CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-07

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-07 / Page 2-29, Tables 2.1-1 through 2.1-9 and Appendix L / AFR Section 2.1.2.2
Provide segment ID identification for pole configurations. The pole configuration descriptions in Segment 2.1.2.2, Tables 2.1-1 thru 2.1-9 and the figures in Appendix L do not identify a specific segment.

Response
Appendix L has been revised to include a Segment to Structure Drawing Reference table and notes were added to appendix figures as identified on the appendix cover sheet to address this comment. This revised Appendix L replaces the original Appendix L.

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REVISED March 2011

Appendix L: Pole Diagrams

Segment to Structure Drawing Reference Table added.
Note added to drawings S6-7A, S6-7B, S6-8, S6-9, S6-10A, S6-10B, S6-13, S6-15, S6-16 and S6-32.

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Segment to Structure Drawing Reference

Revised March 2011-Table Added to Appendix L

Segment	Drawing Number	Drawing Description
1	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-12	345/161/69kV Triple Circuit Tangent
	S6-13	345/161/69kV Triple Circuit Deadend
	S6-32	161kV Single Circuit 60°-95° Deadend
2A1	S6-3	345/161kV Double Circuit 5°-15° I-String
2A2-Q1 Routes	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-14	69kV Mid-Span Single Circuit Tangent
2A2-Arcadia Route	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-9	345kV Single Circuit 30°-60° Deadend
2A3	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
	S6-14	69kV Mid-Span Single Circuit Tangent
2B	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
2C	S6-1	345/161kV Double Circuit I-String Tangent
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
2D	S6-14	69kV Mid-Span Single Circuit Tangent
	S6-17	345/161kV Double Circuit I-String Tangent w/69kV UB
2E	S6-1	345/161kV Double Circuit I-String Tangent
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-14	69kV Mid-Span Single Circuit Tangent
2F	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
2G	S6-1	345/161kV Double Circuit I-String Tangent
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-15	345/161kV Double Circuit H-Frame Deadend

Segment to Structure Drawing Reference

Revised March 2011-Table Added to Appendix L

Segment	Drawing Number	Drawing Description
2H	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
2I	S6-1	345/161kV Double Circuit I-String Tangent
	S6-2	345/161kV Double Circuit 1°-5° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-11	345/161kV Double Circuit Wetland H-Frame
	S6-16	345/161kV 6-Pole Deadend
3	S6-1	345/161kV Double Circuit I-String Tangent
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
4	S6-1	345/161kV Double Circuit I-String Tangent
5A	S6-1	345/161kV Double Circuit I-String Tangent
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-11	345/161kV Double Circuit Wetland H-Frame
5B	S6-5	345/161kV Double Circuit V-String Tangent
	S6-11	345/161kV Double Circuit Wetland H-Frame
5C	S6-1	345/161kV Double Circuit I-String Tangent
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-9	345kV Single Circuit 30°-60° Deadend
6	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-19	345kV Single Circuit I-String Delta Tangent
	S6-21	345kV Single Circuit I-String 1°-5° Delta RA
	S6-26	345kV Single Circuit V-String Delta Tangent
	S6-27	345kV Single Circuit V-String 1°-5° Delta RA
8A	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-11	345/161kV Double Circuit Wetland H-Frame
8B	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-11	345/161kV Double Circuit Wetland H-Frame
8C	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend

Segment to Structure Drawing Reference

Revised March 2011-Table Added to Appendix L

Segment	Drawing Number	Drawing Description
9	S6-1	345/161kV Double Circuit I-String Tangent
	S6-2	345/161kV Double Circuit 1°-5° I-String
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-6	345/161kV Double Circuit 1°-5° V-String
10B-1	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-19	345kV Single Circuit I-String Delta Tangent
	S6-23	345kV Single Circuit I-String 5°-15° Delta RA
	S6-25	345kV Single Circuit I-String 15°-30°Delta RA
10B-2	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-26	345kV Single Circuit V-String Delta Tangent
10C-1	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
10C-2	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
10C	S6-1	345/161kV Double Circuit I-String Tangent
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-10A	345/161kV Double Circuit 60°-95° Deadend
	S6-10B	345/161kV Double Circuit 60°-95° 2-Pole Deadend
	S6-15	345/161kV Double Circuit H-Frame Deadend
11A	S6-1	345/161kV Double Circuit I-String Tangent
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-21	345kV Single Circuit I-String 1°-5° Delta RA
	S6-26	345kV Single Circuit V-String Delta Tangent
	S6-27	345kV Single Circuit V-String 1°-5° Delta RA
	S6-32	161kV Single Circuit 60°-95° Deadend

Segment to Structure Drawing Reference

Revised March 2011-Table Added to Appendix L

Segment	Drawing Number	Drawing Description
11B	S6-1	345/161kV Double Circuit I-String Tangent
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-26	345kV Single Circuit V-String Delta Tangent
	S6-32	161kV Single Circuit 60°-95° Deadend
11C	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-26	345kV Single Circuit V-String Delta Tangent
11D	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-21	345kV Single Circuit I-String 1°-5° Delta RA
	S6-23	345kV Single Circuit I-String 5°-15° Delta RA
	S6-26	345kV Single Circuit V-String Delta Tangent
	S6-32	161kV Single Circuit 60°-95° Deadend
11E	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
11F	S6-4	345/161kV Double Circuit 15°-30° I-String
11G	S6-1	345/161kV Double Circuit I-String Tangent
	S6-2	345/161kV Double Circuit 1°-5° I-String
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-10A	345/161kV Double Circuit 60°-95° Deadend
	S6-10B	345/161kV Double Circuit 60°-95° 2-Pole Deadend
	S6-15	345/161kV Double Circuit H-Frame Deadend
	S6-32	161kV Single Circuit 60°-95° Deadend
12	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-26	345kV Single Circuit V-String Delta Tangent
	S6-27	345kV Single Circuit V-String 1°-5° Delta RA
13A	S6-18	345kV Single Circuit I-String Vertical Tangent
	S6-20	345kV Single Circuit I-String 1°-5° Vertical RA
	S6-22	345kV Single Circuit I-String 5°-15° Vertical RA
	S6-24	345kV Single Circuit I-String 15°-30° Vertical RA

Segment to Structure Drawing Reference

Revised March 2011-Table Added to Appendix L

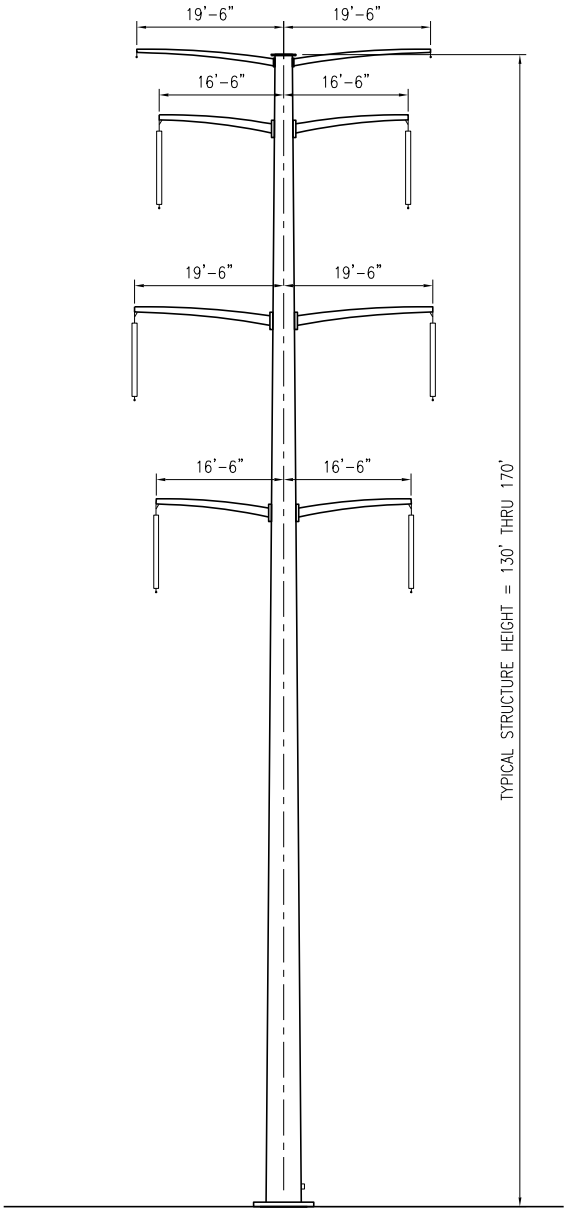
Segment	Drawing Number	Drawing Description
13B1	S6-20	345kV Single Circuit I-String 1°-5° Vertical RA
	S6-22	345kV Single Circuit I-String 5°-15° Vertical RA
13B2	S6-18	345kV Single Circuit I-String Vertical Tangent
	S6-20	345kV Single Circuit I-String 1°-5° Vertical RA
	S6-22	345kV Single Circuit I-String 5°-15° Vertical RA
	S6-24	345kV Single Circuit I-String 15°-30° Vertical RA
13C	S6-18	345kV Single Circuit I-String Vertical Tangent
	S6-24	345kV Single Circuit I-String 15°-30° Vertical RA
13D	S6-18	345kV Single Circuit I-String Vertical Tangent
	S6-19	345kV Single Circuit I-String Delta Tangent
	S6-20	345kV Single Circuit I-String 1°-5° Vertical RA
	S6-22	345kV Single Circuit I-String 5°-15° Vertical RA
	S6-24	345kV Single Circuit I-String 15°-30° Vertical RA
13E	S6-10A	345/161kV Double Circuit 60°-95° Deadend
	S6-10B	345/161kV Double Circuit 60°-95° 2-Pole Deadend
	S6-19	345kV Single Circuit I-String Delta Tangent
17A	S6-2	345/161kV Double Circuit 1°-5° I-String
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
17B	S6-1	345/161kV Double Circuit I-String Tangent
	S6-2	345/161kV Double Circuit 1°-5° I-String
	S6-3	345/161kV Double Circuit 5°-15° I-String
18A	S6-1	345/161kV Double Circuit I-String Tangent
	S6-2	345/161kV Double Circuit 1°-5° I-String
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-5	345/161kV Double Circuit V-String Tangent
	S6-6	345/161kV Double Circuit 1°-5° V-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
18B	S6-1	345/161kV Double Circuit I-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
18C	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-6	345/161kV Double Circuit 1°-5° V-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend

Segment to Structure Drawing Reference

Revised March 2011-Table Added to Appendix L

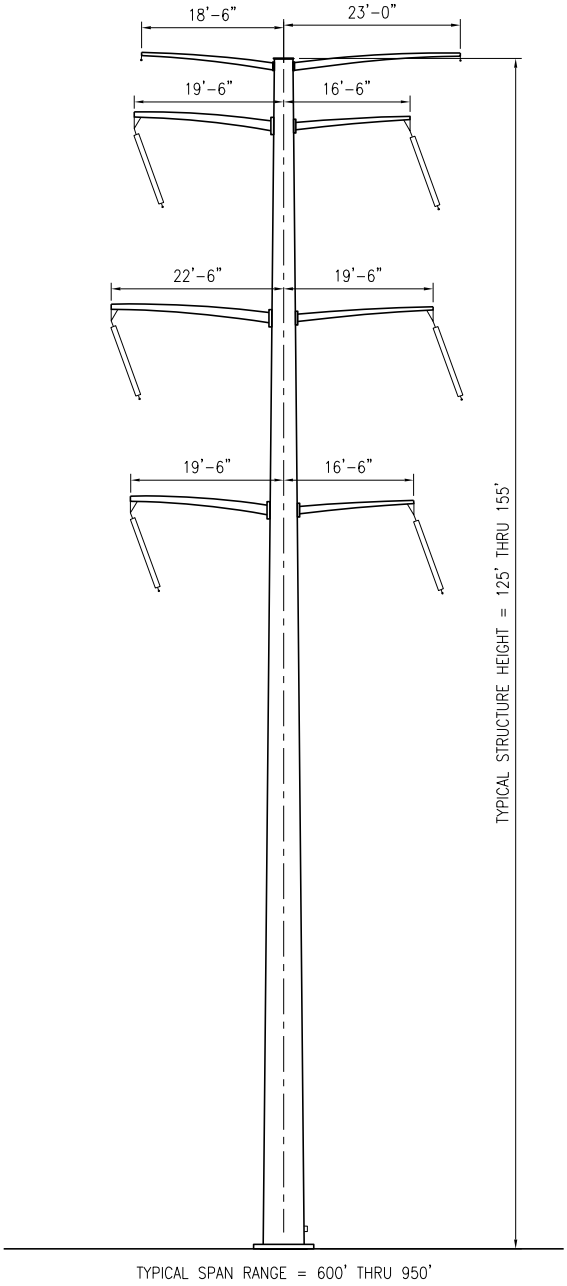
Segment	Drawing Number	Drawing Description
18D	S6-1	345/161kV Double Circuit I-String Tangent
	S6-4	345/161kV Double Circuit 15°-30° I-String
18E	S6-2	345/161kV Double Circuit 1°-5° I-String
18F	S6-1	345/161kV Double Circuit I-String Tangent
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
18G	S6-1	345/161kV Double Circuit I-String Tangent
	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-7A	345/161kV Double Circuit 30°-60° Deadend
	S6-7B	345/161kV Double Circuit 30°-60° 2-Pole Deadend
18H	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-18	345kV Single Circuit I-String Vertical Tangent
18H	S6-3	345/161kV Double Circuit 5°-15° I-String
	S6-4	345/161kV Double Circuit 15°-30° I-String
	S6-8	161kV Single Circuit 30°-60° Deadend
	S6-9	345kV Single Circuit 30°-60° Deadend
	S6-18	345kV Single Circuit I-String Vertical Tangent

345/161kV
CIRCUIT



DSGN	PEI	10/25/10	CapX2020	JOB NUMBER 118645	REV A
DRN	PEI	10/25/10	TYPICAL CONFIGURATION STRUCTURE DRAWING		
CKD	PEI	10/25/10	345/161kV DOUBLE CIRCUIT I-STRING TANGENT	DRAWING NUMBER S6-1	
SCALE: NTS FOR 8.5x11 DWG ONLY			Delivering electricity you can rely on		

345/161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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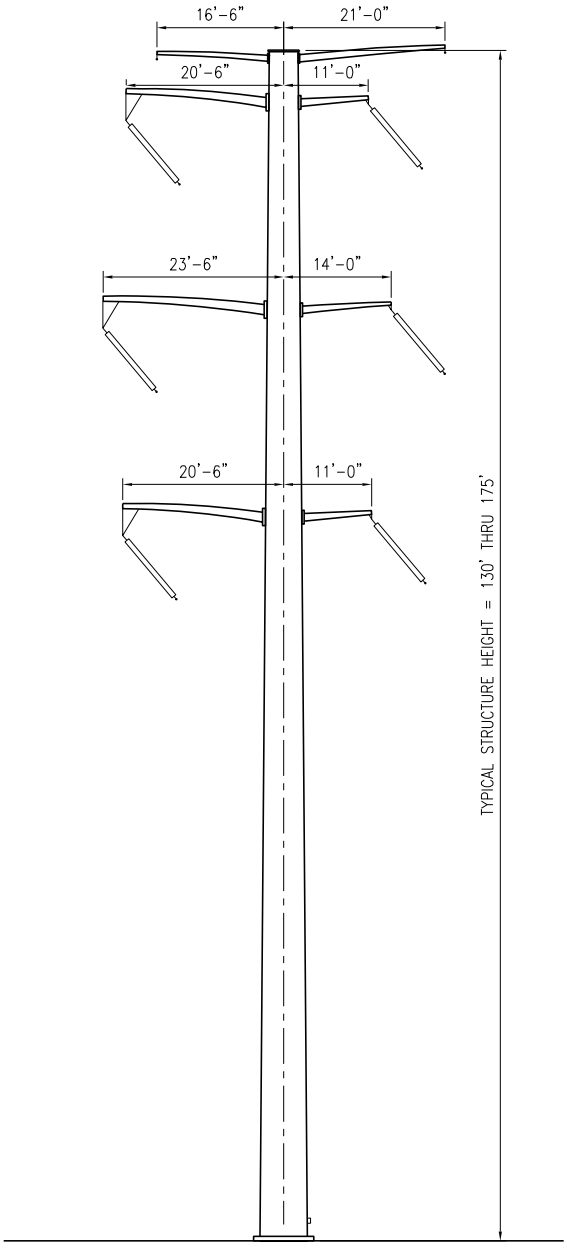
TYPICAL CONFIGURATION
STRUCTURE DRAWING

345/161kV DOUBLE CIRCUIT 1°-5° I-STRING

JOB NUMBER	REV
118645	A

DRAWING NUMBER
S6-2

345/161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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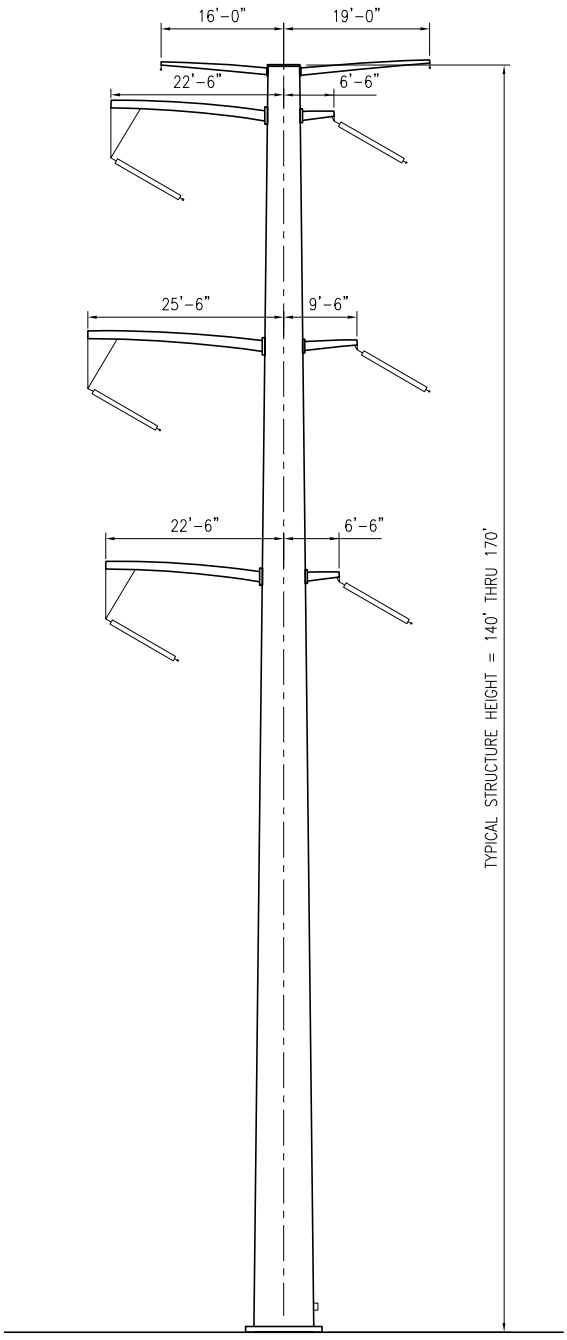
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT 5°-15° I-STRING

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-3

345/161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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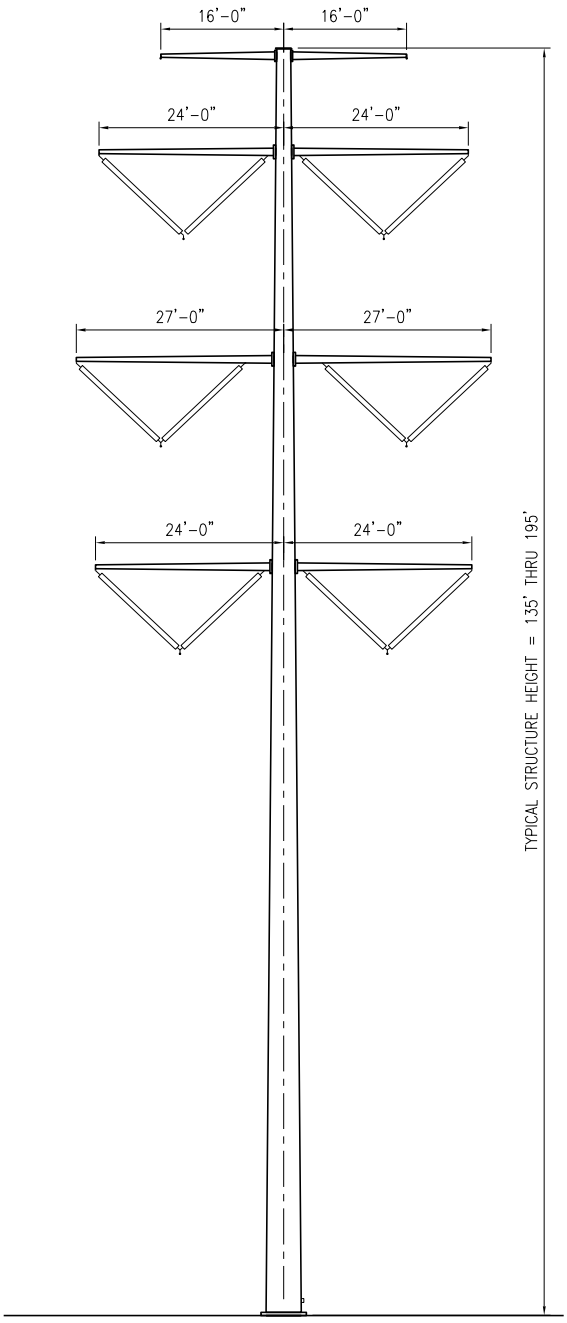
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT 15°-30° I-STRING

