

Appendix F: Agency Correspondence



DATE/TIME 10:00 AM
Wednesday, May 24, 2013

LOCATION U.S. Fish and Wildlife Service
Upper Mississippi River National Wildlife and Fish Refuge
Brice Prairie Visitor Center Multipurpose Room
N5727 County Road Z
Onalaska, WI 54650

ATTENDEES See attached Attendee List

I. Introductions

Introductions were made.

II. Project Background

Chuck Thompson from Dairyland Power Cooperative (DPC) gave a presentation that provided background information for the Q-1 161 kilovolt (kV) Transmission Line (Q-1).

The Q-1 was built in 1950. A portion of the Q-1 from Alma to Genoa was rebuilt in early 2000. Application to rebuild La Crosse to Genoa was originally filed in 2005 and then the project was delayed. Application was re-filed in 2011. Construction should be completed in June.

A segment of the Q-1 from Alma to Holman was tied up in the CapX2020 process. The Marshland to La Crosse Project is divided into north and south projects. Today's meeting is about the north project. If DPC remains on existing ROW a Wisconsin Certificate of Public Convenience and Necessity (CPCN) would not be required. DPC would like to expedite the project because there have been 5 or 6 poles down in the last 3-5 years. The Black River floodplain area is difficult to access to make repairs. The 3 structures replaced on the north end recently are temporary. In addition to transmission, the structures carry a fiber optic line from Minneapolis to Chicago that needs to be maintained in place.

The south project would require a CPCN in Wisconsin. DPC is looking at moving an existing line and carrying it with the new line in the same corridor and filing early next year. Proximity to houses is an issue along the south project.

III. Q-1 Alternatives Analysis (North Segment)

Information from the November 8, 2011 Q-1 Rebuild Comparison of Alternatives Technical Memorandum was handed out and reviewed. The comparison is based on the CapX2020 alternative analysis that was addressed in the federal Environmental Impact Statement (EIS) and Wisconsin State EIS for that project. The Existing Q-1 route, Highway 35 Route, the Seven Bridges Route, and the Galesville Route were evaluated.



The Highway 35 Route would have required clearing a new corridor and WisDOT scenic easements were involved. Following the 69 kV line at Seven Bridges Route also required clearing an 80 to 100 foot corridor and there were issues related to the historic bridges and visual impacts. The Galesville Route had pinch points so that it could not be carried along with the 345 kV route in some areas.

The information in the summary table will be updated for the federal (RUS) Environmental Report (ER), but the information shows that there is no practicable alternative to the existing alignment.

IV. Q-1 Construction Plan for the Van Loon Wildlife Area

DPC showed a video of the alignment taken from a helicopter. The poles that had been repaired and the overall setting were reviewed.

The draft Construction Plan was handed out and DPC reviewed line design and construction options. Line design options include:

- Steel H-Frame or Y-Frame at existing structure locations with 80-foot right-of-way (ROW).
- Steel H-Frame or Y-Frame with optimized 80-foot ROW.
- Braced Post Steel with 40-foot ROW.

The Wisconsin Department of Natural Resources (WDNR) asked about the spacing of the delta sections. DPC stated that the first delta section would start approximately 35 feet above the ground and there was approximately 10 feet between each of the 3 sections and then 10 feet or so to the shield wire.

Line construction options include:

- Conventional construction equipment with matting.
- Helicopter construction with vibratory caissons.
- Low ground pressure equipment (marsh buggies) with helical piers.

DPC reviewed a model in Google Earth showing the alignment and Y-Frame structure placement.

The WDNR requested information regarding bank disturbance related to the use of marsh buggies crossing streams. The WDNR also asked how the spread of invasive species would be controlled and what methods would be used for disinfecting equipment.

AECOM stated that areas where invasive species are present would be identified. In addition, an invasive species management plan would be developed.

The WDNR stated that given the recent weather patterns it seemed like helicopter construction and getting in and out of the Van Loon Wildlife Area seemed to make the most sense. In addition, WDNR stated that late summer/early fall may be better than winter for construction due to project specific environment and habitat.

The U.S. Fish and Wildlife Service (USFWS) asked that the shield wire be kept at or below tree canopy height and asked about methods that could be used to reduce structure height. DPC will be determining average canopy height within the Van Loon and will look at options for reducing structure heights.



The WDNR asked how DPC planned to address bird collision issues. DPC stated that they are currently working a companywide Avian Protection Plan that should be completed by the end of July 2013. Chuck said that there would be an Avian Protection plan. DPC has been working on one that should be done end of July. DPC also stated that they would likely install bird diverters for the whole Van Loon area soon after construction using helicopters.

The USFWS stated that DPC will need to get a new permit as their existing permit had expired. USFWS will send DPC the requirements that would include a copy of the RUS ER and a letter of application so that they could prepare a Compatibility Determination.

USFWS and the WDNR voiced interest in having DPC look at softening the edge effect of the ROW by adding shrubs and other vegetation to soften the line. One possibility discussed was looking at a 100-foot area with shrub planting as far into the ROW as possible.

The WDNR stated that the Q-1 rebuild project might be a good opportunity to develop a pilot project for a 3 to 5-year period.

Access between poles 16 and 17 and some other waterways are very difficult. WDNR suggested that DPC may want to look at using pile driven temporary bridges in the area of poles 16 and 17 rather than temporary clear span bridges (TCSBs) since they would need an individual permit. DPC would likely prefer TCSB or helicopter.

V. Endangered Species Review

Stantec reviewed the T&E species information for the area from the CapX2020 surveys. Habitat surveys were completed for the CapX2020 Project in 2008, 2009, and 2010. The surveys focused on species identified in the Natural Heritage Database. There were no intense species specific surveys completed. However, habitat assessment's specific to species identified by the NHI were completed.

VI. Proposed Construction Schedule

DPC proposes to conduct habitat assessments along the Q-1 in the Van Loon Wildlife Area during the summer of 2013. DPC will be coordinating with WDNR to identify species that habitat assessments will be completed for.

An ER for the northern segment will be prepared and submitted to the RUS for review in late summer of 2013. The WDNR and U.S. Army Corp of Engineers (USACE) Permits will be submitted in spring of 2014. Construction is proposed to start in late summer/early fall 2014. Construction will take approximately 10 weeks.



VII. Action Items

Item	Task Description	Responsible Person	Due Date
1	WDNR requested information or a picture of bank disturbance related to the use of marsh buggies.	DPC & AECOM	
2	Invasive Species Management Plan.	DPC & AECOM	
3	Conference call with WDNR to discuss Van Loon Wildlife Area survey plan.	DPC & Stantec	
4	July follow-up meeting with WDNR and USFWS.	DPC & AECOM	
5	Determine canopy height.	DPC	
6	Revise engineering plan based on canopy height and look at options to keep shield wire level with tree canopy.	DPC & AECOM	
7	Pilot study for controlling invasive plant species. (Review results for DPC Weaver Lake Area, MN)	DPC & AECOM	

Attendee List

Leslie Knapp AFCON 763-551-2441 leslie.knapp@afcon.com

Mark Rothfork AFCON 763-551-2440 mark.rothfork@afcon.com

Chuck Thompson DPC 608-787-1430 cat.dairy.net.com

Jim Nissen FWS 608-779-2385 James.Nissen@fws.gov

Cheryl Laatsch WDNR 920-387-7869 cheryl.laatsch@wisconsin.gov

Melissa Tumbleson WDNR 608-267-0862 melissa.tumbleson@wis.gov

Armund Bartz WDNR 608 608-785-9019 armund.bartz@wi.gov

Tim Yager USFWS 507-494-6219 timothy.yager@fws.gov

Chuck Calles DPC 608-787-1474 csc@dairey.net.com

David Studzinski Corps of Engrs. (651)290-5902 david.a.studzinski@usace.army.mil

Terry Vandewalle STOUTEC 319-334-3755 Terry.Vandewalle@stoutec.com

CRAIG ANDERSON DPC 608-787-1337 CRAIG@DAIRY.NET

Brent Drenckmann DPC 608-792-5120 BrD@dairey.net.com

ANDERS FISKE HDR 406-869-9954 ANDERS.FISKE@HDRINC.COM

Jim Bertelsen DPC 608-282-1237 jbe@dairey.net.com



DAIRYLAND POWER COOPERATIVE Q-1 161 kV TRANSMISSION LINE REBUILD COMPARISON OF ALTERNATIVES

Summary information from November 8, 2011 Q-1 Rebuild
Comparison of Alternatives Technical Memorandum

May 16, 2013

INTRODUCTION

Dairyland Power Cooperative's (Dairyland's) approximately 70 mile long Q-1 161 kV transmission line (Q-1 line) was constructed in 1950 and consists of three segments in Wisconsin as follows (north to south):

- Alma – Marshland – North La Crosse Substation (40 miles)
- North La Crosse Substation – La Crosse Tap (9 miles)
- La Crosse – Genoa Tap (21 miles)

The specific area of focus in this alternative comparison summary is the 40-mile section of the Q-1 line from Alma to Holmen, which includes a section that traverses the Black River floodplain near Holmen. In this area, the existing Q-1 line passes through approximately one mile of Federal Refuge Property.

The routing decision for the CapX2020 Hampton – Rochester – La Crosse 345 kV Transmission Line Improvement Project (CapX Project) could have resulted in either a complete rebuild of this 40-mile section, a partial rebuild or no rebuild at all. Approximately 27 miles of this 40-mile segment of the Q-1 line will be rebuilt as a co-located double circuit with the CapX Project.

Options to collocate with the CapX Project and related impacts and costs were described in the Q-1 Rebuild Comparison of Alternatives Technical Memorandum (Dairyland November 8, 2011) and the Wisconsin and federal Environmental Impact Statements (EISs) for the CapX Project. **Table 1** and **Figure 1** present information summarized from the November 8, 2011 Alternatives Technical Memorandum for the 40-mile segment of the Q-1 that will now need to be rebuilt as a stand-alone, single circuit 161 kV transmission line.

Table 1: Impact Summary for Q-1 Rebuild Options across Black River Floodplain				
Resource Category	Existing Q-1 Route	Highway 35 Route	Seven Bridges Route	Galesville Route
Length (miles)	13.2	15.0	16.2	19.9
General Characteristics				
Existing ROW				
Length utilizing existing Transmission corridor (miles)	13.2	7.4	12.4	0.0
% of route utilizing existing Transmission corridor	100%	50%	77%	0%
Length utilizing existing Transportation corridor (miles)	0.0	6.5	3.8	13.6
% of route utilizing existing Transportation corridor	0%	43%	23%	68%
Length utilizing existing Transmission corridor and/or Transportation corridor (miles)	13.2	13.9	16.2	13.6
% of route utilizing existing Transmission corridor and/or transportation corridor	100%	93%	100%	68%
Length not utilizing linear features (miles)	0.0	1.1	0.0	6.3
% of route not following linear infrastructure	0%	7%	0%	32%
Natural Resources				
Length crossing Wetlands (miles)	2.6	1.5	1.8	1.1
Forested Wetlands Impacted (Acres of Forested Wetlands Converted to non-Forested Wetlands)	1.4	17.7	11.9	9.3
Upland Forest Impacted (acres)	4.5	8.3	7.2	32.9
Waterway Crossings	27	18	7	4
Natural Heritage Inventory Occurrences (Historic and Non-Historic) within 2 miles of reference centerline	47	44	40	28
Residences				
Total residences 0-25 feet	0	0	0	0
Total residences 26-50 feet	0	0	1	0
Total residences 51-100 feet	5	6	15	10
Total residences 101-150 feet	3	5	25	15
Total residences 151-300 feet	15	25	42	82

Resource Category	Existing Q-1 Route	Highway 35 Route	Seven Bridges Route	Galesville Route
Total Residences 0 - 150 feet	8	11	41	25
Total Residences 0 - 300 feet	23	36	83	107
Newly impacted residences 0-25 feet	0	0	0	0
Newly impacted residences 26-50 feet	0	0	0	0
Newly impacted residences 51-100 feet	0	0	0	9
Newly impacted residences 101-150 feet	0	3	2	15
Newly impacted residences 151-300 feet	0	9	8	79
Newly impacted Residences 0 - 150 feet	0	3	2	24
Newly impacted Residences 0 - 300 feet	0	12	10	103
Schools, Day-care Centers, and Hospitals				
Total 0-300 feet	0	0	0	0
State and Federal Lands				
State Lands crossed (miles)	0.30	0.12	1.54	0.06
Federal Lands crossed (miles)	0.93	0.00	0.00	0.00

