1.15	2.81	0.70	4.65

Subsegment	Prime Farmland (acres)	Farmland of Statewide Importance (acres)	Not Prime (acres)	Subtotal (acres)
M01	10.07	0.79	0.85	11.71
M02	1.02	0.82	3.11	4.95
M03	0.42	2.44	0.74	3.59
M04	1.59	3.48	- -	5.07
N01	3.56	2.55	0.98	7.09
N03	3.50	1.33	- -	4.83
N04	0.11	0.05	- -	0.16
N05	0.95	1.82	- -	2.77
N06	0.08	- -	- -	0.08
N07	0.20	0.29	- -	0.49
O02	7.32	- -	1.04	8.36
O03	2.84	1.51	- -	4.35
P01	2.18	0.94	1.54	4.66
R01	1.76	2.76	- -	4.52
R02	0.13	2.64	0.54	3.31

Impacts to Agricultural Properties

The following table lists the agricultural property owners potentially affected by each of the subsegments within the Substation Area. Landowners with an asterisk before their name would also have an off-ROW access road.

Table 35: Substation Area – Potentially Affected Agricultural Landowners

Landowner	Acres Affected by Subsegment
BISHOP, BRADLEY	O01: <0.01a
FITZSIMMONS, DONELLE	L02: 0.01a
GIROTTO, JAY AND LYNN	M02: 4.95a, M03: 2.59a, M04: 3.94a, R01: 0.08a, R02: 0.71a
*GORSLINE RESIDENCE	N01: 6.10a, off-ROW access road: 1.19a
*HEINER RESIDENCE	L02: 6.88a, L03: 0.71a, L04: 0.10a, R01: 3.31a, off-ROW access road: 0.15a
KITE, JAMES	M01: 4.16a, R01: 0.28a, R02: 2.59a
*KLAAS, HELEN	L04: 4.55a, R01: 0.40a, off-ROW access road: 0.41a
KRAMER, EUGENIA	L01: 3.96a, L02: 0.22a, M01: 7.55a
*KRAMER FARMS LLC	L01: 0.15a, off-ROW access road: 0.04a
LEIX, DONALD AND TIMOTHY	N01: 0.49a
LEIX, MARION AND MARY	N07: 0.49a
*LEIX, TIMOTHY AND DONALD AND CYNTHIA	M04: 1.13a, N01: 050a, N03: 2.60a, N05: 2.77a, N06: 0.08a, O02: 8.36a, O03: 3.60a, P01: 2.79a, off-ROW access road: 0.44a
MICK, KATHY	N03: 2.23a, N04: 0.16a, N05: <0.01a, O03: 0.75a
MOEN, KENNETH AND LUANNE	P01: 1.79a
SHEMAK, PAUL AND LORI BUTTERIS	M03: 1.00a
SIMONS, HARRY	L02: 1.23a

NOTE: a=acres

Substation Area Comments

One agricultural landowner that could be affected by routes within the Substation Area commented. The comment from the Leix Farms is summarized below.

Farm Owner: Leix Farms, Inc. (includes land owned by Donald, Timothy, Cindy, Marion, Mary Leix and RBN Land LLC)
Potential Impacts:

- 74.0 acres North Substation Site for Hill Valley Substation
- 1.1 acres Subsegment M04
- 1.0 acre Subsegment N01
- 2.6 acres Subsegment N03
- 2.8 acres Subsegment N05
- <0.1 acre Subsegment N06
- 0.5 acres Subsegment N07
- 8.4 acres Subsegment O02
- 3.6 acres Subsegment O03
- 2.8 acres Subsegment P01
- 2.7 acres Eastern North Route (Subsegment P02)
- 6.6 acres Eastern South Part 1 (Subsegments Q01, Q02)
- 12.8 acres Laydown Yard LY-02

Leix Farms owns 1,160 acres of land consisting of 950 acres of cropland, 90 acres of pasture, 110 acres of woodland, and 10 acres for buildings. In an average year, they grow 550 acres of corn, 350 acres of alfalfa hay, and 50 acres of wheat. They also run a 650-cow dairy operation with 600 replacement dairy cattle and 30 head of beef cattle. All of their land is included in the FPP. There is the potential that, whichever substation and routes are chosen, project facilities will impact cropland and fencing owned by Leix Farms. The owners describe a lack of communication between themselves and the Applicants, especially considering the amount of Leix Farms' land potentially required for the project.

The owners are concerned for two employees who occupy rental homes on their property. One residence is located along Subsegment Q02 at 682 US Hwy 18 in Montfort. The second residence is located at 450 US Hwy 18, near the eastern end of Subsegment Q01. The owners are concerned about induced currents, noise from the line, and radio/TV reception for their employees and their families who could be living close to the line. The owners are concerned that the combination of this project, the Badger Hollow Solar project, and the Red Barn Wind project will have a significant negative impact on the aesthetic beauty of the Montfort area.

VII. Eastern Routing Area

Eastern North Route

The Eastern North Route connects from the Hill Valley Substation Site Area to the Stagecoach Options in the Dane County Routing Area. The alternative to the Eastern North Route is the Eastern South Route which is described in the section following the Eastern North Route. The descriptions in this chapter include references to the accompanying Map Book.

Route Description

Map Book Figures 16-21

The Eastern North Route starts in Iowa County, in the town of Eden and ends in the town of Cross Plains in Dane County. The 44-mile route includes Subsegments P02, P03, P04, P05, P06, P07, P08, and P09. From the town of Eden, it crosses the towns of Highland, Dodgeville, Wyoming, and Arena in Iowa County. And in Dane County, the route crosses the towns of Vermont and Cross Plains. Much of the Eastern North Route is cross-country and would require almost all new ROW. It overlaps existing utility or road ROWs for only a fraction of its length.

The Eastern North Route travels northeast for the first 8.7 miles double-circuited with an existing 138 kV electric line (X-17). The proposed new electric centerline would be offset by about 40 feet to the south of the existing X-17 alignment. The new ROW would overlap the existing electric ROW width by about 100 feet. The route crosses the Blue River Road, Willow Spring Road, Tower road, STH 80, CTH BH, and Sunny Ridge Road.

After crossing Sunny Ridge Road, the X-17 line continues northeast as a single-circuit and the new 345 kV line turns east. For the remaining 35 miles of the route, the proposed electric line is single-circuited (Subsegments P03–P09). The route is almost entirely cross-country, following no property lines, roads, or other utility ROWs. The route crosses CTH Q, CTH II, CTH M, James Road, STH 23, CTH ZZ, Dyreson Rd, CTH Z, Far Look Road, N Clay Hill Road, CTH T, CTH H, Blue Ridge Road, CTH HH, Sweeney Road, CTH K, Zwettler Road, CTH F, Blue Mounds Trail, CTH JJ, STH 78, Union Valley Road, and Garfoot Road. Due to the hilly topography, the Applicants have identified 39 off-ROW access roads, almost entirely through agricultural properties.

Table 36: Eastern North Route – Acres Affected

Route	Subsegment	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentage In Agriculture
Eastern North	P02, P03, P04, P05, P06, P07, P08, P09	43.9	798.60	120.5 (15%)	674.42	84%

Table 37: Eastern North Route – Off-ROW Access Roads

Route	Subsegment Connections	Area (acres)	Acres in Agriculture	Percentage in Agriculture
Eastern North	P02, P05, P09	57.54	52.27	91%

Farmland Types and Soils

Almost all of the land affected by the route is in agriculture. More than 50 percent of the agricultural land is cropland and pasture. The rest of the affected agricultural land is used for residential areas, farm buildings, farm roads, woodlands, and wetlands. The Applicants have identified the specialty farms along this route as tree farms.

Table 38: Eastern North Route – Agricultural Land Use

Agricultural Land Use	ROW (acres)	Off-ROW Access Roads (acres)	Totals (acres)	Percentages
Cropland	271.37	25.78	297.15	41%
Pasture	82.67	2.13	84.80	12%
Specialty Farmland (tree farms)	3.93	- -	3.93	<1%
Other Agricultural Land	314.57	24.34	338.91	47%
Totals	**672.54**	**52.25**	**724.80**	

More than half of the agricultural land affected by this route is not prime farmland. About 22 percent is prime farmland, prime if drained, and prime if protected from flooding. Another 20 percent is classified as farmland of statewide importance.

Table 39: Eastern North Route – Farmland Soils

Farmland Soil Classification	ROW (acres)	Off-ROW Access Roads (acres)	Totals (acres)	Percentages
Prime farmland	101.52	9.46	110.97	15%
Prime farmland if drained	6.86	0.69	7.54	1%
Prime farmland if protected from flooding	41.11	3.35	44.45	6%
Farmland of statewide importance	135.21	12.63	147.84	20%
Not prime	387.85	26.14	413.99	57%
Totals	**672.54**	**52.25**	**724.80**	

Impacts to Agricultural Properties

The Eastern North Route would affect 186 property owners of which 134 own agricultural properties. Almost half of the affected agricultural property owners (66 property owners) would also be impacted by off-ROW access roads. The following table identifies the acres that could be acquired from agricultural property owners, depending on the route chosen by the PSC. Those with asterisks before their name would also be affected by off-ROW access roads.

Table 40: Eastern North Route – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres
*ADAMS, WILLIAM (CHESS) AND KATHRYN	3.87
APPERT, RONALD	2.19
*BALISLE, LINDA	14.23
BARRETT, DEWEY	5.86
BAUM, PETER AND MARILYN	1.96
BETHEL HORIZONS FOUNDATION INC	14.47
BUTTERIS, DANIEL AND JUDITH	10.49
*C R BISHOP AND SONS INC/ TWIN CREEKS ENTERPRISES LLC	13.16
CAMIS LTD PARTNERSHIP, THEODORE AND JUNE	14.12
CARLOCK, AARON AND KAREN	4.65
CARTER, DOUGLAS	3.16
*CLIFTON, JOSEPH M	2.64
D'ANGELO, BETSY	18.56
DAVID DOLAN	10.71
DEAL, STEVE AND JOANNE	9.11
DEPIRRO, DAVID	2.63
DOLAN, PAUL AND MARY	5.68
EDGINGTON, JOHN AND ERIN	6.67
ERDMAN WI PROPERTIES LLC	45.53
ESSER, THOMAS AND DIANE	5.22
EVANS, LESLIE AND LINDA	3.06
FESSEL, JOSEF AND FRANZISKA	2.31
FILLBACH, PATRICIA	8.88
FORBESS, ROBERT	3.35
FOREMAN, DANA	5.10
FORSETH TRUST	6.14
FORSETH, DAVID	13.32
*FOSTER, THOMAS AND CAROL	18.51
*FRAME, JOHN AND JENNIFER	10.37
FROST, JOSEPH AND NANCY	1.10
*GALLAGHER, RICH AND LUANN	1.11
*GINTHER JT REV TRUST, OLIVER AND JANE	10.30
GORECKI, DANIEL	2.24
*GREENE, QUINTIN AND LORI	4.54
GURAK, DOUGLAS AND MARY KRITZ	10.53
*HAACK, GERALD AND SHIRLEY	8.20
*HAACK, GERALD J	1.35
HAHN JT REVOC TRUST, DAVID AND CAROLYN	2.73
*HALL, GREG	6.91
HALLICK, JOHN AND JAMIE, AND RICK SCHMIDT	3.95

Agricultural Property Owners	Acres
LEIX, MARION AND MARY	2.65
*MALCHESKI, JAMES AND PATRICIA	7.51
MAYLAND FAMILY LTD PARTNERSHIP	6.90
*MEINHOLZ, MARVIN AND NANCY	4.24
MEUDT BROTHERS	3.60
MEUDT, KEVIN	6.59
*MICKELSON, CRAIG	4.49
MIESS REV LVG TRUST, ROBERT AND BETTY	8.72
*MIESS, DANIEL AND LYNETTE	14.84
MIESS, GLEN AND GERTRUDE	2.76
MIESS, KEVIN AND SHERRY	4.58
MIESS, MITCHELL ALEXANDER AND AMY	3.92
*MISCHO, ROBERT AND BEVERLY	1.54
*MOEN, KENNETH AND LUANNE	6.87
*NIESEN, JOSHUA AND MICHELLE	5.15
*NORSLIEN, MYRON	9.46
*NOVAK, BRUCE AND SARAH	12.77
*NOVAK, BRUCE	3.82
*O'CONNELL, JOSEPH AND KEITH	7.61
O'FLAHRITY, JOHN AND JEAN	1.11
OIMOEN REVOC TR, GREGORY J AND BARBARA J	5.30
*PAILING FAMILY ENTERPRISES LLC	11.79
*PAILING, TIMOTHY	4.53
PARRELL, WAYNE AND AUDREY	6.47
*PEAT, MARGARET G	2.36
*PECK, MARK AND MARY	19.21
*PECK, MARK	1.22
PLESHA, MICHAEL AND GLORIA	2.25
PUSTINA, ARTHUR AND CARLA	1.83
RAY, KEITH	4.75
*RIDER, PAULA	6.54
*RODENSCHMIT, EDWIN AND WILLIAM	13.42
*SCHMELZER RESIDENCE	12.86
*SCHULTZ LIVING TR, DONALD A AND BEVERLY J	1.90
*SCHUSTER, KENNETH AND ROMONA	1.00
*SENDECKE, JAMES	5.15
STANFIELD, DAVID AND SANDIE	8.51
SWEENEY, GERALD	11.93
THOMPSON, DAVID	3.12
TOWNSEND, FRED AND BARBARA BORNS	2.83

Agricultural Property Owners	Acres
*HALVERSON, DENNIS AND VERNON AND EVELYN	8.91
*HEDRICH, PAM	7.52
HOLBERG, GARY AND HEIDI	1.97
*HORVATH, DAVID AND DONNA	10.53
HOTTMANN, BARRY AND NICOLE ROCK-GARTHWAITE	1.23
HYATT, STEVEN AND BECKY	4.56
*JAMES, JEFF AND JULIE	15.75
*JAMES, JERRY RAY	2.64
*KALSCHEUR ENTERPRISES LLC/ KALSCHEUR RENTALS LTD PARTNERSHIP	12.04
KIRSCHBAUM, STANLEY JR	2.36
KLOCK REV TRUST, MARSHALL AND JANET	3.08
KOWALIK FAMILY TRUST	8.13
KRITZ, MARY	2.81
*LEE ACRES LLC	9.56

Agricultural Property Owners	Acres
TREMELLING, JEANNE	8.79
TREWEEK, WILLIAM AND LINDA TRICKEL	2.34
*URNESS, JON AND JUDITH	8.38
URNESS, VIRGINIA	9.13
VIAL, MARY GRACE	1.15
*WELP, PAUL AND SARA	10.97
*WHITEHOUSE, BRIAN AND BECKIE KUTZKE-WHITEHOUSE	2.47
WIENKES, PATRICK AND LORI	1.47
WISPROPMAR LLC	8.82
ZEMLICKA RESIDENCE	3.65
ZIMMERMAN, CURTIS	1.28
ZIMMERMAN, GARY JR	1.32
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	10.84

Eastern North Route Comments

Comments from the following 28 agricultural landowners that could be affected by the Western North Route are summarized below. Some of these landowners could be affected by more than one route.

Farm Owners: William (Chess) and Kathryn Adams
Route (Subsegment): 3.7 acres Eastern North (P05), 0.2 acres for an off-ROW access road
Mr. and Mrs. Adams own 70 acres of land including 3 acres of cropland used to grow corn, 52 acres of woodland, 3 acres of wetland, 5 acres of restored prairie, and 2 acres for buildings. All of the woodland is enrolled in the MFL program. The owners are concerned that the project might affect their log cabin, 2-car garage, storage shed, and driveway. They are also concerned that some of their woodland, as well as 9-year old fruit trees, could be affected.

Farm Owners: Mitchell Alexander and Amy Miess
Route (Subsegment): 3.9 acres Eastern North (P03)
Mr. Alexander and Ms. Miess own 142 acres of land consisting of 20 acres of cropland, 87 acres of pasture, 20 acres of woodland, 10 acres of wetlands, and 5 acres for buildings. They grow hay and raise 48 head of beef cattle. The route could affect a grassed waterway and springs, fencing, woodland, and trees that act as a windbreak on their farm. The owners are concerned about the loss of property values and aesthetic values of their land. They are strongly opposed to this project.

Farm Owner \ Operator: Dewey Barrett \ Jess Schmelzer
Route (Subsegment): 5.9 acres Eastern North (P02)
Mr. Barrett owns 49 acres of land consisting of 10 acres of cropland, 35 acres of woodland, 2 acres of wetlands, and 2 acres for buildings. The woodland is cut for timber and firewood. Mr.

Barrett is concerned that the project would affect the value of his property and that the route could negatively affect his newly built house.

Farm Owner \ Operator: Bethel Horizons Foundation, Inc.\ Dave Price
Route (Subsegment): 14.5 acres Eastern North (P06, P07)
The Foundation owns 73 acres of cropland, 245.5 acres of woodland, 127 acres of idle farmland, and 50.5 acres of commercial land. They grow corn, soybeans, and hay. The farmland is covered by the FPP. Some of the land is enrolled in the MFL program. The Foundation is concerned about the project's effect on the value of its property.

Farm Owners: Daniel and Judith Butteris
Route (Subsegment): 10.5 acres Eastern North (P03)
Daniel and Judith Butteris own 265 acres of land consisting of 120 acres of cropland, 40 acres of pasture, 80 acres of woodland, 10 acres of CRP land, and 15 acres for buildings. In an average year, they grow 40 acres of corn, 40 acres of soybeans, and 40 acres of hay. They also raise 80 head of beef cattle. Their woodland is enrolled in the MFL program. This route passes near their house. It would also affect their cropland, woodland, and CRP land. The owners are concerned that the project would be constructed across the contours of their hilly cropland and divide their woodland. They are also concerned about a potential loss in property values, as the project may negatively affect the property's aesthetics which would make it difficult to sell this farm in the future. They are strongly opposed to this route.

Farm Owners \ Operator: Aaron and Karen Carlock \ Sara Amble (Mickelson Dairy)
Route (Subsegment): 4.7 acres Eastern North (P09)
The Carlocks own 80 acres of land and rent 11 acres to Ms. Amble. The rented cropland is used to grow corn and hay. Eleven acres of their land is covered by the FPP. This route crosses cropland, woodland, and wetland on this property. They are concerned that the construction activities could damage a drainage ditch that parallels Union Valley Road, as well as a couple of culverts and a stream located in the same area. The owners estimate that one acre of their walnut and oak trees would be clear cut for the project ROW. They are also very concerned that damage to their wetland could lead to damage to their adjacent cropland.

Farm Owner: C R Bishop and Sons, Inc. (Twin Creeks Enterprises LLC)
Potential Impacts (Subsegment):

- 10.2 acres Eastern North (P02), 3.0 acres for an off-ROW access road
- 10.6 acres Eastern South Part 1 (Q02)
- 1.2 acres Eastern Alt South (R03)

Several of the Western Route options cross land owned by C R Bishop. Impacts to this farm are dependent on the route approved for this project. Impacts to this property are discussed in detail in the Eastern South Route Part 1 section.

Farm Owner \ Operator: Betsy D'Angelo \ Paul Welp
Route (Subsegment): 18.6 acres Eastern North (P07, P08, P09)
Ms. D'Angelo owns 280 acres of land consisting of 180 acres of cropland, 80 acres of woodland, 10 acres of wetland, and 10 acres for buildings. All of the cropland is rented to Mr. Welp and he grows 60 acres of corn, 60 acres of soybeans, and 60 acres of hay. Some of the land is enrolled in CRP. The woodland includes windbreaks and recreational areas where firewood is cut. Ms. D'Angelo is concerned that the project will affect contour strips on her cropland that are used to control erosion. She is also concerned that transmission line construction would compact and mix her cropland soils. Additionally, the route could affect 10 acres of pollinator habitat and could interfere with access to some or all of her buildings.

Farm Owners: Leslie and Linda Evans
Route (Subsegment): 3.1 acres Eastern North (P06)
The Evans own 80 acres of land and grow hay, corn, and oats on their cropland. They also raise 8 head of beef cattle and have 9 horses on their farm. 40 acres of their land are enrolled in CRP. The owners follow organic practices on their farm but the property is not certified for organic production. The owners are concerned that this project could affect soil erosion, fencing, impact their historic home, as well as cause a decrease in property values. They would prefer the line not be built on this route.

Farm Owner \ Operator: Robert Forbess \ Dennis Dochnahl
Route (Subsegment): 3.4 acres Eastern North (P06)
Mr. Forbess owns 79 acres of land consisting of 40 acres of cropland, 37.5 acres of woodland, and 1.5 acres for buildings and a driveway. Mr. Dochnahl grows corn and hay and has 30 acres of his woodland enrolled in the MFL program. The route would affect both cropland and woodland on this property. Mr. Forbess is concerned that a loss of cropland would cause a loss of rental income. He is also concerned about the aesthetic loss of the rural landscape.

Farm Owner: David Forseth
Route (Subsegment): 17.7 acres Eastern North (P09), 1.7 acres for an off-ROW access road
Mr. Forseth owns 272 acres of land consisting of 100 acres of pasture, 90 acres of woodland, 80 acres of cropland, and 2 acres for buildings. In an average year, he grows 80 acres of hay and raises 20 head of beef cattle. The route could impact his cropland, woodland, pasture, and an airstrip on his property. This route might interfere with the west approach to his airstrip (W161) and cause difficulty with take-offs and landings. The proposed off-ROW access roads might also interfere with the use of the airstrip.

Farm Owners \ Operator: Thomas and Carol Foster and Trust \ O'Connell Farms LLC
Route (Subsegment): 17.6 acres Eastern North (P09), 1.5 acres for an off-ROW access road
The Fosters own 485.8 acres of land which includes 204.9 acres of cropland, 40.2 acres of pasture, 199.7 acres of woodland, 20.9 acres of wetland, and 10.4 acres for buildings. The Trust grows corn, soybeans, hay, and wheat and typically raises 10 to 20 head of replacement dairy cattle and 10 to 20 head of beef cattle. The owners have land enrolled in CREP and MFL

programs and the pasture is enrolled in CRP. They don't believe that the project would affect their MFL lands. The entire farm is part of the FPP. The owners are concerned that the route could affect their main grassed waterway and main drainage ditch, fencing, and some mature trees in their woodland. The owners have been working with Jon Callaway of ATC to find a route on their property with the least impacts. They are satisfied with the route worked out with ATC.

Farm Owner: Gary Holberg
Route (Subsegment): 1.7 acres Eastern North (P07)
Mr. Holberg owns a 180-acre farm that is farmed organically and where beef is raised.

Farm Owner: Kalscheur Enterprises LLC (Kalscheur Rentals Ltd. Partnership, Kalscheur Investments LLC)
Route (Subsegment): 9.6 acres Eastern North (P09); 2.8 acres for off-ROW access road
This property is 650 acres and consists of 350 acres of cropland, 250 acres of woodland, and 50 acres of idle farmland. Corn and soybeans are grown in rotation. The owner is concerned that the waterways crossed by the ROW could be impacted, as well as his nearby home.

Farm Owners \ Operator: Mary M. Kritz and Douglas T. Gurak / John Dougherty
Route (Subsegment): 10.5 acres Eastern North (P09)
This property includes 53 acres of pasture, 100 acres of woodland, 1 acre for buildings, and 5 acres of wetland. All of the cropland is enrolled in CRP and is hayed every 3 years. Mr. Dougherty rents 35 acres of pasture for 25 dairy cows. This farm is covered by the FPP. The owners have highly erodible soils on a hilly topography. They are concerned that construction could cause considerable erosion due to the type of soil and the land's topography. Also the route would require clear cutting some of their MFL-enrolled woodland and potentially affect their CRP land. On the northeast parcel of the owners' land, there is a man-made dam and drainage pond. This farm has been in the owners' family for over 100 years and they have spent significant amounts of time restoring the land and the buildings.

Farm Owners: Daniel and Lynette Miess
Route (Subsegment): 14.3 acres Eastern North (P04, P05), 1.0 acres for an off-ROW access road
Daniel and Lynette Miess own 446 acres of land and rent land from the Robert and Betty Miess Trust. Typically, this property grows 90 acres of hay, 80 acres of corn, and 30 acres of oats. They also have a 50-cow dairy herd with 40 replacement dairy animals and 60 head of beef cattle. This route would affect their cropland. They are concerned about the loss of crop yields from construction activities. They are also concerned about a loss of property values.

Farm Owners: Kevin and Sherry Miess (Miess Organic Farm LLC)
Route (Subsegment): 4.6 acres Eastern North (P03)
Mr. and Mrs. Miess own 350 acres of cropland, 350 acres of pasture, 50 acres of woodland, and use 20 acres for buildings. The owners rent additional land from Karl and Carla Pusttina. In an average year they grow 20 acres of corn, 30 acres of soybeans, and 100 acres of hay. They raise 210 head of beef cattle. They also have a large plot for the production of commercial flowers.