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-4

345/161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

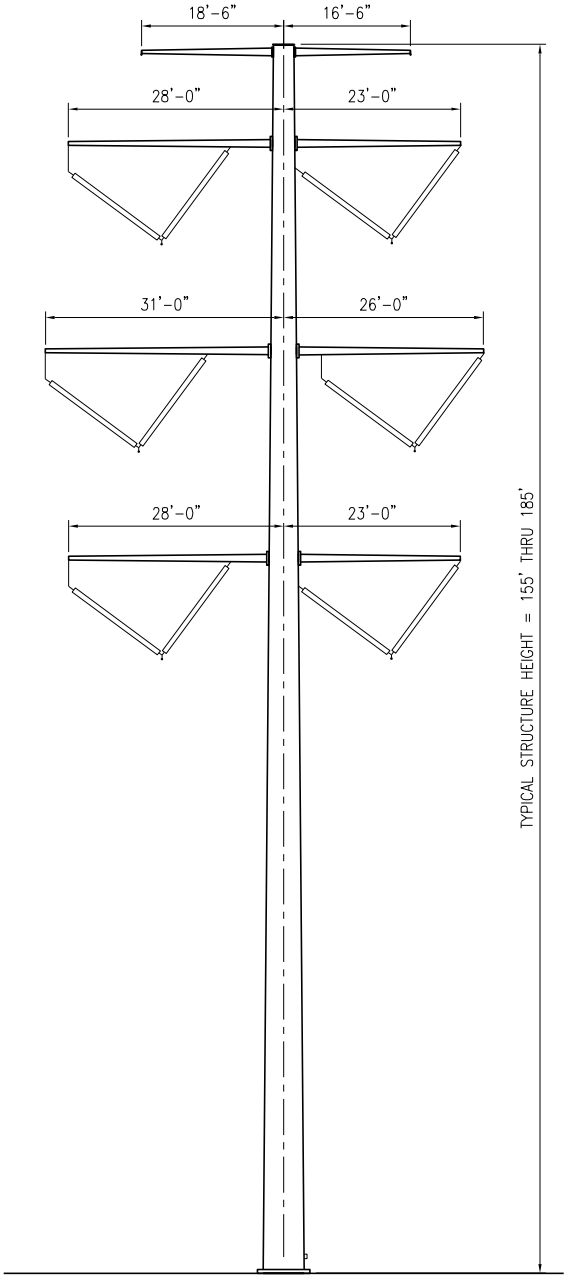
345/161kV DOUBLE CIRCUIT V-STRING TANGENT

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-5

345/161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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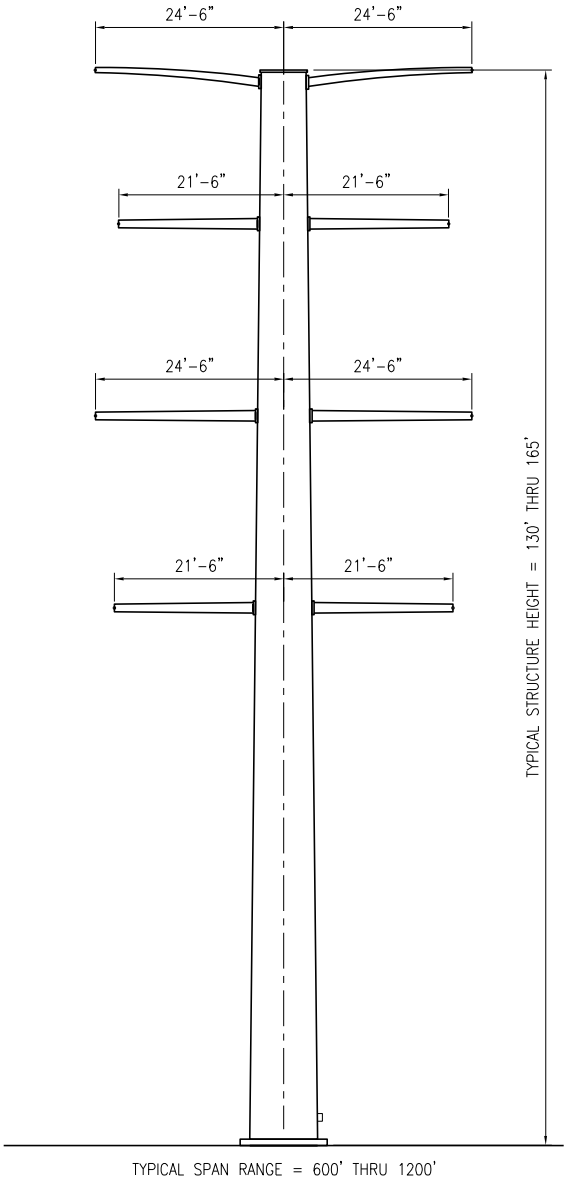
TYPICAL CONFIGURATION
STRUCTURE DRAWING

345/161kV DOUBLE CIRCUIT 1°-5° V-STRING

JOB NUMBER	REV
118645	A

DRAWING NUMBER
S6-6

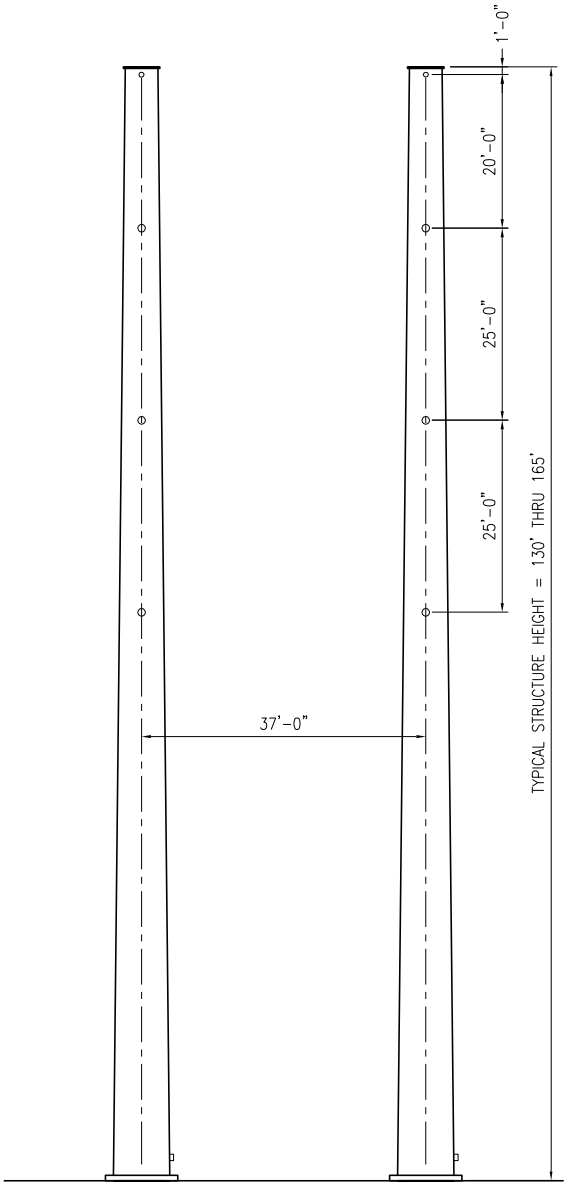
345/161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10	CapX2020	JOB NUMBER 118645	REV A
DRN	PEI	10/25/10	TYPICAL CONFIGURATION STRUCTURE DRAWING		
CKD	PEI	10/25/10	345/161kV DOUBLE CIRCUIT 30°-60° DEADEND	DRAWING NUMBER S6-7A	
SCALE: NTS FOR 8.5x11 DWG ONLY			Delivering electricity you can rely on		

345/161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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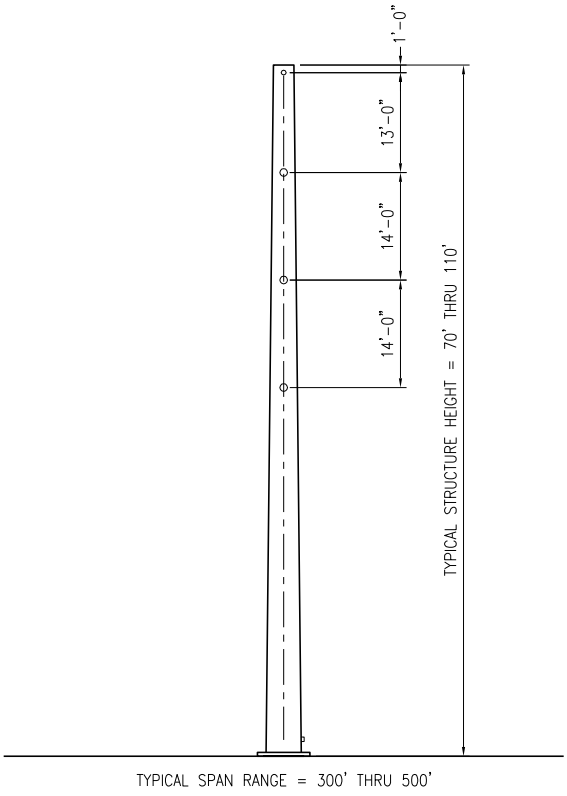
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT 30°-60° 2-POLE DEADEND

JOB NUMBER	REV
118645	A
DRAWING NUMBER	
S6-7B	

161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS FOR 8.5x11 DWG ONLY		

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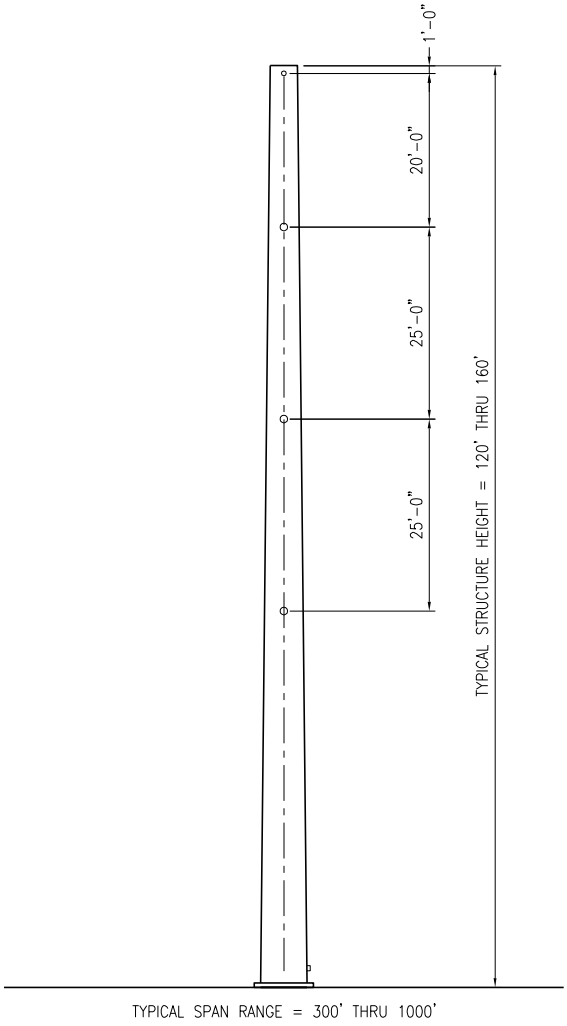
TYPICAL CONFIGURATION
STRUCTURE DRAWING
161kV SINGLE CIRCUIT 30°-60° DEADEND

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-8

345kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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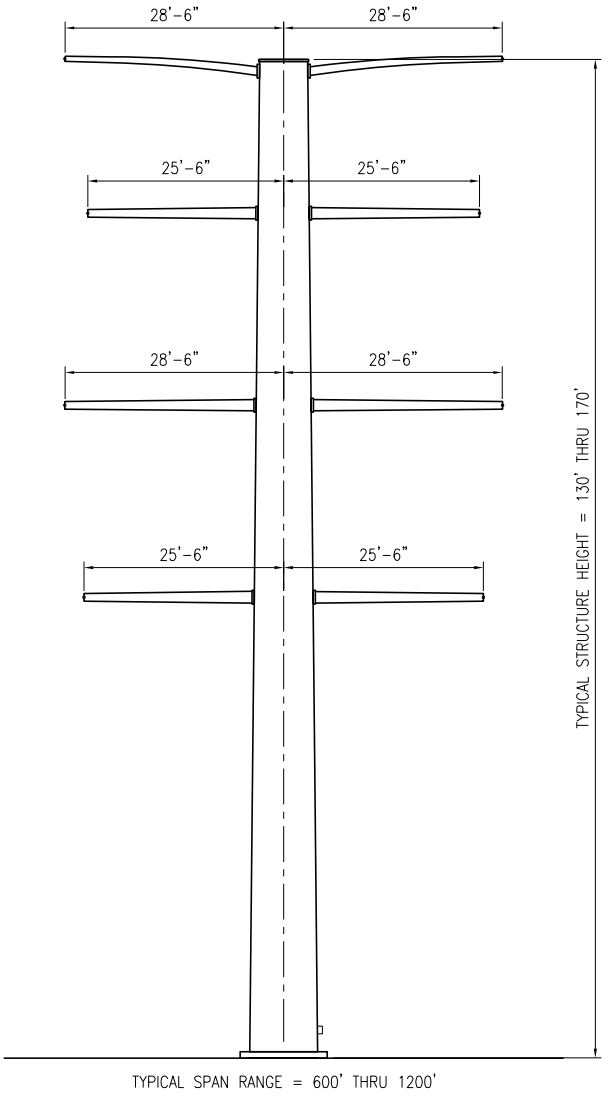
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345kV SINGLE CIRCUIT 30°-60° DEADEND

JOB NUMBER	REV
118645	A
DRAWING NUMBER	
S6-9	

345/161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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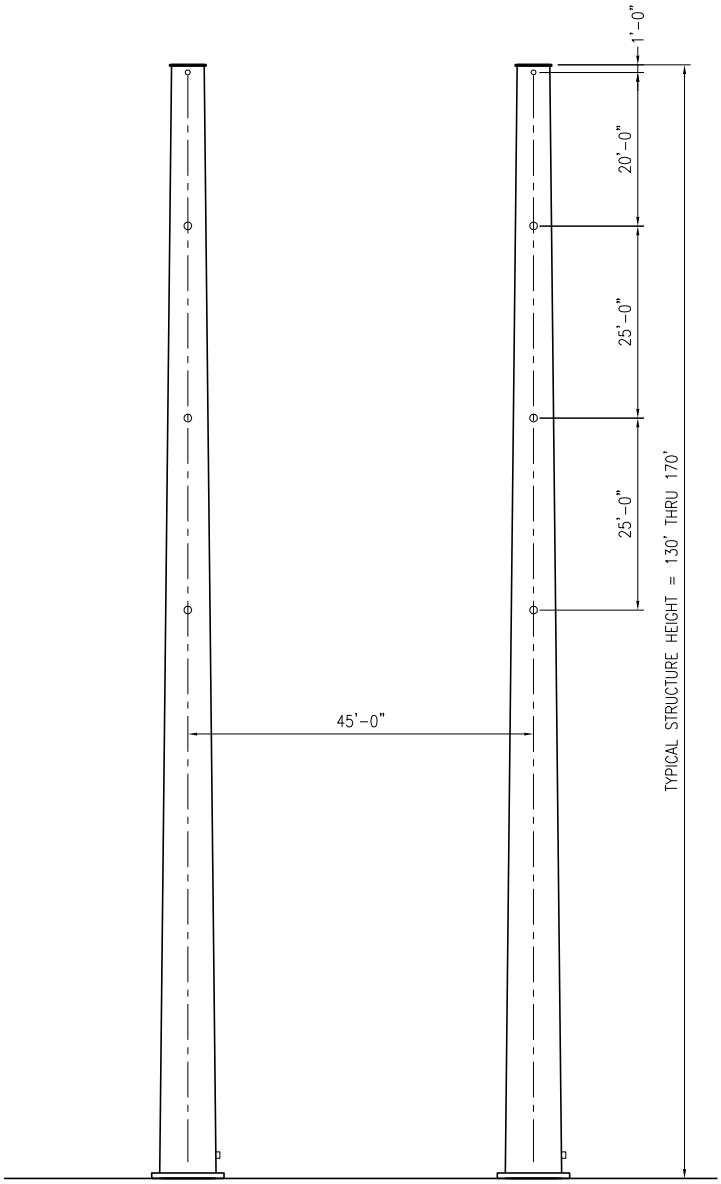
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT 60°-95° DEADEND

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-10A

345/161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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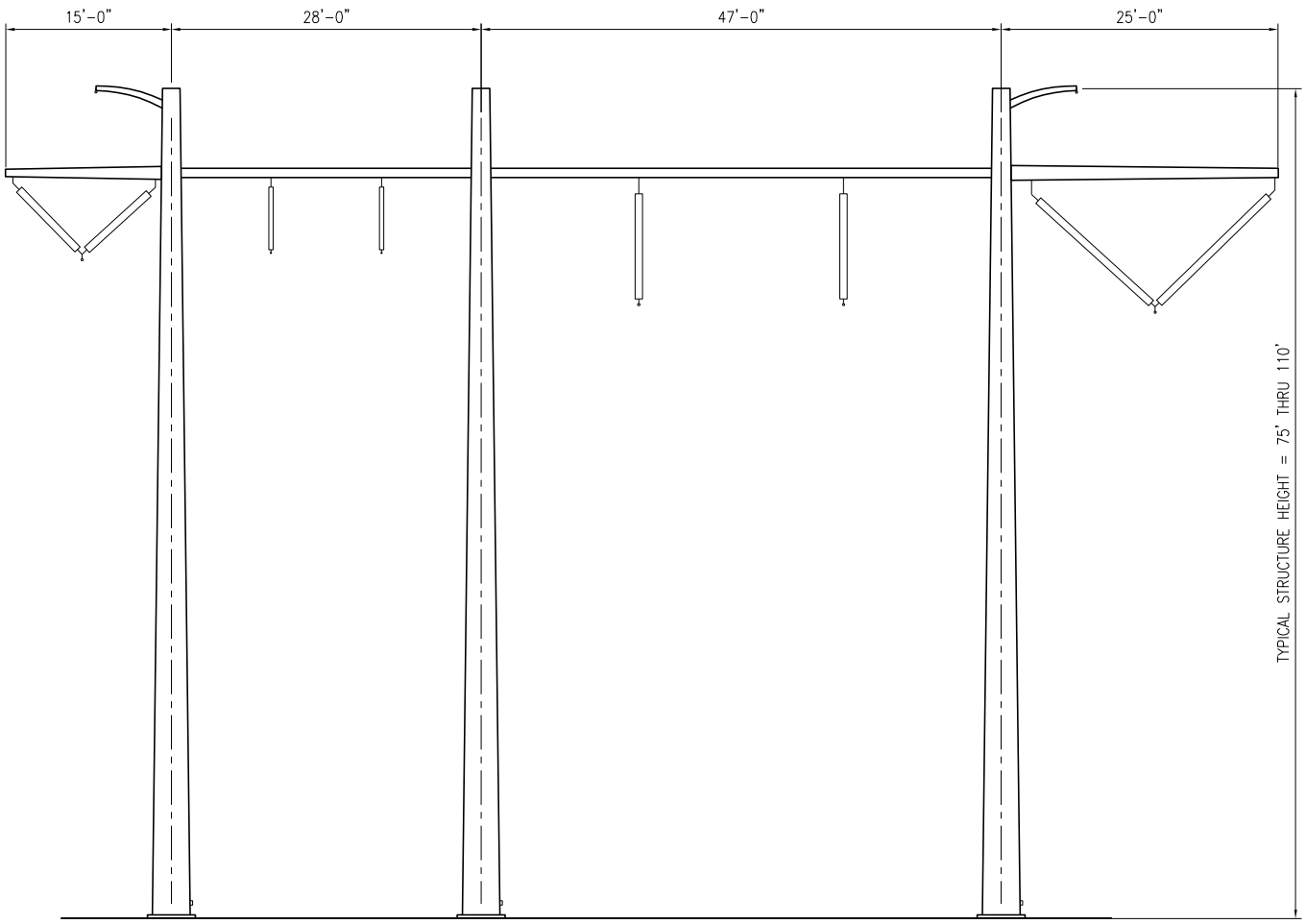
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT 60°-95° 2-POLE DEADEND