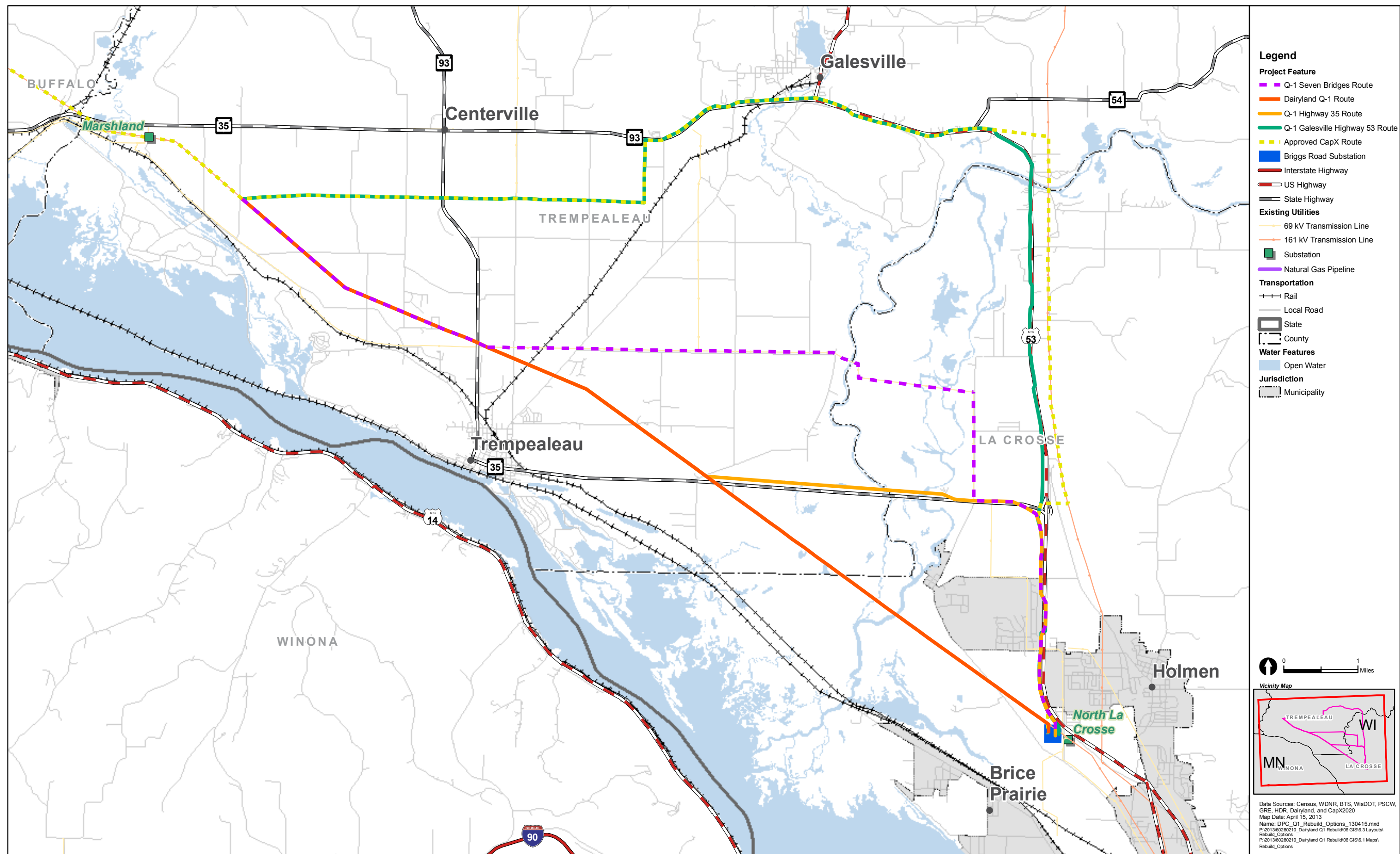




FIGURE 1 BACK

Q-1 161 kV Rebuild Black River Floodplain Construction Plan

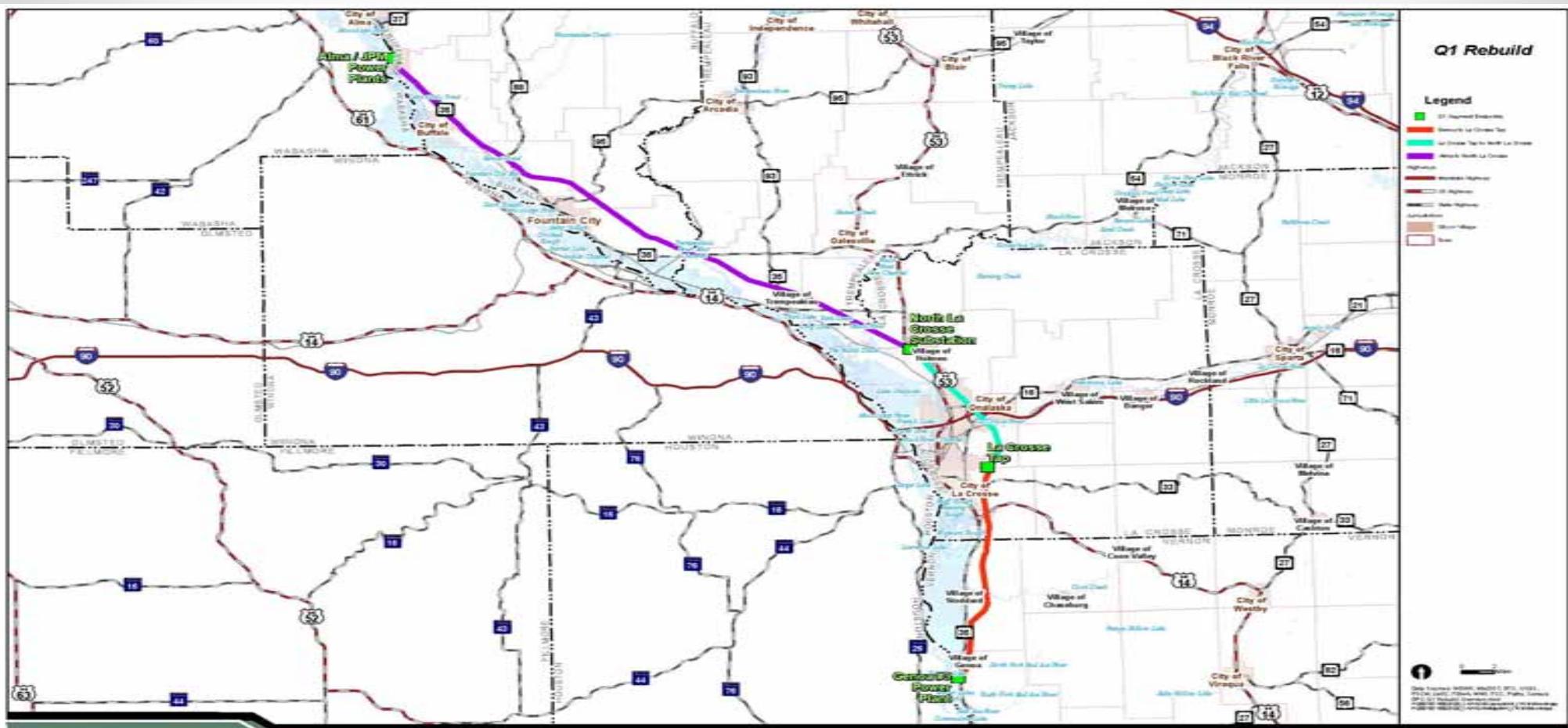












CapX2020

Hampton □ Rochester □ La Crosse 345kV Transmission Project

Map Prepared by: Wisconsin Power Transmission & Distribution Board, October 2010. Map Revised by: Wisconsin Power Transmission & Distribution Board, February 2011.

Q1 Rebuild
February 2011

CapX2020 & Badger Coulee Projects



CapX2020

Delivering electricity you can rely on

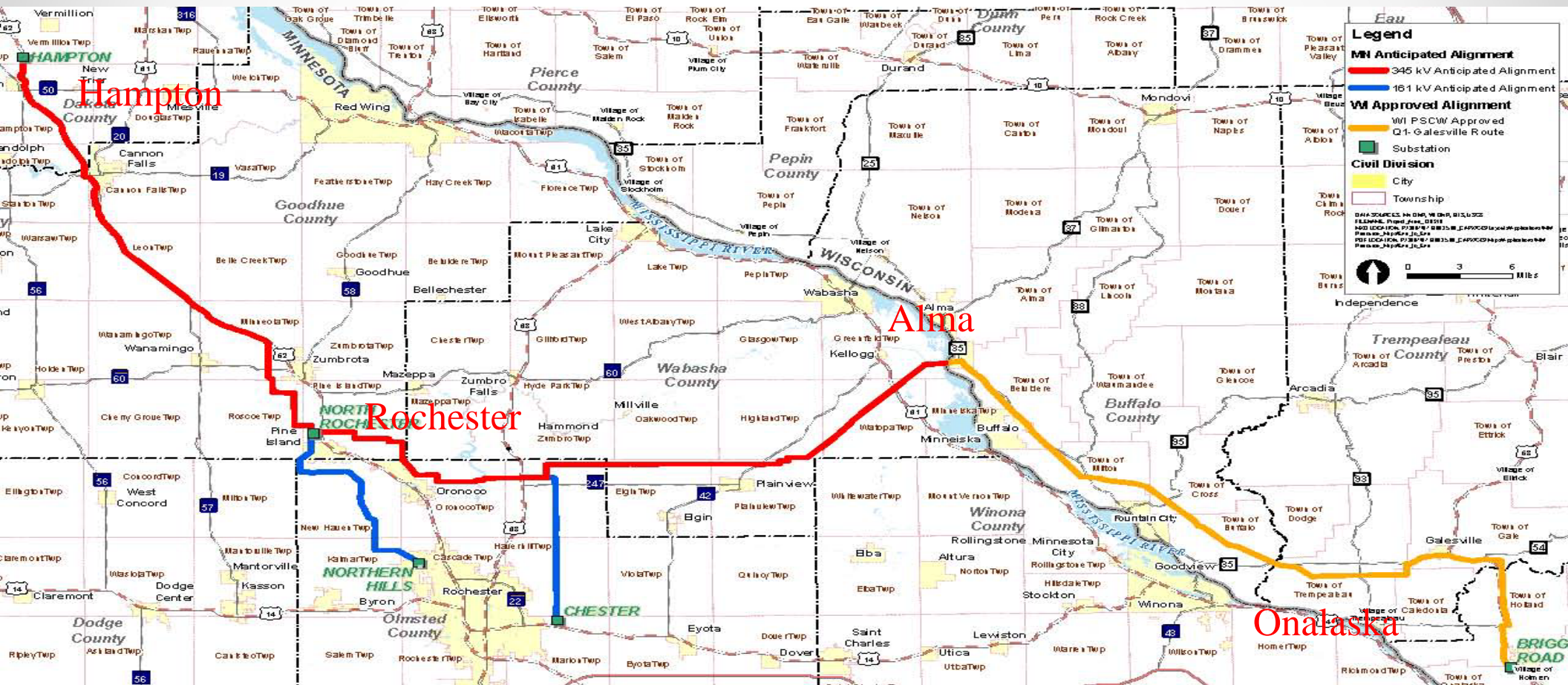


Legend

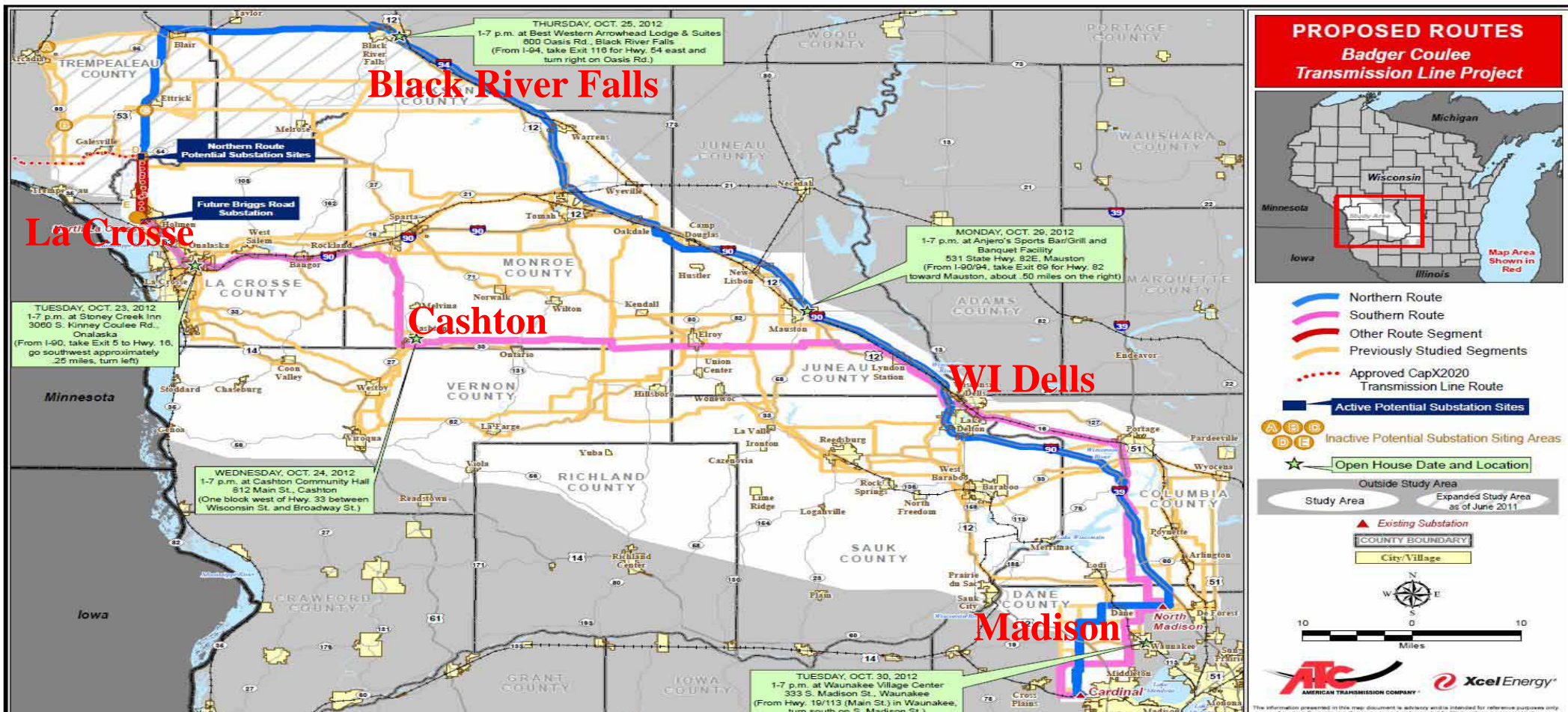
- MN Anticipated Alignment**
 - 345 kV Anticipated Alignment
 - 161 kV Anticipated Alignment
- WI Approved Alignment**
 - WI PSCW Approved
 - Q1-Galesville Route
- Civil Division**
 - Substation
 - City
 - Township