This has been a certified organic farm for 25 years. The owners are concerned that the project could affect two springs in their field and trees that are grown to generate income. They are also concerned about a potential loss of property values and are strongly opposed to the project.

Farm Owner \ Operator: Meudt Brothers (Dodge-View Farms, Inc.) \ Dolan Farms LLC
Route (Subsegment): 3.6 acres Eastern North (P07)
The Meudt Brothers (Dodge-View Farms, Inc.) own 380 acres consisting of 157 acres of cropland, 149 acres of pasture, 65 acres of woodland, and 9 acres for buildings. 10 acres are rented to Dolan Farms LLC. In an average year, they grow 70 acres of corn, 75 acres of hay, and 12 acres of wheat. They also raise 35 head of beef cattle. The owners are concerned that construction activities could compact soils and the transmission structures could disrupt the contours of their land. They are also concerned about how the proposed facilities might interfere with their plans to construct another home on a 10-acre parcel. Additionally, they are concerned about the project affecting their property values.

Farm Owner \ Operator: Kevin Meudt \ Dolan Farms LLC
Route (Subsegment): 6.6 acres Eastern North (P07)
Mr. Meudt owns 84 acres of land consisting of 77 acres of cropland and 7 acres for buildings. All of the cropland is rented to the Dolan Farms. Mr. Meudt is an organic bee keeper. This farm is part of the FPP. Project structures could affect grassed waterways and terraces on cropland. Mr. Meudt is concerned about the proximity of a shed to the ROW and that the ROW would bisect his fields. The project might also disrupt his honey bees, impact property aesthetics, and affect his property values.

Farm Owner \ Operator: Pailing Family Enterprises LLC \ Robert Keen
Route (Subsegment): 9.7 acres Eastern North (P09), 2.1 acres for an off-ROW access road
This property consists of 100 acres of cropland, 100 acres of pasture, and 80 acres of woodland. Mr. Keen grows corn, soybeans, and hay. This farm is covered by the FPP. The route could affect fencing on their property. They are strongly opposed to the project.

Farm Owner \ Operator: Paula Rider \ Ed Battan (Way Acres LLC)
Route (Subsegment): 5.7 acres Eastern North (P02), 0.8 acres for an off-ROW access road
Ms. Rider owns 458 acres of land consisting of 284 acres of cropland, 85 acres of pasture, 58 acres of woodland, and 30 acres for buildings. Cropland is used to grow about 100 acres of corn, 74 acres of soybeans, 60 acres of hay, and 50 acres of wheat. They also raise 45 head of beef cattle and 11 horses. The cropland is part of the FPP. The project could affect waterways on this cropland and pasture fencing. Ms. Rider doesn't want to lose any more cropland.

Farm Owner: Jess Schmelzer (Schmelzer Residence)
Route (Subsegment): 11.1 acres Eastern North (P02), 2.1 acres for off-ROW access roads
Mr. Schmelzer owns 715 acres of land consisting of 592 acres of cropland, 119 acres of pasture and woodland, and 4 acres for buildings. In an average year, he grows 260 acres of corn, 282 acres of soybeans, 40 acres of hay, and 10 acres of oats. He also raises 127 head of beef cattle. This farm is covered by the FPP. Mr. Schmelzer also rents cropland from Dewey Barrett.

Farm Owner \ Operator: James Sendecke \ Ryan Poppe
Route (Subsegment): 5.1 acres Eastern North (P02), <0.01 acre for an off-ROW access road
Mr. Sendecke owns 141 acres of land consisting of 50 acres of cropland, 21 acres of pasture, 60 acres of woodland, and 10 acres for buildings. Mr. Poppe grows soybeans on the rented land. 20 acres of the woodland are enrolled in the MFL program. The route could affect cropland and woodland on his property. He is concerned that this project will cause aesthetic impacts and a decrease in the area's property values, affecting local tax revenues.

Farm Owners \ Operators: David and Sandie Stanfield \ Keith and Joe O'Connell
Route (Subsegment): 8.5 acres Eastern North (P09)
The Stanfields own 266.9 acres of land consisting of 91.2 acres of cropland, 3.7 acres of pasture, 166.2 acres of woodland, and 5.8 acres for buildings. They rent 61 acres of land to the O'Connells. They grow corn and hay and raise a 30-bird flock of poultry. Some of this property is enrolled in CRP and all of their woodland is enrolled in the MFL program. The woodland is manage for oak, hickory, and walnut trees. This route could affect their woodland and their CRP land with an established prairie. It would also affect the fencing between the Stanfield and Foster properties. They are concerned that clear cutting the woodland would disrupt their forest management plan. Impacts to the woodland and the CRP-enrolled land could negatively affect wildlife habitat and increase the potential for erosion.

Farm Owners: Gregory Stroncek and Lea Dolan-Stroncek
Route (Subsegment): 0.96 acres Eastern North (P07, P08)
Mr. Stroncek states that his affected property is a seventh generation family, organic, pasture-based farm (Seven Seeds Farm LLC).

Farm Owner \ Operator: Gerald Sweeney \ Kallen Schwartz
Route (Subsegment): 12.1 acres Eastern North (P09)
Mr. Sweeney owns 366 acres of land consisting of 96 acres of cropland, 194 acres of pasture, 55 acres of woodland, 19 acres of wetland, and 2 acres for buildings. Mrs. Schwartz rents all of the cropland to grow corn. Mr. Sweeney raises 17 head of beef cattle. All of the woodland is enrolled in the MFL program. This farm is covered by the FPP. The route could affect cropland, pasture, and woodland on this property.

Farm Owners \ Operator: Jon and Judith Urness \ Dale Tollefson
Route (Subsegment): 8.0 acres Eastern North (P09), 0.4 acres for an off-ROW access road
Mr. and Mrs. Urness own 121 acres of land consisting of 36 acres of cropland, 4 acres of pasture, 78 acres of woodland, and 3 acres for buildings. Typically, the renter uses all of the cropland to grow corn. 40 acres of the woodland is enrolled in the MFL program and the cropland is all enrolled in the FPP. In the next five years, the Urnesses plan to log part of the woodland that would be affected by this route. The owners have scheduled the installation of a grassed waterway sometime this year and the grassed waterway could be affected by the project. Depending on the location of the transmission poles, a machine shed at the south end of the property could also be affected.

Farm Owner \ Operator: U.S. Bank \ Ed Batton
Route (Subsegment): 7.2 acres Eastern North (P02), 0.3 acres for an off-ROW access road
The bank owns 80 acres of land that is all pasture. The bank is concerned that the project could affect fencing on this property.

Eastern South Route

The Eastern South Route stretches from the Hill Valley Substation Area to the Dane County Routing Area. The alternative to the Eastern South Route is the Eastern North Route. The following analysis is broken into 7 parts for easier anslyses.

Traveling east from the Substation Site Area, the Eastern South Route has two alternatives, the Eastern South Route Part 1 and the Eastern Alt South Route. The Eastern Alt South Route has two Dodgeville options. Eastern South Route Part 1 travels through the northern portion of the city of Dodgeville whereas, the Eastern Alt South Route travels mostly south of the city of Dodgeville and parallels USH 151.

From Subsegment S02, the Eastern South Route Part 1 and the Eastern Alt South Route (with either the Dodgeville East or the Dodgeville West option) can be routed along either the Highway 18 North or Highway 18 South option.

Continuing east, the Eastern South Route has two other areas with optional segments. The first is just west of the village of Barneveld and the second is northeast of the village of Mount Horeb. In between these options, the route in this document is called the Eastern South Route Part 2 and Part 3. The last stretch is the Eastern South Route Part 4 which ends south of the village of Cross Plains in the Dane County Routing Area.

A list of all the Eastern South Route options reviewed in this chapter are identified below.

- **East of the Substation Area (3 options)**
  - Eastern South Route Part 1 (Subsegments Q01, Q02, Q03, Q04, Q05, Q06)
  - Eastern Alt South Route (Subsegments R03, R04, R05, R06, R07, R08, R09) with Dodgeville West (Subsegments R10, R11, R13, R14)
  - Eastern Alt South Route (Subsegments R03, R04, R05, R06, R07, R08, R09) with Dodgeville East (Subsegment R15)
- **Highway 18 (5 options)**
  - From Eastern South Route Part 1, Highway 18 North (Subsegment S01)
  - From Eastern South Route Part 1, Highway 18 South (Subsegments S02, S03)
  - From Dodgeville West, Highway 18 North (Subsegment S01)
  - From Dodgeville West, Highway 18 South (Subsegments S02, S03)
  - From Dodgeville East, Highway 18 South (Subsegment S03)
- **Eastern South Route Part 2** (Subsegments S04, S05, S08, S09)

- **Barneveld (3 options)**
  - Barneveld North (Subsegments S11A, S11B, S11C, S10D)
  - Barneveld North Extended (Subsegments S11A, S11B, S11D)
  - Barneveld South (Subsegments S10A, S10B, S10C, S10D)
- **Eastern South Route Part 3** (Subsegments S12, S13)
- **Mount Horeb (2 options)**
  - Mount Horeb West (Subsegments T01, T02, T03, T04, T05)
  - Mount Horeb East (Subsegments U01, U02)
- **Eastern South Route Part 4** (Subsegments V01, V02, V03, V04)

Route Descriptions

From the Substation Site Area, there are 3 route options to the east, the Eastern South Route or the Eastern Alt South Route along the Dodgeville West or the Dodgeville East Option.

Map Book Figures 16 and 22–24

The Eastern South Route Part 1 is located along USH 18 and would be double-circuited for much of the route with an existing 69 kV line (Y-138). The route crosses through the town of Eden, village of Cobb, village of Edmund, town of Linden, the city of Dodgeville, and the town of Dodgeville. It starts along the south side of USH 18 (Subsegment Q01), then crosses to the north side of the highway at CTH XX (Subsegment Q02). It follows the Y-138 electric line alignment for most of the route segment. At Sinbad Road, the route crosses to the south side of USH 18, continuing to parallel the highway. Subsegment Q03 crosses into the city of Dodgeville (Subsegments Q04). At Johns Street, the Y-138 line departs to the south while the new 345 kV line continues east as a single-circuit (Subsegment Q05). The route crosses over USH 18 (Subsegment Q06) and ends north of the USH 18/USH 151 interchange. The Eastern South Route Part 1 crosses Bridge Road, STH 80, Cave Hollow Road/CTH J, Olson Road, Baker Road, USH 18, Sunny Slope Road, CTH CH, CTH Q, Survey Road, Lehner Road, STH 23, Johns Street, Bennett Road, and USH 18.

Map Book Figures 16 and 22–24

The Eastern Alt South Route starting with Subsegment R03, proceeds east, double-circuited with an existing 69 kV line (Y-106), mostly on the south side of CTH B. It crosses CTH XX, Anderson Lane, Drinkwater Road, Vickerman Road, and CTH G. Just before CTH J, the Y-106 alignment continues east and south as a single-circuit along Glaeser and Whitson roads. The new single-circuit 345 kV line jogs south and east, cross-country (Subsegment R04 and R05). At Whitson road, the 345 kV line would again be double-circuited with the Y-106 line and the route proceeds east along Whitson Road (Subsegment R06). The route then crosses Buchingham Road and STH 39 where it again becomes single-circuited (Subsegment R07). Continuing east along Fesenfeld Road, the route mostly parallels some roads with some cross-country portions (Subsegments R08, R09). The route crosses Sunny Slope Road, Pellow Road, CTH Q, CTH B, and

Survey Road. As it enters the city of Dodgeville, it crosses S Lindsey Street and STH 23 until reaching USH 151.

Map Book Figure 24

The Eastern Alt South can be routed in the town of Dodgeville along the Dodgeville West Option or the Dodgeville East Option. Dodgeville West is routed along the west side of USH 151, crossing through the USH 18/151 interchange and ending at the eastern end of the Eastern South Route Part 1. Dodgeville East crosses to the east side of USH 151 and extends north. It wraps around the south side of the USH 18/151 interchange, ending along the south side of USH 18/151.

Table 41: Eastern South Route Part 1 and Eastern Alt South – Acres Affected

Route	Option	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Eastern South Part 1		Q01, Q02, Q03, Q04, Q05, Q06	16.9	306.88	180.5 (59%)	167.87	55%
Eastern Alt South	Dodgeville West	R03, R04, R05, R06, R07, R08, R09, R10, R11, R13, R14	18.9	346.54	171.1 (49%)	315.74	91%
	Dodgeville East	R03, R04, R05, R06, R07, R08, R09, R15	19.0	347.38	168.0 (48%)	320.06	92%

Table 42: Eastern South Route, Highway 18 Options – Acres Affected

Originating Route	Option	Sub-segments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Eastern South Route Part 1	Highway 18 North	S01	3.2	58.2	21.5 (37%)	33.20	57%
	Highway 18 South	S02, S03	3.2	58.0	19.1 (33%)	36.43	63%
Dodgeville West	Highway 18 North	S01	3.2	58.2	21.5 (37%)	33.20	57%
	Highway 18 South	S02, S03	3.2	58.0	19.1 (33%)	36.43	63%
Dodgeville East	Highway 18 South	S03	3.1	56.0	17.5 (31%)	36.13	64%

Map Book Figure 24

The Highway 18 Options are routed along either the north or south side of USH 18/151. Both the Highway 18 North and the Highway 18 South options cross CTH Z and CTH Y/CTH YZ. Soon after CTH YZ/CTH Y, USH 18 North crosses to the south side of the highway.

Map Book Figures 24–25

The Eastern South Route Part 2 continues east along the south side of USH 18/USH 151. The route crosses CTH B. WisDOT has plans for extensive road work at the Ridgeway Interchange that may affect many local roads including Ridgevue Road, Reed Road, Cemetery Road, and Prairie Road. The Applicants have worked with WisDOT so that the new 345 kV line can be located through the newly configured Ridgeway interchange. After CTH HHH, the route continues along the southeast side of USH 18/151, crossing CTH H and Hi-Point Road.

Table 43: Eastern South Route Components – Acres Affected

Route	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Eastern South Route Part 2	S04, S05, S08, S09	6.2	112.2	53.0 (47%)	52.8	47%
Eastern South Route Part 3	S12, S13	11.0	199.2	87.7 (44%)	88.4	44%
Eastern South Route Part 4	V01, V02, V03, V04	4.3	78.0	32.4 (42%)	68.2	87%
Subtotal		21.5	389.4	173.1 (44%)	209.4	54%

Map Book Figure 25

The brief Barneveld Options, allow the Eastern South Route to be located on either the north or south side of USH 18/151. The Barneveld North Extended Option stays on the north side of the highway for an additional three-quarters of a mile.

Table 44: Eastern South Route, Barneveld Options – Acres Affected

Option	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Barneveld North	S11A, S11B, S11C, S10D	1.4	17.5	12.4 (71%)	1.0	6%
Barneveld North Extended	S11A, S11B, S11D	1.4	17.8	15.3 (86%)	1.6	9%
Barneveld South	S10A, S10B, S10C, S10D	1.4	17.2	12.8 (74%)	0.4	2%

Map Book Figures 25-27

The Eastern South Route Part 3 continues mostly along the south side of USH 18/151 through the village of Barneveld, across CTH K, Mounds View Road, E. Brigham Road, through the southern end of the village of Blue Mounds, across CTH F, Cave of the Mounds Road, Erbe Road, CTH E, STH 78, through the southern end of the village of Mount Horeb, across Sand Rock Road, CTH JG, STH 92, and CTH ID.

Map Book Figure 27

Both the Mount Horeb East Option and the Mount Horeb West Option are located east of the village of Mount Horeb. The Mount Horeb West Option crosses USH 18/151 just east of CTH ID, and proceeds north, cross-country, as a single-circuit line. Just south of CTH S and Wally Road, the new 345 kV line would meet up with an existing line 69 kV line (Y-128). From there, the proposed 345 kV line would be double-circuited and generally follow the existing Y-128 alignment with slight variations around two farms. For the last three-quarters of a mile, the route turns east along the north side of CTH J. Most of this option is cross-country.

The Mount Horeb East Option would be all new electric ROW. The option starts east along USH 18/151, then crosses the highway to proceed north towards the town of Cross Plains. With the exception of Subsegment U01, the route is cross-country.

The length and agricultural acres affected by the two Mount Horeb Options are comparable.

Table 45: Eastern South Route, Mount Horeb Options – Acres Affected

Option	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Mount Horeb West	T01, T02, T03, T04, T05	4.2	77.0	20.9 (27%)	60.2	78%
Mount Horeb East	U01, U02	4.2	76.5	8.9 (12%)	64.7	85%

Map Book Figures 27–28

The last section of the Eastern South Route is referred to as the Eastern South Route Part 4. It extends north to just south of the village of Cross Plains. The entire section would be double-circuited with an existing 69 kV line (Y-128). The route is cross-country and would require the expansion of the existing electric ROW width an additional 70 to 126 feet.

Off-ROW Access Roads

Off-ROW access roads would be required for most of the Eastern South Route components. They are overwhelmingly across agricultural properties.

Table 46: Eastern South Route Components and Options – Off-ROW Access Roads

Route	Option	Subsegment Connections	Area (acres)	Acres in Agriculture	Percentages In Agriculture
Eastern South Route Part 1		Q02, Q05	1.04	0.76	73%
Eastern Alt South Route	Dodgeville West	R09	0.49	0.32	65%
	Dodgeville East	R09, R15	1.98	1.92	97%
Eastern South Route	Highway 18 North	S01	0.48	0.44	92%
Eastern South Route	Highway 18 South	S03	1.18	1.14	97%
Eastern South Route Part 2		S08, S09	0.87	0.56	64%
Eastern South Route	Barneveld North	none	--	--	--
Eastern South Route	Barneveld South	none	--	--	--
Eastern South Route Part 3		S13	10.0	5.9	59%
Eastern South Route	Mount Horeb West	none	--	--	--
Eastern South Route	Mount Horeb East	U01, U02	1.96	1.35	69%
Eastern South Route Part 4		V03, V04	1.17	0.82	70%

Farmland Types and Soils

Most of the land that would be required for the Eastern South Route Part 1 or the Eastern Alt South options is cropland and identified as prime farmland.

Table 47: Eastern South Rt. Pt. 1 & Eastern Alt South Rt. – Agricultural Land Use

Agricultural Land Use	Eastern South Route Part 1 (acres)	Eastern Alt South Route (acres)	
		Dodgeville West	Dodgeville East
Cropland	126.08	148.59	150.72
Pasture	8.31	26.76	27.68
Other Agricultural Land	34.00	140.71	143.58
Totals	**168.39**	**316.06**	**321.98**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

Table 48: Eastern South Rt. Pt. 1 and Eastern Alt South Rt. – Farmland Soils

Farmland Soil Classification	Eastern South Route Part 1 (acres)	Eastern Alt South Route (acres)	
		Dodgeville West	Dodgeville East
Prime farmland	121.82	213.99	215.97
Prime farmland if drained	0.50	4.13	4.13
Farmland of statewide importance	36.80	64.78	70.22
Not prime	9.27	33.17	31.65
Totals	**168.39**	**316.06**	**321.98**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

Fewer acres of agricultural land would be required for the Eastern South Route Part 1 as opposed to the Eastern Alt South Route options. It also would affect fewer acres of prime farmland.

Table 49: Eastern South Rt., Highway 18 Options – Agricultural Land Use

Agricultural Land Use	Hwy 18 North Subsegment S01 (acres)	Hwy 18 South From Dodgeville West Subsegments S02, S03 (acres)	Hwy 18 South from Dodgeville East Subsegment S03 (acres)
Cropland	27.20	19.96	19.73
Pasture	4.53	4.15	4.06
Other Agricultural Land	2.06	13.50	13.49
Totals	**33.78**	**37.60**	**37.27**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

Table 50: Eastern South Route, Highway 18 Options – Farmland Soils

Farmland Soil Classification	Hwy 18 North Subsegment S01 (acres)	Hwy 18 South Subsegments S02, S03 (acres)	Hwy 18 South from Dodgeville East Subsegment S03 (acres)
Prime farmland	3.28	7.42	7.09
Prime farmland if drained	0.91	0.14	0.14
Prime farmland if protected from flooding	- -	0.02	0.02
Farmland of statewide importance	11.90	9.41	9.41
Not prime	17.69	20.61	20.61
Totals	**33.78**	**37.60**	**37.27**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

The agricultural impacts of all three short Highway 18 options are fairly similar though fewer acres of prime farmland would be affected by the Highway 18 North Option.

The next two tables list the agricultural land use and farmland soils for the three Eastern South Route components, Part 2, Part 3, and Part 4.

Table 51: Eastern South Rt. Components – Agricultural Land Use

Agricultural Land Use	Eastern South Route Part 2 (acres)	Eastern South Route Part 3 (acres)	Eastern South Route Part 4 (acres)	Subtotals
Cropland	37.72	71.28	30.88	139.88
Pasture	3.35	7.40	6.58	17.33
Other Agricultural Land	12.27	23.66	31.59	56.52
Totals	**53.35**	**102.34**	**69.06**	**224.75**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

Table 52: Eastern South Rt. Components – Farmland Soils

Farmland Soil Classification	Eastern South Route Part 2 (acres)	Eastern South Route Part 3 (acres)	Eastern South Route Part 4 (acres)	Subtotals
Prime farmland	20.75	31.64	12.26	64.65
Prime farmland if protected from flooding	- -	0.17	- -	0.17
Farmland of statewide importance	17.56	19.22	14.82	51.60
Not prime	15.04	51.30	41.98	108.32
Totals	**53.35**	**102.34**	**69.06**	**224.74**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

Table 53: Eastern South Rt., Barneveld Options – Agricultural Land Use

Agricultural Land Use	Barneveld North (acres)	Barneveld North Extended (acres)	Barneveld South (acres)
Cropland	0.86	1.23	0.43
Other Agricultural Land	0.12	0.36	0.02
Totals	**0.98**	**1.59**	**0.45**

Table 54: Eastern South Rt., Barneveld Options – Farmland Soils

Farmland Soil Classification	Barneveld North (acres)	Barneveld North Extended (acres)	Barneveld South (acres)
Prime farmland	0.13	0.13	0.08
Farmland of statewide importance	0.51	1.10	0.37
Not prime	0.34	0.37	- -
Totals	**0.98**	**1.59**	**0.45**

The Barneveld options are very short and would affect only a few agricultural acres. Barneveld South affects the fewest acres of cropland and prime farmland.

Table 55: Eastern South Rt., Mount Horeb Options – Agricultural Land Use

Agricultural Land Use	Mount Horeb West (acres)	Mount Horeb East (acres)
Cropland	36.02	35.99
Pasture	0.20	16.71
Other Agricultural Land	24.05	13.36
Totals	**60.27**	**66.06**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

Table 56: Eastern South Rt., Mount Horeb Options – Farmland Soils

Farmland Soil Classification	Mount Horeb West (acres)	Mount Horeb East (acres)
Prime farmland	15.71	8.64
Prime farmland if protected from flooding	2.27	0.54
Farmland of statewide importance	15.14	29.28
Not prime	27.69	27.59
Totals	**60.27**	**66.06**

NOTE: This table includes acres affected by the ROW and off-ROW access roads.

The Mount Horeb East Option affects slightly more agricultural acres than the West Option. However fewer acres of prime farmland would be affected by the Mount Horeb East Option.

Impacts to Agricultural Property Owners

The various components and options of the Eastern South Route could affect between 131 and 170 agricultural property owners, depending on the route chosen by the PSC. Numbers of potentially affected landowners are as follows, by route component:

- Eastern South Route Part 1 would affect 74 property owners of which 45 are agricultural
- Eastern Alt South Route with Dodgeville West would affect 86 property owners of which 73 are agricultural
- Eastern Alt South Route with Dodgeville East would affect 83 property owners of which 72 are agricultural
- Highway 18 Options could affect up to 14 property owners of which up to 10 are agricultural
- Eastern South Route Part 2, Part 3, and Part 4 would affect 87 property owners of which 62 are agricultural
- Barneveld Options would affect up to 7 property owners of which 2 are agricultural
- Mount Horeb West would affect 18 property owners of which 13 are agricultural
- Mount Horeb East would affect 26 property owners of which 23 are agricultural

Approximately three-quarters of all property owners regardless of the route options chosen would be agricultural property owners. Many would have off-ROW access roads affecting them besides the ROW easements. The Eastern South Route options and components would affect the agricultural property owners listed in the following seven tables. Those with asterisks before their name would also be affected by off-ROW access roads.