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-10B

345/161kV
CIRCUIT



TYPICAL SPAN RANGE = 650' THRU 1000'

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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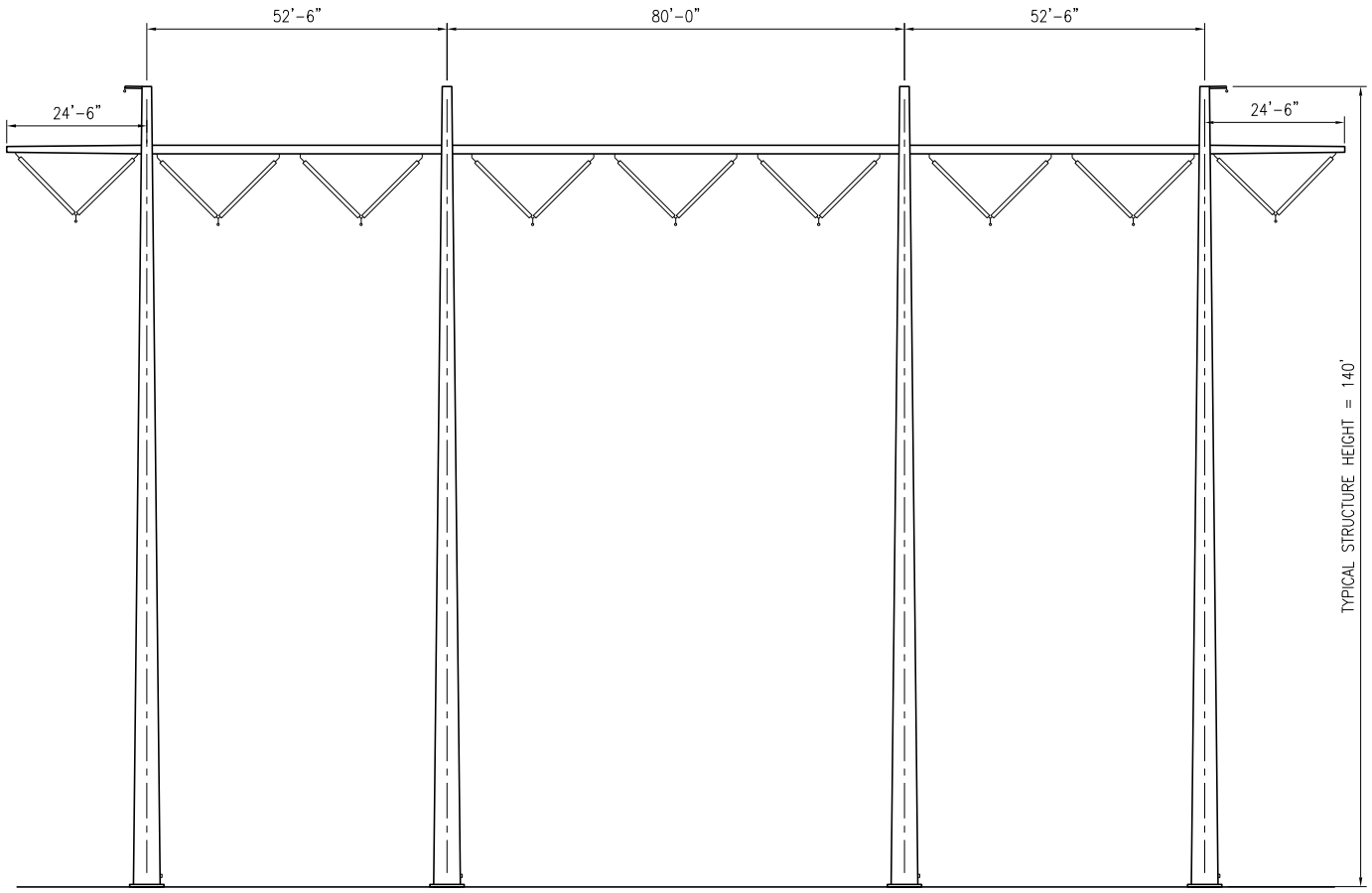
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT WETLAND H-FRAME

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-11

345/161/69kV
CIRCUIT



TYPICAL SPAN RANGE = 900' THRU 1200'

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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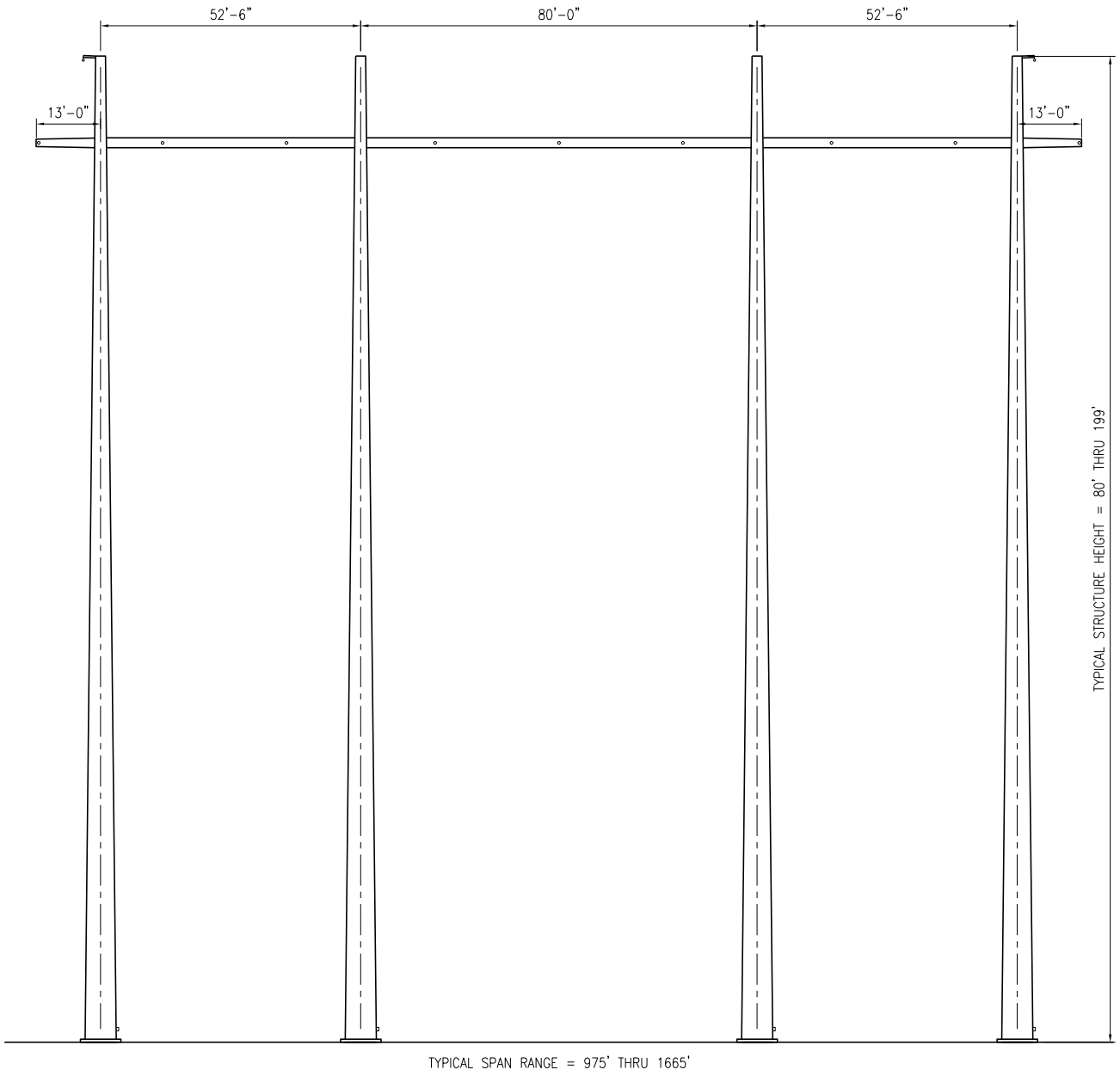
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161/69kV TRIPLE CIRCUIT TANGENT

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-12

345/161/69kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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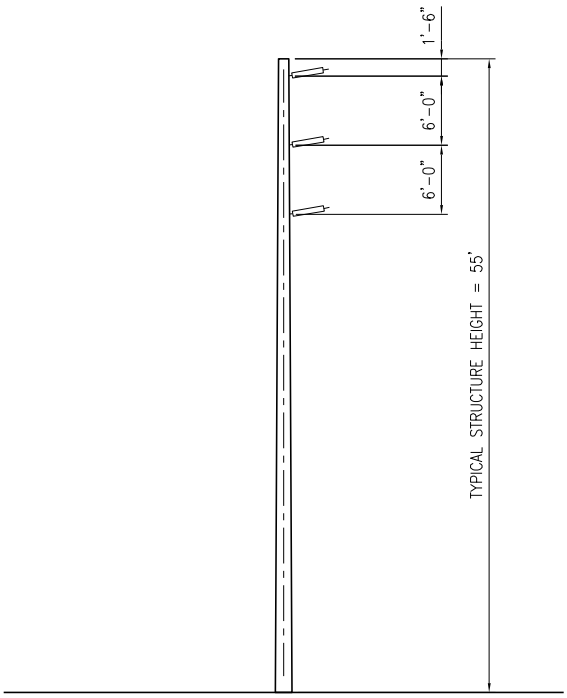
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161/69kV TRIPLE CIRCUIT DEADEND

JOB NUMBER	REV
118645	A
DRAWING NUMBER	
S6-13	

69kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

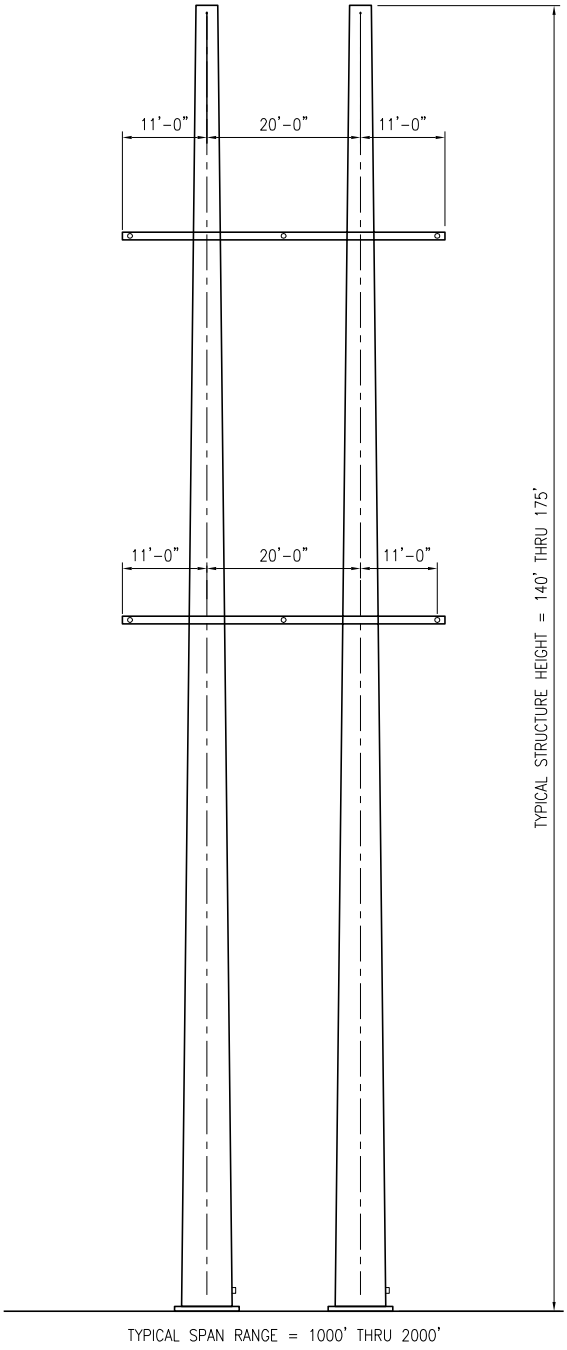
69kV MID-SPAN SINGLE CIRCUIT TANGENT

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-14

345/161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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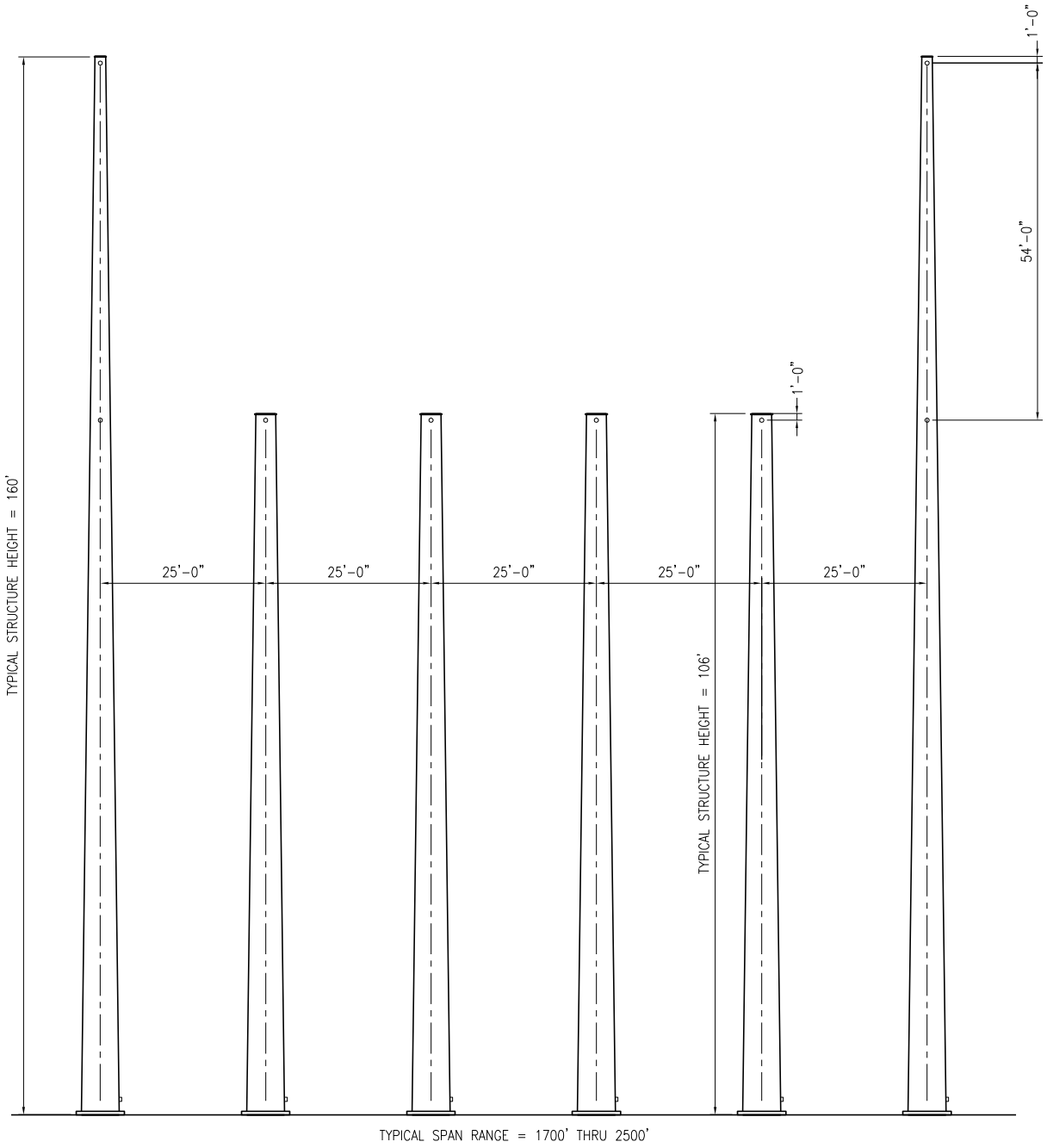
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT H-FRAME DEADEND

JOB NUMBER	REV
118645	A
DRAWING NUMBER	
S6-15	

345/161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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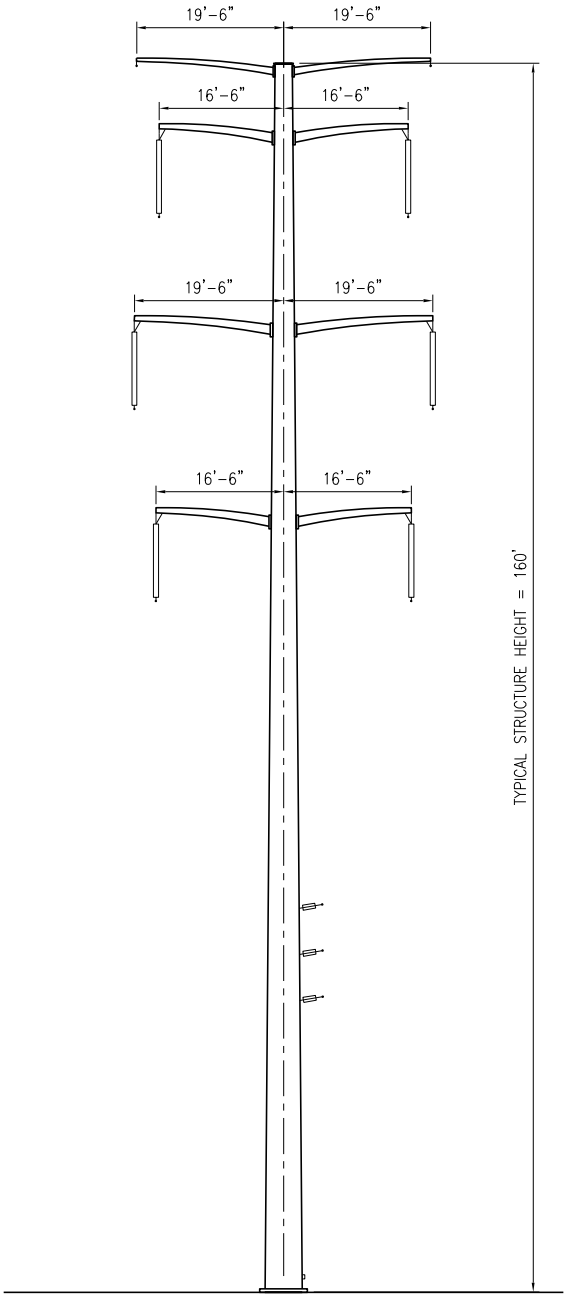
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV 6-POLE DEADEND

JOB NUMBER	REV
118645	A
DRAWING NUMBER	
S6-16	

345/161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS FOR 8.5x11 DWG ONLY		