DATA SOURCES: MNDOT, WISCONSIN DEPARTMENT OF TRANSPORTATION, AND LOCAL TOWNSHIP AND COUNTY OFFICES. FOR LOCATION, PROJECT, AND STATUS, APPROVED FOR TRANSMISSION, AND LOCATION, PROJECT, AND STATUS, APPROVED FOR TRANSMISSION, AND LOCATION, PROJECT, AND STATUS, APPROVED FOR TRANSMISSION.

0 3 6 Miles



ATC-Xcel Badger-Coulee 345 kV



Overview Map

Legend

- Q1 Rebuild North Section**
 - 161 kV Transmission Line
- Q1 Rebuild South Section**
 - Q1 Alternative 1 (69 kV)
 - Q1 Alternative 2 (69 kV)
 - Q1 Alternative 3 (161 kV)
- Existing Utility**
 - Substation
- Transmission Line (PSCW)**
 - 69 kV Transmission Line
 - 161 kV Transmission Line
- Project Area**
 - North/South Section

Scale 0 1 2 Miles



Data Source: NAD83, NAD83, SRS, USGS, PSCW
 Date: March 05, 2019
 Name: Q1 161 kV Rebuild - 199000
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 P:\2019\0000000000\Q1_Dairyland\Q1_Rebuild\Q1_Rebuild

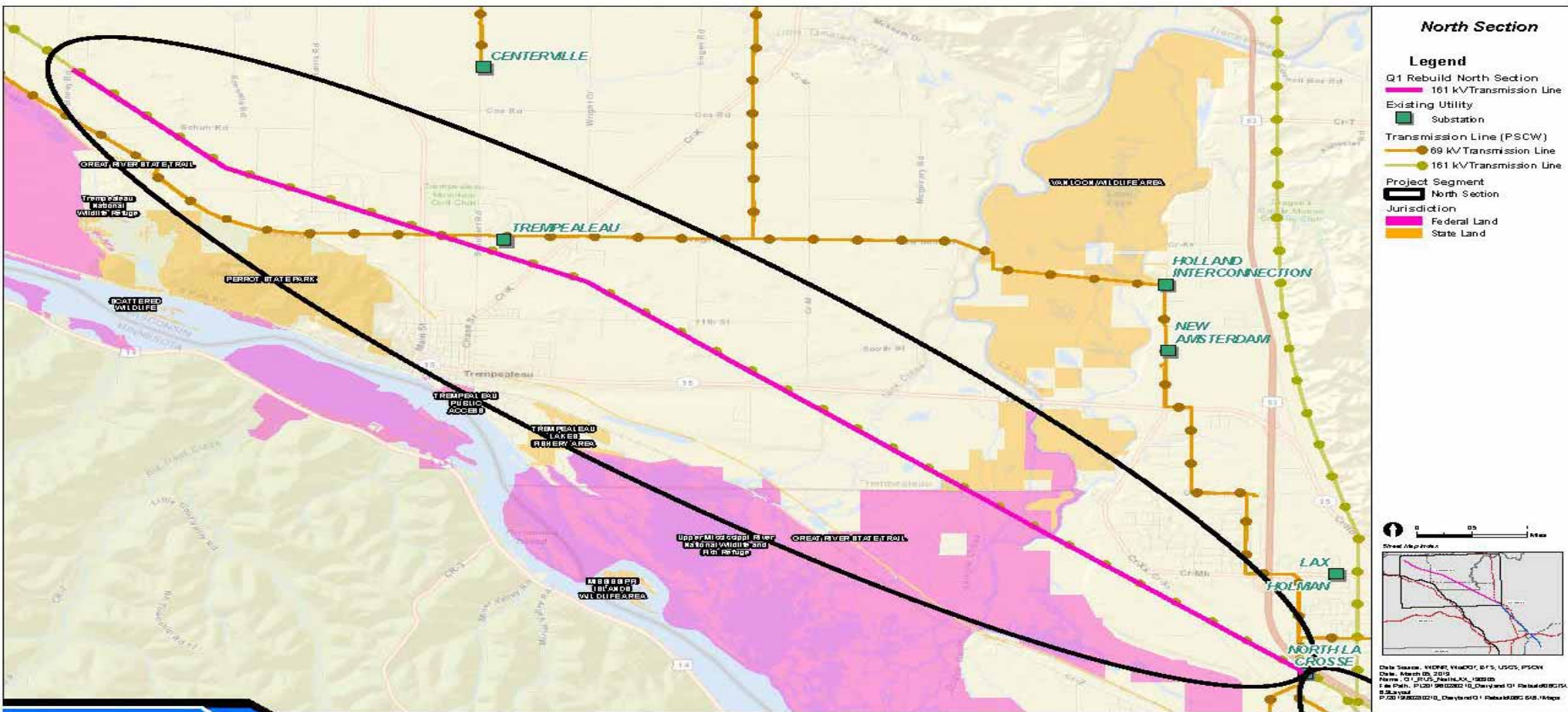


Marshland Substation to North LaCrosse Tap Q-1 161 kV Rebuild Project

+ Dairyland Power Cooperative +

Marshland Substation to North La Crosse Tap
Q-1 161 kV Rebuild Sheet Map

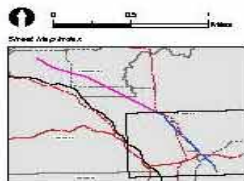
MARCH 2019



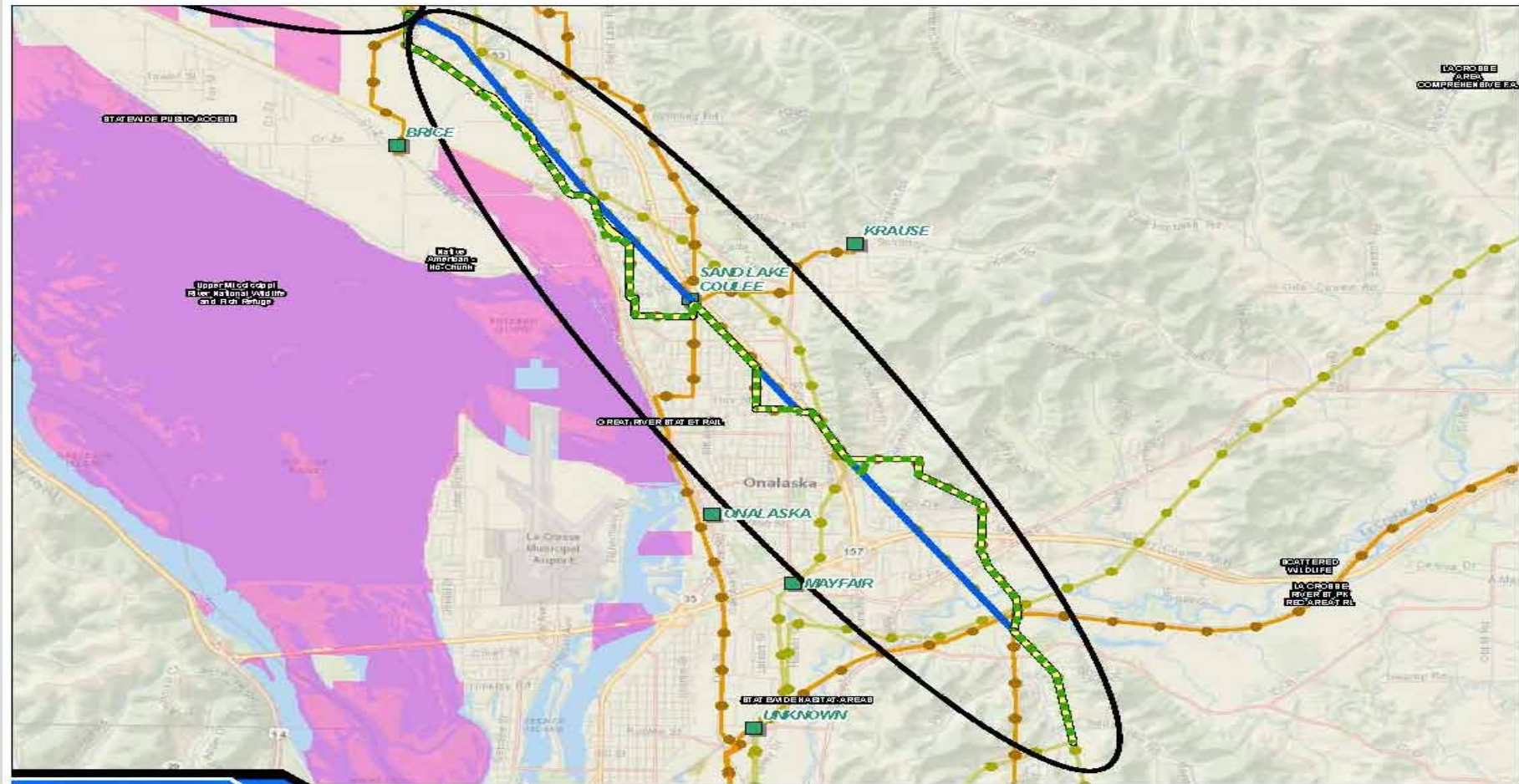
South Section

Legend

- Q1 Rebuild South Section
 - Q1 Alternative 1 (69 kV)
 - Q1 Alternative 2 (69 kV)
 - Q1 Alternative 3 (161 kV)
- Existing Utility
 - Substation
 - Transmission Line (PSCW)
 - 69 kV Transmission Line
 - 161 kV Transmission Line
- Project Segment
 - South Section
- Jurisdiction
 - Federal Land
 - State Land