Table 57: Eastern South Rt. Pt. 1 and Eastern Alt South Rt. – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Eastern South Route Part 1 (acres)	Eastern Alt South Route with Dodgeville West (acres)	Eastern Alt South Route with Dodgeville East (acres)
ADAMS, DANIEL		7.25	7.25
ANDERSON RESIDENCE	4.70	- -	- -
BEERKIRCHER, RICKY AND KERRY	2.71	- -	- -
BETTNER, ROY	4.53	2.89	6.92
BIDDICK, JASON	<1.0	1.36	1.36
BISHOP, BRADLEY	- -	1.28	1.28
BROKISH, JOSEPH AND NANCY	- -	7.57	7.57
BROKISH, MICHAEL AND SHERRY	- -	8.37	8.37
BROWN, KEITH AND MARY	- -	6.17	6.17
*BROWN, SEAN AND DANIELLE	2.46	- -	- -
C AND NW TRANSPORTATION CO	3.35	<1.0	<1.0

Agricultural Property Owners	Eastern South Route Part 1 (acres)	Eastern Alt South Route with Dodgeville West (acres)	Eastern Alt South Route with Dodgeville East (acres)
C R BISHOP AND SONS INC/TWIN CREEKS ENTERPRISES LLC	10.60	1.22	1.22
CAYGILL, DAVID AND MICHELLE	1.73	- -	- -
CLIFTON, JOSEPH M	8.52	- -	- -
CORNISH, BERNICE	- -	3.19	3.19
DAENTL, JAMES W AND PEGGY J REVOC TRUST	6.89	- -	- -
DAMMEN, LARRY AND KAY	- -	5.50	5.50
DAVIES, ROBERT L	- -	- -	3.47
*DONALDSON, ARTHUR AND SUSAN	- -	16.71	15.70
DOUBLE CREEK LLC/MASTERS PROPERTIES LLC	- -	1.24	1.24
DOUBLE H FARMS LLC	- -	2.96	2.96
DURST, DANIEL AND DENISE	1.54	- -	- -
ESSER, STEPHEN AND KORENA	- -	9.52	9.52
FAULL RESIDENCE	- -	18.70	18.70
FESENFELD, DONALD AND LARRY	- -	4.33	4.33
FRITSCH RESIDENCE	- -	6.17	6.17
FRITSCH, GERALD	8.16	- -	- -
FRONTIER FS	1.15	- -	- -
GARD, RODNEY AND LINDA AND CONNIE	1.62	- -	- -
GIROTTO, JAY AND LYNN	- -	1.01	1.01
HAAS, GERALD AND VIRGINIA	- -	2.09	2.09
HALE, LARRY AND SHANE	- -	4.01	4.01
HANSON, KEVIN AND SHEILA	4.54	- -	- -
HANSON, WILLIAM C AND NANCY K REVOCABLE TRUST	<1.0	<1.0	- -
HELLENBRAND RESIDENCE	4.02	- -	- -
HENNESSEY PROPERTIES LP/ LORRAINE HENNESSEY LLC	<1.0	8.45	8.45
JACOBSON FAMILY TRUST	- -	1.68	1.68
JEWELL, ALAN AND MARCIA	- -	11.69	11.69
JOHNSEN, LARRY AND DENISE	- -	10.45	10.45
JOHNSON BLOCK AND COMPANY INC	- -	7.04	7.04
JOHNSON, BRYAN AND BRADLEY	- -	1.82	1.82
JORDAN, RACHEL L	6.80	- -	- -
KEENA/OXNEM/WELLE RESIDENCE	- -	3.97	3.97
KEENEY, WILLIAM AND CHERYL	4.34	- -	- -
KITE, JAMES	- -	4.96	4.96
KROLL, KEVIN	2.62	- -	- -
LAUFENBERG, GEORGE M AND PATSY R REV TRUST	10.77	- -	- -
LEE, JAMES H	- -	7.78	7.78
LEIX, MARION AND MARY	4.34	- -	- -
LEIX, TIMOTHY AND DONALD AND CYNTHIA	2.21	- -	- -
LENZ RESIDENCE	- -	5.11	5.11

Agricultural Property Owners	Eastern South Route Part 1 (acres)	Eastern Alt South Route with Dodgeville West (acres)	Eastern Alt South Route with Dodgeville East (acres)
LENZ, LEONARD	- -	1.94	1.94
LEY, THOMAS	2.42	- -	- -
LINDEN TOWN	- -	1.13	1.13
LONGENECKER, DAVID AND LINDA	- -	8.42	8.42
MASTERS, MAT	- -	4.38	4.38
MUELLER, EVELYN L REV TRUST	- -	5.08	5.08
MUELLER, STEVEN W	<1.0	7.51	7.51
NOVAK, DANIEL AND SUSAN MURPHY	- -	8.17	8.17
NOVAK, TODD AND TIMOTHY	- -	1.54	1.54
OAKDALE FARMS LTD PARTNERSHIP/ BLOOMFIELD FARMS LLC	9.48	<1.0	<1.0
OXNEM, JOHN AND BONNIE	- -	2.74	2.74
*OXNEM, LEE AND JOHN	- -	6.34	6.34
OXNEM, LEE AND MARY LOU	- -	2.10	2.10
POWELL RESIDENCE	6.08	- -	- -
*REYNOLDS, JOHN AND CYNTHIA	3.64	- -	- -
RILEY RESIDENCE	4.78	- -	- -
RIPP, PATRICK AND ANN	- -	6.96	6.96
ROCK, THOMAS AND ANN	7.15	4.14	4.14
ROCKIN M LAND COMPANY LLC	4.03	- -	- -
RULE QUARRY LLC	- -	2.96	2.96
RULE, CAROLE AND R NORM - TRUSTEES	- -	2.41	2.41
RULE, CHARLES	- -	18.08	18.08
RULE, DOUGLAS	- -	3.95	3.95
RULE, FAMA	- -	4.60	4.60
RULE, RANDY AND TAMMY	- -	4.49	4.49
RULE, TERRILL	- -	1.70	1.70
SCHWARTZ, PAUL A AND ELAINE M REVOC TRUST	4.58	- -	- -
SHAULL, THOMAS AND CHARITY	- -	7.07	7.07
SPRINGER, DANIEL AND ELISABETH AND RALPH	- -	10.71	10.71
SURVEY ROAD INVESTMENTS LLC	- -	2.12	2.12
SWIGGUM, BENJAMIN A AND ROLAND P	13.34	- -	- -
THOMAS, CAROL	3.81	- -	- -
THOMAS, DEANE AND NANCY	6.33	- -	- -
TWO SISTERS PROPERTIES LLC	- -	4.11	4.11
*UMHOEFER, RICK	3.66	- -	- -
WENDHAUSEN SURVIVOR'S TRUST	- -	6.00	6.00
WENDHAUSEN, RICHARD	- -	5.39	5.39
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	1.72	7.55	6.98
Totals	**168.63**	**316.06**	**321.98**

Table 58: Eastern South Rt., Hwy 18 Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Hwy 18 North (acres)	Hwy 18 South (acres)	Hwy 18 South from Dodgeville East (acres)
*BETTNER, ROY	6.11	6.49	6.78
BRICK-MARGELOFSKY, TROY AND SANDIE	3.23	2.68	2.68
DOLAN, WILLIAM AND ROSE CENITE	5.13	- -	- -
HINRICHS, JAMES AND JOYCE	- -	6.87	6.87
*HOPPENJAN, TIMMOTHY AND ANDREW SPURLEY	- -	3.34	3.34
*KLOSTERMAN, LEO AND KAREN	- -	2.78	2.78
KRUEGER, NICOLE	0.03	1.12	1.12
LALOR TRUST, THOMAS E AND ANNMARIE	9.18	7.21	7.21
LAZARUS , GEORGE AND MARTIA MORGAN	- -	6.61	6.61
LEVETZOW, KYLE	6.44	- -	- -
MARTIN, EDWARD	0.17	0.18	0.18
MURN, JAMES	2.26	- -	- -
*VENDEN, CURTIS AND GLORIA	1.02	- -	- -
ZIEHR, JOHN	0.09	- -	- -
Totals	**33.67**	**37.27**	**37.57**

Table 59: Eastern South Rt. Pt. 2 - Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres
*BICKFORD, PAUL	13.85
*BJORGE, ROBERT AND CHRISTINE	6.19
BOLDT, MELVIN W	1.62
HALVERSON, DENNIS AND VERNON AND EVELYN	0.47
HATFIELD, JAMES	0.93
*HODGSON, MARK AND BONNIE	6.34
HY - VISTA DAIRY FARM LLC	7.12
KRUEGER, NICOLE	<0.01

Agricultural Property Owners	Acres
LATHROP REV LVG TRUST, RUTH R	4.75
MARTIN, EDWARD	1.35
MCNALL, MIKE	1.52
PAULL REVOCABLE TRUST	2.06
STEFFAN, MARK AND CALLIE	2.28
STONE LODGE LLC	0.54
STRAUBHAAR, JESSE	3.04
THOMPSON, KYLE	1.30

Table 60: Eastern South Rt., Barneveld Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Barneveld North (acres)	Barneveld North Extended (acres)	Barneveld South (acres)
ARNESON, ERIC	0.98	1.59	- -
THOMPSON, KYLE	- -	- -	0.45
Totals	**0.98**	**1.59**	**0.45**

Table 61: Eastern South Rt. Pt. 3 – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres
*ANDERSON, RICKIE AND JUDY	11.49
BAKER TRUST, ELMER C AND NORMA J	2.85
*BARTH, MICHAEL	3.91
*BIGLER, DONNA R LIFE ESTATE	5.03
*DOCKEN, RANDY	5.11
EMERALD RIDGE DEVELOPERS LLC	1.02
*HLS LLC	3.43
*IHM, JASON	9.01
JOHNSON, KENT	3.00
*LAZARUS, GEORGE AND MARTIA MORGAN	2.15
*MARILU LLC	1.71

Agricultural Property Owners	Acres
*MEYER RESIDENCE	3.33
*MT HOREB UNION HIGH SCHOOL DIST	4.63
*RF FARMS LLC/BLUE SUN LLC	5.37
SCHLIMGEN, DENNIS AND LISA	5.27
STEFFEN, GLENN AND KAREN	1.81
SUTTER LIVING TRUST	2.99
SUTTER REV TRUST	7.50
*THOMSON, DENNIS AND JOAN SCHURCH THOMSON	7.16
*VAN CAMP, JIM	2.31
WINGRA REAL ESTATE LLC	2.07
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	3.13

Table 62: Eastern South Rt., Mount Horeb Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Mount Horeb West (acres)	Mount Horeb East (acres)
ADLER, STEPHANIE AND PAUL GIBSON	--	1.02
ATWELL, DAVID	--	1.81
BAKER TRUST, ELMER C AND NORMA J	12.18	3.18
*BURNS RESIDENCE	--	4.64
*CANTRELL, ALLEN AND ELISABETH	--	2.44
*DEER RIDGE LLC	--	3.13
HISE, RODMAN AND JENNIFER	--	2.73
HOLLER, RICHARD AND CAROL	--	4.09
HOOPES, JANET	3.09	--
KELLESVIG, PAUL AND DAWN	5.42	--
KLEBBA, ROBERT AND DAVID WAUGH	--	9.57
LAUFENBERG RESIDENCE	1.73	--
LAUFENBERG, RICHARD AND JOANN	--	4.57
LYNCH, THOMAS AND MARIA MYER	--	2.46
MILLER, THOMAS AND JULIE	2.17	--
NICKELS, KENNETH AND PATRICIA SAUEY	2.30	--
ROBERTSON, GARY AND HSIU-LING	--	3.31
SHAMROCK FARMS	--	2.20
SOLBERG, RANDOLPH AND JOANN GUMZ	--	2.14
SUKOWATY, MARK	3.98	--
SUTTER, ALBERT	--	7.34
TOLCH LIVING TRUST	7.82	--
WEDIG, KURT AND TAMMY	--	1.71
*WINDY RIDGE FARM INC	--	3.18

Agricultural Property Owners	Mount Horeb West (acres)	Mount Horeb East (acres)
ZANDER, AUDREY	--	4.53
ZANDER, JEROME AND LYNN	20.47	--
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	1.07	2.02
Totals	**60.23**	**66.06**

Table 63: Eastern South Rt. Pt. 4 – Potentially Affected Landowners

Agricultural Property Owners	Acres
CORRELL LIVING TRUST - PAUL AND ANNE-MARIE	4.77
BRUNNER, DANIEL AND DEBRA	10.09
FAUST, DONALD AND JOANNE	2.29
OVERLAND, HARLAN AND POLLY	2.54
HUSSEY REV TRUST, JOHN AND MARLENE	3.20
HERMAN, KRIS AND TURA PATTERSON	1.42
SUKOWATY, MARK	5.62

Agricultural Property Owners	Acres
ZANDER-BURKHOLDER, MARY JANE	1.43
ZIMMERMAN, MARY AND NICOLE CORNISH	8.74
RICHARDS LIVING TRUST	1.63
*HOLLFELDER TRUST, ROBERT L AND RAYELLEN M	10.63
*SHAMROCK FARMS	11.23
*KURTH, TERRY AND KATHLEEN	2.44
Additional Agricultural Landowners with <1.0 Acres Potentially Affected	3.04

Eastern South Route Comments

Comments from the 34 agricultural landowners that could be affected by the Western South Route options and components are summarized below. Some of these landowners could be affected by more than one route.

Comments from Agricultural Landowners Affected by Multiple Eastern South Route Options

Farm Owner: Roy Bettner (includes land formerly owned by Janelle Simpson)
Operators: Ross and Nicole Bettner
Potential Impacts (Subsegments):

- 4.5 acres Eastern South Part 1 (Q06)
- 2.9 acres Dodgeville West (R13, R14) from Eastern Alt South
- 6.9 acres Dodgeville East (R15) from Eastern Alt South
- 5.8 acres Hwy 18 North (S01), 0.4 acres for an off-ROW access road
- 5.9 acres Hwy 18 South (S03), 0.6 acres for an off-ROW access road
- 0.3 acres Hwy 18 South (S02)

Several of the Eastern South Route options, east of Dodgeville, could cross land owned by Roy Bettner. Impacts to this farm is dependent on the route approved by the PSC. Mr. Bettner owns 448 acres of land consisting of 240 acres of cropland, 200 acres of pasture, and 8 acres for buildings. Typically, the renters grow 55 acres of corn, 90 acres of soybeans, and 95 acres of hay. The renters also have 240 head of sheep and goats, and bee hives are kept on the farm. Trees from their woodland are cut regularly and this contributes to the farm's income. This farm has been in the family since the mid-1840s. Some of his acres are enrolled in CRP and the MFL program.

Mr. Bettner is concerned about overall construction damage to his erosion control practices that are used on this property. The project could also affect a cattle pass and culvert that conveys

water from a stream, fencing, and a historic mine. The owners are concerned about property values, safety in the vicinity of the new electric line, induced currents, loss of cropland and wildlife habitat, loss of woodland, damage to soils from construction equipment, and aesthetic impacts.

Farm Owner: C R Bishop and Sons, Inc. (Twin Creeks Enterprises LLC)
Potential Impacts (Subsegment):

- 10.2 acres Eastern North (P02), 3.0 acres for an off-ROW access road
- 10.6 acres Eastern South Part 1 (Q02)
- 1.2 acres Eastern Alt South (R03)

Several of the Eastern Route options could cross land owned by C R Bishop. Impacts to this farm is dependent on the route approved by the PSC. C R Bishop and Sons, Inc. owns 1,390 acres of cropland, 279 acres of pasture, 35 acres of woodland, and 20 acres for buildings. They grow corn, soybeans, hay, rye, and sorghum. They also raise 50 head of replacement dairy cattle, 210 head of beef cattle, and 100 pigs. This farm is covered by the FPP. The owners have three farmsteads including two houses that may be impacted by the Eastern South Route (Subsegment Q02), just west of the village of Cobb. Additionally northwest of the intersection of USH 18 and Bridge Road, they have a large establishment of cattle barns, hog barns, storage sheds, grain storage and drying facilities, which may be impacted by the widened ROW and placement of structures. There are also fences along all fields on the USH 18 corridor and a tiled grass waterway.

Eastern South Route Part 1 Comments

Farm Owners \ Operators: Jim and Carol Anderson (Anderson Residence) \ Jeff and Deane Thomas
Route (Subsegment): 4.7 acres Eastern South Part 1 (Q02)
The Andersons own 547 acres of land consisting of 356 acres of cropland, 184 acres of pasture, and 7 acres for buildings. They grow corn and soybeans and raise 5 pigs. This farm is covered by the FPP. The owners are concerned that project construction will lead to increased rock content in the topsoil, damage to fencing, and lead to the introduction or spread of weeds. The line could also pass close to a shed used for storage and to house pigs.

Farm Owners \ Operator: William and Cheryl Keeney \ Brad Walters
Route (Subsegment): 4.3 acres Eastern South Part 1 (Q02)
Mr. and Mrs. Keeney own 343 acres of land consisting of 200 acres of cropland, 138 acres of pasture, and 5 acres for buildings. The cropland is used to grow corn and hay, and the pasture is used for 30 head of beef cattle. The owners are concerned that the route constructed across their fields will affect their best cropland. It could also affect grassed waterways and line fencing on this property.

Farm Owner \ Operator: Jordan Timberland Limited Partnership (Rachel Jordan General Partner) \ David Kromm
Route (Subsegment): 6.8 acres Eastern South Part 1 (Q02)
This property is 386 acres and consists of 320 acres of cropland, 55 acres of woodland, 6 acres of idle farmland, and 5 acres for the buildings. The renter grows corn and soybeans. The owner also grows 1 acre of asparagus. The route could affect grassed waterways and some terracing on the property. The owner is in favor of replacing the existing line with a larger line that would require fewer structures.

Farm Owner: George M. and Patsy R. Laufenberg Revocable Trust
Route (Subsegment): 10.8 acres Eastern South Part 1 (Q02)
Mr. and Mrs. Laufenberg own 276 acres of land and rent additional land for their operation. In an average year, they grow 220 acres of corn, 105 acres of soybeans, and 40 acres of oats. They also raise 250 head of beef cattle. Their farm is under the FPP. The route could affect cropland and fencing. Mr. Laufenberg does not want to lose any farmland to the project.

Farm Owners \ Operator: Powell Family Trust (Powell Residence, Beverly Powell-Zimmerman, Marilyn Powell, Barbara Powell, and June Powell) \ Russell Brothers Farms
Route (Subsegment): 6.1 acres Eastern South Part 1 (Q02, Q03)
The Powells own 153 acres of land consisting of 131 acres of cropland and 22 acres of woodland. The renters grow corn, soybeans, and wheat in rotation. The owners are unsure if the route could affect their grassed waterways or tiling. They are concerned about impacts to the fencing located along the north side of their property and that the project could limit the development potential of their property.

Farm Owner \ Operator: Carol Thomas \ Ronald Miller
Route (Subsegment): 3.8 acres Eastern South Part 1 (Q02)
This property is 160 acres and 120 acres are rented to Mr. Miller. The route could affect cropland and pasture, including contour strips in the cropland and fencing. The owner is concerned about the potential loss of income from rented land as well as impacts to the aesthetic value of the property.

Farm Owners \ Operators: Deane and Nancy Thomas \ Jeff and Renee Thomas
Route (Subsegment): 6.3 acres Eastern South Part 1 (Q02)
Deane and Nancy Thomas own 585 acres of land consisting of 250 acres of cropland, 200 acres of pasture, 105 acres of woodland, and 30 acres for buildings. They rent additional land from Jim and Carol Anderson. They grow corn, soybeans, and hay and raise 350 head of beef cattle and 100 pigs. The owners are concerned that project construction including the removal of old electric poles could damage their soils and erosion control practices. Additionally, the route could affect their fencing. Some of their buildings could be in the ROW. They are concerned about the proximity of the new line to their residence and the removal of landscaping trees near two residences.

Eastern Alt South Route Comments

Farm Owner: Daniel Adams
Route (Subsegment): 7.3 acres Eastern Alt South (R03)
Mr. Adams owns 322 acres of land and rents additional farmland. In an average year he grows 255 acres of corn and 165 acres of soybeans. He also raises hogs. His farm is under the FPP. The proposed project could affect his cropland and buildings. Several of his buildings could be located within the ROW. He is also concerned that the route could affect grassed waterways on the northern edge of his property, fencing, and trees that serve as a windbreak.

Farm Owners: Larry and Kay Dammen
Route (Subsegment): 5.5 acres Eastern Alt South (R09)
The Dammens own 304 acres of land consisting of 250 acres of cropland and 32 acres of pasture, and 22 acres for buildings. Corn, soybeans, wheat, and rye are grown. This farm is certified for organic production and they require special construction measures to maintain their organic certification. This includes cleaning construction equipment before it enters their property, maintaining a 25-foot buffer around the cropland, and no pesticides or other hazardous materials used during construction or afterwards. Also, the owners are concerned that the project will affect their grassed waterways.

Farm Owners: Stephen and Korena Esser
Route (Subsegment): 9.5 acres Eastern Alt South (R03, R04, R05)
The Essers own 470 acres of land consisting of 400 acres of cropland, 60 acres of pasture, and 10 acres for buildings. In an average year, they grow 250 acres of corn and 150 acres of hay. They also run a 200-cow dairy operation with 125 replacement dairy cattle and 250 head of beef cattle. This farm is enrolled in the FPP. This property has a large number of agricultural buildings located near the intersection of CTH B and CTH J. They are concerned about impacts to their operation during construction as well as the potential for induced currents affecting their dairy operation when the line is in service. It is important to the owners that construction debris is properly disposed, so as not to affect their cattle feed. In addition, the Essers are concerned about the loss of cropland during construction and construction activities that would lower the productivity of their cropland long-term. These construction activities of concern include compaction of soils (especially during wet conditions), mixing topsoils with poorer quality subsoils, and bringing up rocks. This route could also affect grassed waterways in the cropland and fencing.

Farm Owner \ Operator: Evelyn M. Mueller Revocable Trust \ Double M Cattle Company LLC
Route (Subsegment): 5.1 acres Eastern Alt South (R03)
The Trust owns 240 acres of land consisting of 222 acres of cropland, 10 acres of pasture, 5.4 acres for buildings, and 2.6 acres in CRP. In an average year, the renter grows 80 acres of corn and 142 acres of hay. The renter also raises 400 head of beef cattle on this property. All of this property is covered by the FPP. The route could affect cropland, pasture, and buildings. Along CTH B, there are two beef barns, silos, and a house. While the route does cross to the north side

of CTH B, avoiding many of the potential impacts to these buildings, the project could interfere with farming operations. Additionally the ROW could require the removal of pine trees and affect grassed waterways and fencing. The owner is concerned about the aesthetic appearance of this property, after the line is constructed.

Farm Owners \ Operator: Donald and Larry Fesenfeld \ Lindchied Brothers (Arthur Lindchied)
Route (Subsegment): 4.3 acres Eastern Alt South (R06, R07)
The Fesenfelds own 200 acres of land consisting of 195 acres of cropland and 5 acres for buildings. The renter grows corn and soybeans in rotation. The route could affect cropland and grassed waterways on this property.

Farm Owner \ Operator: Hennessey Properties LP (Lorraine Hennessey LLC) \ Paul Yager (Pine Lawn Farm)
Route (Subsegment): 8.45 acres Eastern Alt South (R09), 0.3 acres Eastern South Part 1 (Q02, Q03)
The project could affect fencing and drain tiling along the road. The owner is concerned about induced currents on the fencing and buildings.

Farm Owner \ Operator: Johnson Block and Company Inc. (Charles Mueller Trust) \ Double M Cattle Company LLC
Route (Subsegment): 7.0 acres Eastern Alt South (R03)
Johnson Block and Company, Inc. owns 160 acres of land consisting of 151 acres of cropland and 9 acres of pasture. They grow corn and hay and raise 10 head of beef cattle, typically. All of this property is covered under the FPP. The route would affect one grassed waterway and fencing located along CTH B.

Farm Owners \ Operator: Lee and John Oxnem \ Brad Walter
Route (Subsegment): 6.0 acres Eastern Alt South (R03), 0.3 acres for an off-ROW access road
The Oxnems own 484 acres of land consisting of 352 acres of cropland, 86 acres of pasture, 9 acres of woodland, 12 acres of idle land, 5 acres of wetland, and 20 acres for buildings. They grow corn, soybeans, and hay in rotation and have 10 horses. The owners are concerned about the potential loss of income, lower property values, induced voltages, and a loss of aesthetic value.

Farm Owner \ Operator: Fama Rule \ Masters Enterprises LLC
Route (Subsegment): 4.6 acres Eastern Alt South (R06, R07)
This property consists of 147 acres of cropland, 36 acres of pasture, and 3 acres for buildings. Corn and soybeans are grown. This property is covered by the FPP.