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

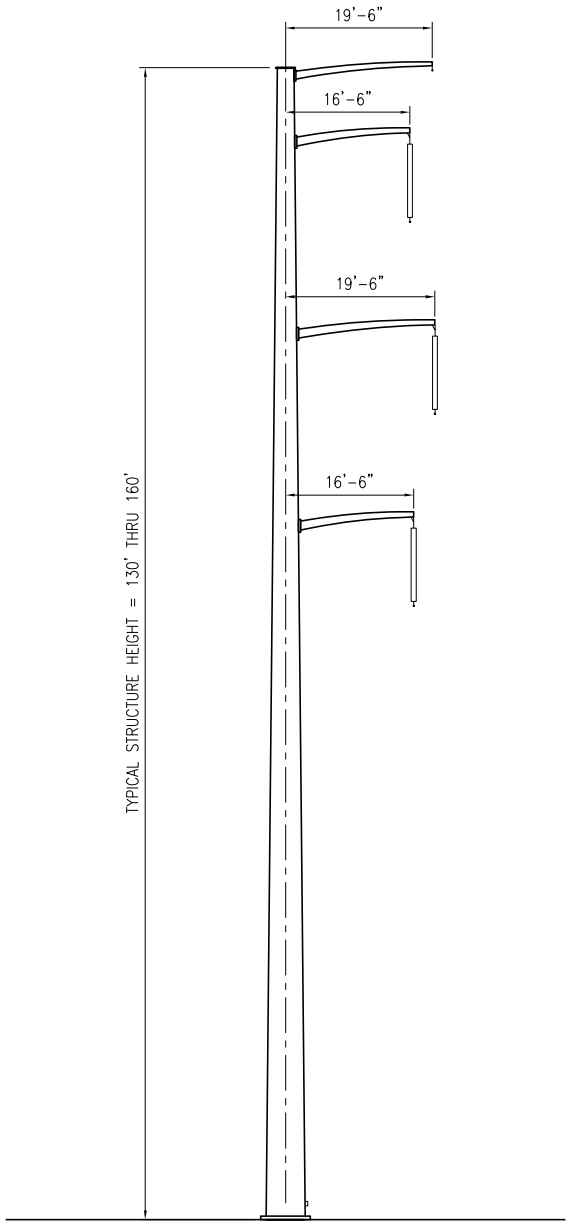
345/161kV DOUBLE CIRCUIT I-STRING TANGENT w/69kV UB

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-17

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

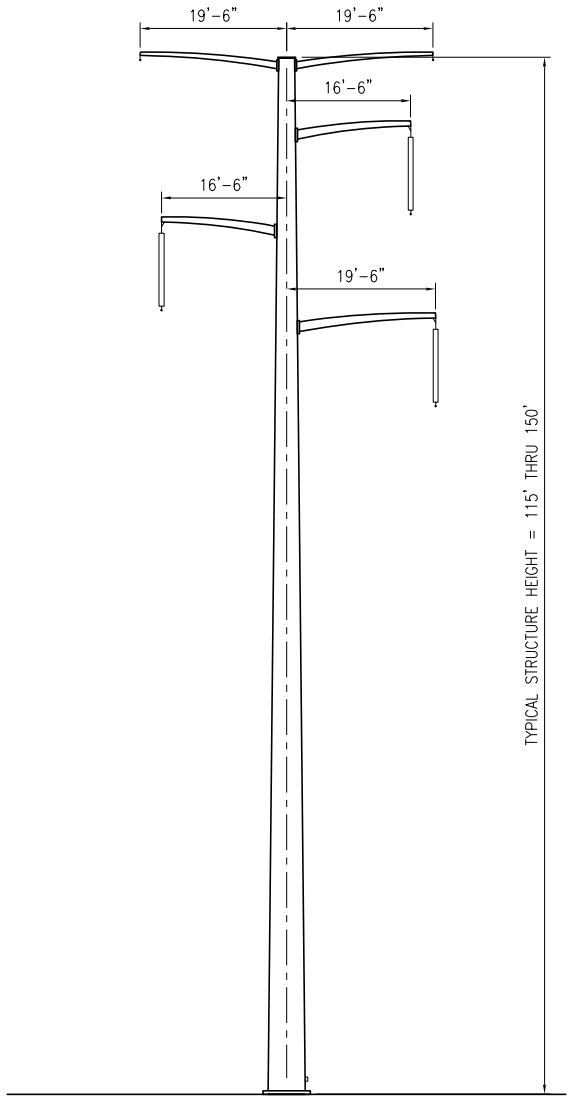
345kV SINGLE CIRCUIT I-STRING VERTICAL TANGENT

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-18

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

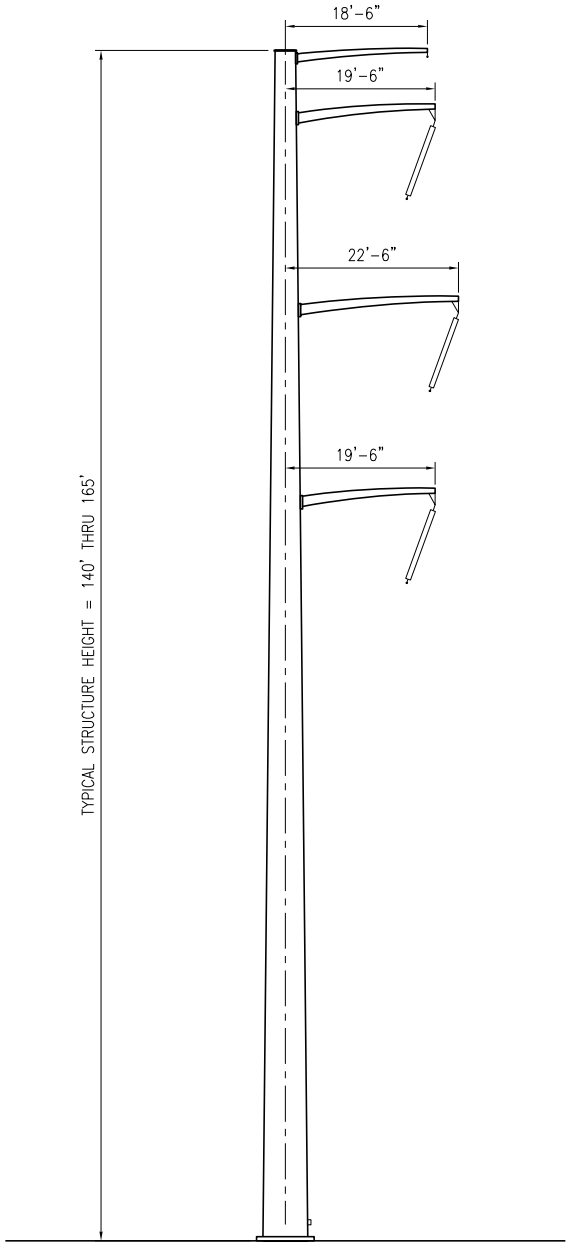
345kV SINGLE CIRCUIT I-STRING DELTA TANGENT

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-19

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

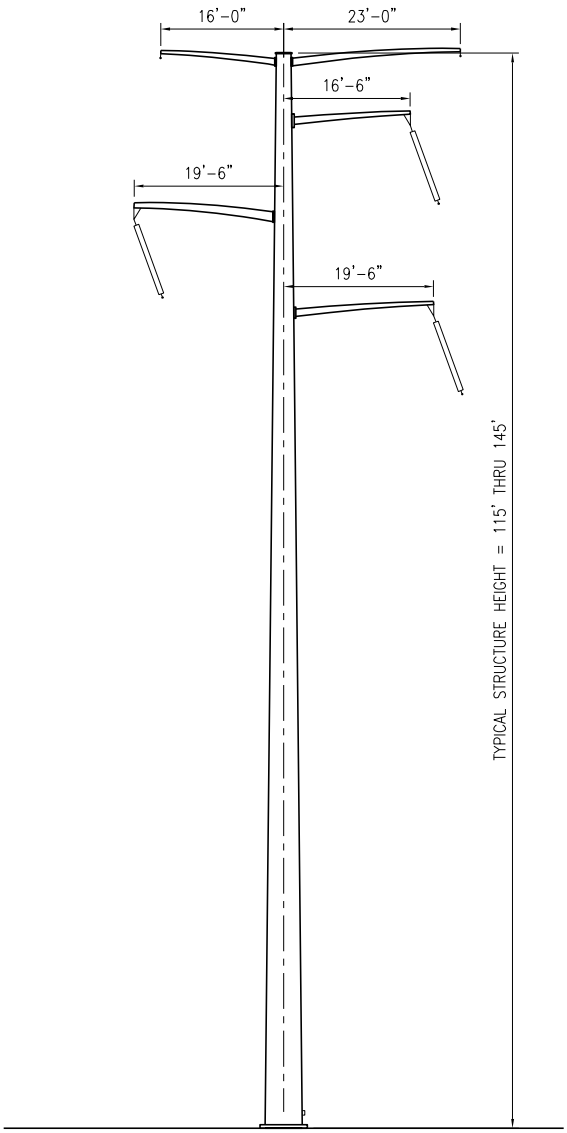
345kV SINGLE CIRCUIT I-STRING 1°-5° VERTICAL RA

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-20

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

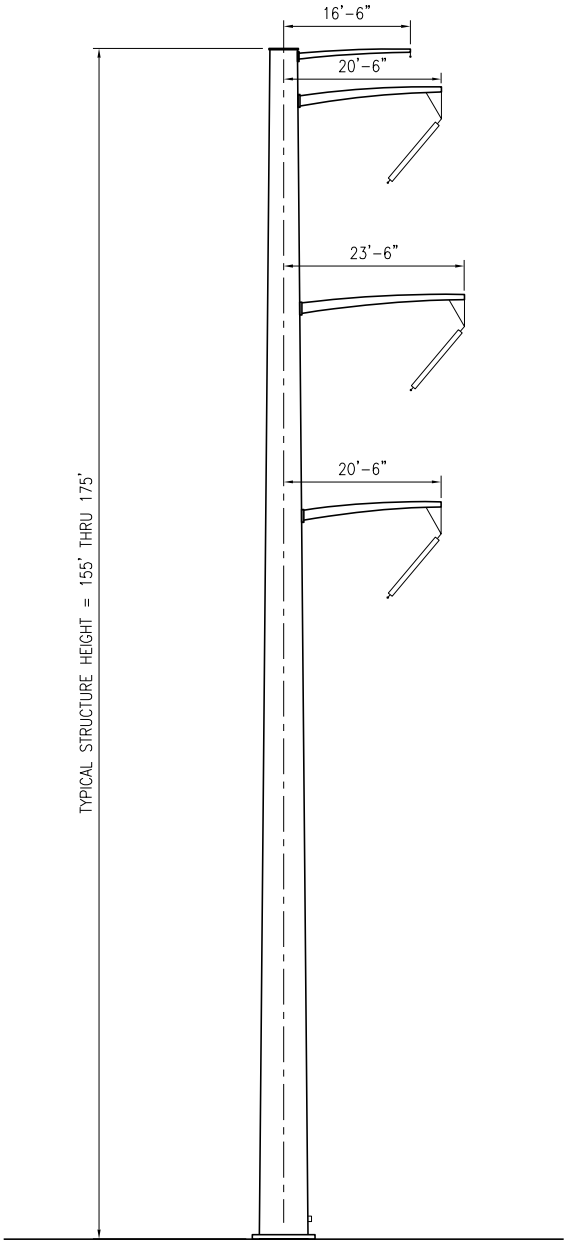
345kV SINGLE CIRCUIT I-STRING 1°-5° DELTA RA

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-21

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS

FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

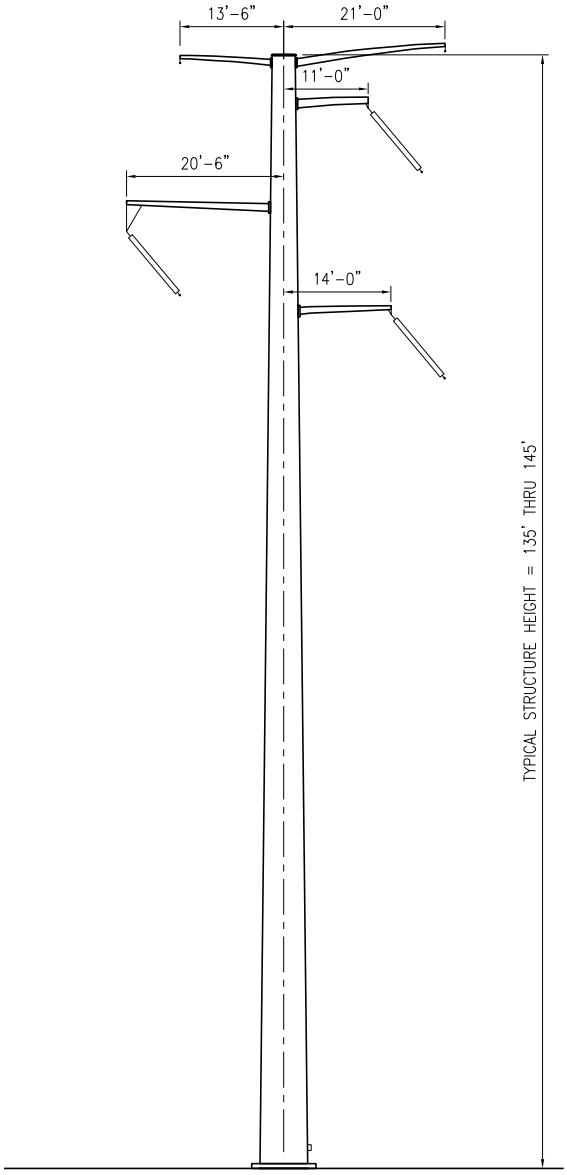
345kV SINGLE CIRCUIT I-STRING 5'-15' VERTICAL RA

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-22

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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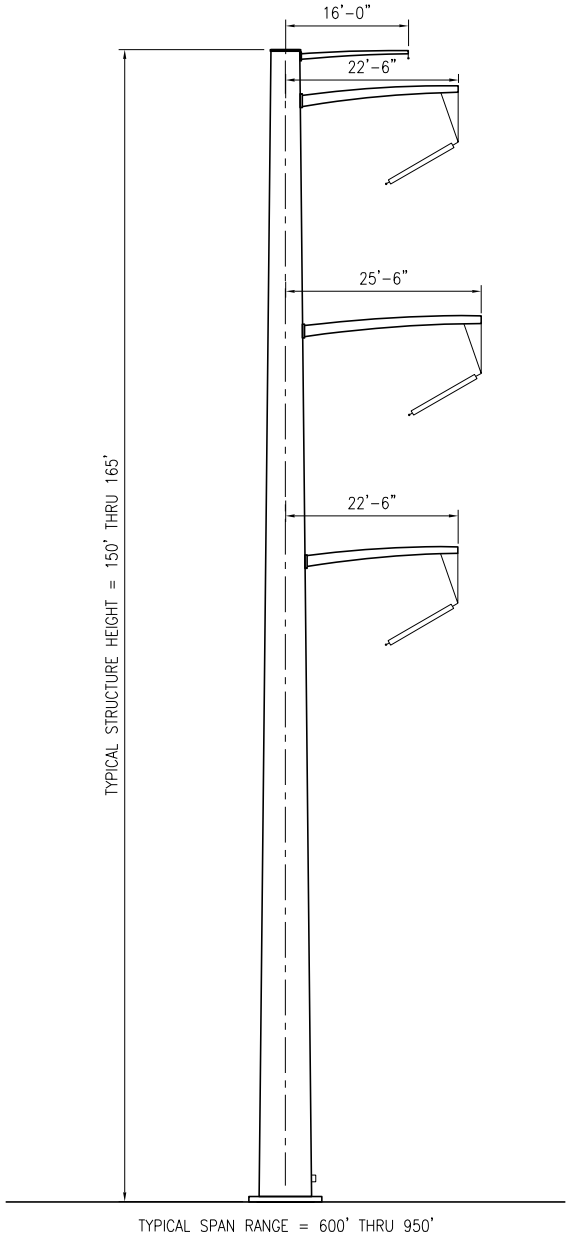
TYPICAL CONFIGURATION
STRUCTURE DRAWING

345kV SINGLE CIRCUIT I-STRING 5'-15' DELTA RA

JOB NUMBER	REV
118645	A

DRAWING NUMBER
S6-23

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

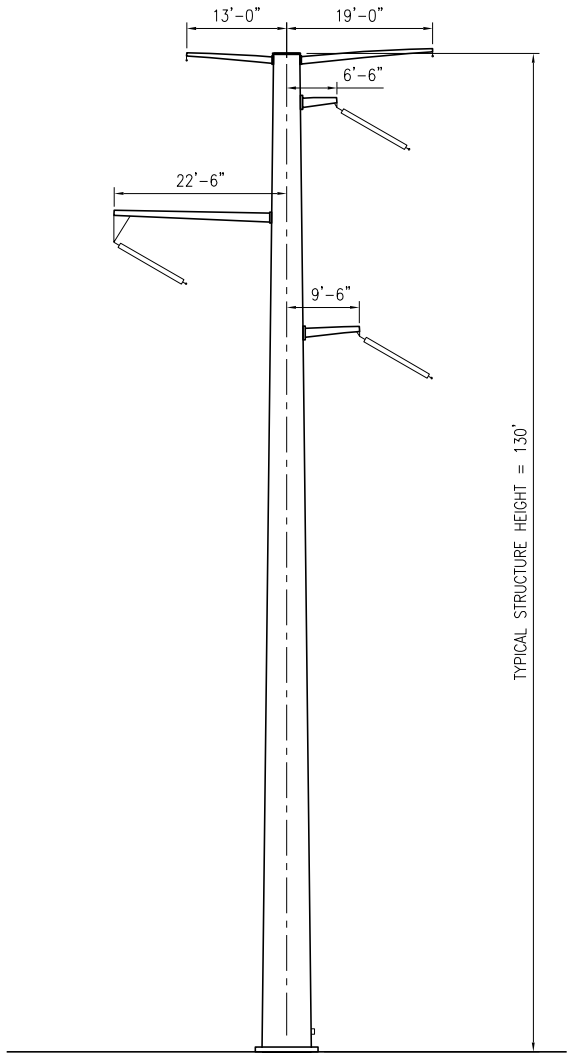
345kV SINGLE CIRCUIT I-STRING 15°-30° VERTICAL RA

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-24

345kV
CIRCUIT



TYPICAL SPAN RANGE = 1000' THRU 1400'

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

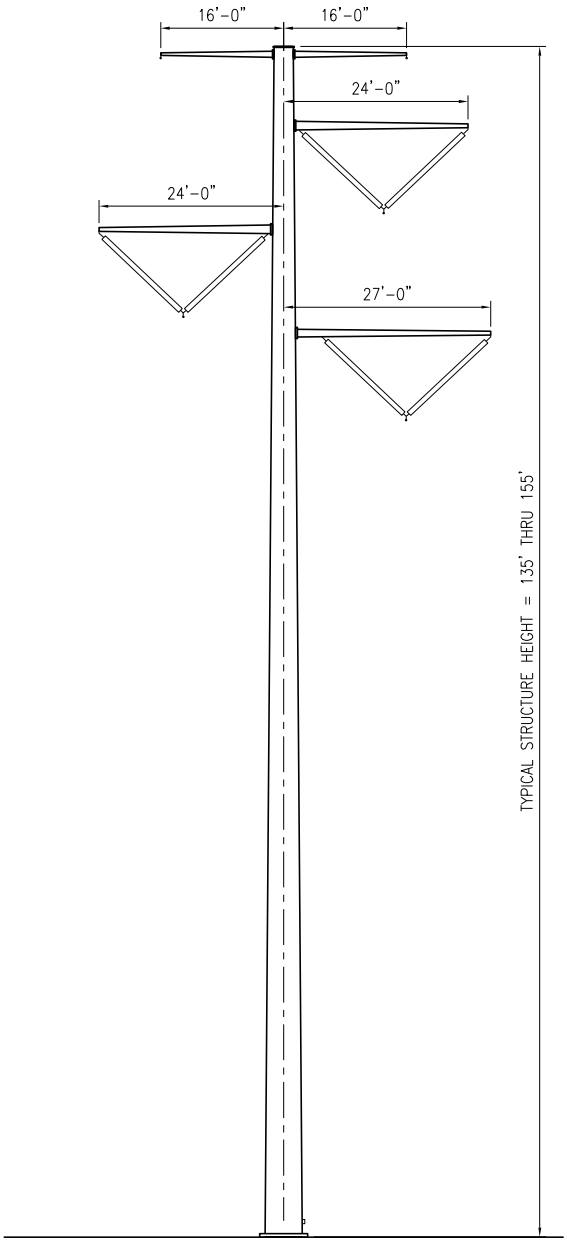
345kV SINGLE CIRCUIT I-STRING 15°-30° DELTA RA