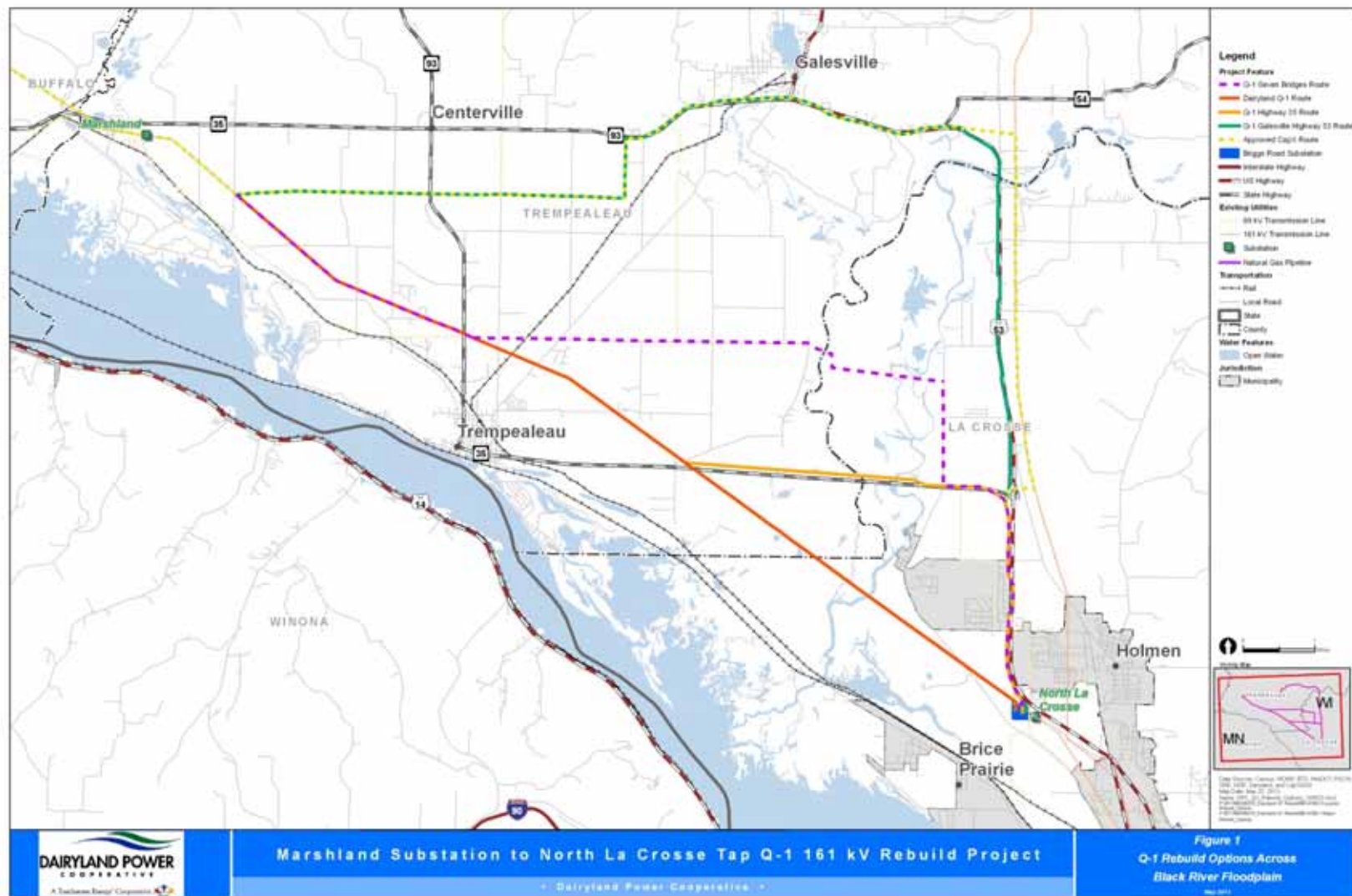
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 Date: March 20, 2018
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 File Path: P:\2018\Q1 161 kV Rebuild\Q1 Rebuild 100000
 S:\Map\nad83\Q1 161 kV Rebuild\Q1 Rebuild 100000



Marshland Substation to North LaCrosse Tap Q-1 161 kV Rebuild Project

• Dairyland Power Cooperative •

Marshland Substation to North LaCrosse Tap
 Q-1 161 kV Rebuild Sheet Map
 100000



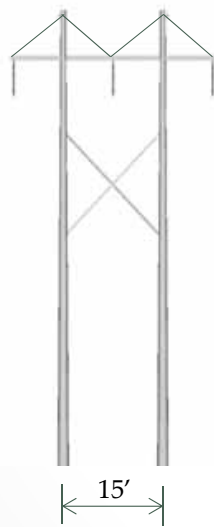
161kV Transmission Line Rebuild

Van Loon Bottoms



Line Design Options

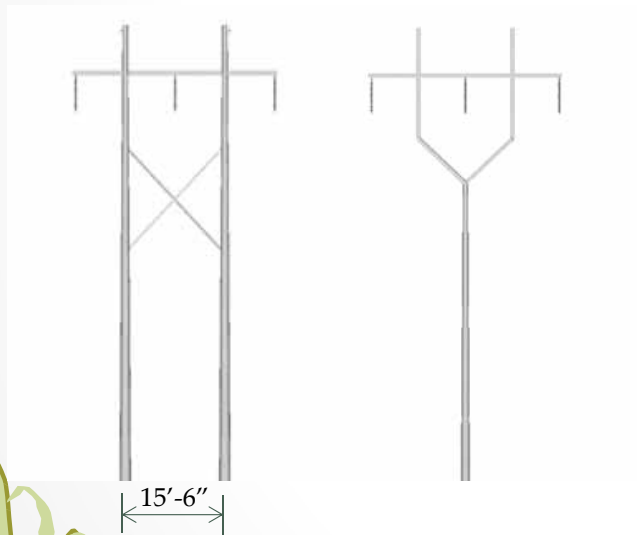
Existing Wood Structures



Cleared Right-of-Way Width	80'
Average Height Above Ground	55'
Quantity of Structures in Bottoms	22 (44 poles)
Span Lengths	550'-750'

Line Design Options

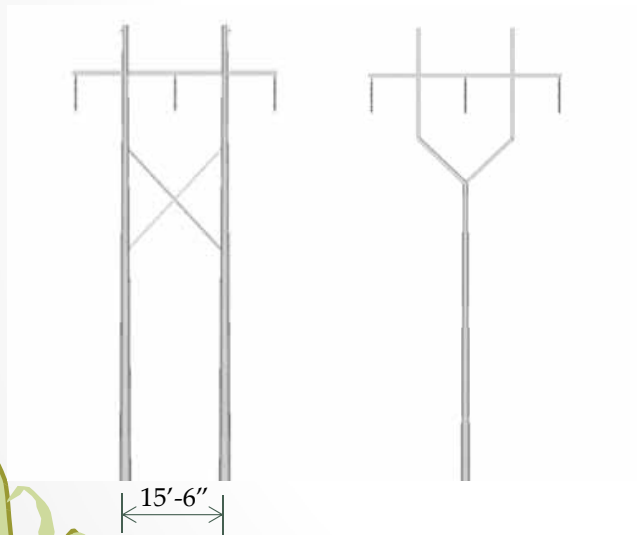
H-Frame or Y-Frame Steel
at Existing Structure Locations



Cleared Right-of-Way Width	80'
Average Height Above Ground	70'
Quantity of Structures in Bottoms	22 (44 poles for H)
Span Lengths	550'-750'

Line Design Options

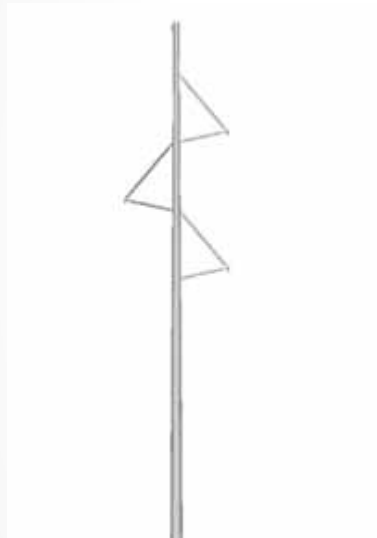
H-Frame or Y-Frame Steel
Optimized 80' Right-of-Way



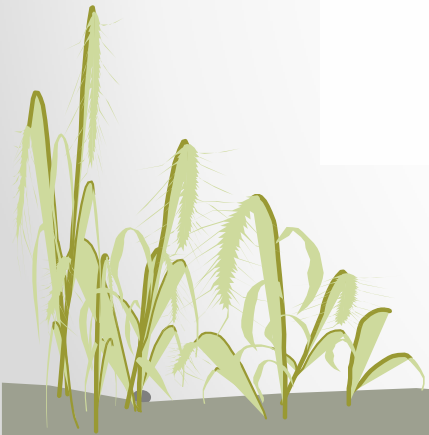
Cleared Right-of-Way Width	80' Optimized
Average Height Above Ground	75'
Quantity of Structures in Bottoms	18 (36 poles for H)
Span Lengths	850'-900'

Line Design Options

Braced Post Steel



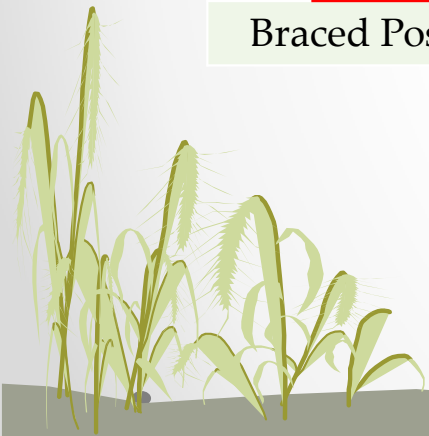
Cleared Right-of-Way Width	40'
Average Height Above Ground	75'
Quantity of Structures in Bottoms	39
Span Lengths	400'



Line Design Options

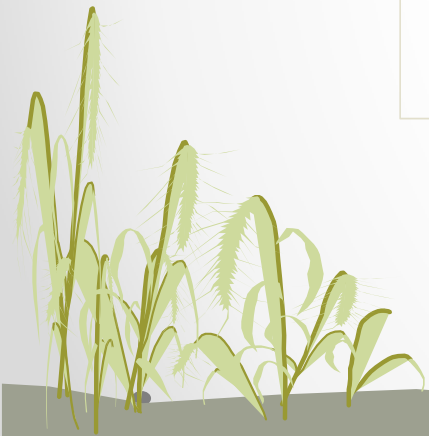
Comparison

Str. Type	R/w Width (ft.)	Avg. AGH (ft.)	No. of Strs.	Span Length (Ft.)
Existing Wood H	80	55	22	550 - 750
H or Y-Frame Steel	80	70	22	550 - 750
H or Y-Frame Steel	80 Opt.	75	18	850 - 900
Braced Post Steel	40	75	39	400



Line Construction Options

- Conventional construction equipment with matting
- Helicopter construction with vibratory caissons
- Low ground pressure equipment (marsh buggies) with helical piers



Line Construction Options

Conventional construction equipment with matting



Line Construction Options

Conventional construction equipment with matting



Line Construction Options

Conventional construction equipment with matting



Line Construction Options

Conventional construction equipment with matting



Line Construction Options

Helicopter construction with vibratory caissons



Line Construction Options

Helicopter construction with vibratory caissons



Line Construction Options

Helicopter construction with vibratory caissons



Line Construction Options

Helicopter construction with vibratory caissons



Line Construction Options

Low ground pressure equipment with helical piers



Line Construction Options

Low ground pressure equipment with helical piers



Line Construction Options

Low ground pressure equipment with helical piers



Line Construction Options

Low ground pressure equipment with helical piers

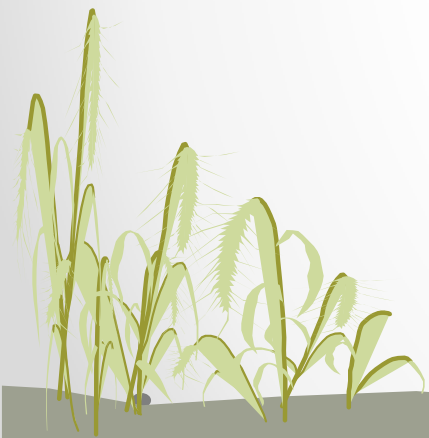


Line Construction Options

Low ground pressure equipment with helical piers

Ground Pressures

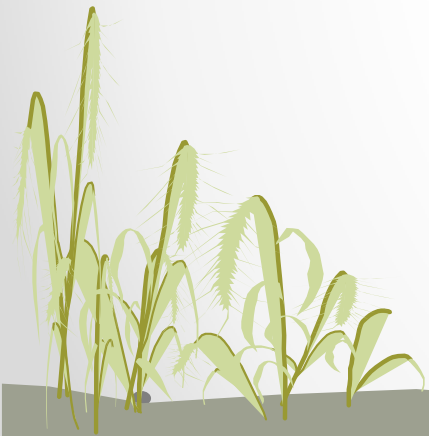
Man on Snowshoes	0.5 psi
Marsh Buggy w/Excavator	1.75 psi
Marsh Buggy w/Crane	2.1 psi
Tracked Soil Boring Rig	3.5 psi
Man Standing Still	8 psi
Man Walking	16 psi
Horse Standing Still	25 psi
Wheeled ATV	35 psi
Mountain bike	40 psi
Horse Galloping	500 psi



Line Construction Options

Cost Comparison
(costs common to all options not included)

Structure Type	Conv. Equip. w/Vib. Caisson	Helicopter w/Vib. Caisson	Helicopter w/Helical Piers	Low Pressure Equip. w/Helical Piers
Steel H-frame	\$4,858,200	\$2,116,400	\$2,430,400	\$1,566,400
Steel Y-frame	\$4,795,600	\$1,875,750	\$1,780,700	\$1,384,700





DATE/TIME 10:30 AM
Monday, August 5th, 2013

LOCATION U.S. Fish and Wildlife Service
Upper Mississippi River National Wildlife and Fish Refuge
Brice Prairie Visitor Center Multipurpose Room
N5727 County Road Z
Onalaska, WI 54650

ATTENDEES See attached Attendee List

I. Introductions

Introductions were made.