Farm Owner \ Operator: Two Sisters Properties LLC \ Chad Mosley
Route (Subsegment): 4.1 acres Eastern Alt South (R09)
This property includes about 100 acres of cropland, 6 acres of idle farmland, and 5 acres for buildings. Mr. Mosley rents all of the cropland. Typically, 45 acres of corn, 45 acres of soybeans, and 10 acres of hay are grown. The route could affect grassed waterways on the cropland.

Farm Owners \ Operator: Daniel, Elisabeth, and Ralph Springer \ J & S Sunny Slope Farms LLP
Route (Subsegment): 10.7 acres Eastern Alt South (R07, R08)
The Springers own 718 acres of cropland, 341 acres of pasture, 21 acres for buildings, and 1.5 acres of wetlands. Corn, soybeans, hay, wheat, and oats are grown and 480 head of beef cattle and 40 head of sheep/goats are raised on the property. 80 acres of this property is covered by the FPP.

The Springers would prefer to see the route continue east on Fesenfeld Road/Jewell Road and then turn south on Sunny Slope Road. Currently the Eastern Alt South Route passes through the middle of the Springer's fields. This deviation from sharing the road ROW may be for the purpose of avoiding a small structure at the intersection of Fesenfeld and Sunny Slope Roads. The Springers own the old building and the surrounding property. They reported that the building is not historical and holds no sentimental value for them. They prefer that the route be modified to stay on Fesenfeld and Sunny Slope Roads and avoid their fields, even if it required the removal of the building and the surrounding plants/trees from the northeast corner of their property.

If Eastern Alt South Route is chosen, DATCP finds merit in this route modification as it would decrease agricultural impacts and require one less turning structure. DATCP recommends that the Applicants discuss a route modification of Subsegments R07 and R08 with the landowners and if appropriate, revise the route on their property to stay along road ROW.

Highway 18 Options Comments

Farm Owners \ Operator: William Dolan and Rose Cenite \ Eric Russel
Route (Subsegment): 5.1 acres Highway 18 North (S01)
The property owners have 161 acres of farmland consisting of 120 acres of cropland, 25 acres of pasture, 10 acres of woodland, 1 acre of idle or fallow farmland, and 5 acres for buildings. The renter grows corn, soybeans, and hay on 120 acres of land. 50 head of beef cattle, 300 poultry, and alpacas are raised on the land. The farm is certified organic by Midwest Organic Services Association, Inc. for crops and livestock. Mr. Dolan states that the route would affect farmland that has the greatest yields. He is also concerned about the project removing his windbreaks, crossing 3 waterways and its negative health effect.

Farm Owners \ Operator: James and Joyce Hinrichs \ Ross Blotz
Route (Subsegment): 6.9 acres Highway 18 South (S03)
Mr. and Mrs. Hinrichs own 263 acres of land consisting of 210 acres of cropland, 50 acres of pasture, and 3 acres for buildings. The renter grows corn and soybeans in rotation as well as hay and wheat. The route could affect drain tiles, a grassed waterway, fencing, natural springs, and a creek. It could also affect a storage shed and a concrete silo. The Hinrichs are concerned that the route could affect their oak trees and reduce the income they receive for renting the land for hunting.

Eastern South Route Parts 2, 3, and 4 Comments

Farm Owners \ Operator: Rickie and Judy Anderson (Trout Creek Farms) \ Shamrock Farms
Route (Subsegment): 11.3 acres Eastern South Route Part 3 (S13), 0.2 acres for off-ROW access roads

The Andersons own 420 acres of land consisting of 270 acres of cropland, 50 acres of pasture, 80 acres of woodland, 10 acres for buildings, and 10 acres in CREP. Ten acres of the cropland is used to grow hay and the remaining cropland is used to grow corn and soybeans in rotation. There are also 20 head of replacement dairy cattle and 15 head of beef cattle on this property. This farm is covered by the FPP. They are concerned that the route could affect fencing along USH 151.

Farm Owner \ Operator: Michael Barth (Barth ID Farm LLC, Barth JG Farm LLC) \ Dean Hufel
Route (Subsegment): 3.7 acres Eastern South Route Part 3 (S13), 0.2 acres for an off-ROW access road

Michael Barth owns 217 acres of land consisting of cropland, pasture, woodland, and buildings. Mr. Barth is concerned the project will negatively affect the value of his property and buildings.

Farm Owner: Correll Living Trust (Paul and Anne-Marie Correll)
Route (Subsegment):

- 4.8 acres Eastern South Route Part 4 (V04)
- 0.2 acres Stagecoach South from Eastern North Route (X01)
- 2.0 acres Stagecoach South from either route (X02)

Several segments could affect the Trust's property. Mr. Correll would prefer the project be routed along the Applicants' Preferred Route which would include using Subsegments V04.

Farm Owner \ Operator: Randy Docken \ Jerome Zander
Route (Subsegment): 3.7 acres Eastern South Route Part 3 (S13), 1.4 acres for an off-ROW access road

Mr. Docken owns 101 acres of land consisting of 85 acres of cropland and 16 acres of woodland. Mr. Zander grows corn and soybeans in rotation. The woodland provides firewood. The proposed project would cross both the cropland and woodland on this property.

Farm Owner: Robert L. and Rayellen M. Hollfelder Trust
Route (Subsegment): 10.5 acres Eastern South Route Part 4 (V04), <0.1 acres for an off-ROW access road

The owner is concerned about affects to the pasture fencing and woodlot. The Trust is also concerned about the proximity of the machine shed and garage to the route.

Farm Owner: Mount Horeb Area School District
Route (Subsegment): 4.5 acres Eastern South Route Part 3 (S13), 0.2 acres for an off-ROW access road

This 26-acre property is used to grow corn and soybeans in rotation. The school district manages this farm's highly erodible soil according to a county conservation plan using practices that reduce the potential for erosion and compaction. The school district is concerned that transmission structures could interfere with access to this property.

Farm Owner \ Operators: Sutter Revocable Trust \ Jerome and Lynne Zander
Route (Subsegment): 7.5 acres Eastern South Route Part 3 (S13)
The Trust owns 33 acres of cropland. The route could affect a waterway on the east end of the property and fencing along USH 18. The trust is concerned that the project would interfere with the development potential of its land.

Farm Owners \ Operators: Mary Zimmerman and Nicole Cornish \ Dan and Michelle Esser
Route (Subsegment): 8.7 acres Eastern South Route Part 4 (V04)
Ms. Zimmerman and Ms. Cornish own 90 acres of land consisting of 40 acres of cropland, 40 acres of woodland. The cropland is rented to the Essers who grow corn, soybeans, and hay in rotation. The farm also raises 25 head of replacement dairy cattle. The route would affect their woodland.

Mount Horeb Options Comments

Farm Owner \ Operators: Janet Hoopes \ Shawn and Mark Farrell
Route (Subsegment): 3.1 acres Mount Horeb West (T04, T05)
Ms. Hoopes owns 117 acres of land and rents 66 acres of cropland to the Farrells, for corn. The remaining cropland is used to grow hay. The Hoopes land includes of 85 acres of cropland, 15 acres of pasture, 7 acres of idle land, 5 acres for buildings, and 5 acres of horse facilities. Ms. Hoopes is very concerned about the health effects of the proposed line on her horses and on people. She feels that the construction of the line would cause her to relocate her horse operation to a different part of her property.

Farm Owners \ Operator: Richard and Joann Laufenberg \ Steve Laufenberg
Route (Subsegment): 4.6 acres Mount Horeb East (U02)
This property consists of 37 acres of cropland, 2 acres of wetlands, 1.5 acres of CRP land, and 1.5 acres of CREP land. The renter grows corn, soybeans, and hay. There is a 40-foot wide CRP filter strip that was started in 2016 and is still being established that could be affected by the route. The tree line provides a natural windbreak and is also cut sustainably for firewood. The owners are concerned about a reduction in rental income if the project removes cropland from production. They are also concerned about a loss to the development potential of this property.

Farm Owner: Mark Sukowaty
Route (Subsegment): 4.0 acres Mount Horeb West (T05), 5.6 acres Eastern South Route Part 4 (V01, V02)
Mr. Sukowaty owns 140 acres of land consisting of 120 acres of cropland, 15 acres of woodland, and 5 acres for buildings. He grows corn, soybeans, and hay in rotation. He plans to raise replacement dairy cattle in the future. Mr. Sukowaty is concerned that construction of the project would interfere with his no-till practice of leaving crop residue on the land and disrupt his farm operation. He is also concerned that the project would affect his buildings, including a barn used as a repair shop and a house; all in good condition. It appears that one of his buildings would be located within the proposed ROW. The project would require the clearing of trees that

act as a windbreak and provide firewood. Mr. Sukowaty has stated that the proposed project would affect the view shed from a house he is planning to build on his property.

Farm Owner \ Operator: Tolch Living Trust (Johna Tolch, Trustee) \ Steve Laufenberg
Route (Subsegment): 7.8 acres Mount Horeb West (T03, T04)
The Trust owns 70 acres of land consisting of 60 acres of cropland, 5 acres of woodland, and 5 acres reserved for the construction of a future home. Corn is typically grown on the cropland. The owner stated that the easement would affect the most productive bottom land on this property. The owner is concerned about access to the woodland during construction, the view from the future home site, and impacts to the Sugar River which would be crossed by the project ROW.

Comparison of the Eastern North and the Eastern South Routes

Both beginning options of the Eastern South Route, Part 1 and the Eastern Alt South partially overlap existing electric ROWs and are mostly routed along road ROW, reducing the amount of new ROW required. Even though the Eastern South Route is only slightly shorter in length than the Alt South Route variations, the agricultural acres affected by the Eastern South Route (168 acres) is substantially fewer than the Alt South Route variations (316-320 acres). Additionally, the Eastern South Route Part 1 affects fewer acres of cropland and fewer acres of prime farmland.

Figure 5: Eastern South Rt. Pt. 1 and Eastern Alt South – Agricultural Land Use

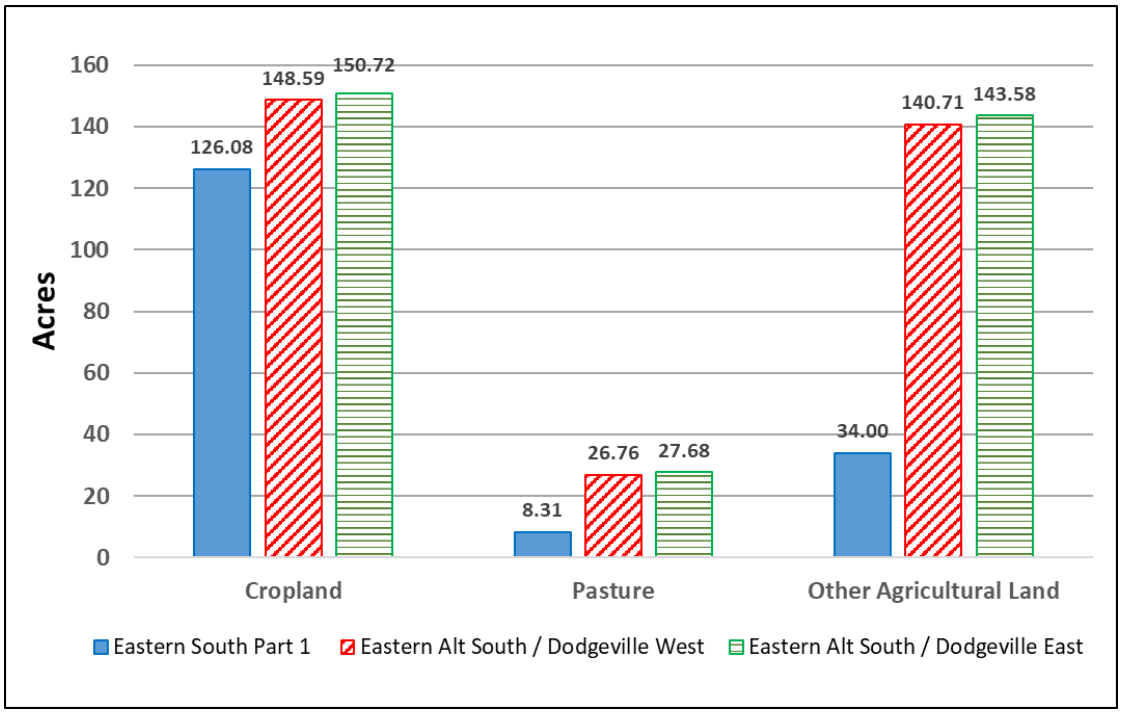
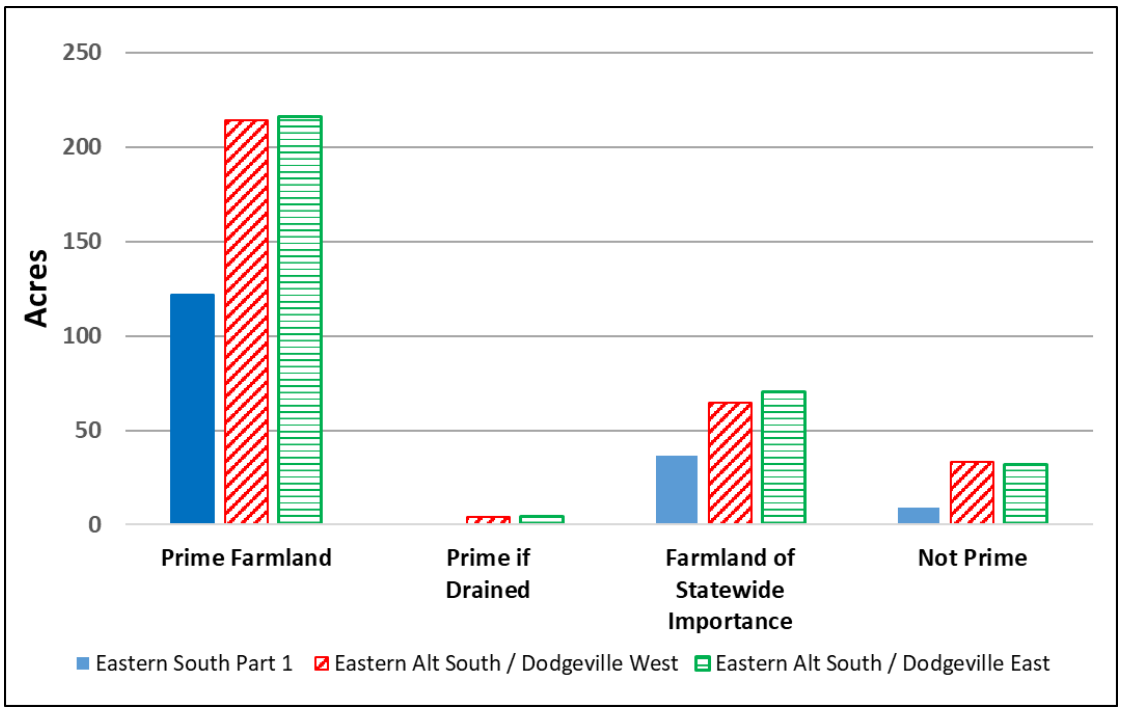


Figure 6: Eastern South Rt. Pt. 1 and Eastern Alt South – Farmland Soils



East of the city of Dodgeville, there is little difference between the agricultural impacts of any of the Eastern South Route variations. None of the Eastern South Route variations affect significantly greater acres of ROW, agricultural properties, cropland, or prime farmland.

However, there is sizeable difference between the agricultural impacts of the Eastern South Route and the Eastern North Route.

Table 64: Eastern North Rt. and Avg. Eastern South Rt. - Acres Affected

Route	Length (miles)	ROW (acres)	ROW Acres in Agriculture	Percentage of ROW In Agriculture	Off-ROW Roads (acres)	Off-ROW Roads in Agriculture (acres)
Eastern North	43.9	798.6	674.4	84%	57.5	52.3
Avg. Eastern South Route	43.0	847.7	484.9	57%	14.9	9.1

Table 65: Eastern North Rt. and Avg. Eastern South Rt. – Agricultural Land Use

Route	Cropland (acres)	Pasture (acres)	Other Agricultural Land (acres)
Eastern North	297.2	84.8	338.9
Avg. Eastern South Route	326.3	38.4	128.2

Table 66: Eastern North Rt. and Avg. Eastern South Rt. – Farmland Soils

Route	Prime Farmland (acres)	Prime Farmland if Drained (acres)	Prime Farmland if Protected From Flooding (acres)	Farmland of Statewide Importance (acres)	Not Prime (acres)
Eastern North	111.0	7.5	44.5	147.8	414.0
Avg. Eastern South Route	203.7	1.0	1.6	121.9	164.6

The Eastern North Route has fewer acres of ROW and affects fewer acres of agricultural land, cropland, and prime farmland than any of the Eastern South Route variations. However, the Eastern North Route would require more acres of off-ROW access roads through agricultural properties than any of the Eastern South Route variations.

VIII. Dane County Routing Area

Route Descriptions

Map Book Figures 29–30

From the Eastern North Route or the Eastern South Route, the Dane County routes extend from the town of Cross Plains, through the Stagecoach Road Options, along USH 14, through the Black Earth Creek Options, and end at the existing Cardinal Substation.

The Eastern North Route ends at the eastern end of Subsegment P09. The Eastern South Route ends at the northern end of Subsegment V04. From each of these eastern routes, there are two routing options as follows:

- **From Eastern North Route (2 options0**
  - Stagecoach Road North Option (Subsegments W01, W02, W03, W04)
  - Stagecoach Road South Option (Subsegments X01, X02)
- **From Eastern South Route Part 4 (2 options)**
  - Stagecoach Road North (V05, V06, W03, W04)
  - Stagecoach Road South (Subsegment X02)

From the Eastern North Route, the Stagecoach Road North Option continues east along Subsegment W01, as a single-circuit line. It parallels north of Stagecoach Road until the intersection of Celestial Circle and Stagecoach Road where the route (Subsegment W02) joins with an existing 69 kV line (Y-62). The lower voltage Y-62 line would be double-circuited with the new 345 kV line (Subsegment W02) until just west of CTH P and the Y-62 line terminates at the Stagecoach Substation. The route continues along the north side of Stagecoach Road (Subsegments W03 and W04) with the new 345 kV line double-circuited with another 69 kV line (6927) until the route meets up with Subsegment Y01A, on the south side of Stagecoach Road.

For the Stagecoach Road South Option from the Eastern North Route (Segment X01, X02), the route travels cross-county southeast, east, and northeast to end at the start of Subsegment Y01A. It overlaps no existing utility ROW or road. It does cross one road, CTH P.

The Eastern South Route can also be routed along either the Stagecoach Road North or South options. For the Stagecoach Road North Option from the Eastern South Route (Subsegment V05), the route continues north along the east side of CTH P and would be briefly double-circuited with a 69 kV line (Y-128). After about 350 feet, the new 345 kV line continues north as a single-circuit, crosses to the west side of CTH P, and crosses to the north side of Stagecoach Road (Subsegment V06). The route then continues along Subsegments W03 and W04, as described above.

For the Stagecoach Road South Option from the Eastern South Route, the new line would be routed along Subsegment X02, as described above.

Table 67: Stagecoach Road Options – Acres Affected

Originating Route	Option	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Eastern North	Stagecoach Road North	W01, W02, W03, W04	1.1	20.3	12.8 (63%)	8.7	43%
	Stagecoach Road South	X01, X02	1.3	22.9	- -	22.3	97%
Eastern South	Stagecoach Road North	V05, V06, W03, W04	0.9	17.0	10.2 (60%)	9.8	58%
	Stagecoach Road South	X02	0.8	14.5	- -	14.5	100%

After the Stagecoach Road Options, the Eastern End Part 1 continues east (Subsegments Y01A, Y01B, Y01C, and Y05) along the south side of Stagecoach Road, double-circuited with the lower-voltage 6927 line. The route continues east, paralleling the railroad and USH 14 to the southeast.

Table 68: Eastern End Components – Acres Affected

Route Components	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Eastern End Part 1	Y01A, Y01B, Y01C, Y05	1.6	26.0	9.5 (36%)	11.1	42%
Eastern End Part 2	Y07, Y08	0.7	13.1	0.6 (5%)	0.5	4%
Subtotal		2.3	39.1	10.1 (26%)	11.6	30%

The Eastern End Route can then be routed along one of following Black Earth Creek options:

- Black Earth Creek North (Y06A, Y06B)
- Black Earth Creek South with Highway 14 North (Y06A, Z02, Z01B)
- Black Earth Creek South with Highway 14 South (Z01A, Z01B)

All of the Black Earth Creek Options would be double-circuited with the existing 69 kV line, 6927.

The Black Earth Creek North Option would cross over USH 14 (Subsegment Y06A). It would then turn east, following the 6927 line alignment cross-country (Subsegment Y06B), ending on the south side of USH 14 (Subsegment Y07).

The Black Earth Creek South with Highway 14 North Option would cross to the north side of USH 14 (Subsegment Y06A) and proceed east following the USH 14 ROW for approximately 0.7 miles before crossing back to the south side of USH14 (Subsegment Z02). The double-circuited line would then parallel the railroad tracks on the south side of USH 14 (Subsegment Z01B) until rejoining the existing alignment of line 6927 (Subsegment Y07).

The Black Earth Creek South with Highway 14 South Option would stay on the south side of USH 14 (Subsegment Z01A and Z01B) until rejoining the existing alignment of line 6927 (Subsegment Y07).

Table 69: Black Earth Creek Options – Acres Affected

Route	Option	Subsegments	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Black Earth Creek North		Y06A, Y06B	1.5	27.3	9.8 (36%)	15.7	58%
Black Earth Creek South	Highway 14 North	Z02, Z01B	1.6	27.7	10.5 (38%)	9.6	35%
	Highway 14 South	Z01A, Z01B	1.6	28.2	11.1 (39%)	1.3	5%

The last segment of the project is the Eastern End Part 2 (Subsegments Y07 and Y08) which extends east and south, ending at the Cardinal Substation.

Two potential off-ROW access roads are proposed in the Dane County Routing Area. One would connect between USH 14 and Subsegment Y06B. It would only be required if the Black Earth Creek North Route Option was chosen by the PSC. It affects no agricultural properties. The second off-ROW access road would connect to Subsegment X01. It would only be required if the Stagecoach Road South Option was approved by the PSC. It would require 0.89 acres of mostly agricultural land.

Farmland Types and Soils

The Stagecoach Road North options would affect fewer agricultural acres than the Stagecoach Road South options. Additionally, less cropland and prime farmland soils would be affected by Stagecoach Road North Option.

Table 70: Eastern End, Stagecoach Rd. Options – Agricultural Land Uses

	Eastern North Route (acres)		Eastern South Route (acres)	
Agricultural Land Use	Stagecoach Road North	Stagecoach Road South	Stagecoach Road North	Stagecoach Road South
Cropland	5.92	12.79	8.34	12.45
Pasture	- -	0.09	- -	0.09
Specialty Farmland (tree farms)	- -	1.87	- -	1.87
Other Agricultural Land	2.83	8.34	1.49	0.13
Totals	**8.74**	**23.08**	**9.84**	**14.54**

Table 71: Eastern End, Stagecoach Rd. Options - Farmland Soils

Farmland Soil Classification	Eastern North Route (acres)		Eastern South Route (acres)	
	Stagecoach Road North	Stagecoach Road South	Stagecoach Road North	Stagecoach Road South
Prime farmland	5.65	4.27	7.01	3.81
Prime farmland if drained	- -	5.36	- -	5.36
Prime farmland protected from flooding	- -	5.37	- -	5.37
Farmland of statewide importance	0.27	1.46	0.25	- -
Not prime	2.82	6.61	2.57	<0.01
Totals	**8.74**	**23.08**	**9.84**	**14.54**

Eastern End Part 1 and Eastern End Part 2 are very short and would affect some cropland that is prime farmland.

Table 72: Eastern End Components – Agricultural Land Uses

Agricultural Land Use	Eastern End Part 1 (acres)	Eastern End Part 2 (acres)
Cropland	8.11	- -
Other Agricultural Land	3.03	0.50
Totals	**11.14**	**0.50**

Table 73: Eastern End Components – Farmland Soils

Farmland Soil Classification	Eastern End Part 1 (acres)	Eastern End Part 2 (acres)
Prime farmland	6.69	0.15
Farmland of statewide importance	3.12	0.36
Not prime	1.33	- -
Totals	**11.14**	**0.50**

The three Black Earth Creek options differ greatly in agricultural impacts. The Black Earth Creek South with Highway 14 South would affect the fewest acres in agriculture, fewest acres of cropland, and fewest acres of prime farmland. Black Earth Creek North would affect the most agricultural acres, cropland, and acres of prime farmland.