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-25

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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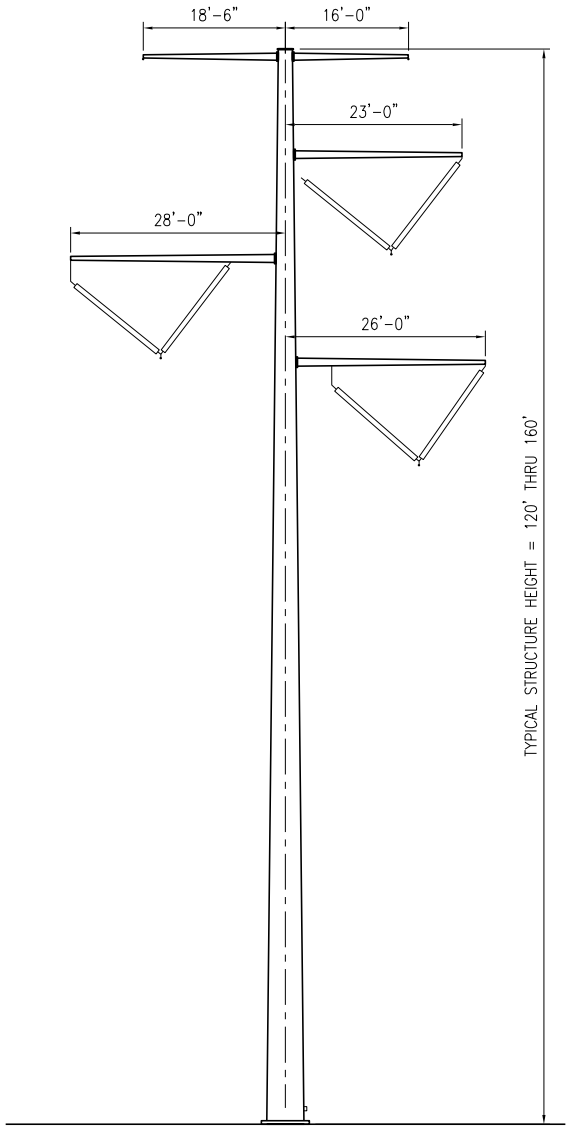
TYPICAL CONFIGURATION
STRUCTURE DRAWING

345kV SINGLE CIRCUIT V-STRING DELTA TANGENT

JOB NUMBER	REV
118645	A

DRAWING NUMBER
S6-26

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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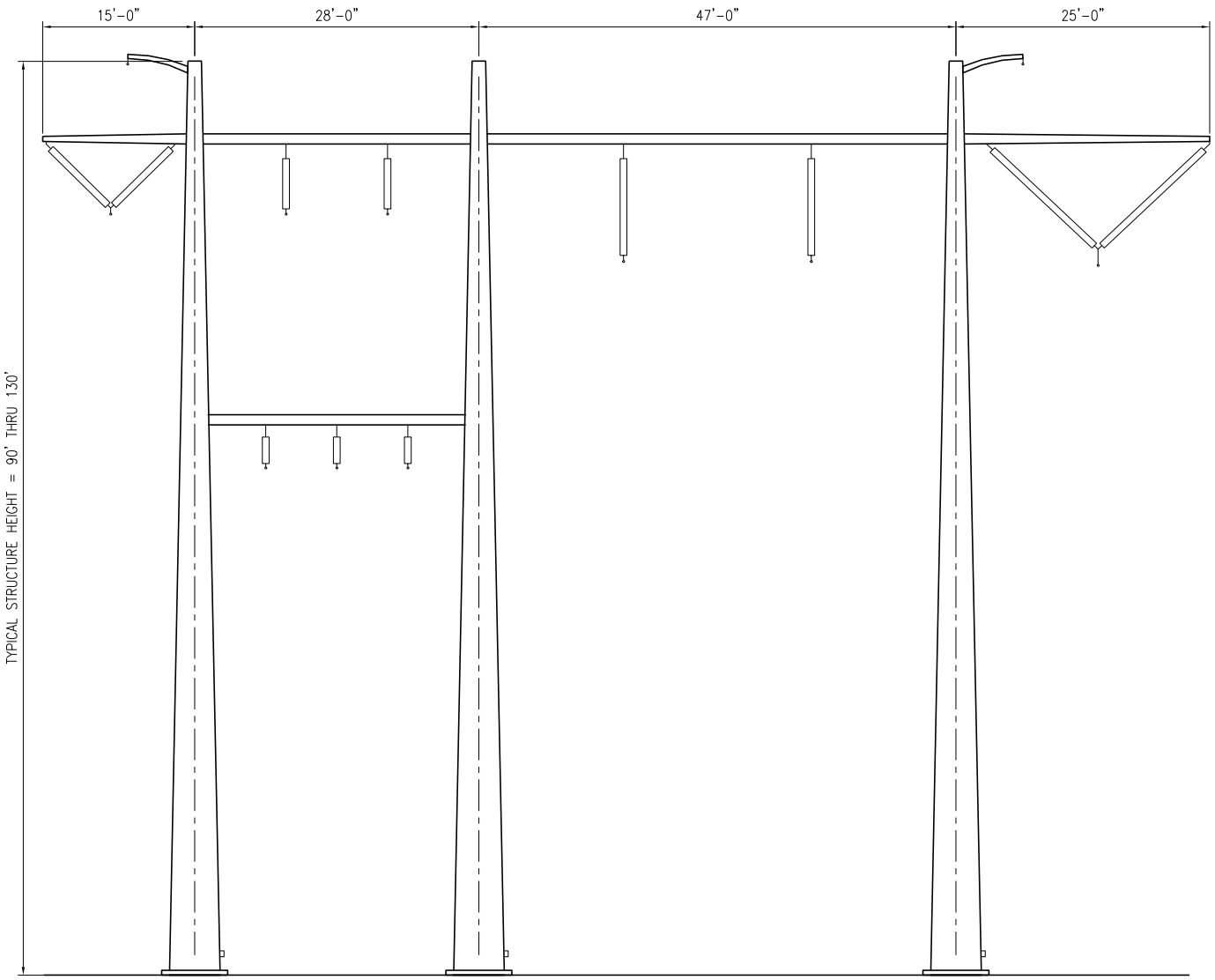
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345kV SINGLE CIRCUIT V-STRING 1°-5° DELTA RA

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-27

345kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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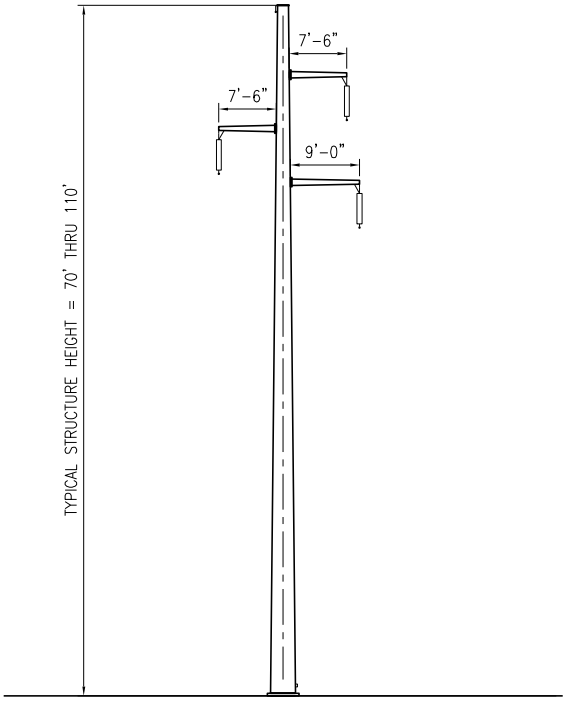
TYPICAL CONFIGURATION
STRUCTURE DRAWING
345/161kV DOUBLE CIRCUIT WETLAND H-FRAME W/69kV UB

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-28

161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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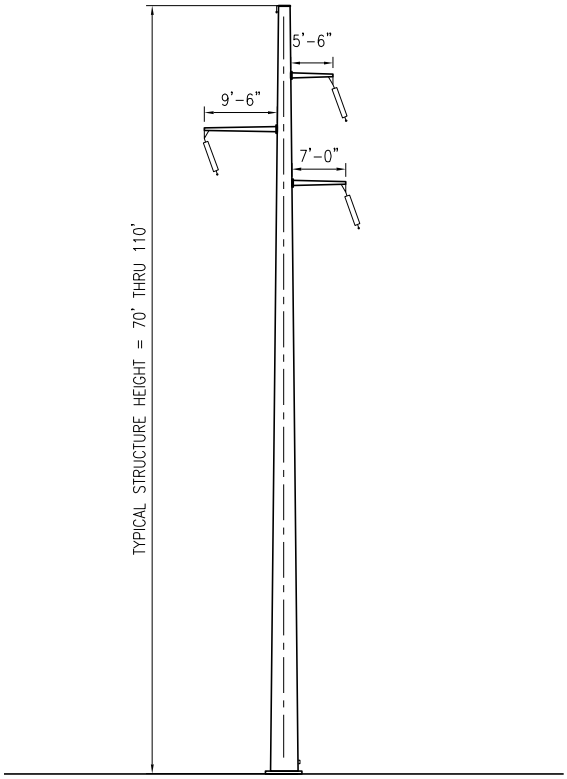
TYPICAL CONFIGURATION
STRUCTURE DRAWING
161kV SINGLE CIRCUIT I-STRING TANGENT DELTA

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-29

161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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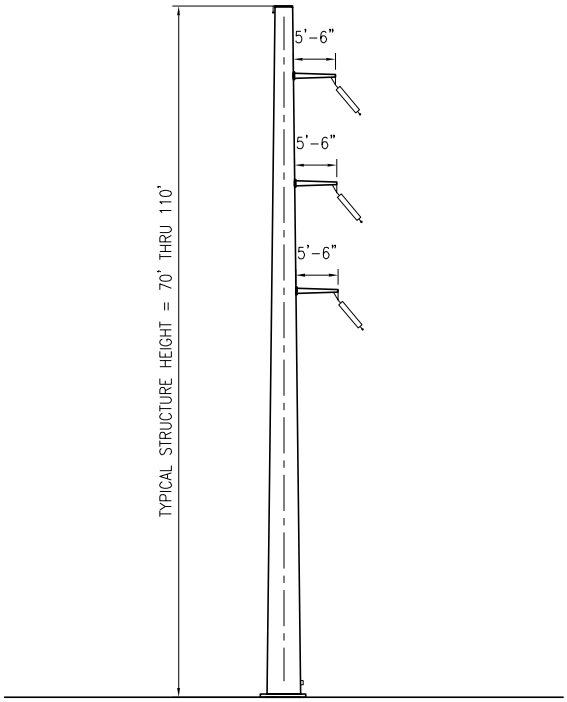
TYPICAL CONFIGURATION
STRUCTURE DRAWING
161kV SINGLE CIRCUIT I-STRING 1°-5° DELTA RA

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-30

161kV
CIRCUIT



DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10

SCALE: NTS
FOR 8.5x11 DWG ONLY

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TYPICAL CONFIGURATION
STRUCTURE DRAWING

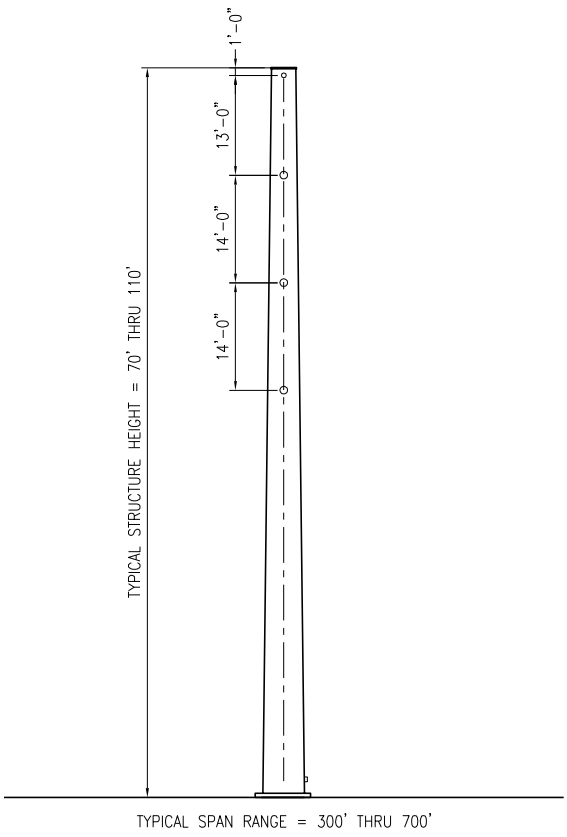
161kV SINGLE CIRCUIT I-STRING 10°-30° VERTICAL RA

JOB NUMBER 118645

REV A

DRAWING NUMBER S6-31

161kV
CIRCUIT



Note:
This is a dead end structure.
Insulators are in-line with conductors and are therefore not shown on the drawing.

DSGN	PEI	10/25/10
DRN	PEI	10/25/10
CKD	PEI	10/25/10
SCALE: NTS		
FOR 8.5x11 DWG ONLY		

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TYPICAL CONFIGURATION
STRUCTURE DRAWING
161kV SINGLE CIRCUIT 60°-95° DEADEND

JOB NUMBER 118645
REV A
DRAWING NUMBER S6-32

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-10

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-10 / Pages 2-47, 2-49; 2-56 - 2-64 / AFR Sections 2.1.3.3 and 2.1.7
Provide, in 2010 dollars, costs for the proposed project and project alternatives (including those listed in questions 4 to 6 in the August 2010 Data Request). These costs should include any fee payments. Provide costs (2010 dollars) in the proposed project cost for any upgrades required during the service period (2015-2050) of the proposed project (345 kV line between Hampton and La Crosse). Provide these costs as an MS Excel worksheet.

Response
The MS Excel worksheet was provided to the PSCW on March 24, 2011. Table is attached.

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Cost and System Performance of Alternatives

Option	La Crosse Area Load Serving Capability (in MW)	Total Project Cost	Regional System Reliability Issues for Alternatives	Siting and Land Acquisition Issues for Alternatives
345 kV Proposed project	750 MW	$487 million		
2006 161 kV La Crosse Area Alternative	750 MW	$638 million		
2010 161kV La Crosse Area Alternative	750 MW	$377 million	No further enhancement to the reliability of the regional bulk transmission grid. No contribution to future transfer capability between Wisconsin and Minnesota	Many miles of new 161 kV ROW necessary for this alternative, including potential for a new river crossing. Major routing hurdles and resulting cost additions expected.
161 kV line from North Rochester - Briggs Road alternative	550 MW	$249 million	Regional reliability and regional transfer capability not increased	None
Double circuit 161 kV line from North Rochester - Briggs Road alternative	600 MW	$303 million + significant cost addition for new right of way	Comparable performance to 161 kV options with higher cost Regional reliability and regional transfer capability not increased	Double circuit 161 kV requires new ROW and route. Alternative route from existing DPC 161 kV Q1 line would be desired. Likely to require different river crossing. Major routing hurdles expected if not using existing ROW.
230 kV line from North Rochester - Briggs Road alternative	550 MW	$294 million	Comparable performance to single 161 kV options with higher cost New voltage introduced into both Rochester and La Crosse area. Non-standard 230/161kV transformers (0.14% of bx's on MRO model)	None

NOTE:
- Estimates are in 2010 dollars
- All alternatives are planning level estimates only. These estimates do not include AFUDC, overheads or escalation. The estimate for the Proposed Project is a full detailed estimate including all of these additions.
- 345 kV, 230 kV and 161 kV alternatives all assume the same routes and configurations as proposed in Wisconsin CPCN and Minnesota route permit application, which includes plans to double
- 161 kV/161 kV scenario assumes building adjacent to the existing underlying transmission facilities. It is important to note that feasability of this adjacent configuration has not been investigated. In some places, such as portions of the Q1 route, there is no room for building adjacent to the existing 161 kV line.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-12

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-12 / Page 2-54 / AFR Sections 2.1.4 and 2.6.1
Provide a labeled plan with side and front elevations with dimensions for Figure 1 (Appendix K). Provide vertical dimensions for equipment and provide a diagram(s) showing substation equipment from the side with heights of equipment above ground level. Show proposed equipment in relation to surrounding landscape features.

Response
Response Item 01-12 adds Figure 1A, to be inserted after Figure 1 in Appendix K. The CPCN text has been revised to include a reference to this new figure.

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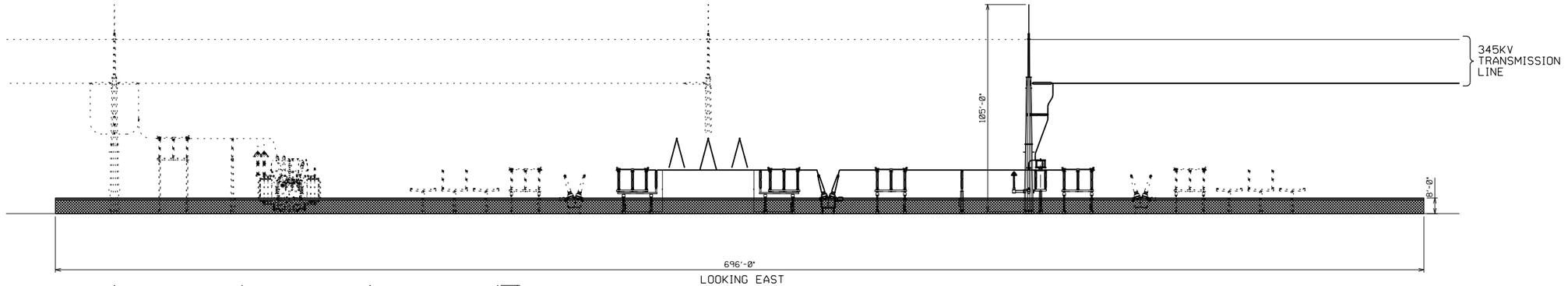
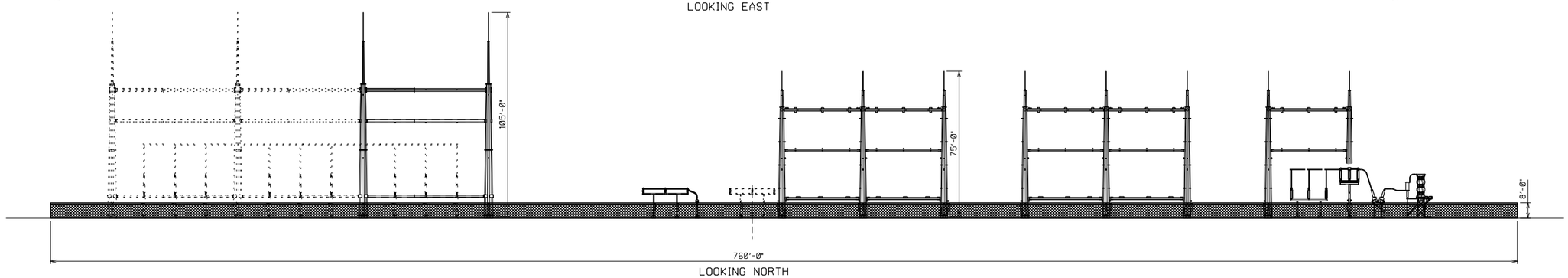
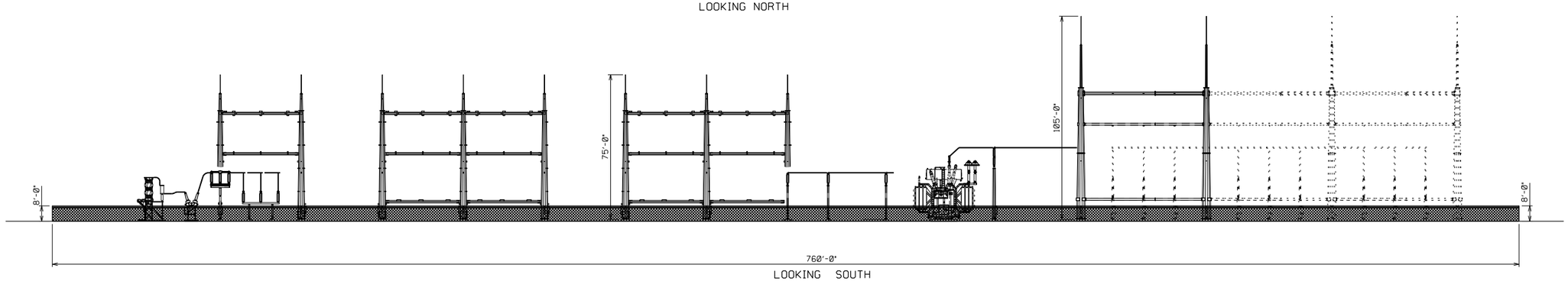


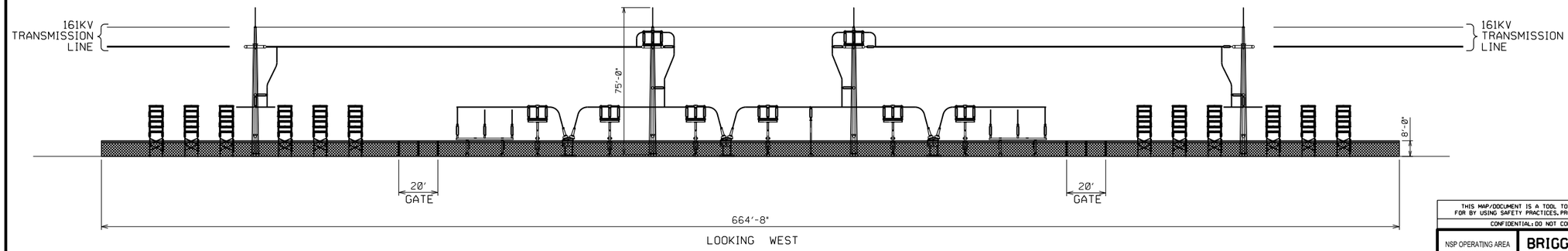
LOOKING EAST



LOOKING NORTH



LOOKING SOUTH



LOOKING WEST

PRELIMINARY
NOT FOR CONSTRUCTION

NSP OPERATING AREA
ENGINEERING
Minneapolis, MN

BRIGGS ROAD SUBSTATION
LOCATION PLAN
ELEVATION VIEWS

BGG

Xcel Energy®

SCALE: NONE

NH-FIGURE #1A

REV: 1

DATE	SIGNIFICANT NUMBER
LOCATED	
DRAWN	
3	
4	
5A	
5B	
6	
CL	

FIGURE 1A.DGN
2/24/2011 3:04:58 PM

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-14

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-14 / 2-58 / AFR Sections 2.1.7.2.2 and 2.4.1
Provide construction details, including environmental impacts associated with the relocation of any distribution lines, organized by route.