II. Updated Q-1 Construction Plan for the Van Loon Wildlife Area

Chuck Thompson from Dairyland Power Cooperative (DPC) provided an update on the Project. Craig Anderson DPC transmission engineer then gave a presentation that provided updated transmission line design information and methods for construction for the Q-1 161 kilovolt (kV) Transmission Line (Q-1) through the Black River floodplain. A copy of the presentation is attached (**Attachment A**). The video that was shown is available at:

<http://www.ericksonaircrane.com/videos.php>

DPC proposes to rebuild the Q-1 through the Black River floodplain using helicopters and vibratory caissons. The Q-1 would be rebuilt using Y-Frame steel structures that are approximately 65 feet tall that would require a right-of-way (ROW) of approximately 65 feet. The Y-Frame steel structures would reduce the current ROW width from 80 feet down to 65 feet. The Y-Frame structures would also allow the Q-1 to be rebuilt at the current average tree canopy height of 65 feet. The new structures would need to be constructed at least 15 feet away from existing structures.

The revised design results in a reduction in the number of structures in the Black River floodplain from 22 to 21; reduces the number of structures on Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (USFWS) land from 11 to 8; and since the Y-frame structures are single poles and the H-frame structures are double poles the number of poles are reduced from 44 to 21.

The USFWS asked if DPC has had any experience using the helicopter with vibratory caissons. DPC stated that have used helicopter construction, but not with the vibratory caissons. Also, the USFWS asked if the poles bolt directly onto the caisson that is vibrated into the ground. DPC stated that they are.

The USFWS asked what the average lifespan of the rebuilt Q-1 is anticipated to be. DPC state that the anticipated lifespan of the rebuilt Q-1 would be 80-years. That includes the poles and wires.



DPC stated that the method for acquiring soil borings within the Black River floodplain is being reviewed. One option is to use the marsh buggy, which exerts about 1.75 psi. However, the cost to transport the buggy to Wisconsin and use it for a week or two is approximately \$100,000. DPC has also looked at the option of using tracked vehicles, which exert about 3.5 psi, to access the Black River floodplain. As a point of reference a person standing exerts about 8 psi. The tracked vehicles would need to cross the open water channels and this is where DPC could use some input from the agencies regarding methods and related permitting. DPC is currently checking with companies that may have smaller swamp buggies. DPC is assuming the worst case scenario that there would be no ice on Tank Creek and the Black River.

DPC has also looked at using floating bridges to gain access for borings. The floating bridges also present a problem because they require large equipment to transport them and require a lot of matting. Matting is cost prohibitive because DPC would need to rent a large amount of matting and have it transported to the Project.

The USFWS asked about access points. DPC reviewed the three main access points they are considering; the north, sawmill, and the Smith access.

Chuck Thompson brought along some bird diverter examples. DPC prefers swan diverters. These would likely be 30 feet apart on each line and staggered so they would essentially be at a 15-foot spacing. The diverters could be grey or yellow. Chuck asked if the agencies had a preference. No preference was indicated.

III. Cultural Resources Update

Vicki Twinde-Javner, Mississippi Valley Archaeology Center (MVAC), provided an overview of cultural resource work that has been done in the Van Loon floodplain area.

A previously-recorded archaeology site (1980) is located in an upland area near the proposed staging area. An archeological survey would likely need to be completed prior to construction. A total of 17 previously-recorded mounds are located just south of the river. A permit would be required from the Wisconsin State Historic Preservation Office (WI SHPO) and USFWS to do further survey related to the mounds. There is one proposed pole location that may be within a mound. DPC stated that the pole could be moved. MVAC stated that avoidance is best. There are two long linear features on USFWS land that are not listed as burial mounds and may be related to logging and the former sawmill in New Amsterdam.

IV. Biological Resources Update

Terry VanDeWalle, Stantec Consulting, provided an update on the invasive species survey that was completed for the Project. There was one area that was not accessible because it was too wet, but this area was viewed from an adjacent high point and not invasive species were noted. There were a few areas that common buckthorn was found off the ROW. In addition, Canada thistle and spotted knapweed was found in a few small areas. One purple loosestrife was found and pulled. A map will be available in approximately one week.

Stantec also provided an overview of the avian issues that may be encountered during the Project. Waterfowl and raptors are bird species that are susceptible to collision with transmission lines. The Q-1 would be rebuilt on Y-frame steel structures that are 65 feet tall so that it would be at or below the average tree canopy height. Collision issues are unlikely under this scenario. Bird diverters would be useful for areas where the Q-1 where a tree canopy does not exist or where the structures are higher than the trees. The bird diverters would be installed after the Q-1 rebuild Project.



Terry reviewed the habitat in the area and stated that the hydrology in the area was not conducive to the Eastern massasauga, it is too wet. A survey would not be productive. The WDNR has requested that a habitat assessment for the Eastern massasauga be completed for the Q-1 Project corridor and submitted to them. DPC agreed to have the habitat assessment completed.

V. Permits

DPC asked about the permits that would be required from the WDNR and USFWS to allow for the swamp buggy or tracked vehicle to cross the river and Tank Creek to complete soil borings planned for this September. USFWS stated that a Special Use Permit and a License to Cross a Refuge would be required from them. Chuck said that the construction plan would be updated with access routes, staging areas, any other areas of land disturbance identified. The WDNR stated that a wetland permit, NPDES Permit, and Erosion Control Plan would be required from them to rebuild the Q-1 Project. DPC stated that they were continuing to work on a wetland permit for the WDNR and USACE. DPC stated that they would like to have individual meetings with the USFWS and WDNR to discuss the permitting requirements for the Q-1 Project.



VI. Action Items

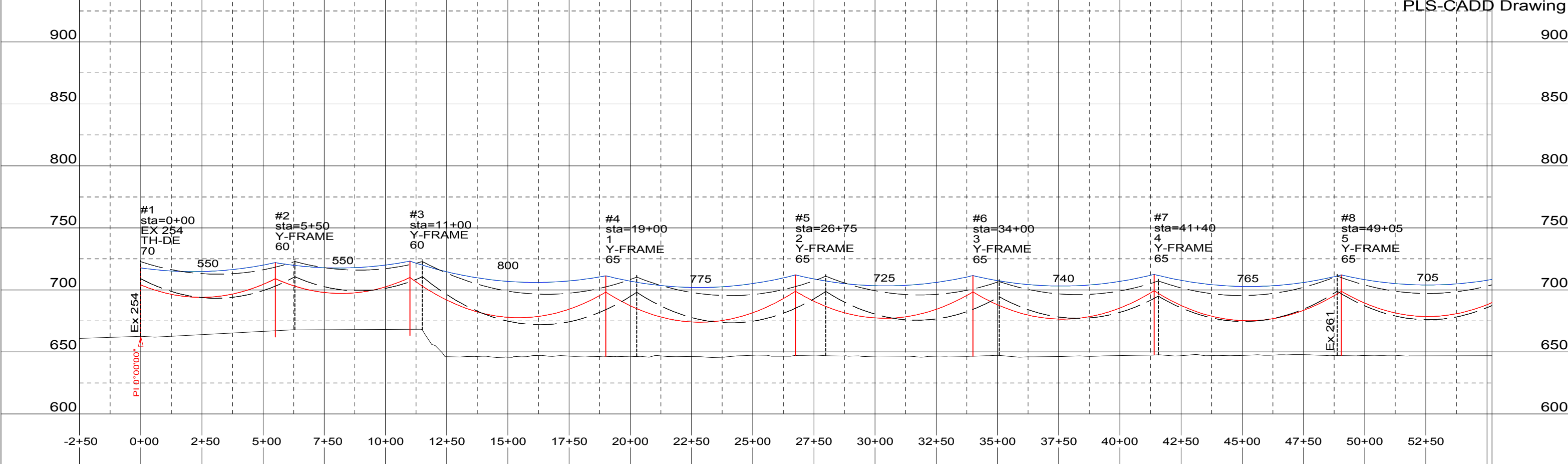
Item	Task Description	Responsible Person	Due Date
1	Revised Van Loon Construction Plan that also addresses soil boring methodology	DPC & AECOM	
2	Example Vegetation Management Plan	USFWS, Kendra Niemec	
3	Invasive Species Management Plan	DPC, AECOM, Stantec	
4	Vegetation Management Plan	DPC, AECOM, Stantec	
5	Eastern massasauga habitat assessment	DPC & Stantec	
6	Schedule meetings with USFWS and WDNR individually to discuss permitting requirements	DPC & AECOM	

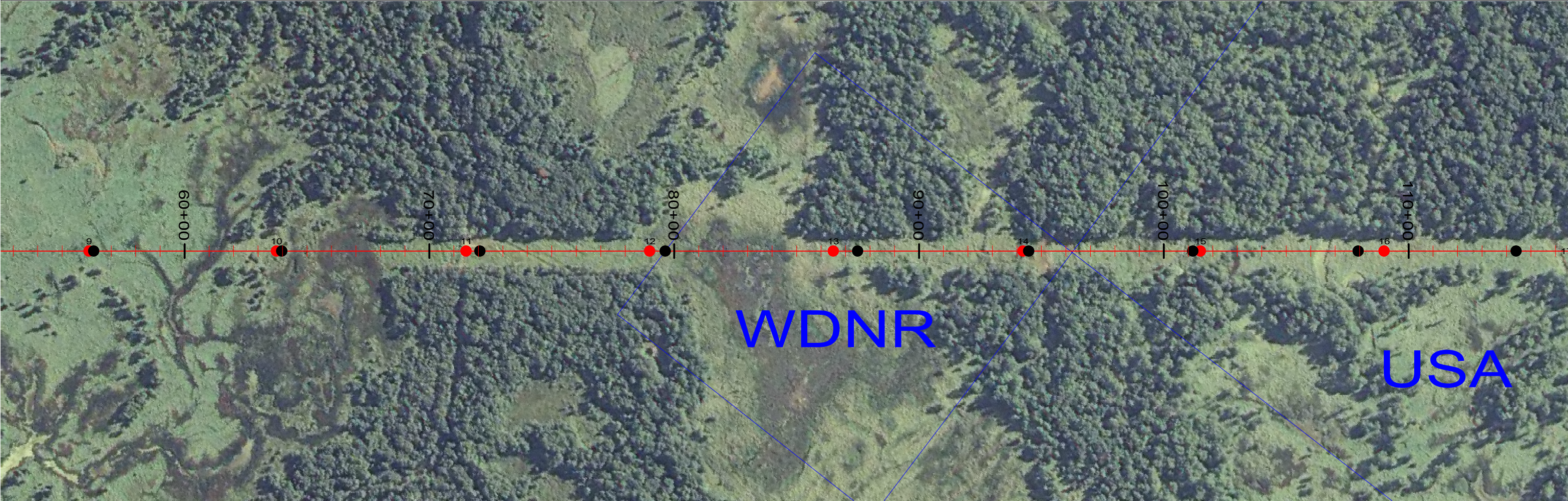
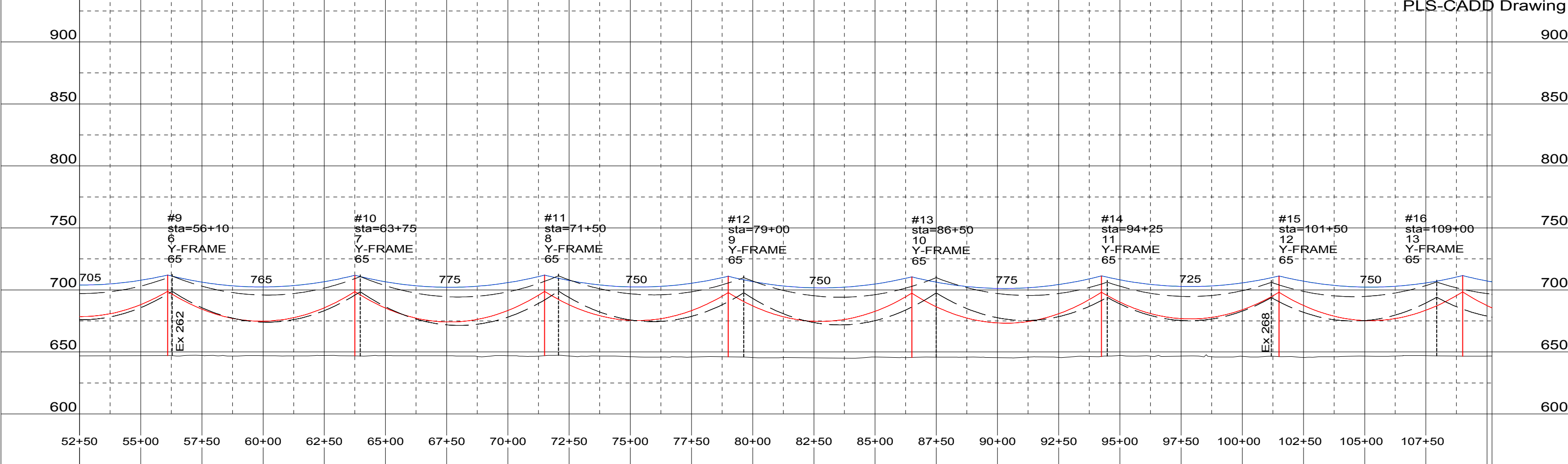
August 5th, 2013