Table 74: Eastern End, Black Earth Creek Options – Agricultural Land Uses

Agricultural Land Use	Black Earth Creek North (acres)	Black Earth Creek South (acres)	
		Hwy 14 North Option	Hwy 14 South Option
Cropland	13.30	7.08	0.16
Other Agricultural Land	2.39	2.56	1.15
Totals	**15.69**	**9.64**	**1.31**

Table 75: Eastern End, Black Earth Creek Options – Farmland Soils

Farmland Soil Classification	Black Earth Creek North (acres)	Black Earth Creek South (acres)	
		Hwy 14 North Option	Hwy 14 South Option
Prime farmland	5.91	1.25	0.13
Prime farmland if drained	1.88	- -	- -
Prime farmland if protected from flooding	3.69	1.75	- -
Farmland of statewide importance	0.34	3.85	1.18
Not prime	3.87	2.79	- -
Totals	**15.69**	**9.64**	**1.31**

Impacts to Agricultural Property Owners

The various components and options of the Dane County Routing Area could affect 19 agricultural property owners. Numbers of potentially affected landowners are as follows:

- Stagecoach Road Options could affect up to 16 property owners of which 10 are agricultural
- Eastern End Route Part 1 and Part 2 would affect 11 property owners of which 7 are agricultural
- Black Earth Creek Options could affect up to 14 property owners of which 2 are agricultural

The following three tables list the agricultural property owners that would be affected by the various components of the Dane County Routing Area. Those with asterisks before their name would also be affected by off-ROW access roads.

Table 76: Stagecoach Road Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	From Eastern North Route (acres)		From Eastern South Route (acres)	
	Stagecoach Rd North	Stagecoach Rd South	Stagecoach Rd North	Stagecoach Rd South
AESCHBACH, JAMES AND CORINNE	0.19	- -	0.19	- -
BRUNNER, GARY AND KRISTINE	2.84	- -	2.84	- -
CORRELL LIVING TRUST - PAUL AND ANNE-MARIE	- -	2.20	- -	1.98
FESTGE, FREDERICK JR	1.59	- -	1.59	- -
FRALKA, STEVEN AND JEAN	<0.01	0.09	<0.01	0.09
HOLLFELDER TRUST, ROGER H AND LAURA M	0.01	7.05	3.35	6.90
KLOPP, LOUISE	- -	1.63	- -	- -
KRANTZ, GERARD AND ALAN	1.40	- -	1.40	- -
*MEIER, JOHN	0.25	3.03	<0.01	- -
RODENSCHMIT, EDWIN AND WILLIAM	2.00	3.50	- -	- -
WINGRA REAL ESTATE LLC	0.43	5.57	0.43	5.57
ZANDER IRREV CREDIT SHELTER TRUST/ZANDER LIVING TRUST	0.03	- -	0.03	- -
Totals	**8.74**	**23.08**	**9.84**	**14.54**

Table 77: Eastern End Pt. 1 & Pt. 2 Components – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Acres	Agricultural Property Owners	Acres
FESTGE, FREDERICK JR	<0.01	WILLIAM L KAHL LLC	0.50
RIPP, VICKI AND LA VERNE	<0.01	WINGRA REAL ESTATE LLC	1.35
WAGNER, JEROME	6.58	ZANDER IRREV TRUST, LORETTA M	3.04
WAGNER, RICHARD AND LOU ANN	0.18		
		Subtotal	**11.64**

Table 78: Black Earth Creek Options – Potentially Affected Agricultural Landowners

Agricultural Property Owners	Black Earth Creek North (acres)	Black Earth Creek South with Hwy 14 North (acres)	Black Earth Creek South with Hwy 14 South (acres)
WAGNER, JEROME	13.31	8.51	0.18
WILLIAM L KAHL LLC	2.38	1.13	1.13
Totals	**15.69**	**9.64**	**1.31**

Dane County Routing Area Comments

Farm Owner \ Operator: William L. Kahl LLC \ Ziegleu Farms
Potential Impacts by Route (Subsegment)

- 2.9 acres Black Earth Creek North and Eastern End Part 2 (Y06B, Y07)
- 1.6 acres Black Earth Creek South and Eastern End Part 2 (Z01B, Y07)
- 13.9 acres for laydown yard (LY-17)

Several of the Black Earth Creek options would cross land owned by William Kahl LLC. Impacts to this farm is dependent on the route approved for the project. This 61-acre property grows corn on 39 acres and uses 22 acres for a quarry. The owner is concerned about the proximity of the routes to his house and a couple of barns. Some of the buildings appear to be in or very near the ROW. The project could also affect fencing on the property.

Farm Owners \ Operators: Roger H. and Laura M. Hollfelder Trust \ Robert and Rayellen Hollfelder
Potential Impacts by Route (Subsegment)

- 7.1 acres for Stagecoach South from Eastern North Route (X01, X02)
- 3.4 acres for Eastern South Part 4 and Stagecoach North (V04, V05, V06, W03)
- 6.9 acres for Eastern South Part 4 and Stagecoach South (V04, X02)
- <0.1 acre for Stagecoach North from Eastern North Route (W03)

Several of the Eastern End route components would affect land owned by the Hollfelder Trust. Impacts to this farm is dependent on the route approved for the project. The Trust owns 115 acres of land consisting of cropland, pasture, woodland, wetland, and buildings. 70 acres of cropland are rented to grow corn. This farm is covered by the FPP. The routes would cross cropland and woodland on this property. This property is prone to flooding and 30 acres of the farm (Subsegment X02) has 8- to 12-inch clay tiling. The owners are concerned that

transmission line construction could worsen the problem in this part of their property. Construction along Subsegments V04, V05, and V06 (the Preferred Route) would affect their woodland, east of CTH P. The owners would prefer the Applicants' Preferred Route because it follows an existing transmission line and would have fewer new impacts on their land.

Drainage District

Drainage districts are formed to manage excess water from participating lands. Properties along Subsegments Y05, Y06A, Y06B, Y07, Y08, and all of Segment Z crosses parts of the Middleton Drainage District. The district is listed as active but with no record of recent assessment. The following two agricultural landowners are part of this district:

- Jerome Wagner
  - Subsegments Y05 (Eastern End Part 1)
  - Subsegment Y06B (Black Earth Creek North Option)
  - Subsegment Z02 (Black Earth Creek South, Hwy 14 North Option)
- William L Kahl LLC
  - Subsegments Y06B and Y07 (Black Creek North Option)
  - Subsegment Z01B (either Black Earth Creek South option)

DATCP recommends the Applicants work with the county drainage board and the landowners within the drainage district to minimize impacts to surface and subsurface drainage. If drainage patterns are affected by construction activities, the Applicants should take appropriate action to restore the drainage on these fields to pre-construction function.

Summary

Despite the increasing development pressure from the urban centers in this routing area, much of the land crossed by the project is in agriculture. The route using the Stagecoach North and the Black Earth Creek South with Highway 14 South options would affect the fewest agricultural acres.

IX. Applicants' Preferred and Alternate Routes

Route Descriptions

The Applicants have identified a "Preferred Route" and an "Alternate Route".

The Applicants' Preferred Route includes the following segments and subsegments:

- Nelson Dewey Crossing
- Nelson Dewey North Route Option 1 (Subsegments A01A, A01B, A02, A03)
- Western North Route (Subsegments D01-D08, D09A, D10A, D10B)
- South Substation Site (Subsegment L05, Segment N)
- Eastern South Route Part 1 (Segment Q)
- Hwy 18 North (Subsegment S01)
- Eastern South Route Part 2 (Subsegments S04, S05, S08, S09)
- Barneveld South (Subsegments S10A, S10B, S10C, S10D)
- Eastern South Route Part 3 (Subsegments S12, S13)
- Mount Horeb West (Segment T)
- Eastern South Route Part 4 (Segment V)
- Stagecoach North (Subsegment W03 and W04)
- Eastern End Part 1 (Subsegments Y01A, Y01B, Y01C, Y05, Y06A)
- Black Earth Creek South – Hwy 14 North (Subsegments Z02, Z01B)
- Eastern End Part 2 (Subsegments Y07 and Y08)

The Applicants' Alternate Route includes the following segments and subsegments:

- Nelson Dewey Crossing
- Nelson Dewey South Route (Subsegments A01A, C02A, C02B, C04)
- Western South Route Part 1 (Segment E, Subsegments F01 and G01)
- Platteville North (Subsegments F02, F03, G06A)
- Western South Route Part 2 (Subsegments G06B, G08, G09, H01, H02, H03, H06, H07, H09)
- Livingston East (Segment I and Subsegment K01)
- South Substation Site (Subsegments D10A, D10B, D10C and Segments L, N)
- Eastern North Route (Segment P)
- Stagecoach North (Segment W)
- Eastern End Part 1 (Subsegments Y01A, Y01B, Y01C, Y05, Y06A)
- Black Earth Creek North (Subsegment Y06B)
- Eastern End Part 2 (Subsegments Y07 and Y08)

The tables below show that the Applicants' Preferred Route is shorter in length, requires fewer acres of ROW, fewer acres of agricultural properties, and shares more of its ROW with existing corridors than the Applicants' Alternate Route.

Table 79: Applicants' Preferred and Alternate Routes – Acres Affected

Applicants' Route	Length (miles)	ROW (acres)	ROW Acres Shared (percent)	Acres in Agriculture	Percentages In Agriculture
Preferred	87.4	1,576.7	662.9 (42%)	1,067.3	68 %
Alternate	102.7	1,862.0	482.4 (26%)	1,632.3	87%

Table 80: Applicants' Preferred and Alternate Routes – Off-ROW Access Roads

Applicants' Route	Area (acres)	Acres in Agriculture	Percentages in Agriculture
Preferred	146.3	137.6	94%
Alternate	144.8	134.8	93%

Farmland Types and Soils

Figures 7 and 8 show how the two routes compare in agricultural land uses and farmland soils.

Figure 7: Applicants' Preferred and Alternate Routes - Agricultural Land Uses

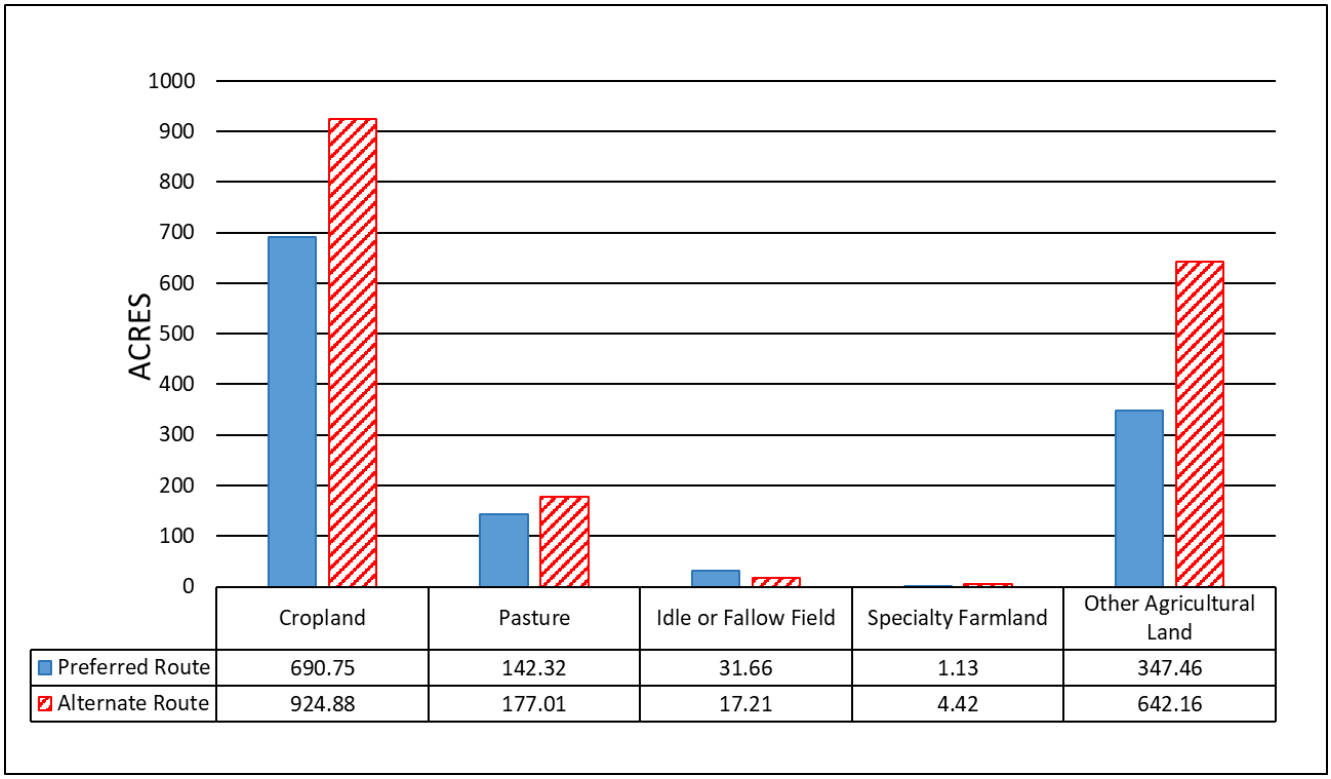
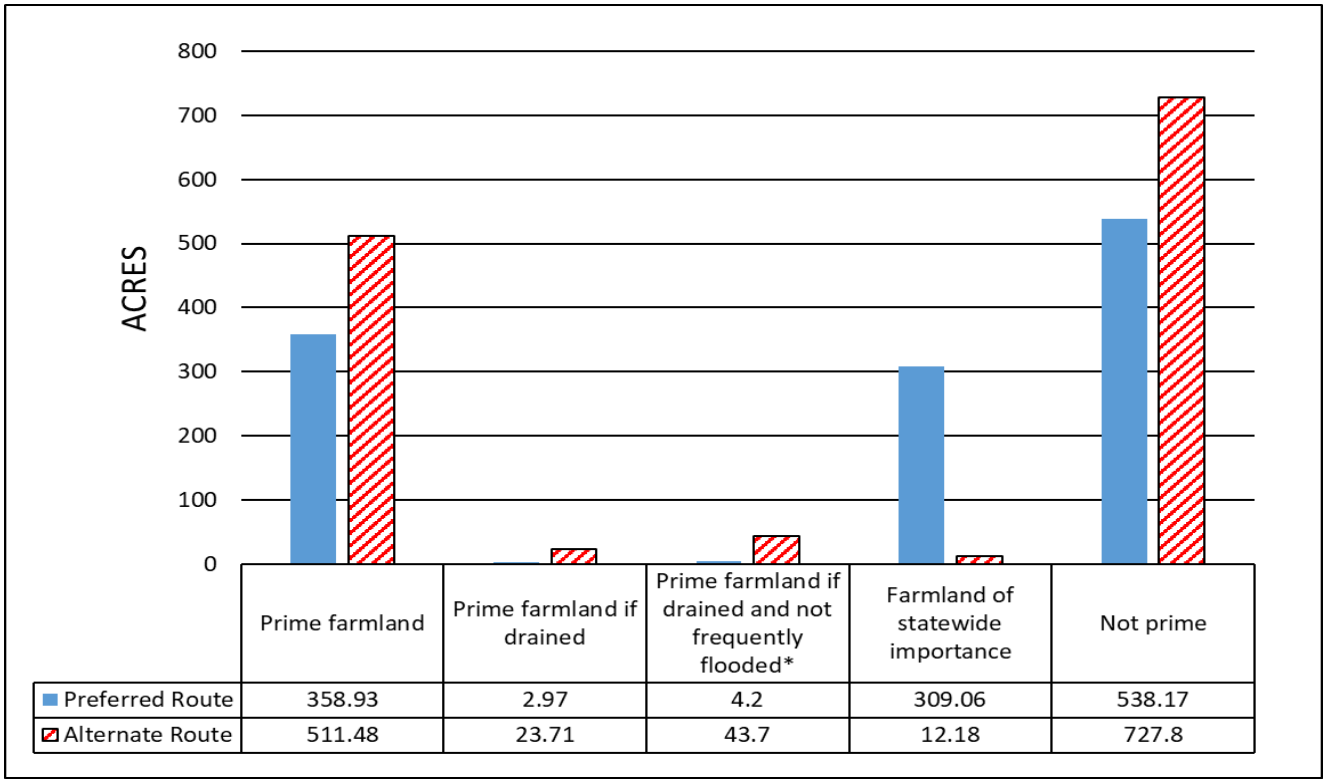


Figure 8: Applicants' Preferred and Alternate Routes - Farmland Soils



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

These figures show that the Applicants' Preferred Route crosses fewer acres of cropland and pasture and fewer acres of prime farmland than the Applicants' Alternate Route. Typically, DATCP recommends considering routes that contain the least amount of new ROW on farmland soils of highest productivity. However, it is important to note that non-prime soils have agricultural production limitations and therefore may be more susceptible to damage from electric line construction.

Affected Agricultural Properties

Both the Applicants' Preferred and Alternate Routes affect a large number of agricultural property owners. Between 77 and 78 percent of the affected property owners are agricultural landowners for both routes. However, the Applicants' Preferred Route is shorter and affects fewer agricultural landowners.

Table 81: Number of Affected Property Owners

Applicants' Route	Length (miles)	Number of Affected Property Owners	Number of Affected Agricultural Property Owners
Preferred	87.4	355	272
Alternate	102.7	408	319

NOTE: This table includes acres required for off-ROW access roads.

Comments along with other public sources indicated that a number of property owners have organic farms, land enrolled in conservation programs, and land enrolled in the MFL program along both routes.

Table 82: Landowners with Organic Farms or with Land Enrolled in Conservation or MFL Programs

Applicants' Route	Organic Farms*	Agricultural Property Owners with Land Enrolled in Conservation Program**	Agricultural Property Owners with Land Enrolled in MFL Program
Preferred	7	19	7
Alternate	12	14	33

* Organic Farms include farms with organic practices, certified organic, or those working towards an organic certification.
**Conservation Programs include CRP, CREP, and CSP

Not all agricultural landowners who may have land enrolled in conservation or the MFL programs will have land within the proposed construction area. Also there may be additional agricultural landowners whose enrollment in these programs may be affected by the project. However there appears to be more organic farms and farmers with land enrolled in the MFL program that would be affected the Applicants' Alternate Route. More agricultural property owners with land enrolled in one or more conservation programs would be affected by the Applicants' Preferred Route.

X. AGRICULTURAL SETTINGS

The following information is intended to describe the existing agricultural sector for Grant, Lafayette, Iowa, and Dane Counties in general terms and to aid agricultural property owners in their easement negotiations with the Applicants. The majority of the data provided in this section was obtained from the USDA, NASS.

Agricultural Productivity

The southwest Wisconsin landscape and agriculture is diverse. The landscape ranges from river valleys and ridges in the Driftless Area, which covers most of southwest Wisconsin, to the rolling hills and broad flat areas of the glaciated area in the far eastern part of the project area. The project area has large conventional grain producers, as well as organic operations. It also has a range of livestock production.

The four potentially affected counties are all top agricultural producers in the state. High yields and a large number of acres are planted in corn every year. For 2017, Dane, Grant, and Lafayette counties were in the top 5 Wisconsin counties for acres of harvested corn for grain. Dane County harvested the most corn for grain in the state, Grant County was third, and Lafayette County was fourth in the state. Dane and Grant counties had average yields of about 190 bushels of corn per acre with Iowa County producing 206 bushels per acre, well in excess of U.S. average yields. In the same year, Dane and Grant counties ranked second and sixth in the state, respectively, for the number of acres of corn for silage harvested. Each county produced more than 400 thousand tons of corn for silage.

For soybeans, Dane and Iowa counties ranked second and third, respectively, in the number of acres harvested with each county producing more than 4 million bushels of soybeans in 2017. Additionally, Grant County was ranked first, Iowa County fifth, and Dane County sixth in the state for acres of alfalfa hay harvested. There was no published alfalfa hay data for Lafayette County in 2017, but in 2016, the county was ranked eighth in the state. All four counties typically produce more than 70 thousand tons of hay each year with Grant County producing almost 120 thousand tons in 2017. While southwest Wisconsin is not a large producer of winter wheat, Dane County was ranked second in acres harvested in the state producing about 768 thousand bushels in 2017.

Table 83 shows the acres harvested for major crops in each of the four counties, from 2013 through 2017. Over this five-year period, the number of acres harvested for the listed crops fluctuate but showed no consistent trend across the various commodities. The number of acres of corn for grain declined in all four counties, though there were fluctuations in some years. Over the same period, corn for silage increased for Grant County and Iowa County but decreased in Dane and Lafayette. In all four counties, the number of acres of soybeans harvested increased. The acres of alfalfa hay dramatically decreased in Dane, Grant, and Iowa counties. However,

alfalfa hay increased in Lafayette County. Acres of winter wheat also declined in all four counties, over the five-year period.

Table 83: Acres of Selected Crops from 2013 to 2017

County	Harvested Acres				
	2013	2014	2015	2016	2017
Corn for Grain					
Dane County	167,900	177,700	144,500	176,500	157,300
Grant County	147,400	143,200	141,000	135,400	132,800
Iowa County	68,100	68,900	61,300	61,100	67,200
Lafayette County	131,200	129,000	112,500	123,900	124,700
Corn for Silage					
Dane County	NA	NA	45,600	NA	33,700
Grant County	24,000	21,100	24,600	27,600	26,800
Iowa County	NA	11,200	16,000	13,800	Na
Lafayette County	NA	12,600	NA	NA	12,100
Soybeans					
Dane County	74,400	78,800	85,000	80,800	86,800
Grant County	58,700	66,200	66,000	62,500	73,400
Iowa County	32,100	38,500	40,000	41,000	49,000
Lafayette County	43,000	53,200	58,800	56,900	59,300
Alfalfa Hay					
Dane County	34,600	34,900	26,600	25,200	24,300
Grant County	51,600	53,900	49,600	42,200	33,300
Iowa County	31,400	35,600	36,100	29,700	18,000
Lafayette County	23,900	29,700	36,700	26,000	NA
Winter Wheat					
Dane County	16,200	14,000	14,500	13,600	9,230
Grant County	3,310	4,170	NA	NA	2,000
Iowa County	3,230	4,290	4,000	2,120	1,470
Lafayette County	5,500	3,670	3,300	NA	NA

* NA = data not published

Another important commodity produced in this region is milk. In 2017, Dane County ranked fourth, Grant County ranked tenth, and Lafayette County ranked fifteenth in milk production in the state. In 2017, all four potentially affected counties produced more than 3.5 billion pounds of milk, amounting to more than 11.5 percent of all the milk produced in the state.

Table 84 shows the production of milk in each of the project area counties from 2013 through 2017. Dane county saw a continual increase in the amount of milk produced while the other counties saw production fluctuate over the same period but trended upward.

Table 84: Milk Productions from 2013 through 2017 (1,000 lbs.)

County	2013	2014	2015	2016	2017
Dane County	1,255,000	1,351,500	1,446,500	1,507,000	1,512,500
Grant County	933,800	904,500	910,800	946,000	948,300
Iowa County	409,500	407,250	416,250	441,000	445,500
Lafayette County	601,400	594,750	600,850	634,400	640,500

Land in Agriculture

Dane County is classified as an urban county, which is defined as a county having 100 or more residents per square mile. The remaining three counties, Grant, Iowa, and Lafayette are classified as rural counties having less than 100 residents per square mile.

Table 85: 2018 Population Density Estimates

County/Region	Population	Area (square miles)	Population per Square Mile
Dane County	530,519	1,202	441
Grant County	52,615	1,148	46
Iowa County	23,867	763	31
Lafayette County	17,010	634	27
Wisconsin	5,816,231	53,952	108

According to the USDA NASS 2017 Census of Agriculture, all four counties are over 65 percent farmland with Grant and Lafayette over 80 percent farmland. The project area is more intensively farmed than the state-wide average of 42 percent of land in farms. Agricultural land uses include woodland, wetland, and other uses not actually under cultivation or used for pasture or grazing.

Table 86: Percent Change in Acres in Farms, 1997 to 2017

Location	1997	2002	2007	2012	2017	Percent Change
Dane County	512,971	515,475	535,756	504,420	506,688	**-1.2%**
Grant County	599,617	605,836	610,914	587,587	600,324	+0.1%
Iowa County	366,709	367,373	364,970	350,813	360,134	**-1.8%**
Lafayette County	338,376	342,800	342,617	368,501	342,518	+1.2%
Wisconsin	14,900,205	15,741,552	15,190,804	14,568,926	14,318,630	**-3.9%**

NOTE: 2017 USDA data is anticipated to be available for the final AIS

The amount of land in farms for all four counties Dane, Grant, Iowa, and Lafayette modestly fluctuated over the 20-year period. The acres generally increased from 1997 to 2007. Then in 2012 there was a slight downturn which partially rebounded in 2017. Only Lafayette County experienced an increase in 2012 before returning to 2007 levels in 2017. This is in contrast to the state as a whole which steadily lost land devoted to farming throughout the 20-year period. Decreases in farmland is likely due to the conversion of farmland for residential and commercial

development. Increase in land in farms such as in Lafayette County could be in part due to the conversion of marginal land into production.