Response
The WDNR requested that the Applicants address the location and relative magnitude of distribution relocation for each route, by segment if possible. The distribution relocations by route and segment can be found in the CPCN Application, Table 2.1-18. This table has been revised in the CPCN Application to provide more detail on how the lines would be relocated and is also enclosed in this response. In addition, figures identifying where these relocations would occur are enclosed in this response. The following text has been added to the CPCN Application.

The process used to remove distribution lines typically begins with removal of the conductors and insulators. These activities are accomplished with a two-axel bucket truck where sufficient access is available. Where such access is not available, these tasks are accomplished by a lineperson climbing the pole and detaching the conductors and insulators. Insulators are then carried out and the conductors are pulled and coiled from an accessible location.

Removal of distribution poles is typically accomplished by pulling poles using vehicle mounted equipment. where access is available. Where access is unavailable, the poles are typically cut off at ground level using a chain saw. The poles can be pulled to an accessible location where they are loaded onto a flatbed truck.

Installation of underground distribution lines is typically performed using vibratory plow methods. Locations of distribution lines are typically adjacent to a roadway. If installation of distribution lines through vibratory plow or directional boring is not feasible in areas of regulated resources, the Applicants would apply for the appropriate permits. As part of this process, a more detailed discussion of construction practices within sensitive areas would be provided. Such sensitive areas may include wetlands, waterways and areas where T&E species are of concern are present as wells as areas requiring wetland matting or forestry clearing. Areas requiring driveway cuts that could affect access or outages during relocation would also be addressed.

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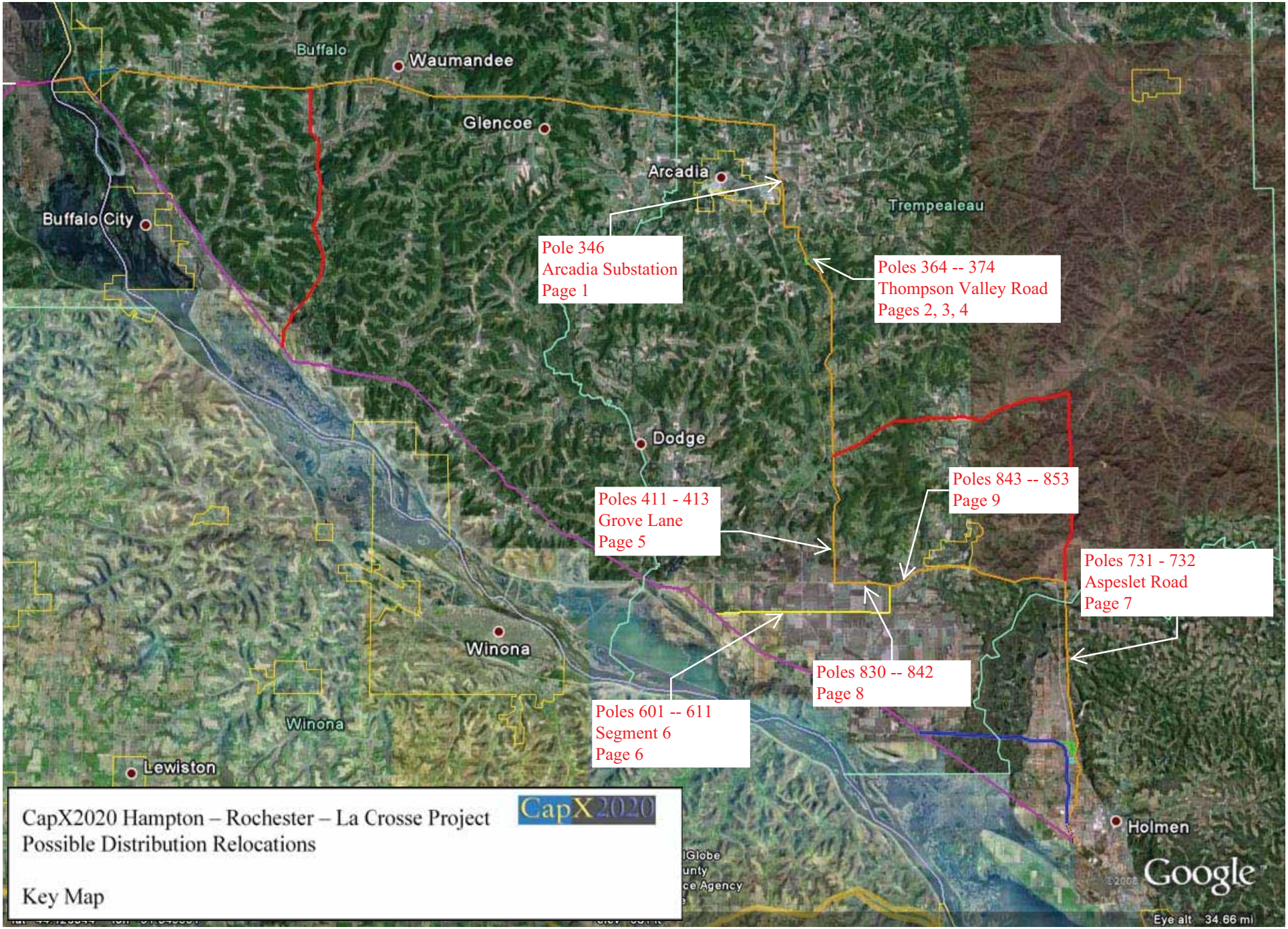
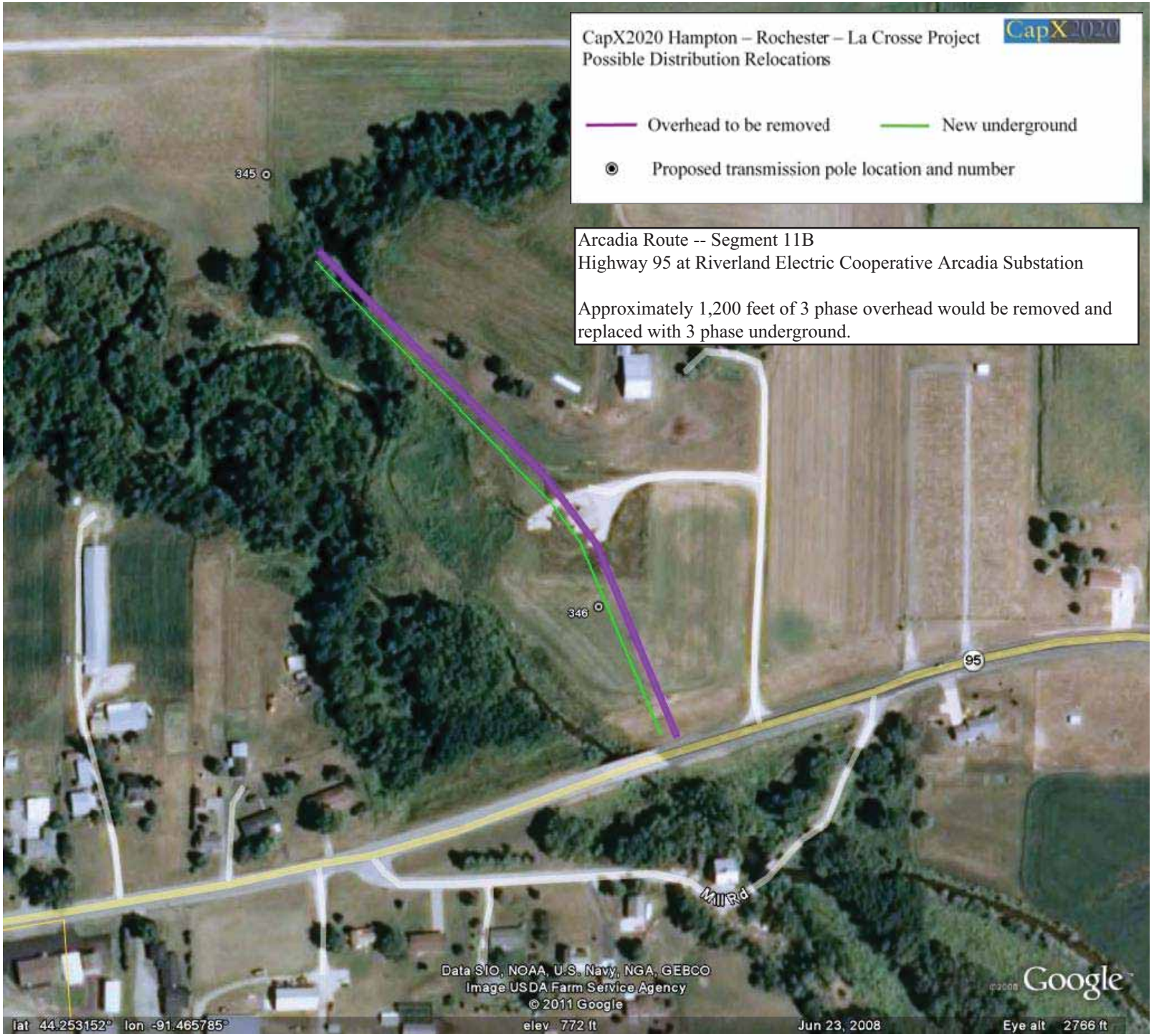
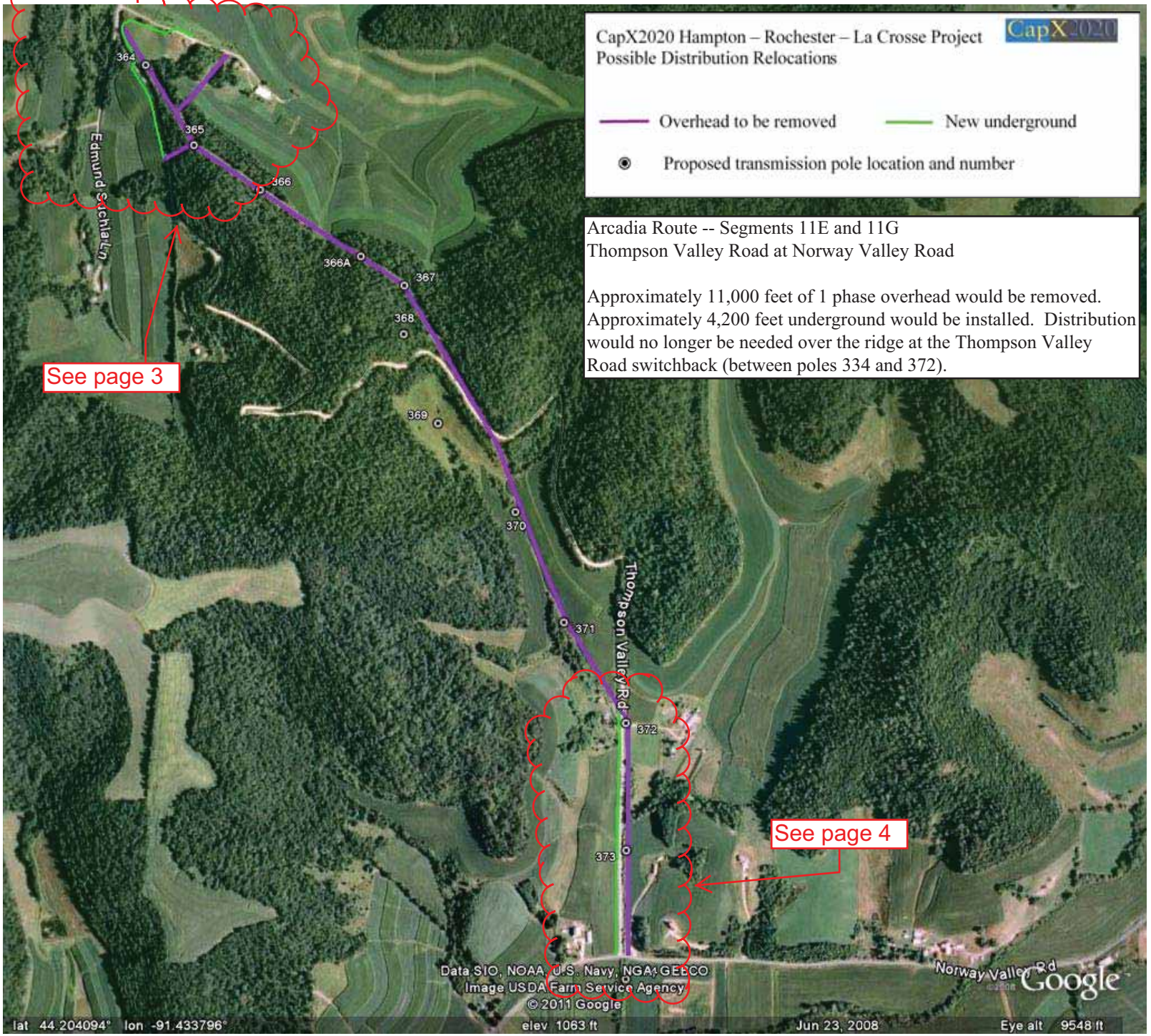
Table 2.1-18:
Distribution Lines and Proposed Actions

Segment	Q1 – Hwy 35 Route	Arcadia Route	Arcadia - Alma Option	Q1 – Galesville Route	Location	Cost	Owner	Action
6				X	0.5 miles north of Schuh Road. Poles 601 - 611	$ 210,000	Riverland Energy Cooperative	Remove approximately 9,000 feet existing overhead 3 phase. Install approximately 9,000 feet 3 phase underground across actively farmed fields.
11B		X	X		North of Village of Arcadia, 0.25 miles east of WI-93. Poles 345 - 346	$ 30,000	Riverland Energy Cooperative	Remove approximately 1,200 feet 3 phase overhead. Install approximately 1,200 feet 3 phase underground.
11E		X	X		Thompson Valley Road. Poles 364 – 368	$ 30,000	Riverland Energy Cooperative	Reconfigure services overhead and underground. Remove approximately 6,900 feet overhead 1 phase. Install approximately 2,100 feet 1 phase underground along road and on the edge of farm fields.
11G		X	X		Thompson Valley Road. Poles 369 – 374	$ 60,000	Riverland Energy Cooperative	Reconfigure services overhead and underground. Remove approximately 4,100 feet overhead 1 phase. Install approximately 2,100 feet underground 1 phase along road and farm field.
11G		X	X		Rural neighborhood at Grove Lane. Poles 411 – 414	$ 70,000	Riverland Energy Cooperative	Remove approximately 2,200 feet overhead 1 phase. Install approximately 2,200 feet underground 1 phase along road.
13A		X	X		West of Galesville sub along WI-93. Poles 830 – 837	$650,000	Xcel Energy	Remove approximately 6,500 feet existing 3 phase overhead from along road. Install approximately 6,500 feet 3 phase underground along road, including looped circuit.
13B1		X	X		West of Galesville sub along WI-93. Poles 838 - 840	$ 350,000	Xcel Energy	Remove approximately 2,700 feet existing 3 phase overhead from along road. Install approximately 2,700 feet 3 phase underground along road, including looped circuit.

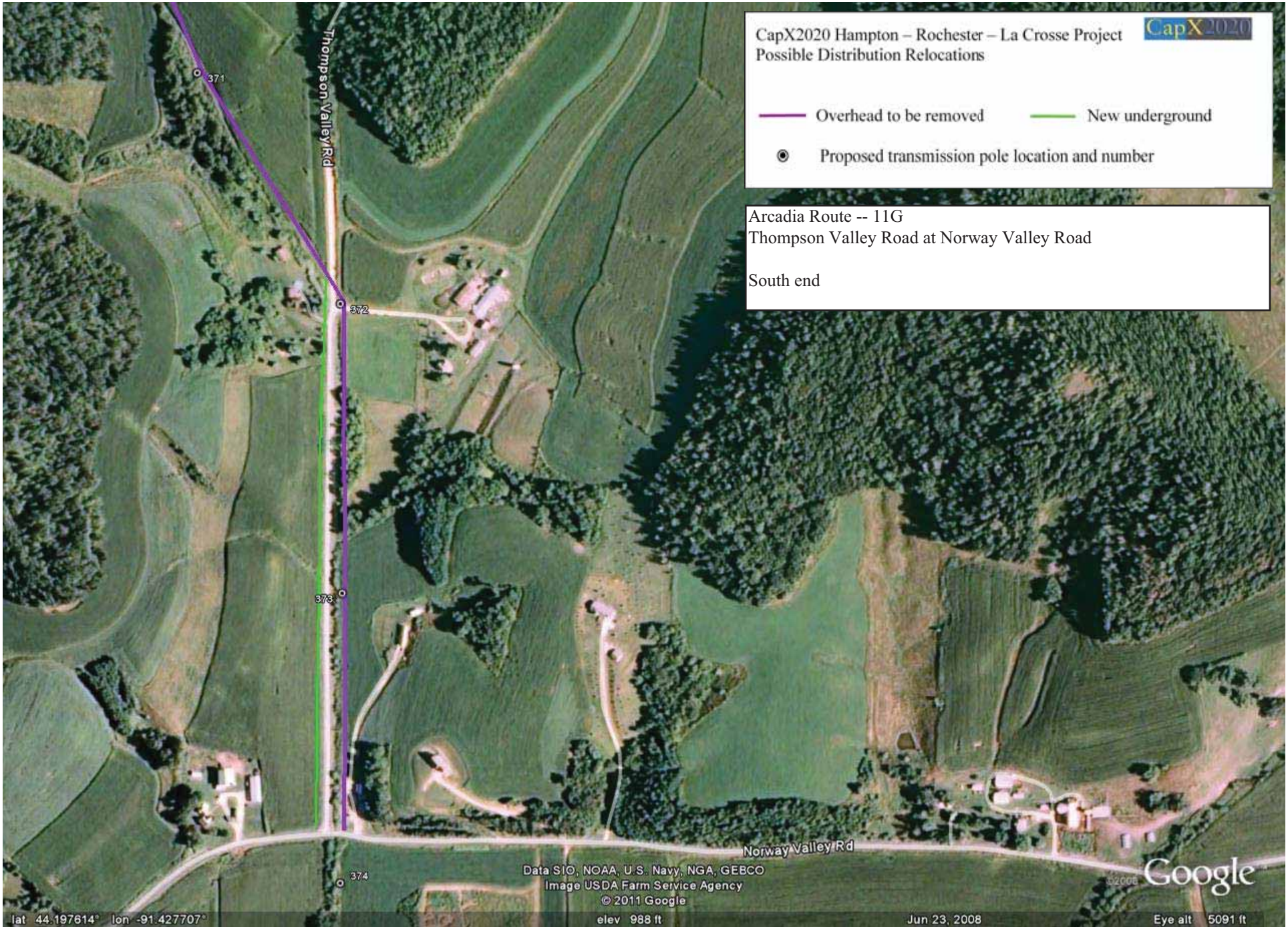
Segment	Q1 – Hwy 35 Route	Arcadia Route	Arcadia - Alma Option	Q1 – Galesville Route	Location	Cost	Owner	Action
13B2		X	X	X	West of Galesville sub along WI-93. Poles 841 – 845	$ 380,000	Xcel Energy	Remove approximately 3,600 feet existing 3 phase overhead from along road. Install approximately 3,600 feet 3 phase underground along road, including looped circuit.
13B2		X	X	X	East of Galesville sub along WI-93. Poles 846 – 853	$ 1,230,000	Xcel Energy	Remove approximately 6,200 feet existing 3 phase overhead from along road. Install approximately 6,200 feet 3 phase underground along road, including looped circuit.
17A		X	X	X	Residential area	$ 16,000	Riverland Energy Cooperative	Remove approximately 1,000 feet existing 1 phase overhead. Install approximately 1,400 feet underground 1 phase along road.