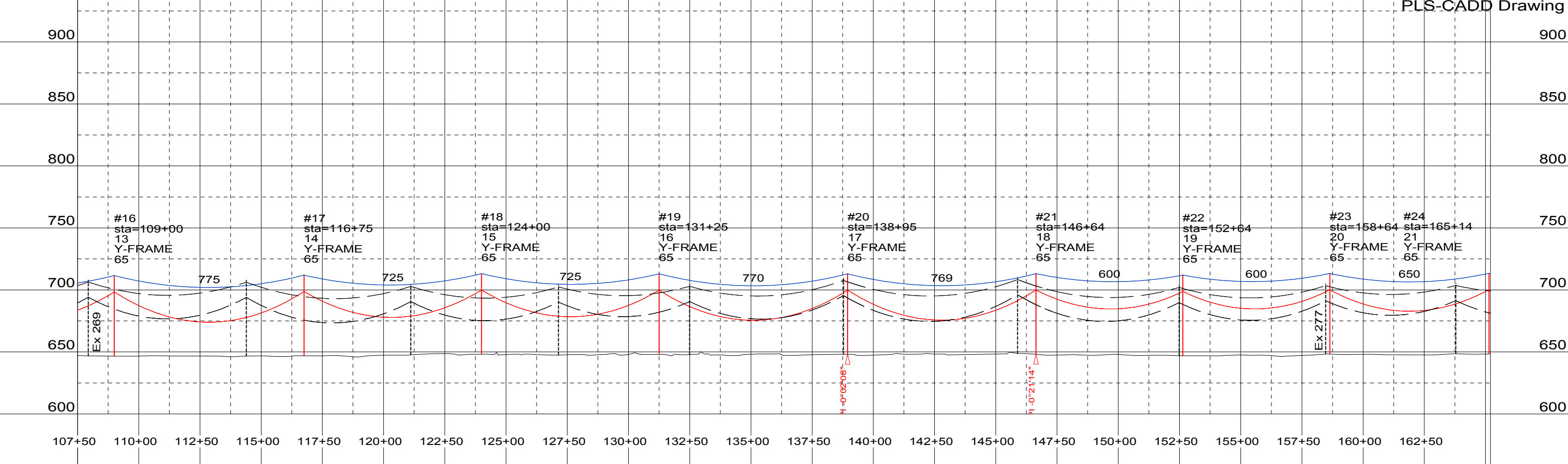
Dairyland Power Cooperative 161 kV Rebuild Project (Q-1)

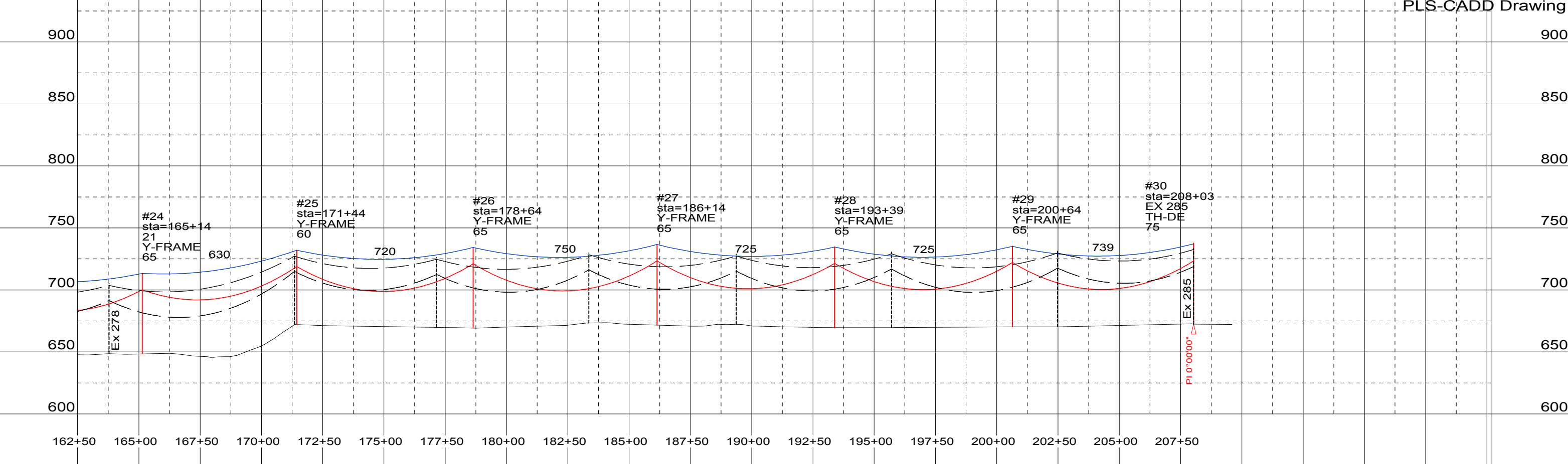
Sign-In

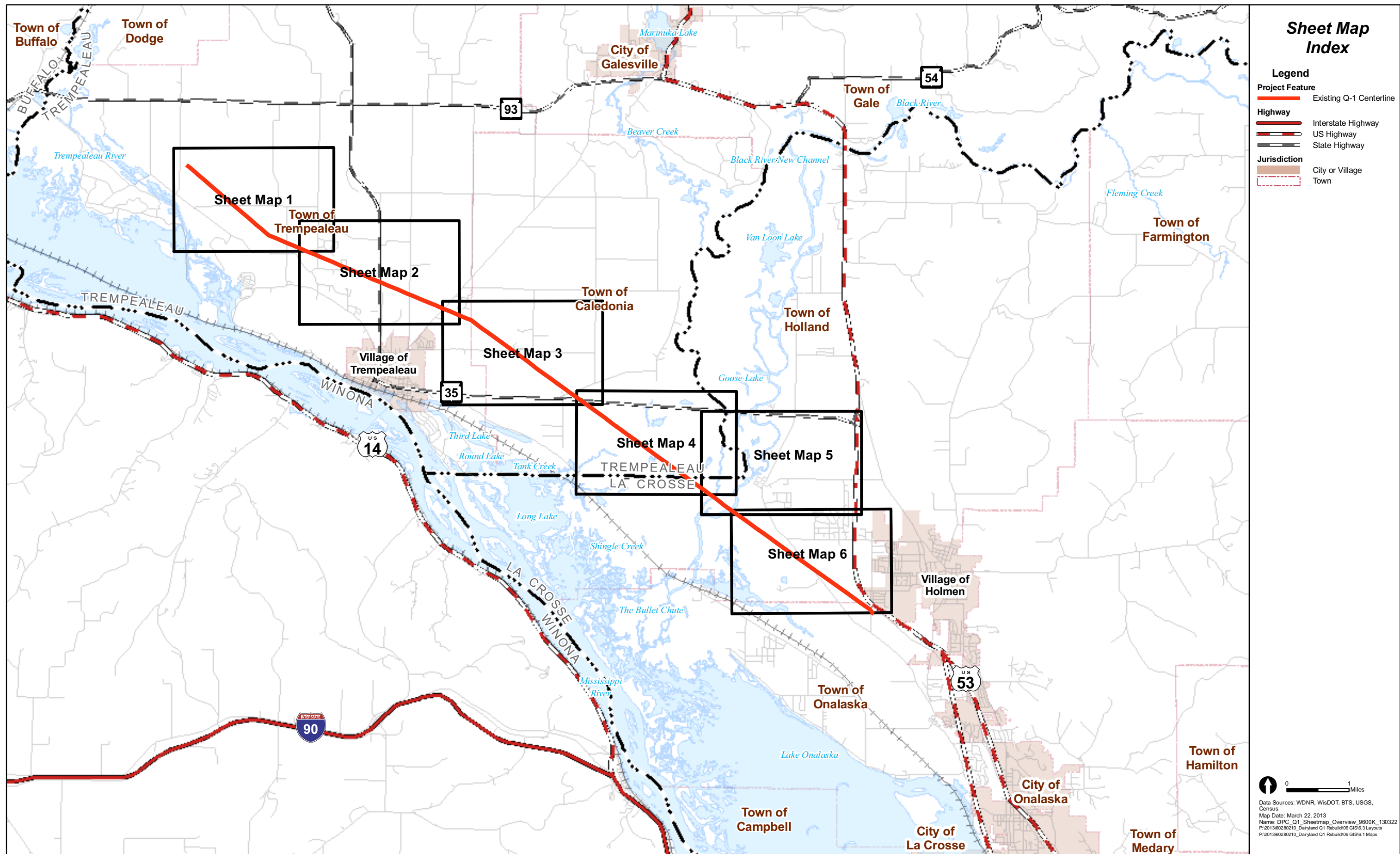
<u>Name</u>	<u>Email</u>	<u>Phone</u>
1. Phil Delphy	via phone	via phone
2. Megs Rhende	via phone	via phone
3. Cheryl Laatsch	via phone	via phone
4. Vicki Twinde-Javner	twinde.vick@uwlax.edu	NA
5. Melissa Tumbleson	Melissa.Tumbleson@Wisconsin.gov	(608)267-0862
6. Chuck Thompson	cat@dairynet.com	(608) 787-1432
7. Joleen Trussoni	jkt@dairynet.com	(608) 787-1472
8. Ron Lichtie	Ronald.Lichtie@wisconsin.gov	(608) 785-9992
9. Jim Nissen	james_nissen@fws.gov	(608) 779-2385
10. Kendra Niemec	kendra_niemec@fws.gov	(608) 779-2386
11. Terry VanDeWalle	Terry.Vandewalle@stantec.com	(319) 334-3755
12. Mark Rothfork	Mark.Rothfork@aecom.com	(763) 551-2440
13. Leslie Knapp	Leslie.Knapp@aecom.com	(763) 551-2441
14. Brent Drenckhahn	brd@dairynet.com	(608) 792-5120
15. Craig Anderson	cga@dairynet.com	(608) 787-1337
16. Jim Bertelsen	jbe@dairynet.com	(608) 787-1237













Sheet Map 1

Legend

Project Feature

- Existing Q-1 Structure
- Existing Q1 Centerline
- CapX Access Route¹
- DPC Access Route

Identified Natural Resource¹

- Wetland Delineated from Aerial Interpretation
- Field Sketched Wetland
- Field Sketched Open Water
- Field Sketched Waterway

WDNR 24K Hydrography

- Intermittent Stream
- Perennial Stream
- Waterbody

Access Route Waterway Crossing¹

- Temporary Clear Span Bridge
- Miscellaneous Structure

Jurisdiction

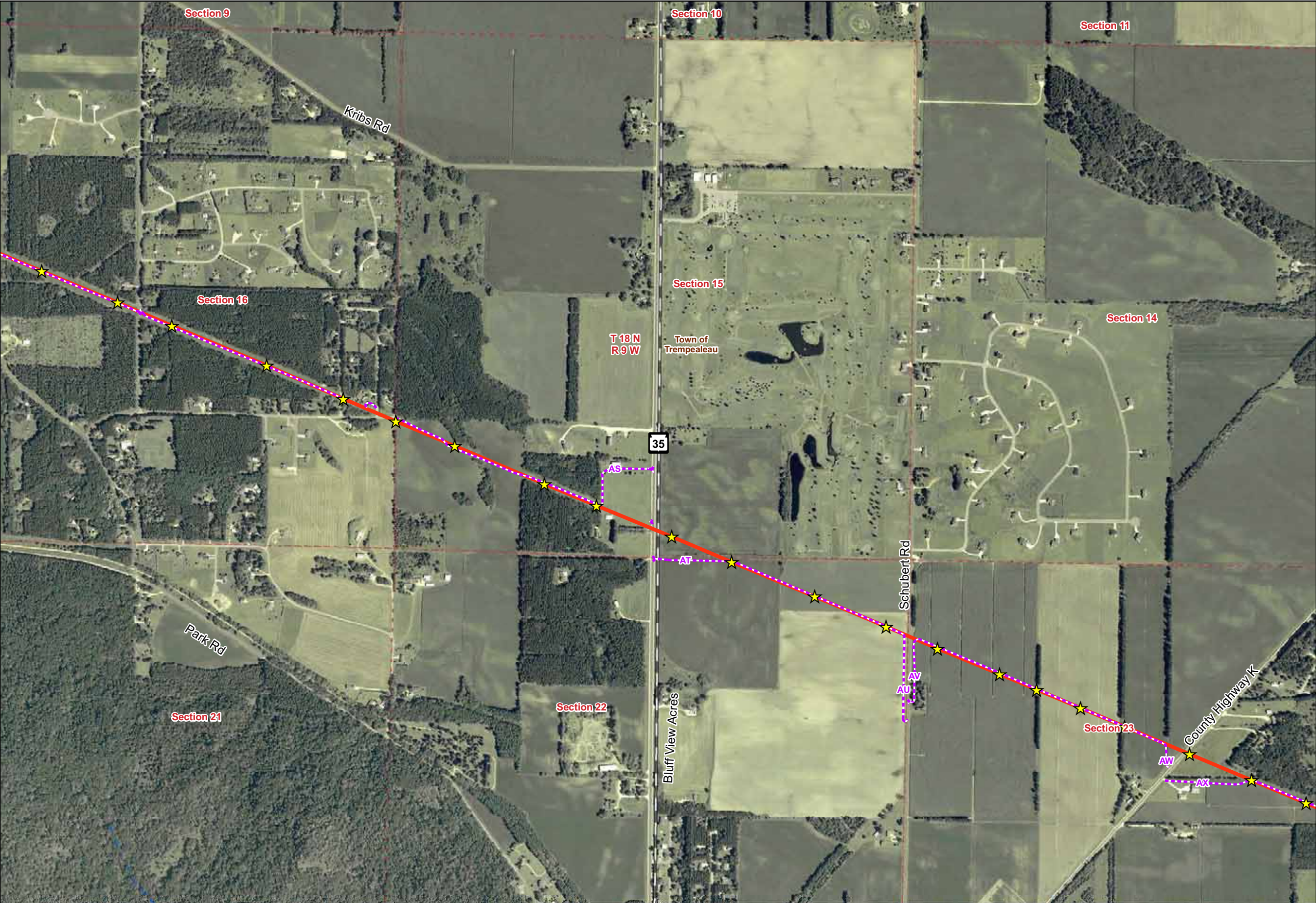
- State
- County
- Section
- City, Village or Town

¹ Based on CapX2020 data available for Sheet Map 1 through 13 only.