Number and Size of Farms

Table 87: Number of Farms between 1997 and 2017

Location	Farms 1997	Farms 2012	Farms 2017	Change in the Number of Farms	Percent Change
Dane County	2,595	2,749	2,566	-29	-1.1%
Grant County	2,238	2,436	2,482	+244	+10.9%
Iowa County	1,394	1,588	1,576	+182	+13.1%
Lafayette County	1,127	1,252	1,327	+200	+17.7%
Wisconsin	65,602	69,754	64,793	-809	-1.2%

NOTE: 2017 USDA data is anticipated to be available for the final AIS

From 1997 to 2017, the number of farms decreased by about 1 percent in the state and for Dane County. In each of the other three counties, Grant, Iowa, and Lafayette, the number of farms dramatically increased over the same 20-year period. These changes are also reflected in distribution of farm size for the counties and the state. The number of farms smaller than 50 acres significantly increased for all four counties and the state over the same period. Farms of this size tend to be specialty farms that produce high-value crops and livestock. The number of mid-sized farms (between 50 and 499 acres) decreased for the entire region and the state. While the number of farms 500 acres or more increased in Dane County and the state but trended downward for the other three affected counties, Grant, Iowa and Lafayette.

Table 88: Farm Size Distributions

Location	Year	0 to 49 Acres		50 to 179 Acres		180 to 499 Acres		More than 500 Acres	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Dane County	1997	782	30.1%	948	36.5%	655	25.3%	210	8.1%
	2012	1,181	43.0%	875	31.8%	479	17.4%	214	7.8%
	2017	1,139	44.4%	763	29.7%	438	17.1%	226	8.8%
Grant County	1997	307	13.7%	681	30.4%	982	43.9%	268	12.0%
	2012	624	25.6%	836	34.3%	715	29.4%	261	10.7%
	2017	626	43.8%	382	26.8%	279	19.5%	141	9.9%
Iowa County	1997	196	14.1%	468	33.6%	568	40.7%	162	11.6%
	2012	409	25.8%	589	37.1%	432	27.2%	158	10.0%
	2017	466	28.3%	561	35.6%	403	25.6%	106	10.5%
Lafayette County	1997	180	16.0%	314	27.8%	473	42.0%	160	14.2%
	2012	362	28.9%	396	31.6%	330	26.4%	164	13.1%
	2017	524	39.5%	345	26.0%	297	22.4%	161	12.1%
Wisconsin	1997	12,815	19.5%	24,546	37.4%	22,228	33.9%	6,013	9.2%
	2012	22,428	32.2%	25,502	36.6%	15,688	22.5%	6,136	8.8%
	2017	22,842	35.3%	21,254	32.8%	14,177	21.9%	6,520	10.1%

Property Taxes and Values

Table 89 details the 2017 average property tax, assessed value, and sale price per acre of agricultural land in each of the four project area counties, urban counties, rural 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 loans. High values make farm expansions more expensive. Sale price data does not include farmland sold and converted to nonfarm use nor farmland with buildings or improvements.

Table 89: Farmland Taxes and Values

Location	2017 Dollars per Acre of Farmland		
	Average Tax	Assessed Value*	Sale Value
Dane County	$4.05	$242	$8,458
Urban Counties	**$3.49**	**$207**	**$7,046**
Grant County	$3.47	$173	$5,662
Iowa County	$3.18	$158	$4,794
Lafayette County	$4.50	$332	$6,614
Rural Counties	**$3.00**	**$161**	**$4,034**
Wisconsin	**$3.43**	**$175**	**$4,960**

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.

Dane County's per-acre average tax, assessed value, and sale value of farmland were all higher than the average urban county values and the average values for Wisconsin. Except for Iowa County's assessed value, the average per-acre taxes, assessed values, and sale values of farmland in the three rural counties were higher than the averages for rural counties.

XI. Construction Process

If the project is approved by the PSC, construction on the new electric line will begin after the Applicants have secured most necessary permits and ROW easements. To ensure that the company has a complete and intact route, the Applicants will attempt to conclude most negotiations with landowners 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, 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. Generally, rubber-tired or tracked drill rigs are used, and incidental matting and restoration may be needed. 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.

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.

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 dimeter 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 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.

After the clearing is completed, side trimming the ROW occurs. Then, a final mowing of debris and stump cleanup is completed. If the landowner gives permission, stumps of tall-growing species will be treated with an herbicide.

Vegetation from some trees can be toxic to livestock. A more detailed discussion of this issue is included in Chapter XII 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, where requested by the landowner. Any such gate will be left in place at the landowner's request (Wis. Stat. §182.017(7)(c)5.).

Erosion Control Installations

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). Erosion control BMPs are implemented prior to anticipated ground disturbance and immediately after unexpected disturbance occurs.

Laydown Yards

Activities to prepare laydown yards include installing erosion control measures, leveling uneven surfaces, stripping and stockpiling topsoil if necessary, and installing gravel, tracking pads near entry/exit if needed, culvert(s), power, and fencing. A bulldozer and dump trucks are generally used. After construction is completed or the laydown yards are no longer needed, they may be left in place or returned to prior conditions, depending on landowner preferences. Electric

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

Construction Matting

Construction matting is effectively used for a number of purposes. Mats should be used when soils are wet to limit compaction, rutting, and soil disturbances. Matting is also used to limit the impacts to wetlands. Mats can be used to protect organic farming practices and organic soils. Sometimes a barrier of geotextile fabric is overlain by mats to provide an effective barrier between work activities and the underlying soil and plants. However, if mats are used in an organic farm, the mats should be new and not treated with preservatives. Lumber treated with arsenic and creosote should never be used in organic farms. If the mats are used, the should be power washed prior to use so they are clean and free of all foreign non-organic substances. Mats are sometimes used to impede the spread of invasive species. Construction matting may consist of timber, composite or hybrid timber mats. Trucks, forwarders, forklifts, or skid loaders are used to install the mats. Permitted temporary clear span bridges (TCSBs) will be installed over waterways. Matting is removed when construction vehicle access is no longer required along the ROW. Mat removal is done before restoration.

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. Some temporary access roads will cross agricultural fields. 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 may be restored to its original condition, or the access road may be left in place if required by the utility for maintenance or at the request of the landowner.

Auguring and Blasting

Auguring or excavation is required for all structures. In most soils, the excavation for the transmission structure can be augured using a standard drill 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. The Applicants have not identified a procedure for blasting but generally, 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 excavation 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, or removing the water from the site with a tank truck. Water that is pumped to an upland area is first pumped into filter bags to limit the silt that is discharged.

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 dump trucks, drill rigs, cranes, vacuum trucks, tanker trucks, and concrete trucks.

A drill rig is used for excavating the necessary hole for the structure. Once the base of the structure is placed into the excavated hole, clean granular fill or concrete is used to backfill the area around the pole.

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 one to two feet of foundation above the surface. The complete caisson is allowed to cure.

Temporary stockpiles of excavated soils and woody debris resulting from ROW clearing and construction will be created throughout the course of construction. 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 and bucket 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 a bucket truck, crane, or helicopter. Wire set-up areas containing reel trailers, wire pullers, and related equipment are located at each end of the wire pull.

Removal of Existing Facilities

Where existing transmission lines are replaced, the existing structures and wire will be removed. Typical equipment used includes cranes, bucket trucks, reel trailers, wirepullers, and related stringing equipment. When removing existing structures, it is common practice to remove the structure to depth of at least 4 feet below grade; however, in some cases the structure may be cut off at grade, depending on the type of structure to be removed, land use, and construction vehicle access constraints.

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 or mat debris, 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. Any necessary seedbed preparation and seeding is performed along with BMPs. Typical equipment used includes mat trucks, bobcats, pick-up trucks, and other light vehicles.

Any stockpiled topsoils and subsoils are appropriately distributed or removed. 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.

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.

Laydown yards are cleaned up and repaired. All items such as trailers, security fencing, dumpsters, tools, and other materials are removed. Based on landowner's wishes, any improvements may be left or the land may be graded and returned to pre-construction function.

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.

Ongoing Vegetation Management

Each transmission owner has the discretion to choose vegetation management within the ROW. The type of vegetation allowed to grow in the ROW and the utility's right to manage the vegetation is written into the easement. The two owners of this project (ITC and ATC) may operate and maintain the ROWs differently, after construction and restoration are completed.

In general, the goal of ROW restoration is to establish a sustainable ROW consisting of compatible vegetation. Trees along the ROW edge will need to be trimmed or removed from time to time. The utility may decide to remove trees outside of the easement area if they are tall enough to impact the facilities and are deemed to be "danger trees" because they are dead, dying, diseased, leaning, or compromised.

Depending on site conditions, the Applicants will manage vegetation on a 3 to 5-year cycle using control methods including chainsaws, mowers, and other specialized vegetation management

equipment such as aerial saws, and herbicides. Herbicide use across pasture lands and croplands can affect grazing farm animals. To avoid adverse impacts, applicators should review the herbicide label for specific information regarding grazing tolerances. Landowners with grazing farm animals should be clearly notified regarding the use of the specific herbicide and any grazing restrictions. Farms with organic practices within the ROW and adjacent to the ROW may also be affected by herbicide drift. Herbicides can only be used on the ROW with written approval from the landowner (Wis. Stat. §182.017(7)(d)).

XII. Potential 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 topsoil within the ROW. While soil mixing can occur during wet or dry conditions, soil structure can be more easily affected during wet conditions. For that reason, 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, even 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 or deep tilling 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 topsoil 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 require 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 should 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 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 locus 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. Used mats can carry non-organic substances onto the farm and often wood products are treated with chemicals such as arsenic and creosote which is a contaminant for organic farms.

Mitigation Measures

Care must be taken by the utility and their contractors where construction crosses farmland that is following organic practices. Organic topsoil 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. Construction vehicles should cleaned prior to entering organic farm parcels. No refueling or lubrication should be performed on these farms, even if matting is used. Any oil or fuel spill on these farms could prevent or remove the certification of the farm.

Mats used on organic farms, should be new and if wood, untreated with no preservatives. Using wood products that are treated with chemicals such as arsenic or creosote should never be used on an organic farm. If used mats are used, they should be power washed so they are clean and free of all foreign non-organic substances.

DATCP recommends that landowners with organic certifications and those working towards organic certification discuss the range and type of substances that 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. Sometimes 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

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

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 power lines, 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.

XIII. Mailing List

State Government

NAME	GOVERNMENT BRANCH
TONY EVERS	STATE OF WISCONSIN GOVERNOR
REPRESENTATIVE GARY TAUCHEN	COMMITTEE ON AGRICULTURE, CHAIR
SENATOR HOWARD L MARKLEIN	COMMITTEE ON AGRICULTURE, REVENUE AND FINANCIAL INSTITUTIONS, CHAIR
	WISCONSIN DOCUMENT DEPOSITORY PROGRAM
	THE LIBRARY OF CONGRESS STATE DOCUMENTS SECTION

City, Village, and Town Clerks

NAME	GOVERNMENT
CATHY ACKER	TOWN OF ARENA CLERK
MICHELLE WALKER	VILLAGE OF BARNEVELD CLERK/TREAS.
SHARON BONTREGER	TOWN OF BEETOWN CLERK
SUSAN SLOTTEN	TOWN OF BELMONT CLERK
CURT WINTER	TOWN OF BLUE MOUNDS DEPUTY CLERK
MARY JO MICHEK	VILLAGE OF BLUE MOUNDS CLERK
AUDREY RUE	TOWN OF BRIGHAM CLERK/TREAS.
ELIZABETH WIEST	TOWN OF CASSVILLE CLERK
JEN SCHMITZ	VILLAGE OF CASSVILLE CLERK/TREAS.
SHELLY OSTERNDORFF	TOWN OF CLIFTON CLERK
LORI BREIWA	VILLAGE OF COBB CLERK/TREAS.
NANCY MEINHOLZ	TOWN OF CROSS PLAINS CLERK
LISA RILEY	CITY OF DODGEVILLE CLERK
SARA OLSON	TOWN OF DODGEVILLE CLERK/TREAS.
ANDREW BISHOP	TOWN OF EDEN CLERK
NEENA SIMMONS	TOWN OF ELK GROVE CLERK
KARLA SCHWANTES	TOWN OF ELLENBORO CLERK
BARB BROGLEY	TOWN OF HARRISON CLERK
LOIS NANKEE	TOWN OF HIGHLAND CLERK

NAME	GOVERNMENT
LAURA MAIER	TOWN OF LIBERTY CLERK
TAMMY RUPP	TOWN OF LINDEN CLERK
CHRISTINA CHRISTIANSON	VILLAGE OF LIVINGSTON CLERK/TREAS.
HAILEY ROESSLER	TOWN OF MIDDLETON CLERK
TAMMY MCFALL	TOWN OF MIFFLIN CLERK
SHELLY KAZDA	VILLAGE OF MONTFORT CLERK/TREAS.
ALYSSA GROSS	VILLAGE OF MOUNT HOREB CLERK
CANDACE KOCH	CITY OF PLATTEVILLE CLERK
JAMES LORY	TOWN OF PLATTEVILLE CLERK
TERRI LANGMEIER	TOWN OF POTOSI CLERK
DEANN SIPPOLA	VILLAGE OF REWEY CLERK
NANCY PARKOS	TOWN OF RIDGEWAY CLERK
LORI PHELAN	VILLAGE OF RIDGEWAY CLERK/TREAS.
RITA ZENZ	TOWN OF SOUTH LANCASTER CLERK
SUSAN SEVERSON	TOWN OF SPRINGDALE CLERK
CHRIS CHRISTIAN	TOWN OF VERMONT CLERK
DARLENE SCHAUFF	TOWN OF WATERLOO CLERK
MARLYS HELMICH	TOWN OF WINGVILLE CLERK/TREAS.
MARY LLOYD-JONES	TOWN OF WYOMING CLERK

Counties

NAME	GOVERNMENT BRANCH
SCOTT MCDONELL	DANE COUNTY CLERK
AMY PIAGET	DANE COUNTY CONSERVATIONIST
HEIDI JOHNSON	UW-EXTENSION DANE COUNTY
SCOTT RINGLESTETTER	CHAIR DANE COUNTY DRAINAGE BOARD
LINDA GEBHARD	GRANT COUNTY CLERK
KEVIN LANGE	GRANT COUNTY CONSERVATIONIST
AMANDA CAUFFMAN	UW-EXTENSION GRANT COUNTY

NAME	GOVERNMENT BRANCH
GREG KLUSENDORF	IOWA COUNTY CLERK
KATIE ABOTT	IOWA COUNTY CONSERVATIONIST
GENE SCHRIEFER	UW-EXTENSION IOWA COUNTY
CARLA JACOBSON	LAFAYETTE COUNTY CLERK
TERRY LOEFELHOLZ	LAFAYETTE COUNTY CONSERVATIONIST
JOSH KAMPS	UW-EXTENSION LAFAYETTE COUNTY

Libraries

NAME	LIBRARY
BETTY SCHAMBOW, DIR.	ALLEN-DIETZMAN PUBLIC LIBRARY
ALEX LECLAIR DIR.	BARNEVELD PUBLIC LIBRARY
CAROLYN SHAFFER DIR.	BLACK EARTH PUBLIC LIBRARY
KATHY ATKINS DIR.	BLOOMINGTON PUBLIC LIBRARY
LINDA GARD DIR.	COBB PUBLIC LIBRARY
VICTORIA STANGEL DIR.	DODGEVILLE PUBLIC LIBRARY
TRUDIE FREYMILLER DIR.	DWIGHT T PARKER PUBLIC LIBRARY
SUSAN UPPENA DIR.	ECKSTEIN MEMORIAL LIBRARY
SYLVIA HENRY DIR.	JOHN TURGESON PUBLIC LIBRARY
ALYSSA TREVORROW DIR.	LONE ROCK COMMUNITY LIBRARY

NAME	LIBRARY
JOCELYNE SANSING DIR.	MIDDLETON PUBLIC LIBRARY
BARBARA POLIZZI DIR.	MINERAL POINT PUBLIC LIBRARY
MARCIE SCHOLZE DIR.	MONTFORT PUBLIC LIBRARY
JESSICA WILLIAMS DIR.	MOUNT HOREB PUBLIC LIBRARY
JESSAMYN LEE-JONES DIR.	PLATTEVILLE PUBLIC LIBRARY
PAMELA BOSBEN DIR.	ROSEMARY GARFOOT PUBLIC LIBRARY
JENNIFER BERNETZKE DIR.	SCHREINER MEMORIAL LIBRARY
MARC GARTLERR	SOUTH CENTRAL LIB. SYS. ALICIA ASHMAN BR.
JUDY SCHAEFER	SOUTHWEST WIS. LIBRARY SYS. POTOSI BR.
CARRIE PORTZ DIR.	SPRING GREEN COMMUNITY LIBRARY

Landowners and Interested Parties

ATTENTION	NAME
	AARON AND KAREN CARLOCK
ANDERSON PHARMS-LLC/CMJA LLC	ANDERSON RESIDENCE
	BARBARA POWELL
	BETHEL HORIZONS FOUNDATION INC
	BETSY D'ANGELO
	BETTIE MARTIN
	BEVERLY ZIMMERMAN
	BIDDICK INC
	BRENT WIEST
C R BISHOP AND SONS INC	TWIN CREEKS ENTERPRISES LLC
	CARL AND ELIZABETH ABING
	CAROL THOMAS
	CHARLES JINKINS
	DANIEL ADAMS
	DANIEL & ELISABETH AND RALPH SPRINGER
	DANIEL AND JUDITH BUTTERIS
	DANIEL AND LYNETTE MIESS
	DANIEL HELMUTH JR AND IVA HELMUTH
STANFIELD LIVING TRUST	DAVID AND SANDIE STANFIELD
DALO DEVELOPERS LLC	DAVID FORSETH
	DEANE AND NANCY THOMAS
	DEWEY BARRETT
	DOLAN, WILLIAM AND ROSE CENITE
	DONALD AND LARRY FESENFELD
	DOUGLAS AND JENNIFER ADRIAN
	DOUGLAS GURAK AND MARY KRITZ
	ELAM AND BARBARA BUTTLES
	ELMER AND ANNA BEILER
	EVELYN L MUELLER REV TRUST
	FAMA RULE
	GARY AND SUZANNE KIRSCHBAUM
	GENE N SMITH LIVING TRUST
	GEORGE M AND PATSY R LAUFENBERG REV TRUST
	GERALD AND PATRICIA FEIST
	GERALD FOLKS
PROGRESS PLUS LLC	GERALD WEISS
CLARIS SCHURZ	GUY L SCHURZ
DARYL LEE RUNDE/COULTHARD FAM FARM INC	HAROLD J AND DALE E COULTHARD
	HENNESSEY PROPERTIES LP/LORRAINE HENNESSEY LLC
	JAMES AND JOYCE HINRICHS
	JAMES HARMS
	JAMES SENDECKE
ELIZABETH JANE BARBER TRUST	JANET HOOPES
	JEAN PROCHASKA
	JEFF AND RENEE THOMAS
	JOHN OXNEM
CHARLES MUELLER TRUST	JOHNSON BLOCK AND COMPANY INC
URNESS HOMESTEAD LLC	JON AND JUDITH URNESS
	JOSEPH AND JUDITH SCHWARZMANN
ZENZ FARMS LLC	JOSEPH ZENZ
BELLMEYER REVOCABLE TR.	JUDY BELLMEYER

ATTENTION	NAME
	KENNETH A NEHLS
	KENNETH HOWE AND JAMIE PLOESSL-HOWE
MIESS ORGANIC FARM LLC	KEVIN AND SHERRY MIESS
	KEVIN CLAUER
	LARRY AND KAY DAMMEN
	LARRY J KLAAS AND SHERRY J KLAAS IRREVOCABLE TRUST
OXNEM ACRES LLC	LEE AND JOHN OXNEM
	LEE OXNEM
	LESLIE AND LINDA EVANS
	MARILYN POWELL
	MARK SUKOWATY
	MARY ZIMMERMAN AND NICOLE CORNISH
	MELISSA MRAVEC
DODGE VIEW FARMS INC	MEUDT BROTHERS
	MICHAEL AND JUDITH RILEY
BARTH ID FARM LLC/ BARTH JG FARM LLC	MICHAEL BARTH
	MILLIN RESIDENCE
	MITCHELL ALEXANDER AND AMY MIESS
	MOORE RESIDENCE
	MT HOREB UNION HIGH SCHOOL DIST
	PAILING FAMILY ENTERPRISES LLC
	PAM LIEGEL
	PATRICK AND KAREN SCHROEDER
	PATRICK AND WENDY UDELHOFEN
TO-WAY ACRES LLC	PAULA RIDER
	PIGEON CREEK LAND LLC
	PRESTON AND VIRGINIA REYNOLDS
	QUINTIN AND LORI GREENE
JORDAN TIMBERLAND LTD PT	RACHEL L JORDAN
	RANDALL AND RONALD HAMPTON
	RANDY DOCKEN
	RICHARD AND JOANN LAUFENBERG
TROUT CREEK FARMS LLC	RICKIE AND JUDY ANDERSON
	ROBERT AND JOAN BOOK
FORBESS FAMILY TRUST	ROBERT FORBESS
	ROBERT L AND RAYELLEN M HOLLFELDER TRUST
	ROGER H AND LAURA M HOLLFELDER TRUST
STAR OAK FARMS	RONALD AND JUDY IVERSON
	ROY BETTNER
	SCOTT FARM ENTERPRISES INC
	STEPHEN AND KORENA ESSER
	SUTTER REV TRUST
TAMMY HARMS-MYERS	SOUTHWEST EQUESTRIAN CENTER LLC
LEIX FARMS INC	TIMOTHY AND DONALD AND CYNTHIA LEIX
	TOAD VALLEY LLC
KLAAS PINE KNOB FARMS LIMITED PARTNERSHIP	TODD KLAAS
	TOLCH LIVING TRUST
	TWO SISTERS PROPERTIES LLC
	VOSBERG FRANCIS L FARMS LLC
WEPKING CARSON TRUST	WEPKING FARMS PARTNERSHIP
	WILLIAM (CHESS) AND KATHRYN ADAMS

ATTENTION	NAME
	JUNE POWELL
STEVEN J KALSCHEUR TRUST	KALSCHEUR ENTERPRISES LLC/ KALSCHEUR RENTALS LTD PARTNERSHIP
BELLMEYER REVOCABLE TR.	JUDY BELLMEYER
LAUREL QUALY	NRCS

ATTENTION	NAME
STANSMORE AND FERNE KEENEY	WILLIAM AND CHERYL KEENEY
	WILLIAM L KAHL LLC
DIRECTOR CHARLES STEINER	PIONEER FARM – UNIVERSITY OF WISCONSIN PLATTEVILLE
LORI HORNBECK	AMERICAN TRANSMISSION COMPANY LLC

Newspapers

NEWSPAPER	NEWSPAPER	NEWSPAPER	NEWSPAPER
WISCONSIN STATE FARMER.	WISCONSIN STATE JOURNAL	COUNTRY TODAY	AGRI-VIEW
PLATTEVILLE JOURNAL	MOUNT HOREB MAIL	THE DODGEVILLE CHRONICLE	

APPENDIX A: ACRONYMS

AIS	Agricultural Impact Statement
ACOE	Army Corps of Engineers
AEA	Agricultural Enterprise Area
ATC	American Transmission Company LLC
BMP	Best Management Practices
CMP	Construction Mitigation Plan
CPCN	Certificate of Public Convenience and Necessity
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CSP	Conservation Stewardship Program
CTH	County Trunk Highway
DATCP	Department of Agriculture, Trade, and Consumer Protection
DPC	Dairyland Power Cooperative
EIS	Environmental Impact Statement
FPP	Farmland Preservation Program
IAM	Independent Agricultural Monitor
IEM	Independent Environmental Monitor
ITC	ITC Midwest LLC
IUB	Iowa Utilities Board
kV	Kilovolt
MFL	Managed Forest Law
NASS	National Agricultural Statistics Service
NRCS	Natural Resources Conservation Service
PSC	Public Service Commission of Wisconsin
ROD	Record of Decision
ROW	Right-of-Way
RUS	Rural Utilities Service
STH	State Trunk Highway
WDNR	Wisconsin Department of Natural Resources
Wis. Stat.	Wisconsin Statute
Wis. Admin. Code	Wisconsin Administrative Code
WP&L	Wisconsin Power and Light
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USH	U.S. Highway

APPENDIX B: DATCP STATUTES FOR AGRICULTURAL IMPACT STATEMENTS

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.

Wis. Stat. §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; publicatio*n. 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.

APPENDIX C: LANDOWNERS' STATUARY RIGHTS

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 topsoil 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.