Buffalo
Waumandee
Glencoe
Arcadia
Trempealeau
Buffalo City
Dodge
Winona
Winona
Lewiston
Holmen
Pole 346
Arcadia Substation
Page 1
Poles 364 -- 374
Thompson Valley Road
Pages 2, 3, 4
Poles 411 - 413
Grove Lane
Page 5
Poles 843 -- 853
Page 9
Poles 731 - 732
Aspeslet Road
Page 7
Poles 830 -- 842
Page 8
Poles 601 -- 611
Segment 6
Page 6
CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
Key Map
CapX2020
Google
Eye alt 34.66 mi

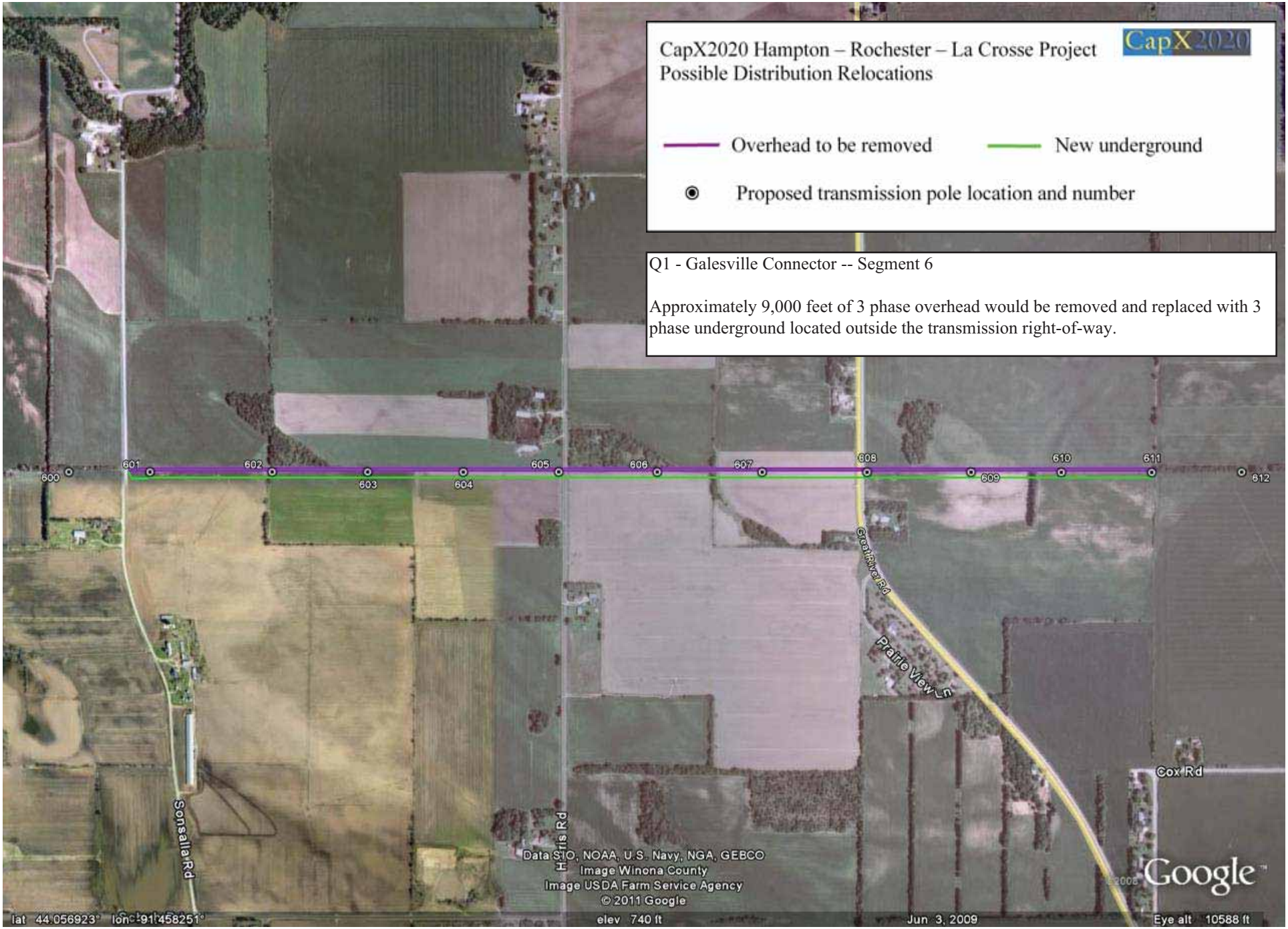

CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia Route -- Segment 11B
Highway 95 at Riverland Electric Cooperative Arcadia Substation
Approximately 1,200 feet of 3 phase overhead would be removed and replaced with 3 phase underground.
345
346
95
Mill Rd
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image USDA Farm Service Agency
© 2011 Google
Google
lat 44.253152° lon -91.465785°
elev 772 ft
Jun 23, 2008
Eye alt 2766 ft


CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia Route -- Segments 11E and 11G
Thompson Valley Road at Norway Valley Road
Approximately 11,000 feet of 1 phase overhead would be removed. Approximately 4,200 feet underground would be installed. Distribution would no longer be needed over the ridge at the Thompson Valley Road switchback (between poles 334 and 372).
See page 3
See page 4
364
365
366
366A
367
368
369
370
371
372
373
Edmund Sachla Ln
Thompson Valley Rd
Norway Valley Rd
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image USDA Farm Service Agency
© 2011 Google
Google
lat 44.204094° lon -91.433796°
elev 1063 ft
Jun 23, 2008
Eye alt 9548 ft

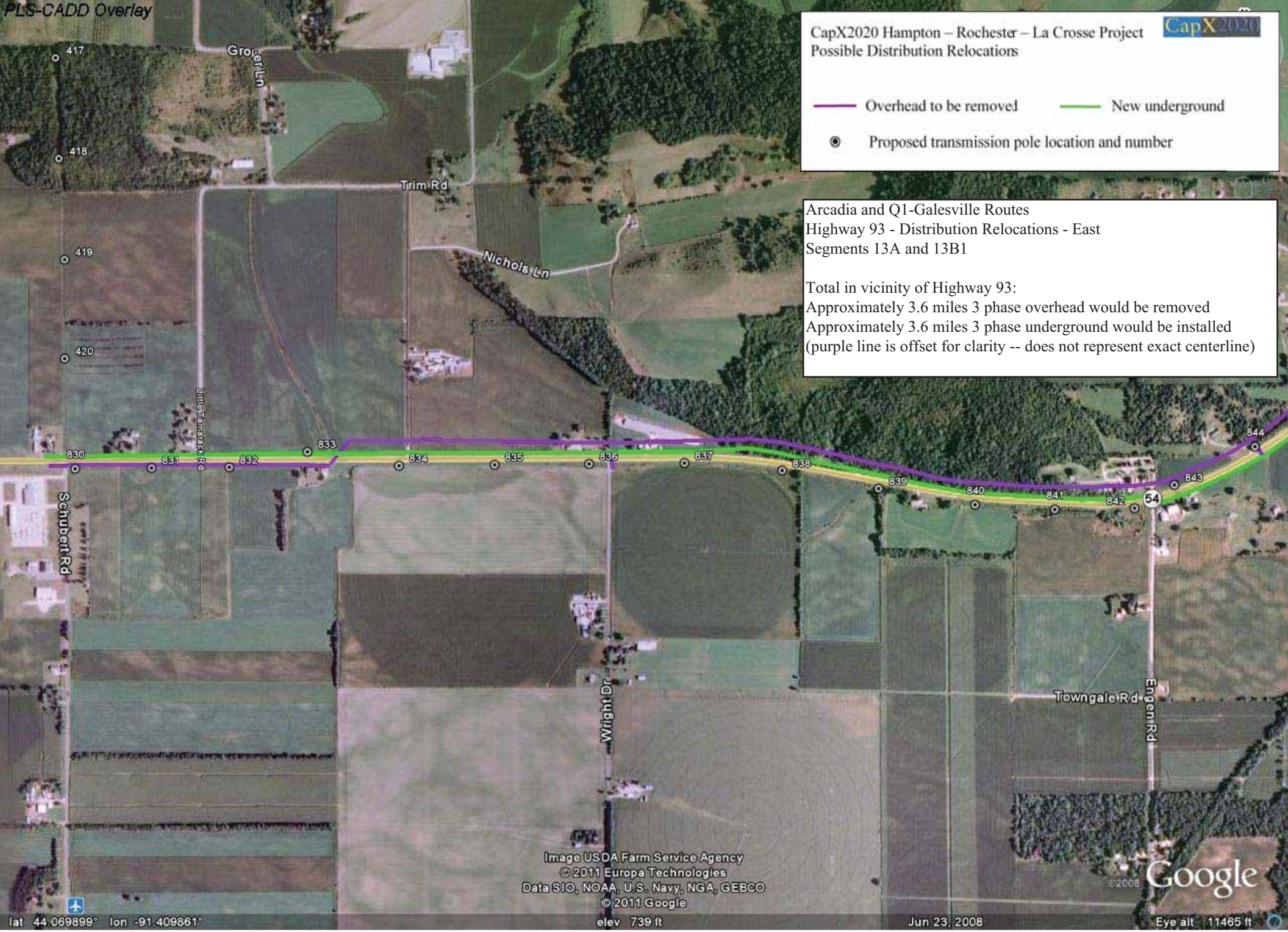

CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia Route -- 11E
Thompson Valley Road at Norway Valley Road
North end
Edmund Suchla Ln
364
365
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image USDA Farm Service Agency
© 2011 Google
©2008 Google
lat 44.214503° lon -91.445663°
elev 913 ft
Jun 23, 2008
Eye alt 3000 ft

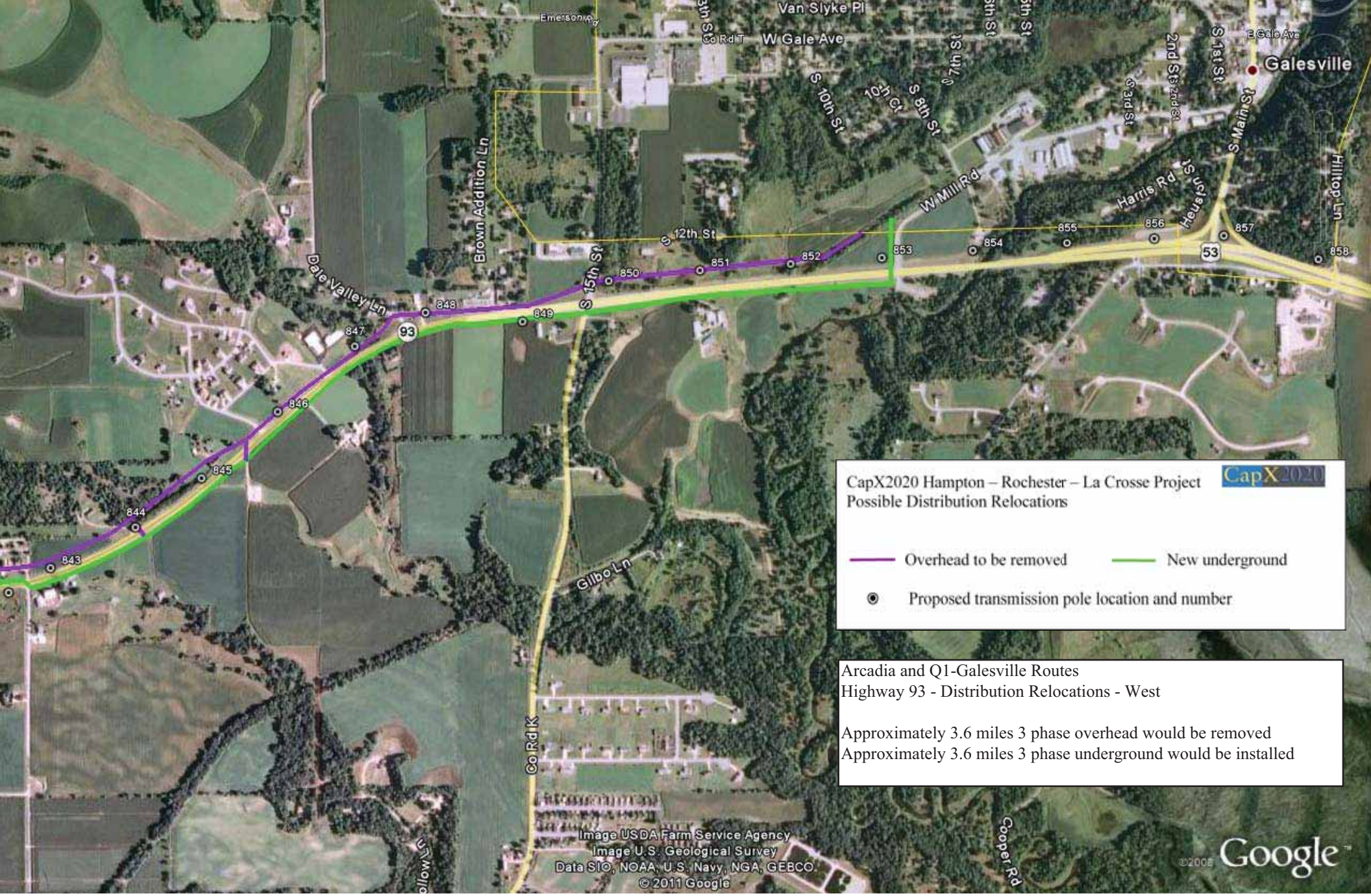

CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia Route -- 11G
Thompson Valley Road at Norway Valley Road
South end
Thompson Valley Rd
371
372
373
374
Norway Valley Rd
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image USDA Farm Service Agency
© 2011 Google
Google
lat 44.197614° lon -91.427707°
elev 988 ft
Jun 23, 2008
Eye alt 5091 ft


CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia Route -- Segment 11G -- Grove Lane
Approximately 2,200 feet overhead distribution removed and replaced with approximately 2,200 feet underground.
411
412
413
414
Grover Ln
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image USDA Farm Service Agency
© 2011 Google
©2008 Google
lat 44.089225° lon -91.428971°
elev 879 ft
Jun 23, 2008
Eye alt 4258 ft


CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Q1 - Galesville Connector -- Segment 6
Approximately 9,000 feet of 3 phase overhead would be removed and replaced with 3 phase underground located outside the transmission right-of-way.
600
601
602
603
604
605
606
607
608
609
610
611
612
Great River Rd
Prairie View Ln
Cox Rd
Sonsalla Rd
Harris Rd
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Winona County
Image USDA Farm Service Agency
© 2011 Google
Google
lat 44.056923° lon -91.458251°
elev 740 ft
Jun 3, 2009
Eye alt 10588 ft


CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia Route and Q1 - Galesville Route -- Segment 17A
Aspeslet Road north of Castle Mound Country Club
Approximately 1,000 feet of 1 phase overhead would be removed and replaced with 1,400 feet 1 phase underground.
731
732
Aspeslet Rd
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image U.S. Geological Survey
© 2011 Google
©2008 Google
lat 44.041609° lon -91.283869°
elev 790 ft
Apr 2007
Eye alt 2346 ft


PLS-CADD Overlay
CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia and Q1-Galesville Routes
Highway 93 - Distribution Relocations - East
Segments 13A and 13B1
Total in vicinity of Highway 93:
Approximately 3.6 miles 3 phase overhead would be removed
Approximately 3.6 miles 3 phase underground would be installed
(purple line is offset for clarity -- does not represent exact centerline)
Groger Ln
Trim Rd
Nichols Ln
Little Tamarack Rd
Schubert Rd
Wright Dr
Towngale Rd
Engen Rd
417
418
419
420
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
54
Image USDA Farm Service Agency
© 2011 Europa Technologies
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2011 Google
lat 44.069899° lon -91.409861°
elev 739 ft
Jun 23, 2008
Eye alt 11465 ft
Google


CapX2020 Hampton – Rochester – La Crosse Project
Possible Distribution Relocations
CapX2020
Overhead to be removed
New underground
Proposed transmission pole location and number
Arcadia and Q1-Galesville Routes
Highway 93 - Distribution Relocations - West
Approximately 3.6 miles 3 phase overhead would be removed
Approximately 3.6 miles 3 phase underground would be installed
Galesville
W Gale Ave
E Gale Ave
Van Slyke Pl
Emerson St
Co Rd T
S 10th St
10th Ct
S 8th St
S 7th St
S 6th St
S 5th St
S 3rd St
2nd St
S 1st St
S Main St
Hilltop Ln
W Mill Rd
Harris Rd
Heusis St
S 12th St
S 15th St
Brown Addition Ln
Dale Valley Ln
Gilbo Ln
Co Rd K
Cooper Rd
Hollow Ln
93
53
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
Image USDA Farm Service Agency
Image U.S. Geological Survey
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2011 Google
©2008 Google

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-15

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-15 / Page 2-60, Table 2.1-19 / AFR Section 2.1.7.3.1.3
Discuss the potential costs for replacement trees within DOT ROW and whether that has been included in Total Project Cost Estimates, Table 2.1-19.

Response:
The Applicants have not included the potential costs for replacement trees in the Total Project Cost Estimates in Table 2.1-19. These costs will be developed in cooperation with WisDOT as part of the WisDOT permitting process. WisDOT's Utility Accommodation Policy provides information regarding WisDOT's standard practices:

> "Utilities are prohibited from chemical treating, cutting, trimming or damaging trees/vegetation on state highways to facilitate the installation of its facility unless specifically authorized by a permit or except as provided under maintenance type activities. See HMM 09-15-15, 3.0. Trees/vegetation proposed to be damaged or destroyed may have to be replaced at WisDOT's discretion. When tree removal is permitted, remove each stump and properly backfill the hole. Cutting the stump flush with the ground may also be allowed upon WisDOT approval.
>
> Compensate WisDOT for the loss of trees on electric transmission line projects unless specified in the utility's permit. Replace trees 4" DBH (diameter at breast height) and greater that are damaged or destroyed at a 2:1 ratio (replaced:destroyed) and a 1:1 ratio below 4" DBH. If low-growth trees cannot be planted at the same location as the transmission line, then WisDOT may require the utility to plant trees in alternate locations or pay WisDOT an agreed to price per tree. This price may be established by an appraisal or by values determined with past permits issued, which is currently $200/tree."

Excerpt from Highway Maintenance Manual, 09-15-45 (2.0).

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-20

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-20 / Page 2-64, 2.1.7.3.4 and Appendix H / AFR Section 2.1.7.3.4
Within the high-voltage transmission fee section, discuss how integral the non-345 kV transmission construction is to the proposed 345 kV construction. (This issue relates to the recent Commission discussion of "but for" inclusion of lower voltage portions of a project into the base cost from which the fees are calculated.)

Response
In the CPCN Application, the environmental impact fee (EIF) was calculated using the methodology outlined in PSCW Staff Letter dated September 16, 2010 in Docket 137-CE-147, PSCW reference number 138681. The letter reflected PSCW staff's determination for calculating the EIF for American Transmission Company's Rockdale – West Middleton 345 kV project.