0 800 Feet

Sheet Map Index

Data Sources: WDNR, WisDOT, BTS, USGS, FEMA, WWI, Census, CapX2020
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P:2013/02/28/2010_Dairyland Q1 Rebuild/06 GIS/6.1 Maps
Aerial Photography Published by National Agriculture Imagery Program (NAIP), 2010



Sheet Map 2

Legend

Project Feature

- Existing Q-1 Structure
- Existing Q1 Centerline
- CapX Access Route¹
- DPC Access Route

Identified Natural Resource¹

- Wetland Delineated from Aerial Interpretation
- Field Sketched Wetland
- Field Sketched Open Water
- Field Sketched Waterway

WDNR 24K Hydrography

- Intermittent Stream
- Perennial Stream
- Waterbody

Access Route Waterway Crossing¹

- Temporary Clear Span Bridge
- Miscellaneous Structure

Jurisdiction

- State
- County
- Section
- City, Village or Town

¹ Based on CapX2020 data available for Sheet Map 1 through 13 only.

0 800 Feet

Sheet Map Index

Data Sources: WDNR, WisDOT, BTS, USGS, FEMA, WWI, Census, CapX2020
Map Date: March 22, 2013
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Aerial Photography Published by National Agriculture Imagery Program (NAIP), 2010

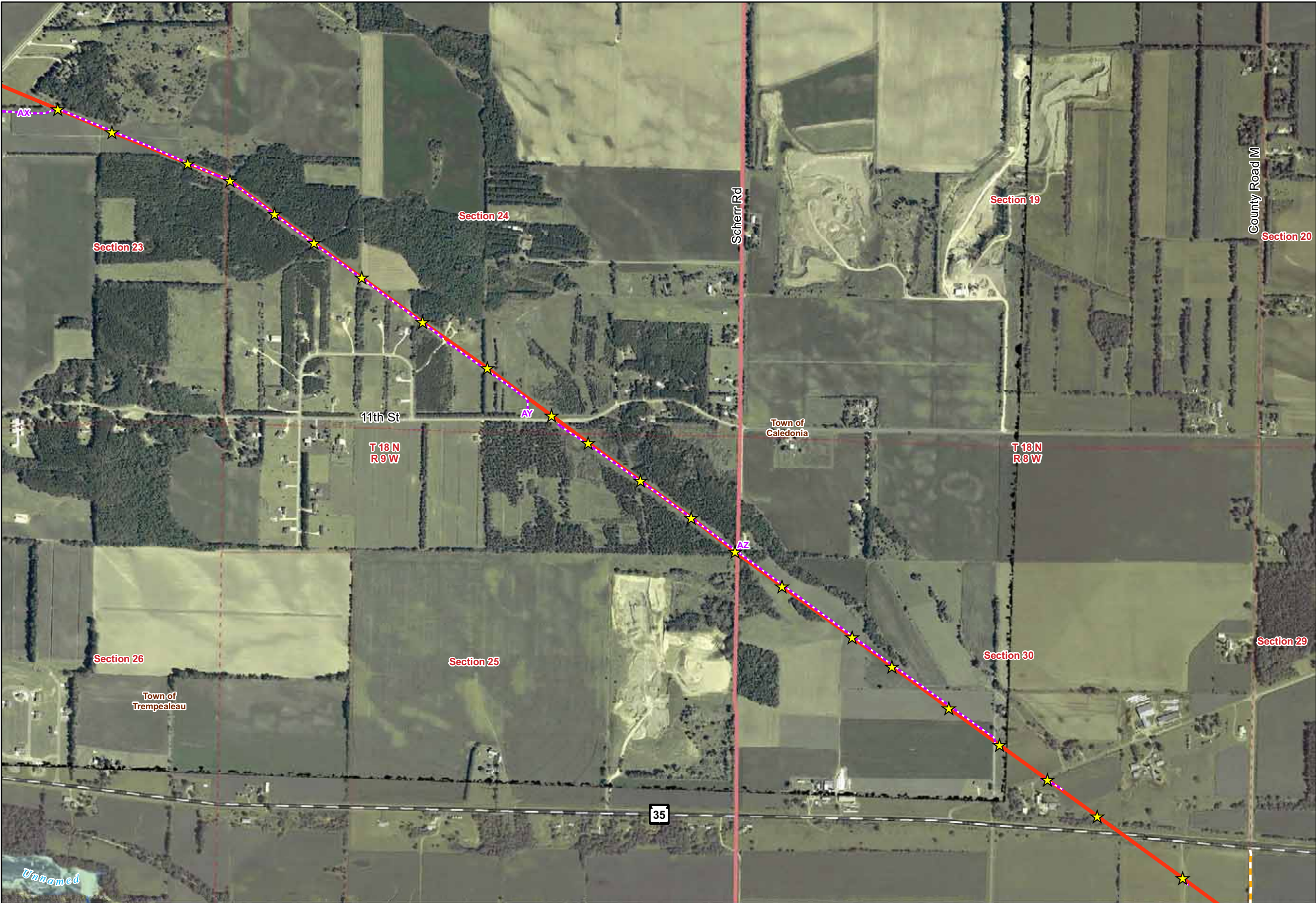


Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

• Dairyland Power Cooperative •

Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

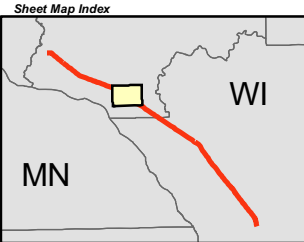
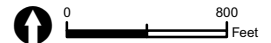
March 2013



Sheet Map 3

- Legend**
- Project Feature**
- Existing Q-1 Structure
 - Existing Q1 Centerline
 - CapX Access Route¹
 - DPC Access Route
- Identified Natural Resource¹**
- Wetland Delineated from Aerial Interpretation
 - Field Sketched Wetland
 - Field Sketched Open Water
 - Field Sketched Waterway
- WDNR 24K Hydrography**
- Intermittent Stream
 - Perennial Stream
 - Waterbody
- Access Route Waterway Crossing¹**
- Temporary Clear Span Bridge
 - Miscellaneous Structure
- Jurisdiction**
- State
 - County
 - Section
 - City, Village or Town

¹ Based on CapX2020 data available for Sheet Map 1 through 13 only.



Data Sources: WDNR, WisDOT, BTS, USGS, FEMA, WWI, Census, CapX2020
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Aerial Photography Published by National Agriculture Imagery Program (NAIP), 2010



Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

• Dairyland Power Cooperative •

Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project
March 2013

Sheet Map 4

Legend

Project Feature

- Existing Q-1 Structure
- Existing Q1 Centerline
- CapX Access Route¹
- DPC Access Route

Identified Natural Resource¹

- Wetland Delineated from Aerial Interpretation
- Field Sketched Wetland
- Field Sketched Open Water
- Field Sketched Waterway

WDNR 24K Hydrography

- Intermittent Stream
- Perennial Stream
- Waterbody

Access Route Waterway Crossing¹

- Temporary Clear Span Bridge
- Miscellaneous Structure

Jurisdiction

- State
- County
- Section
- City, Village or Town

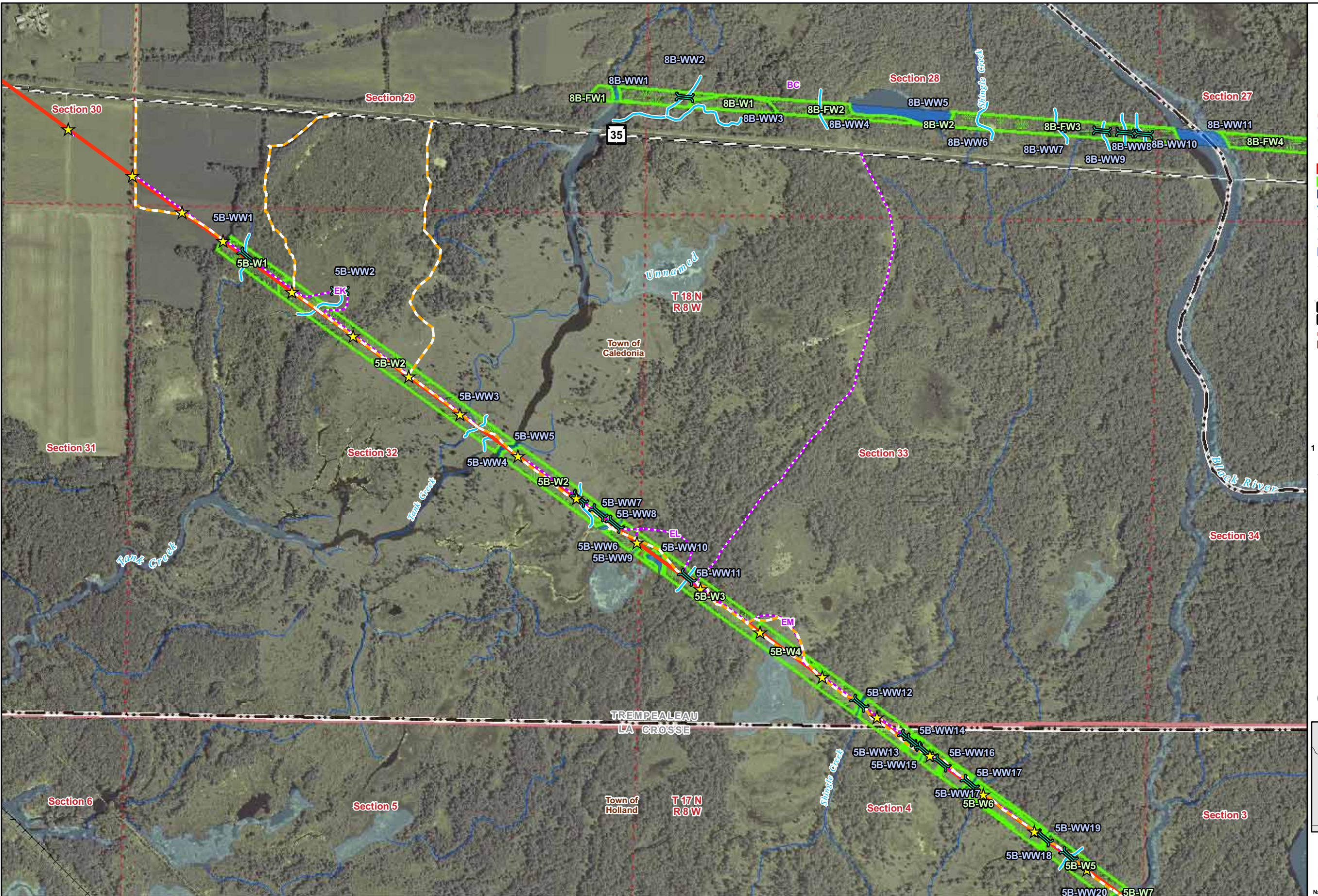
¹ Based on CapX2020 data available for Sheet Map 1 through 13 only.