APPENDIX D: ADDITIONAL INFORMATION SOURCES

DATCP (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)

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 Wis. Stat. §32.06 (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)

- PSC project webpage for Cardinal-Hickory Creek: 5-CE-146
- 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)

- 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)

- Energy and utility projects
- Managed Forest Law

U.S. Department of Agriculture (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)

- Look-up for state certification status of different types of real estate appraisers

State Bar of Wisconsin (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/)

APPENDIX E: GENERAL TRANSMISSION STRUCTURE DIAGRAMS AND ROW DIMENSIONS

The following figures are based on the illustrations submitted by the Applicants. They are not to scale. The figures represent some of the anticipated typical range of electric structures and ROW dimensions that may occur along the project. After the route has been chosen, the Applicants will conduct final engineering for the route. Final engineering may require slightly different structure dimensions and ROW configurations. Specific structure drawings proposed for each route subsegment can be found in the project Application, Appendix G, Exhibit 1 (PSC ERF #353622).

Figure E1: A Typical 345kV/138kV Double-Circuit Transmission Structure

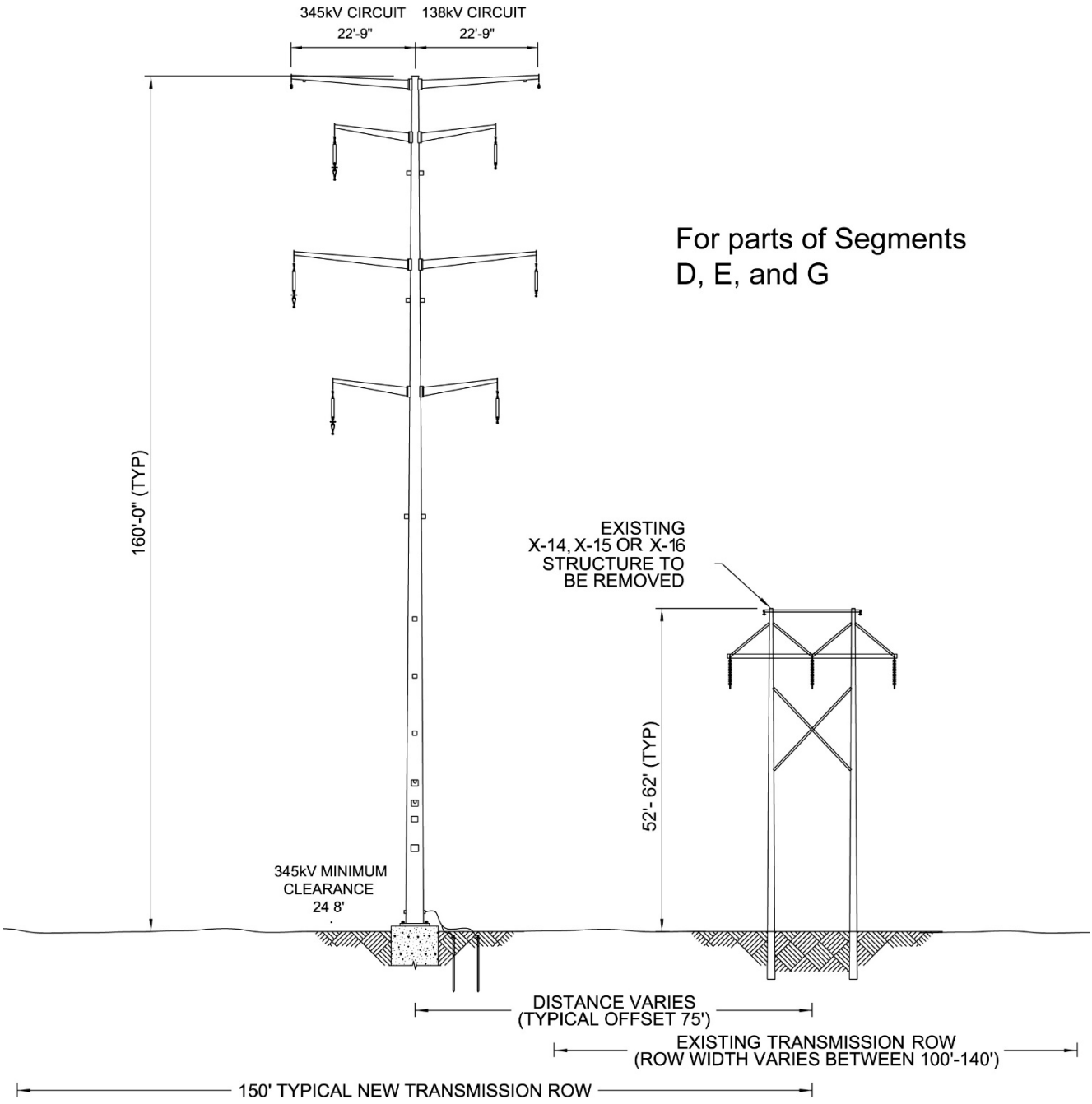


Figure E2: A Typical 345kV Single-Circuit Transmission Structure

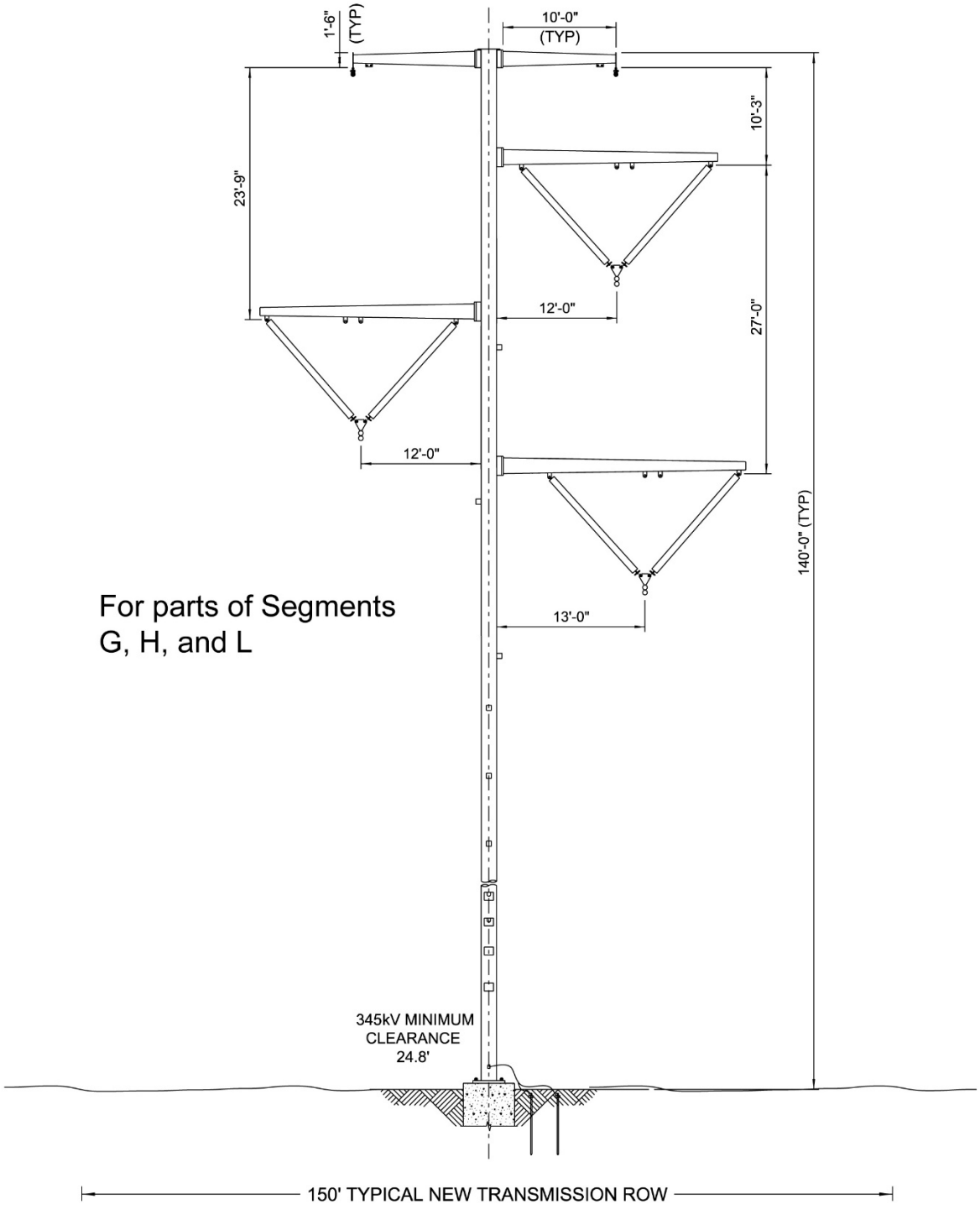


Figure E3: A Typical 345kV/69kV Double-Circuit Transmission Structure

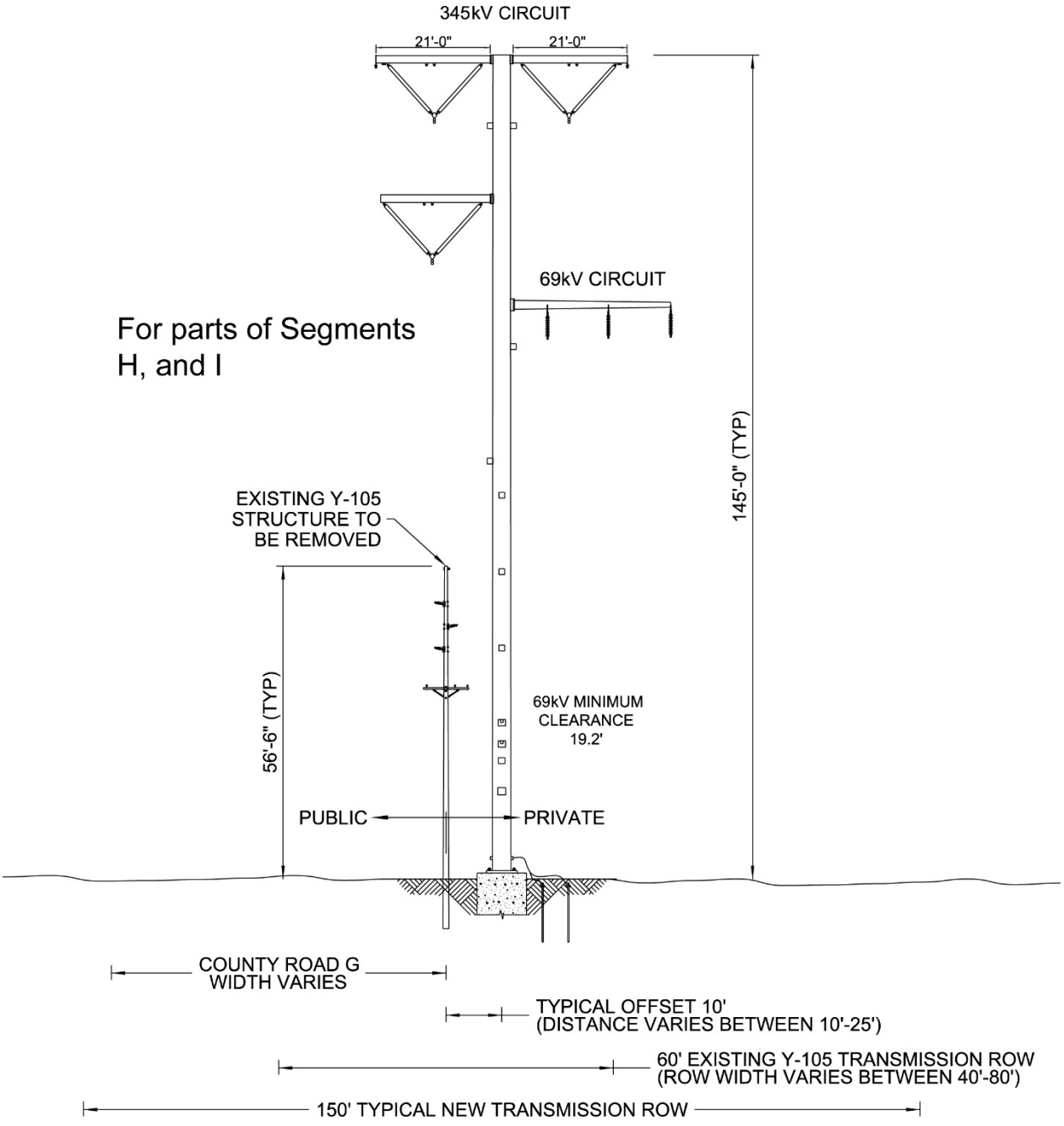


Figure E4: A Typical 345kV/138kV Double-Circuit Transmission Structure

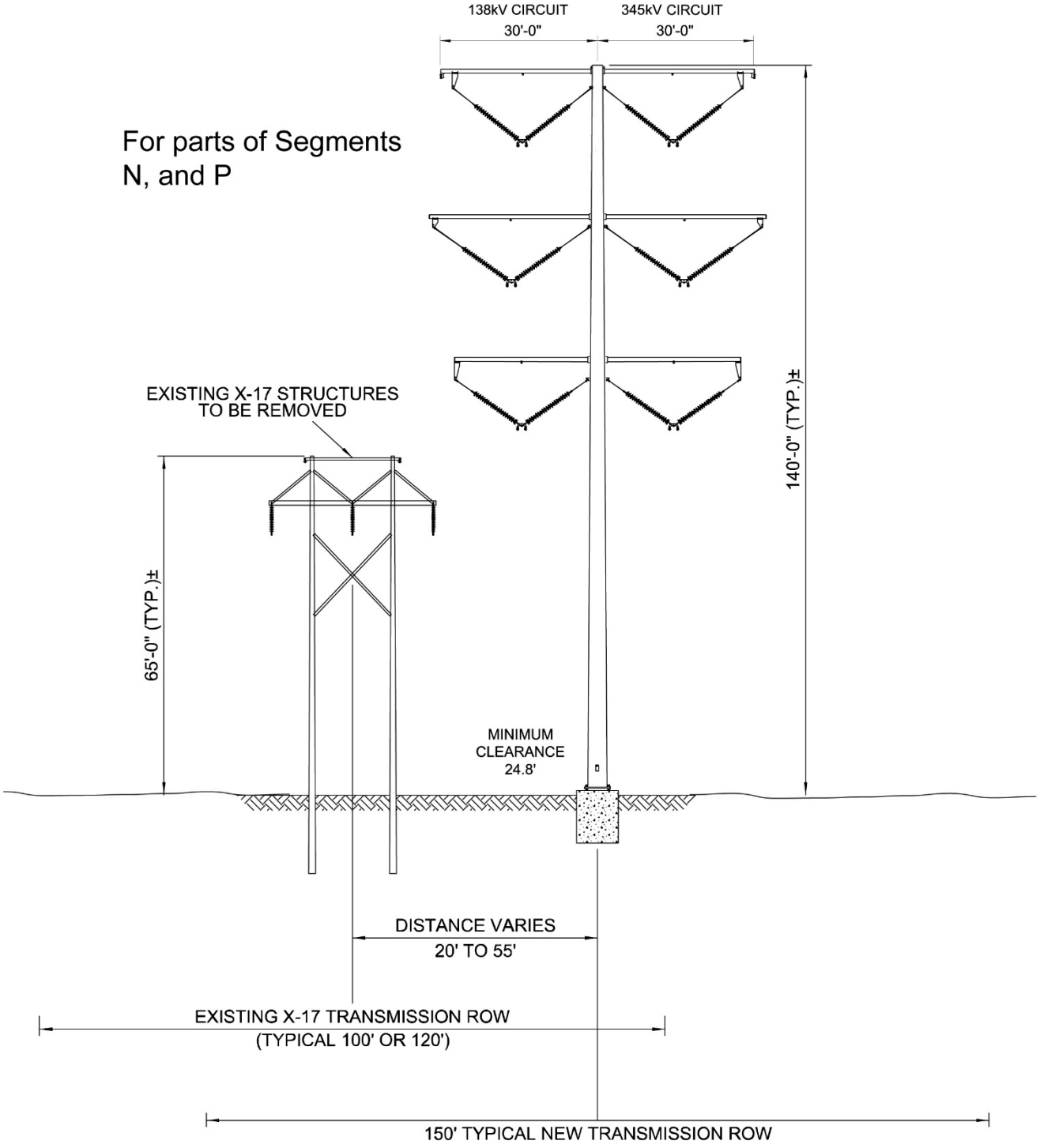


Figure E5: A Typical 345kV Single-Circuit Transmission Structure

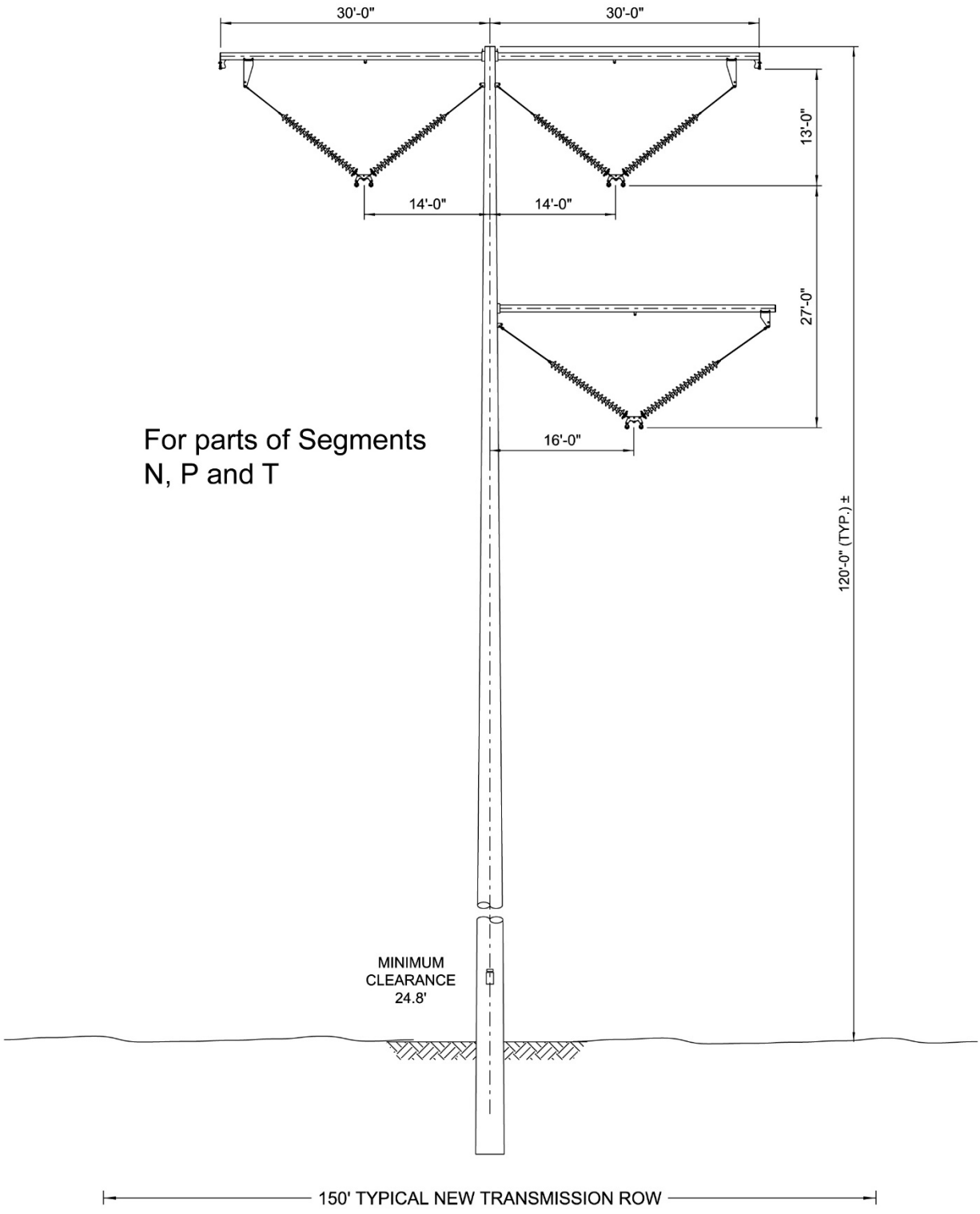


Figure E6: A Typical 345kV Single-Circuit Transmission Structure

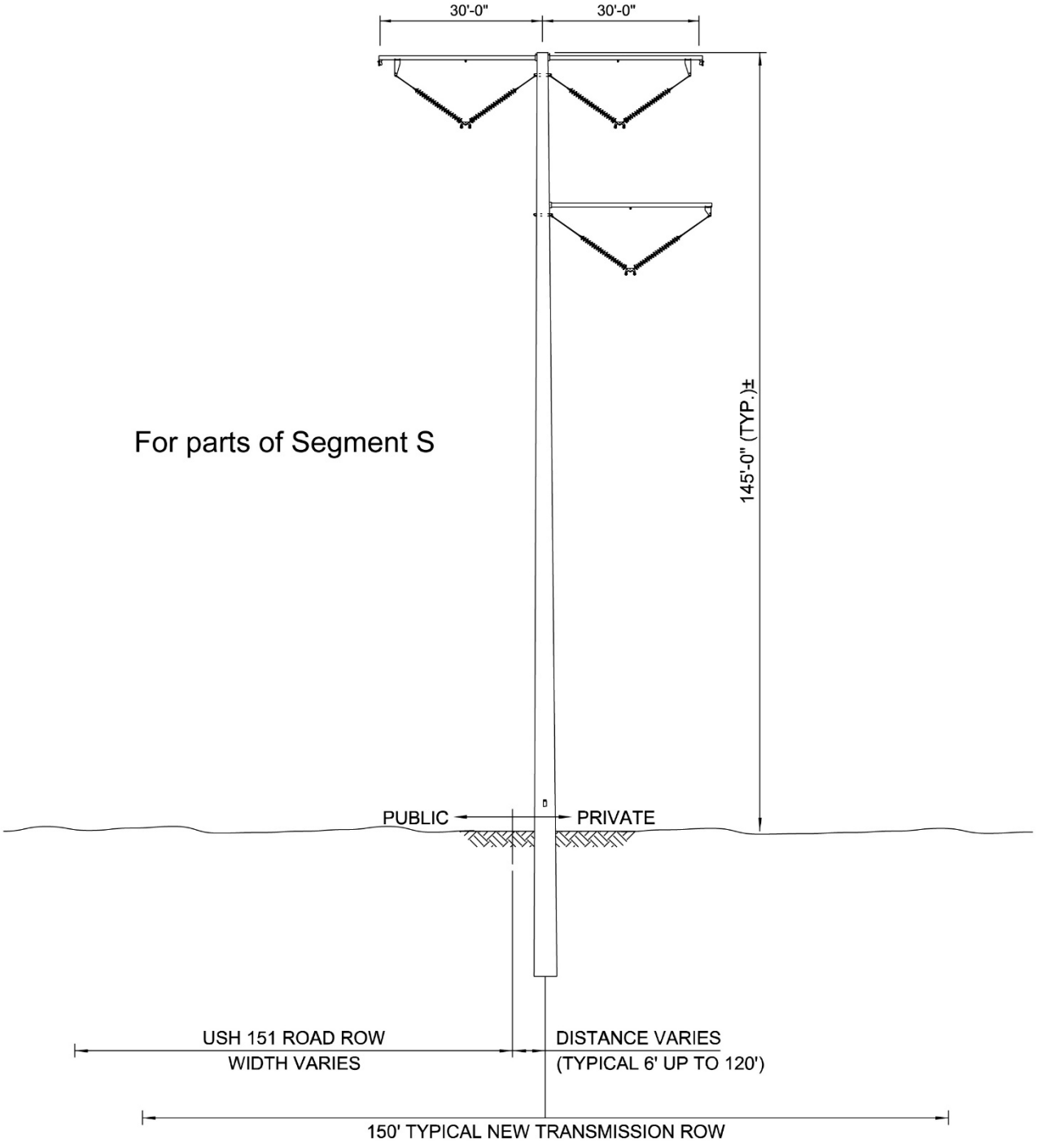


Figure E7: A Typical 345kV/138kV Double-Circuit Transmission Structure

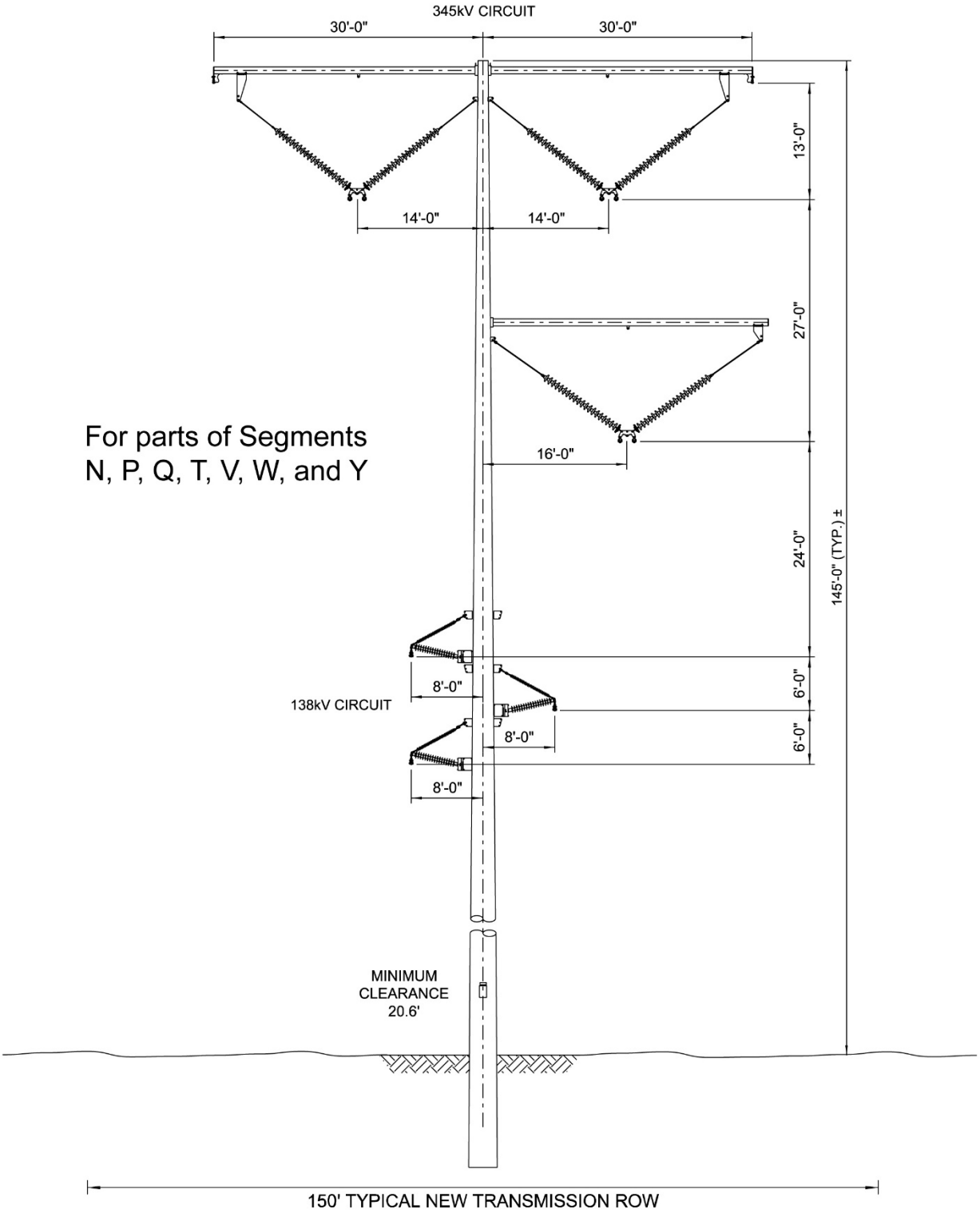


Figure E8: A Typical 345kV/69kV Double-Circuit Transmission Structure

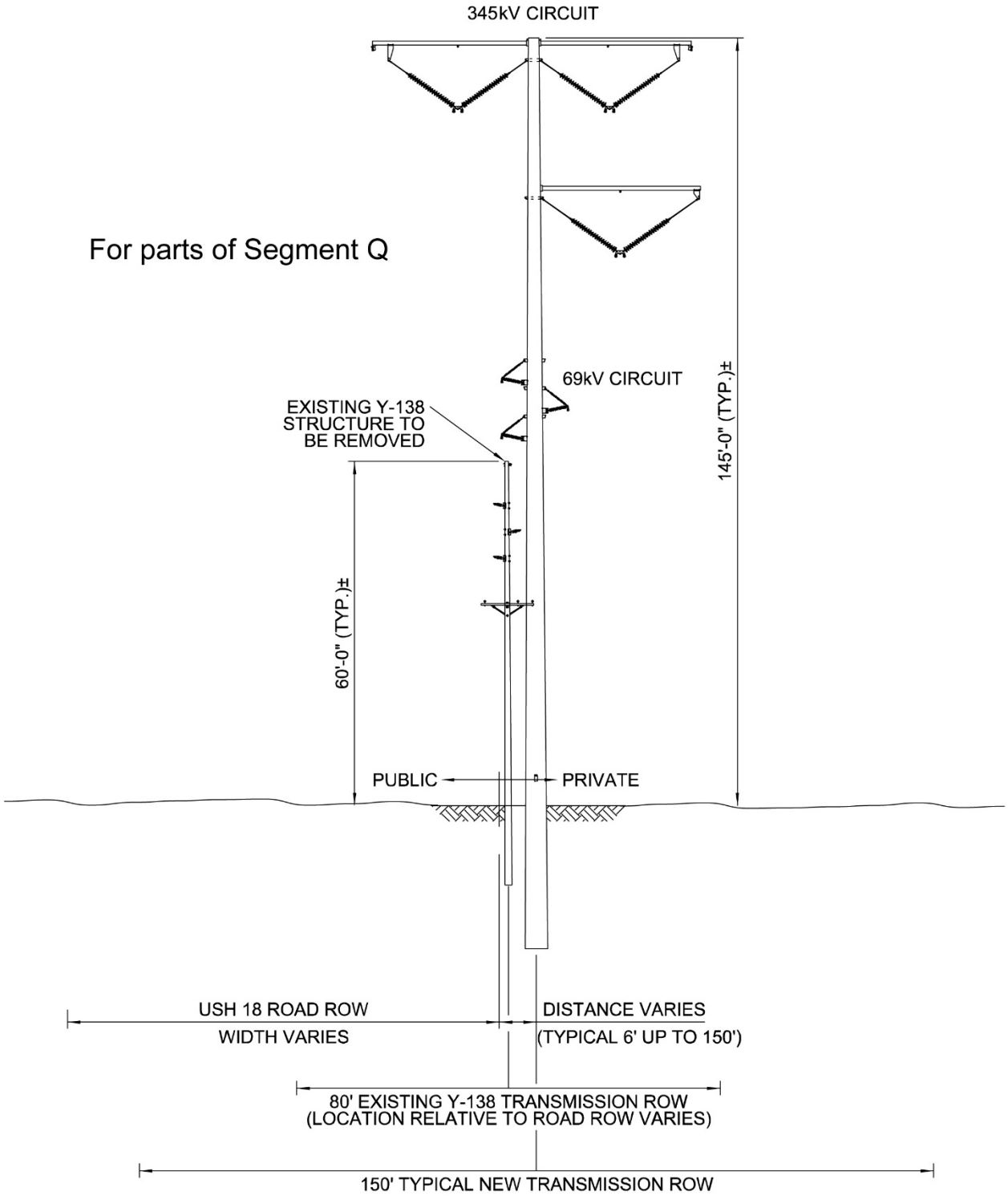
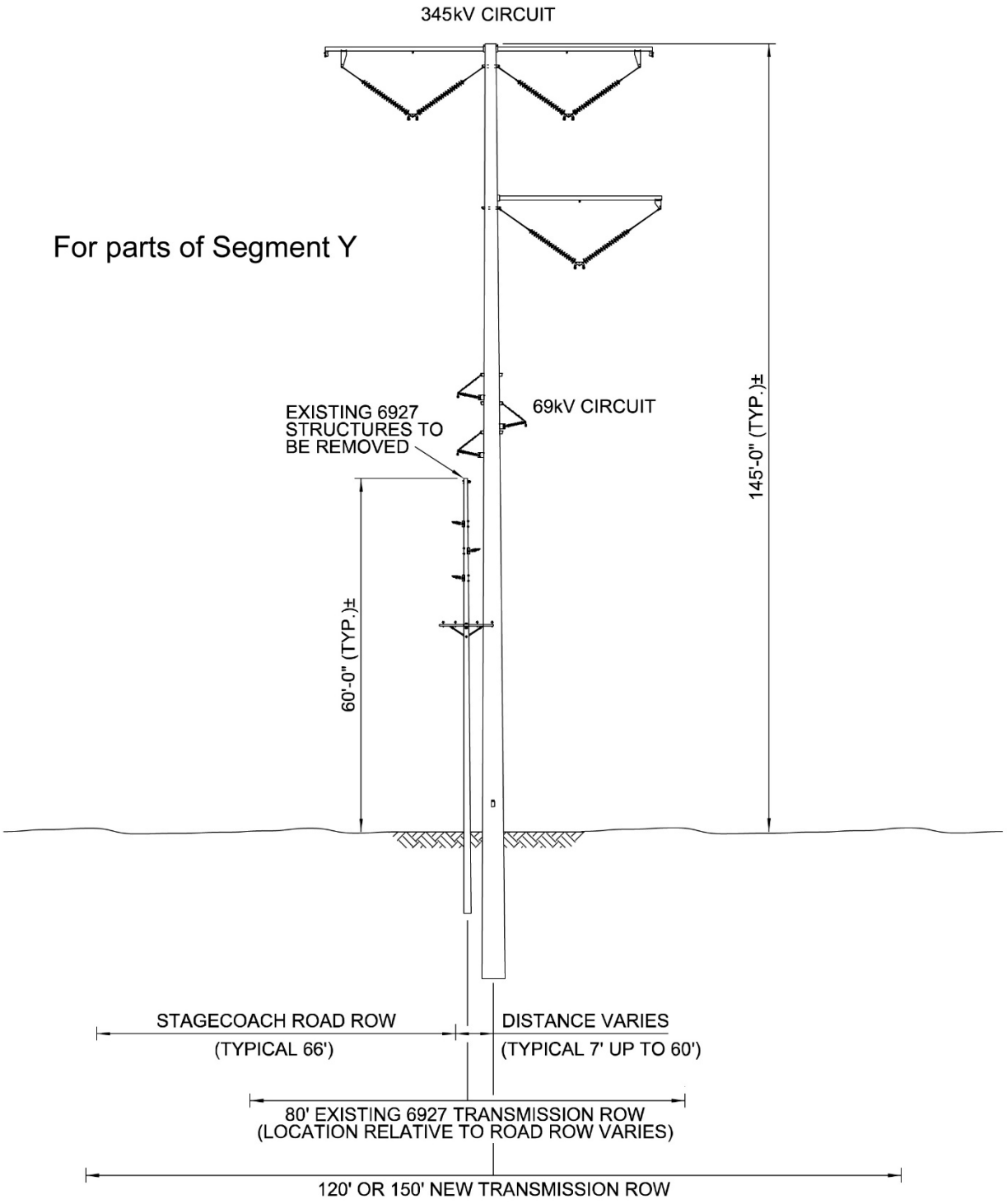


Figure E9: A 345kV/69kV Double-Circuit Transmission Structure



APPENDIX F: FARMLAND SOIL DEFINITIONS

Agricultural Properties

Agricultural properties include any of the following activities conducted for the purpose of producing an income or livelihood:

- Crop or forage production.
- Keeping livestock.
- Beekeeping.
- Nursery, sod, or Christmas tree production.
- Floriculture.
- Aquaculture.
- Fur farming.
- Forest management.
- Enrolling land in a federal agricultural commodity payment program or a federal or state agricultural land conservation payment program.

Farm is defined as all land under common ownership that is primarily devoted to agricultural land use

Agricultural Land Use Categories

Cropland – Land that is planted in row crops, small grains, or hay.

Pasture – Land that supports grass or other vegetation for domestic grazing animals.

Idle or Fallow Fields – Land that is cleared and maintained as agricultural fields but is not currently planted/cultivated.

Specialty Farmland – Unique cropland that does not fit into the categories above. Examples include cropland used to grow vegetables, Christmas tree farms, orchards, nurseries, and horticultural land (such as cranberries, ginseng, fruit farms, hops, and vineyards).

Other Agricultural Land – Land use or structures that do not fit into the above categories. It may include wooded areas, wetlands, farm residences, farm buildings, ponds, and private farm roads.

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.

APPENDIX G: BADGER COULEE WRECK-OUT PROCEDURE

Badger Coulee: Wreck-out Procedure

Upland (non-agricultural areas)

- Old poles can be cut off at or immediately below ground level
- If completely removed: dig out footers, back-fill old hole with gravel, and cover with original soil

Wetlands

- Old poles can be cut off at ground level
- If poles must be completely removed:
    - Segregate topsoil as best as possible and set on a barrier (mats or tarp/fabric)
    - Dig out the sub-soil around the footers and place on a barrier (mats or tarp/fabric)
    - Remove the old structure and footers
    - Back-fill the old holes with gravel. Fill gravel to approximately 1' below ground level.
    - Back-fill sub-soil over gravel
    - Cover with saved topsoil

Agricultural Areas (non-organic) - Poles must be removed to avoid contact with plows

- Segregate topsoil as best as possible and set aside next to the poles (topsoil placed on topsoil)
- Dig out the sub-soil around the footers and place on a barrier (mats or tarp/fabric)
- Remove the old structure and footers
- Back-fill the old holes with gravel. Do not fill gravel above plow layer (~24 inches).
- Back-fill sub-soil over gravel
- Cover with saved topsoil
- If topsoil was not able to be saved (i.e. frozen conditions or lack of original topsoil), bring in additional topsoil so that depth of topsoil in impact area matches surrounding conditions

Agricultural Areas (Organic)

- Follow same procedure for conventional agricultural fields with the following exceptions:
    - Gravel is inert and allowed to be hauled into organic farms but it is recommended to have quarry note on scale tickets that the gravel is suitable for organic properties
    - Topsoil imported must be from a certified organic location

Farmed Wetlands

- Follow same procedure for conventional agricultural fields with the following exceptions:
    - All stockpiled soil should be placed on a barrier since farmed wetlands are jurisdictional wetlands.
    - Topsoil should not be imported without approval from the environmental monitor as imported topsoil can be considered wetland fill.

APPENDIX H: DOA PUBLICATION - RIGHTS OF LANDOWNERS UNDER WISCONSIN EMINENT DOMAIN LAW

The Rights of Landowners Under Wisconsin Eminent Domain Law

Procedures Under Wis. Stat. § 32.06: Anything Other than Transportation Matters

This brochure provides information on the condemnation process in Wisconsin, including the rights of impacted property owners. More detailed information is available in Wis. Stat. Ch. 32.

September 2018

INTRODUCTION

The Wisconsin Constitution, Article 1, section 13, establishes eminent domain authority, which is the power to take private property for a public purpose with payment of just compensation. The Eminent Domain Law, Wis. Stat. Ch. 32, vests several public and private entities with eminent domain power. Condemnation is the legal process by which the acquiring agency exercises its eminent domain power.

The following are jurisdictional requirements the acquiring agency must obey in order to condemn property. Even if an acquiring agency does not intend to obtain property via condemnation, it must comply with the requirements of Chapter 32 when proceeding with an activity that may involve displacement of persons, business concerns, or farm operations.

NECESSITY OF TAKING

Specific entities are required to provide a determination of the necessity of taking of property prior to the initiation of negotiations. (See Wis. Stat. § 32.07 for more information.)

APPRAISAL

The acquiring agency must obtain at least one appraisal for each property it will acquire prior to initiating negotiations. When obtaining and drafting the appraisal, the appraiser must consult with the property owner. Once completed, the appraiser must provide the property owner with a full narrative of the appraisal. Also, the acquiring agency must notify the property owner that he/she may obtain his/her own appraisal at the (reasonable) expense of the acquiring agency. The owner's appraisal must be submitted to the acquiring agency within 60 days of receiving the agency's appraisal.

NEGOTIATION/AGREED PRICE

The acquiring agency must negotiate with the property owner for purchase of the property and must consider the full narrative appraisal to establish the property's fair market value. It must provide a map showing all property the project impacts and the names of at least 10 neighbors who are receiving offers. If the project affects fewer than 10 owners, the acquiring agency must give the names of all offerees. Property owners may inspect and make copies of any maps the acquiring agency holds. The acquiring agency may present relocation benefits during negotiations, if relocation of displaced persons is required.

In partial acquisitions, fair market value is the greater of (1) the fair market value of the part acquired, or (2) the difference between the entire property value before and after acquisition. If only part of the property is acquired and an uneconomic remnant remains, the acquiring agency must offer to acquire the uneconomic remnant. An uneconomic remnant is the property remaining after a partial taking, if it is of such size, shape or condition to be of little value or of substantially impaired economic viability.

Compensation for an easement is the difference between the property value immediately before and immediately after the date of evaluation. The date of evaluation is the date the conveyance is recorded by the county register of deeds.

If the property owner agrees to a negotiated sale, the acquiring agency must record the conveyance with the county register of deeds. After recording, the acquiring agency must provide notice of the conveyance to all owners of record, by certified mail or personal service, as well as of the right to appeal the compensation amount within 6 months of the recording date.

JURISDICTIONAL OFFER