Sheet Map Index



Data Sources: WDNR, WisDOT, BTS, USGS, FEMA, WWI, Census, CapX2020
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Aerial Photography Published by National Agriculture Imagery Program (NAIP), 2010

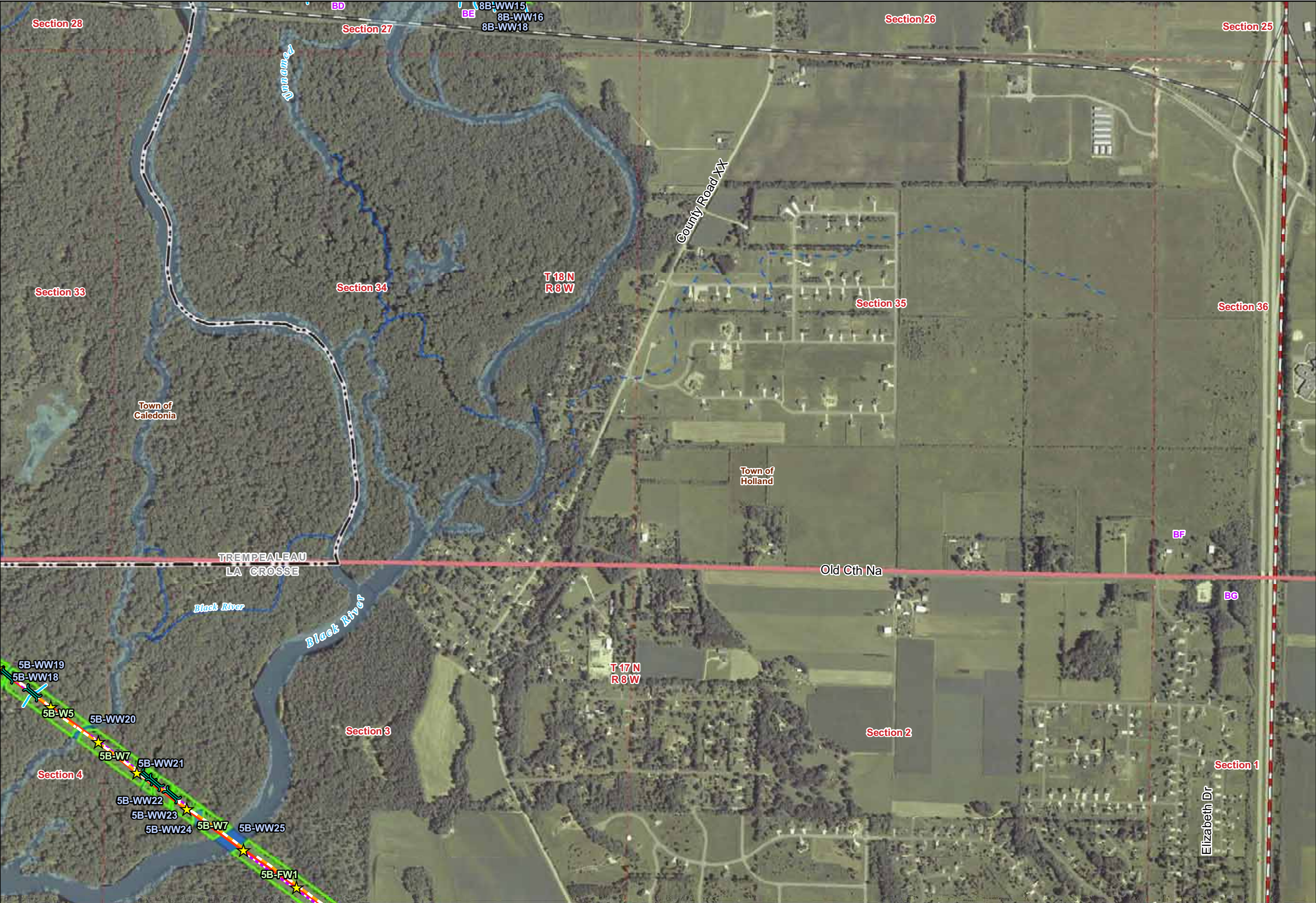


Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

• Dairyland Power Cooperative •

Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

March 2013



Sheet Map 5

Legend

Project Feature

Existing Q-1 Structure

Existing Q1 Centerline

CapX Access Route¹

DPC Access Route

Identified Natural Resource¹

Wetland Delineated from Aerial Interpretation

Field Sketched Wetland

Field Sketched Open Water

Field Sketched Waterway

WDNR 24K Hydrography

Intermittent Stream

Perennial Stream

Waterbody

Access Route Waterway Crossing¹

Temporary Clear Span Bridge

Miscellaneous Structure

Jurisdiction

State

County

Section

City, Village or Town

¹ Based on CapX2020 data available for Sheet Map 1 through 13 only.

Sheet Map Index

Data Sources: WDNR, WisDOT, BTS, USGS, FEMA, WWI, Census, CapX2020

Map Date: March 22, 2013

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Aerial Photography Published by National Agriculture Imagery Program (NAIP), 2010



Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

• Dairyland Power Cooperative •

Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project
March 2013

Sheet Map 6

Legend

Project Feature

- ★ Existing Q-1 Structure

- Existing Q1 Centerline
 CapX Access Route¹
 DPC Access Route

Identified Natural Resource ¹

-  Wetland Delineated from Aerial Interpretation
 Field Sketched Wetland
 Field Sketched Open Water
 Field Sketched Waterway

NR 24K Hydrography

- Intermittent Stream
— Perennial Stream
Waterbody

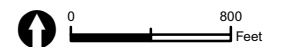
Less Route Waterway Crossing¹

- Temporary Clear Span Bridge
Miscellaneous Structure

sdiction

- State
County
Section
City, Village or Town

¹ Based on CapX2020 data available for Sheet Map 1 through 13 only.



Sheet Map Index



Data Sources: WDNR, WisDOT, BTS, USGS,
FEMA, WWI, Census, CapX2020
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Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

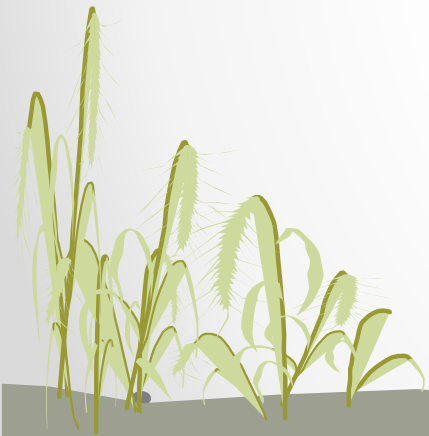
• Dairyland Power Cooperative •

Marshland Substation to North La Crosse Tap Q-1 161 kV Rebuild Project

March 2013

Q-1 161kV Transmission Line Rebuild

Black River Floodplain



Line Design and Construction



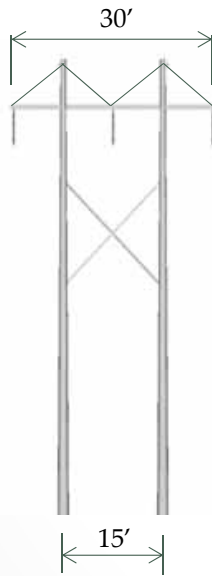
Tree Canopy Height

USFWS and WIDNR

Survey	Tree	Survey	Tree
Shot No.	Height (ft.)	Shot No.	Height (ft.)
1	70	15	80
2	64	16	63
3	65	17	54
4	69	18	65
5	61	19	67
6	57	20	60
7	74	21	55
8	57	22	62
9	85	23	55
10	78	24	79
11	62	25	51
12	62	26	50
13	55	27	65
14	80	Average	64.63

Line Design

Existing Wood Structures



Cleared Right-of-Way Width	80'
Average Height Above Ground	55'
Maximum Height Above Ground	61'
Quantity of Structures in Bottoms	22 (44 poles)
Quantity of Structures on USFWS/WDNR	11 (22 poles)
Span Lengths	533'-882'
Average Span	695'

Line Design

New Y-Frame Steel Structures



Cleared Right-of-Way Width	65'
Average Height Above Ground	65'
Maximum Height Above Ground	65'
Quantity of Structures in Bottoms	21 (21 poles)
Quantity of Structures on USFWS/WIDNR	8
Span Lengths	600'-800'
Average Span	730'

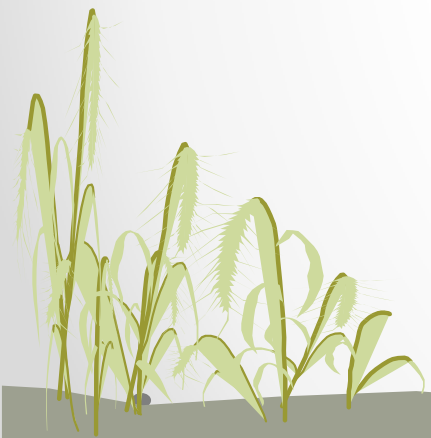
Line Design

Comparison

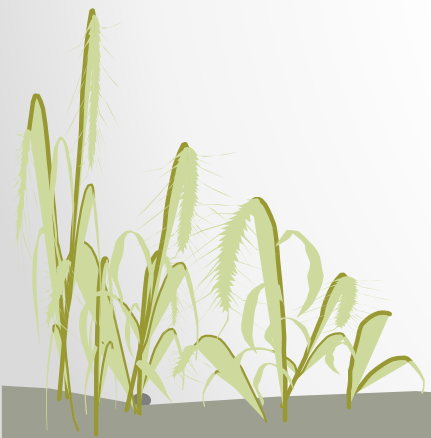
Structure Type	R/W Width (ft.)	Avg. Above Ground Height (ft.)	No. of Strs. in Bottoms	No. Of Strs. On USFWS/WIDNR	No. of Poles in Bottoms	Avg. Span Length (Ft.)
Existing Wood H-Frame	80	55	22	11	44	695
New Steel Y-Frame	65	65	21	8	21	730



Plan and Profile



Line Construction



Line Construction

Helicopter construction with vibratory caissons



Line Construction

Helicopter construction with vibratory caissons

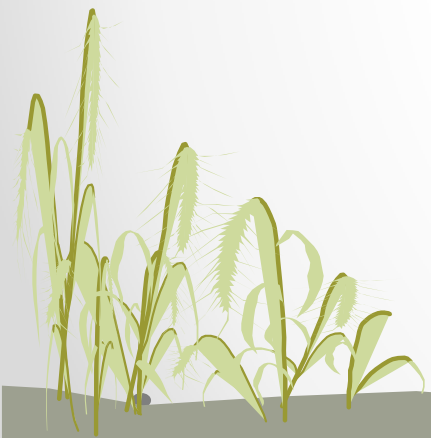


Line Construction

Helicopter construction with vibratory caissons



Video



Line Construction

Helicopter construction with vibratory caissons

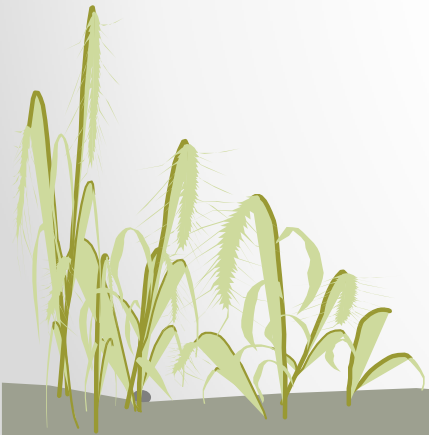


Soil Borings



Ground Pressures

Man on Snowshoes	0.5 psi
Marsh Buggy w/Excavator	1.75 psi
Marsh Buggy w/Crane	2.1 psi
Tracked Soil Boring Rig	3.5 psi
Man Standing Still	8 psi
Man Walking	16 psi
Horse Standing Still	25 psi
Wheeled ATV	35 psi
Mountain bike	40 psi
Horse Galloping	500 psi





State of Wisconsin
Governor Scott Walker

Department of Agriculture, Trade and Consumer Protection
Ben Brancel, Secretary

November 15, 2013

Carole W. Peter
Permitting Lead
AECOM Technical Services, Inc.
800 La Salle Avenue, Suite 110
Minneapolis, MN 55402

Re: Dairyland Power Cooperative Q-1 Marshland Substation to Briggs Road Substation
161 kV Transmission Rebuild Project
Trempealeau and La Crosse County, Wisconsin

Dear Ms. Peter:

This letter is in response to your October 23 letter to Peter Nauth requesting the Wisconsin Department of Agriculture, Trade and Consumer Protection's review of the project listed above.

The information that AECON has provided indicates that the rebuild of the line will be done within existing right-of-way. Dairyland Power Coop is also proposing to lease two agricultural parcels to use as staging areas for the project. DATCP supports Dairyland's plans to restore these parcels to agricultural use after the project is completed.

Since there is no potential for the use of eminent domain as part of this project, this project does not fall under the authority of the Agricultural Impact Statements program. Therefore, an AIS will not be prepared for this project.

Thank you for the opportunity to review this project. Please contact me if you have any questions.

Sincerely,

Alice Halpin
Agricultural Impact Analyst
(608)224-4646

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