If negotiations fail, the acquiring agency must provide the property owner with a jurisdictional offer. The offer must be delivered by certified mail or personal service and include: (1) a description of the nature of the project; (2) a description of the property to be acquired; (3) the proposed date of occupancy; (4) the compensation offer; (5) notice that any additional items payable may be claimed for relocation assistance; (6) a statement that the appraisal on which the offer is based is available for viewing; and (7) notice that the owner has 2 years from the date the property is taken by award to appeal for greater compensation, even if the owner has already accepted and used the award. If the jurisdictional offer is accepted, title transfers to the acquiring agency and payment must be made within 60 days.

CONTESTING THE RIGHT OF CONDEMNATION

Within 40 days from the date of service or mailing of the jurisdictional offer, an owner who wants to contest the right of condemnation for any reason other than inadequacy of the compensation amount, may commence an action in the circuit court of the county where the property is located, naming the acquiring agency as the defendant. If the owner has already accepted and retained any of the compensation, such an action may not be filed.

COMMISSION HEARING

If the jurisdictional offer is not accepted or is rejected in writing by all owners of record within 20 days, the acquiring agency may petition the court for a hearing before the condemnation commission. The judge will assign the matter to the condemnation commission chair who, within 7 days, shall select 3 commissioners to determine the compensation amount.

At the hearing, the commissioners shall view the property to be condemned and hear all evidence presented. A majority of commissioners present may determine all matters. The prior jurisdictional offer or award amount may not be disclosed to the commission. Within 10 days of the hearing conclusion, the commission shall issue a written award specifying the amount of compensation and file it with the clerk of circuit court.

At the same time the petition for condemnation commission proceedings is filed, a *lis pendens* shall also be filed with the county register of deeds. A *lis pendens* gives notice to interested parties that the property may be acquired for public use. The day the *lis pendens* if filed is the "date of evaluation" of the property for the purpose of fixing just compensation.

ABANDONMENT OF PROCEEDING

An acquiring agency may abandon proceedings to acquire property within 30 days of filing of the commission's award by petitioning the circuit court for leave to abandon the petition for taking. The court shall grant the petition upon terms it deems just and issue a formal order halting the proceeding. The order divests the acquiring agency's title to the lands involved and discharges the *lis pendens*.

PAYMENT OF AWARD

If the acquiring agency does not abandon the proceeding to take the property, it must pay the award to the owner within 70 days after the commission's award is filed. The acquiring agency shall then file the owner's receipt of the award with the clerk of circuit court or, at the option of the agency, pay the award into the office of the clerk of circuit court for the benefit of the parties having an interest of record on the date of the evaluation (and provide notice to such parties by certified mail). Title to the property vests in the acquiring agency upon filing of the receipt or the making of such payment.

APPEAL TO CIRCUIT COURT

Within 60 days after the date of filing of the commission's award, either party may appeal the commission's award to the circuit court. The only issues to be tried during this appeal shall be questions of title, if any, and the amount of just compensation the acquiring agency must pay to the property owner. The appeal shall have precedence over all other actions not then on trial and shall be tried by jury unless the jury is waived by both parties. The amount of the jurisdictional offer or the commission's award shall not be disclosed during such an appeal. If the jury verdict exceeds the jurisdictional offer, the acquiring agency may petition the court for leave to abandon the proceeding within 40 days of filing of the verdict.

All judgments required to be paid shall be paid within 60 days after entry of judgment, unless the matter is appealed to the court of appeals or the acquiring agency has filed a petition for leave to abandon the proceeding.

OCCUPANCY/WRIT OF ASSISTANCE

No person occupying real property may be required by the acquiring agency to move from a home or business without at least a 90-day written notice. If title vests with the acquiring agency before the 90-day period ends, the occupant may remain in the property rent-free for the first 30 days, beginning on the 1st or 15th day of the month after title vests with the acquiring agency. If the occupant denies the agency the right of possession at the end of the 90-day period, the agency may apply to the circuit court for a writ of assistance to be put in possession of the property upon 48-hour notice to the occupant. The court shall grant the writ of assistance if all jurisdictional requirements to condemn have been met, the award has been paid and a comparable property has been made available.

LITIGATION EXPENSES/COSTS

"Litigation expenses" is defined as "the sum of the costs, disbursements and expenses, including reasonable attorney, appraisal and engineering fees necessary to prepare for or participate in actual or anticipated proceeds before the condemnation commissioners, board of assessment or any court under [Chapter 32]." Wis. Stat. § 32.28(1)(b). There are several conditions under which litigation expenses may be awarded to a complainant in a just compensation matter. These conditions include but are not limited to: (1) the acquiring authority abandons the proceeding; (2) the court determines the acquiring agency does not have the right to condemn the property or there is no necessity for its taking; etc. For a complete listing, please review Wis. Stat. § 32.28(3)(a)-(i).

This pamphlet is published by the Wisconsin Department of Administration in cooperation with the Attorney General pursuant to Wis. Stat. § 32.26(6). It is not to be construed as legal advice. A displacing agency must make this pamphlet available to a displaced person before initiation of negotiations for acquisition of property for a public project.

Relocation Assistance
Division of Legal Services
Department of Administration
101 E. Wilson Street
Madison, WI 53703
Phone: (608) 266-2887
Email: TracyM.Smith@wisconsin.gov
www.doa.wi.gov

APPENDIX I: BADGER COULEE ORGANIC PROCEDURES

Badger Coulee Organic Procedures

1 Segregate and save the topsoil's for backfilling around foundations and for restoration on the organic tract. This topsoil shall be used exclusively for the purposes of restoration on the organic property. Any material (gravel, soil fill) brought in needs written approval from the organic farm operator.

2 Prior to entry, Clean off and wash-down all machines and equipment before they enter the area. Do this by scraping and blowing off with compressed air and /or power washing. Wash-down should be sufficient to remove petroleum residue, vegetation, weed seeds, dirt, and other debris. Care must be taken not to re contaminate equipment while working on Organic lands. This includes mud and debris on pickup trucks as well.

3 Do not drag any plant debris or soils into area. Inspect undercarriage. Always clean and inspect prior to reentry of organic farms.

4 Use only certified organic seeds for restoration. Provide a label and receive written permission from the farmer to use of certified organic seeds. Seeds shall not be treated with any chemicals. Never bring in conventional seeds for any reason. Do not even have conventional seeds on your vehicle.

5 Prohibit the application of prohibited substances of any kind onto organic certified lands. This would include but not limited to, fertilizers, herbicides, insecticides (including personal bug repellents), and other pesticides. Weed and Pest control shall be maintained using only organic farm specific approved substances that have been also approved in writing by the farmer. Fertilizer used shall be certified organic fertilizer, approved by the organic farmer.

6 Keep a file of invoices and labels or tags of any seeds, fertilizer, or anything else used on organic farms.

7 No refueling or lubrication of any kind on this tract. Aerosol cans prohibited as well.

8 Inspect all vehicles prior to entry for hose, tank, and other component leaks. Also check for potential for spills. Eliminate all of these risks of leaks and spills.

9 Do not use the organic farm for storage of non-organic soils or materials of any kind.

10 Extra care shall be used to avoid any erosion or movement of soils from non-organic lands onto the organic lands. All erosion control devices shall be of organic character. This includes straw waddles, bales of straw, and mulch.

11 Whenever possible, use new mats in organic areas and be sure they are untreated wood with no preservatives If the mats or wood products are used be sure to power wash those used mats/ wood products so they are clean and free of all foreign non organic substances.

12 Use no treated lumber of any kind on organic farms for matting, blocking or setting structure components on, or for any other reason. Arsenic and creosote are strictly prohibited.

13 Extra care shall be used in the application of chemicals and seeds on neighboring farms. Care shall be exercised to avoid translocation of chemicals through roots as well as drift through the air. The same care shall be used to much sure cross pollination cannot occur with seeds/plants.

04/27/17

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

DIVISION OF

AGRICULTURAL RESOURCE MANAGEMENT

Agricultural Impact Program
P.O. Box 8911
Madison, WI 53708-8911
608-224-4650

https://datcp.wi.gov/Pages/Programs_Services/AgriculturalImpactStatements.aspx