Using this methodology, the following costs for Wisconsin facilities were excluded from the EIF cost basis:

1. All costs attributed to 161 kV, 69 kV and distribution voltages:
   A. 161 kV portion of the Briggs Road Substation
   B. 161 kV lines interconnecting to the Briggs Road Substation
   C. Lower voltage portion of 345/161 and 345/69 double circuits
   D. Distribution relocations
2. EIF itself, including both one-time and annual EIF during the construction period
3. Operation and maintenance expense
4. Precertification costs

Regarding the question "how integral the non-345 kV transmission construction is to the proposed 345 kV construction", the Applicants state as follows in relation to the items 1A-1D above

- Item 1A: the 161 kV substation components at the Briggs Road Substation are required to meet the Project's electrical purpose and need.
- Item 1B: existing 161 kV lines interconnecting to the Briggs Road Substation are required to meet the Project's electrical purpose and need. This includes the short reroute of the Xcel Energy Tremval – Mayfair 161 kV and short reroute of the Dairyland Marshland – La Crosse Tap – Genoa 161 kV lines.
- Item 1C: attaching existing lower voltage lines to the proposed 345 kV Project are the result of routing opportunities following Wisconsin's routing priorities statute. Co-locating these lower voltage lines with the proposed 345 kV line is not necessary to meet the Project's electrical purpose and need.
- Item 1D: distribution relocations on this project are necessary to clear rights-of-way and/or to remove potential neutral-to-earth voltage concerns. This distribution work is not necessary to meet the Project's electrical purpose and need.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-22

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-22 / Page 2-92, / AFR Section 2.4.1.3
Provide written documentation from DOT and/or WI Mississippi River Parkway Commission (WMRPC) that identifies the values that will be affected by this project along the Great River Road National Scenic By-Way. Provide an analysis that would evaluate the impact to these values between routes. Refer to the December 28 and January 27, 2010, letters from Ruben L. Anthony and Mike Berg of DOT to William Fannucchi of Commission staff. Explain the reasoning for the values identified. If such documentation cannot be obtained, provide documentation from DOT and/or WMRPC on why it cannot.

Response:
The Applicants have requested this information from WisDOT (February 16, 2011 letter is attached). A reply has not been yet been received.

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February 16, 2011

Mr. Robert Fasick
State Right-of-Way Accommodation & Permits Engineer
Wisconsin DOT
Bureau of Highway Operations
P.O. Box 7986 – Room 501
Madison, WI 53707-7986

Mr. Al Lorenz / Mr. Marty Beekman
Mississippi River Parkway Commission of Wisconsin
718 W. Clairemont Ave.
Eau Claire WI 54701

Re: Joint Application for PSCW Certificate of Public Convenience and Necessity and WDNR Utility Permit
Hampton – Rochester - La Crosse 345 kV Transmission Project
PSCW Docket No. 5 CE 136

Gentlemen,

On February 1, 2011, the Public Service Commission of Wisconsin replied to our application to construct electric transmission facilities between Alma and Holmen. The attached letter requests additional information including specific items that require WisDOT and Mississippi River Parkway Commission input. These items are:

- The eleventh row on page 4 of 10 (page 2 of the table) requests:

  Provide written documentation from DOT and/or WI Mississippi River Parkway Commission (WMRPC) that identifies the values that will be affected by this project along the Great River Road National Scenic By-Way. Provide an analysis that would evaluate the impact to these values between routes. Refer to the December 28 and January 27, 2010, letters from Ruben L. Anthony and Mike Berg of DOT to William Fannucchi of Commission staff. Explain the reasoning for the values identified. If such documentation cannot be obtained, provide documentation from DOT and/or WMRPC on why it cannot.

This request asks for documentation from WisDOT and/or the Mississippi River Parkway Commission. We respectfully ask the WisDOT and/or the Mississippi River Parkway Commission to share any information it has to help us answer this request. We are currently gathering data for the Highway 88 route and are willing to work to identify other mitigation measures and compare monetary values of aesthetic impacts amongst the various routes. However, we are not aware of any method of comparing monetary values of aesthetic impacts

between one route and another. We request your assistance in this effort and request a response as to whether you can provide any data.

- The tenth row on page 5 of 10 (page 3 of the table) requests:

  Provide documentation from DOT that shows the proposed sharing of ROW and crossing of interstate or state highway ROWs that is acceptable to DOT and can be permitted.

This request asks for documentation from WisDOT regarding whether WisDOT could issue permits for those portions of the routes proposed in the Application for a Certificate of Public Convenience and Necessity that share state highway right-of-way. We have met with WisDOT on numerous occasions regarding our route proposals and provided detailed information regarding alternative alignments and potential impacts. While WisDOT has raised questions and concerns regarding the proposed route segments along Highway 35, WisDOT has not stated in writing whether WisDOT could issue permits for the proposed routes. We respectfully ask the WisDOT provide a written opinion in response to the Commission Staff's request.

Please feel free to contact me at thomas.g.hillstrom@xcelenergy.com or (612) 330-6538 if you have questions or comments.

Thank you,

Tom Hillstrom
Xcel Energy
Supervisor, Siting and Permitting

cc: Electronic Filing System Docket No. 5 CE 136
Nanette Vetch (WisDOT)- electronic copy
Ken Rineer and Bill Fannucchi (PSCW) – electronic copy

Attachment

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-23

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-23 / Page 2-94; Appendix N / AFR Section 2.2.3
Describe the future of the existing Q1 transmission line and ROW should a Q1 route not be approved by the Commission. When would DPC's Q1 line need to be rebuilt or upgraded by DPC? What options would DPC pursue if their Q1 line is not rebuilt as part of the CapX project? What state or federal agency approvals would be necessary for each option?

Response

Dairyland Power Cooperative's Genoa-Alma 161 kV Rebuild (Q1)
Dairyland's Q1 161 kV transmission line (Q1) ties the Alma/JPM power plants to the Genoa #3 power plant. The Q1 was constructed in 1951 and is the oldest 161 kV line in the Dairyland's bulk transmission system. The Q1 is over 70 miles long and the rebuild has been divided into three segments as shown on the Q1 Rebuild Map (enclosed). Under Dairyland's planned Q1 construction sequence, the first segment to be rebuilt would be the segment between Genoa and La Crosse.

Genoa to La Crosse Tap 161 kV (Q1) Rebuild (20.5 Miles)
Because of the critical nature of this line, it needs to be rebuilt during off-peak times. The engineering for this segment of the project started in 2009. With this in mind, the construction period is planned to start in September 2011 with access road and foundation work. The northern half of this segment would be rebuilt between September 2012 and May 2013. The south half is scheduled to be rebuilt between September 2013 and May 2014.

La Crosse Tap to North La Crosse 161 kV Rebuild (8.7 Miles)
This segment of the Q1 is currently being evaluated for constructability issues and as a potential corridor for ATC's proposed Badger-Coulee 345 kV transmission line.

Alma-North La Crosse 161 kV Rebuild (40.9 Miles)
If the Hampton-Rochester-LaCrosse 345 kV transmission line (Project) does not utilize Dairyland's Q1 ROW between Alma and North La Crosse, Dairyland will need to rebuild this line section. As noted above, the line was constructed in 1951. If the PSCW's CPCN Order does not choose the Q1 Route for the Hampton-Rochester-LaCrosse Project, then Dairyland would begin permitting and engineering work immediately after the issuance of the CPCN Order. The Q1 would be rebuilt on the existing ROW for the entire length as shown on the Dairyland Cost to Rebuild Map. New steel poles 90 to 120 feet tall would be installed. It is anticipated that construction activities would begin in 2013 after Dairyland's rebuild of the Genoa to La Crosse 161 kV segment is complete. The stand-alone rebuild of the Q1 between Alma and North La Crosse would cost Dairyland's members an additional $33,050,000.

If the PSCW selects the Q1-Galesville Route for the Hampton-Rochester-LaCrosse Project, the segment of the Q1 line through the Black River floodplain to the North La Crosse Substation would need to be rebuilt as shown on the attached Q1 Rebuild Map. The cost to Dairyland's members for this rebuild would be $10,620,000. It is anticipated this segment of the Q1 would be rebuilt as quickly as possible so that Xcel Energy's Marshland substation could be fed from La Crosse while the rest of the Q1 route is being rebuilt as part of the Hampton-Rochester-La Crosse Project.

If the PSCW should select the Highway 88 Route for the Hampton-Rochester-La Crosse Project, approximately 10 miles of the Q1 would need to be rebuilt between Alma and the intersection of Highway 88 and 35. The cost to rebuild this section of the Q1 would be approximately $7,390,000.

Should the PSCW select the Q1 Galesville Route, Arcadia Route, or Arcadia-Ettrick Route for the Hampton-Rochester-La Crosse Project, there are no other reasonable routing options that would allow Dairyland to remove the Q1 from the Van Loon Wetlands. The Highway 53 route is not a viable option under DPC's planning practices as it would place three vital transmission lines in a common corridor, which would reduce geographic diversity in cases of severe weather or other similar events. Dairyland would need to receive USDA Rural Utilities Service approval as well as permits from the USFWS, USACE and the WDNR.

Dairyland Q-1 Alma to North La Crosse Rebuild Cost Estimate - February 2011

Option 1 Alma - North La Crosse	Existing Str. Nos.	Beginning Station	Ending Station	Distance (mi.)	161kV Single Circuit Line Only		If double circuited w/parallel 69kV	
					Cost/Mile	Total Cost	Cost/Mile	Total Cost
Alma Mississippi River Crossing to River Road*	8 - 22	50+82	144+74	1.78	$735,000	$1,308,300	$1,029,000	$1,831,620
River Road to N-269 Cochrane Tap off Xcel	22 - 73	144+74	483+96	6.42	$735,000	$4,718,700		$4,718,700
N-269 Cochrane Tap to Cochrane Distribution Sub**	73 - 88	483+96	582+30	1.86	$735,000	$1,367,100	$1,029,000	$1,913,940
Cochrane Sub to Marshland Transmission Sub	88 - 0183	582+30	1379+95	15.11	$919,000	$13,886,090		$13,886,090
Marshland Sub to North Edge of Black River Bottoms	0183 - 256	2366+47	1859+22	9.61	$735,000	$7,063,350		$7,063,350
Black River Bottoms	256 - 279	1859+22	1699+30	3.03	$1,008,000	$3,054,240		$3,054,240
South Edge of Black River Bottoms to Briggs Road Sub	279 - 297	1699+30	1580+71	2.25	$735,000	$1,653,750		$1,653,750
			TOTALS	40.06		$33,051,530		$34,121,690

*161kV Q-1 can be double circuited with parallel N-33 line.
**161kV Q-1 can be double circuited with parallel N-269 line.

Option 2 Galesville Reroute - North La Crosse	Existing Str. Nos.	Beginning Station	Ending Station	Distance (mi.)	161kV Single Circuit Line Only	
					Cost/Mile	Total Cost
Galesville Reroute to North Edge of Black River Bottoms	195 - 256	2283+99	1859+22	8.04	$735,000	$5,909,400
Black River Bottoms	256 - 279	1859+22	1699+30	3.03	$1,008,000	$3,054,240
South Edge of Black River Bottoms to Briggs Road Sub	279 - 297	1699+30	1580+71	2.25	$735,000	$1,653,750
			TOTALS	13.32		$10,617,390

Option 3 Alma - Highway 88	Existing Str. Nos.	Beginning Station	Ending Station	Distance (mi.)	161kV Single Circuit Line Only		If double circuited w/parallel 69kV	
					Cost/Mile	Total Cost	Cost/Mile	Total Cost
Alma Mississippi River Crossing to River Road*	8 - 22	50+82	144+74	1.78	$735,000	$1,308,300	$1,029,000	$1,831,620
River Road to N-269 Cochrane Tap off Xcel	22 - 73	144+74	483+96	6.42	$735,000	$4,718,700		$4,718,700
N-269 Cochrane Tap to Cochrane Distribution Sub**	73 - 88	483+96	582+30	1.86	$735,000	$1,367,100	$1,029,000	$1,913,940
			TOTALS	10.06		$7,394,100		$8,464,260

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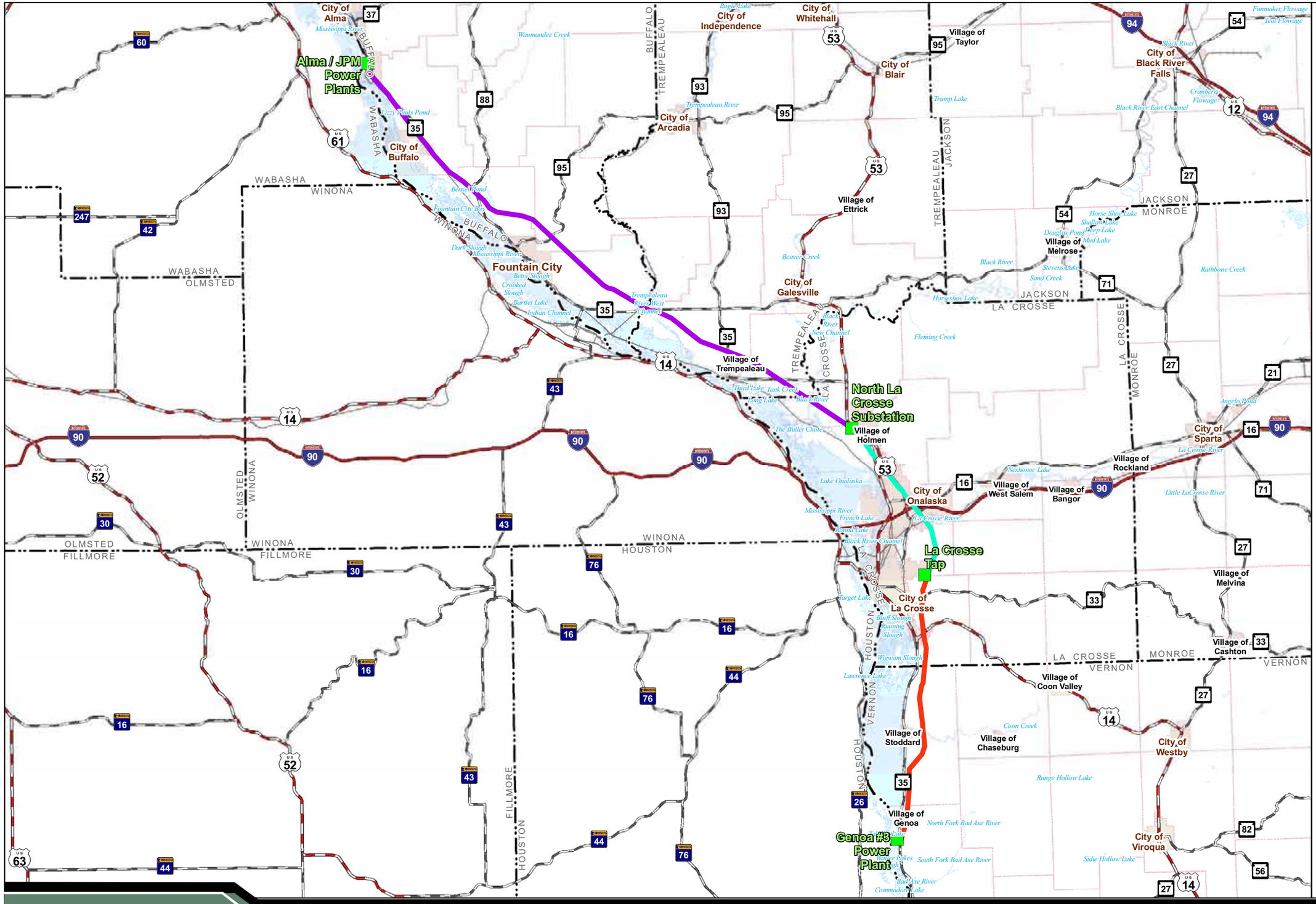

CapX2020

Hampton Rochester La Crosse 345kV Transmission Project

Xcel Energy Dairyland Power Cooperative Rochester Public Utilities Wisconsin Public Power, Incorporated Southern Minnesota Municipal Power Agency

Q1 Rebuild

February 2011

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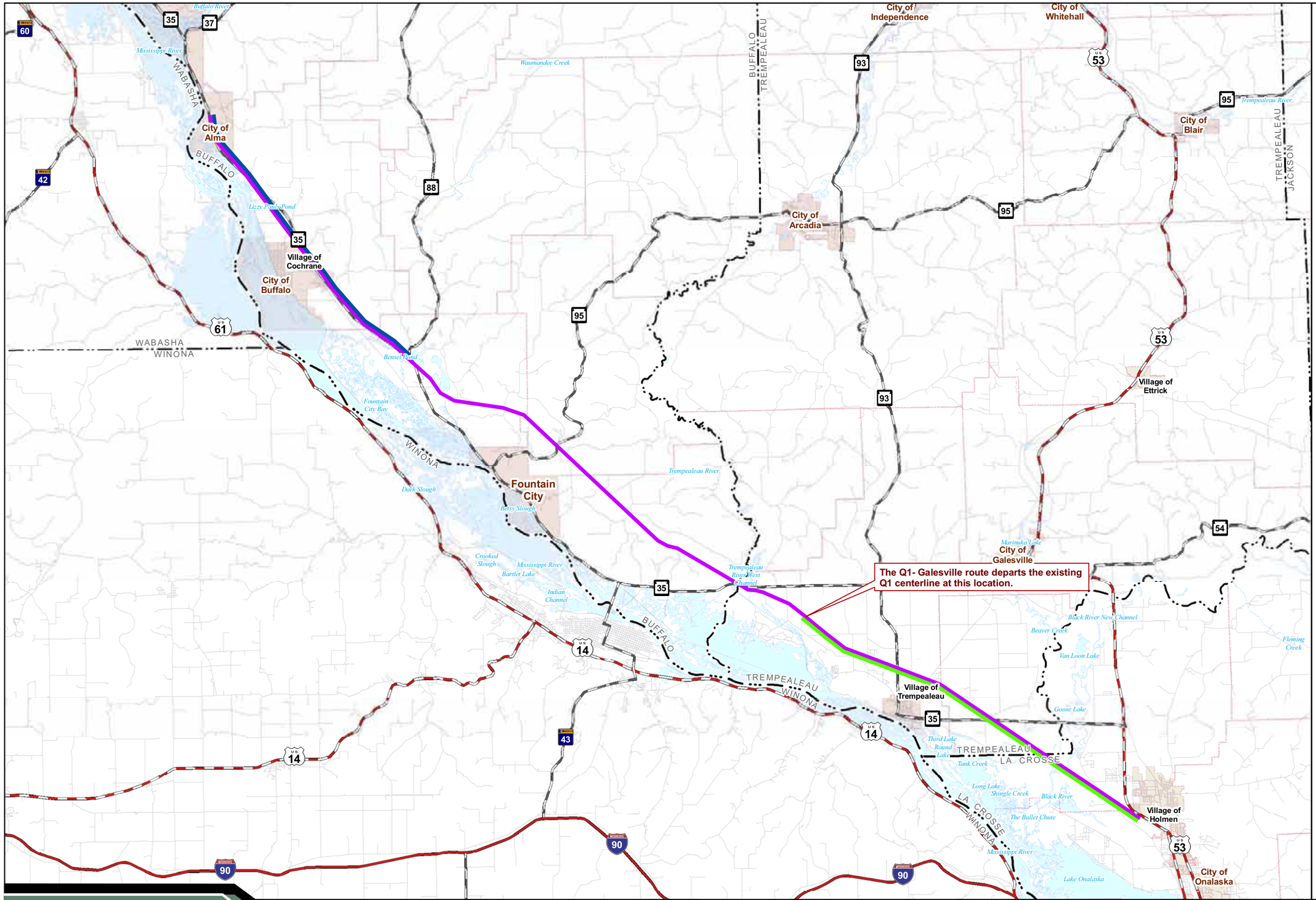

DPC Cost to Rebuild

Legend

- Option 1 - Alma to North La Crosse
- Option 2 - Galesville Route off to North La Crosse
- Option 3 - Alma to Hwy 88

Highways

- Interstate Highway
- US Highway
- State Highway

Jurisdiction

- City or Village
- Town

0 2 Miles

Data Sources: WDNR, WisDOT, BTS, USGS, PSCW, LMIC, FEMA, WWI, FCC, Platts, Census
DPC-Q1 Rebuild Overview.mxd
P:\2007\07180025.00_CAPX\GIS\Layouts\WI_CPCN\Sheetmaps
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CapX2020

Hampton Rochester La Crosse 345kV Transmission Project

Xcel Energy Dairyland Power Cooperative Rochester Public Utilities Wisconsin Public Power, Incorporated Southern Minnesota Municipal Power Agency

DPC Cost to Rebuild Q1

February 2011

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-25

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-25 / Page 2-94 / AFR Section 2.2.3.1.6.1.2
Include information about DNR-owned/managed lands. Provide documentation regarding new easements or changes to existing easements that would be needed along any proposed routes.

Response:
The Applicants have identified one parcel on the Project that is owned by the WDNR. That parcel is located on the Q1-Highway 35 route. The parcel is described as being part of Government Lot 1, Section 27, T18N, R8W, Town of Holland, La Crosse County, Wisconsin, tax parcel #: 8-1157-0.

A search through GIS mapping and county records indicate that this parcel is not currently encumbered by any transmission facilities or easement rights. A route through this location would require negotiating with Wisconsin DNR for easement rights.

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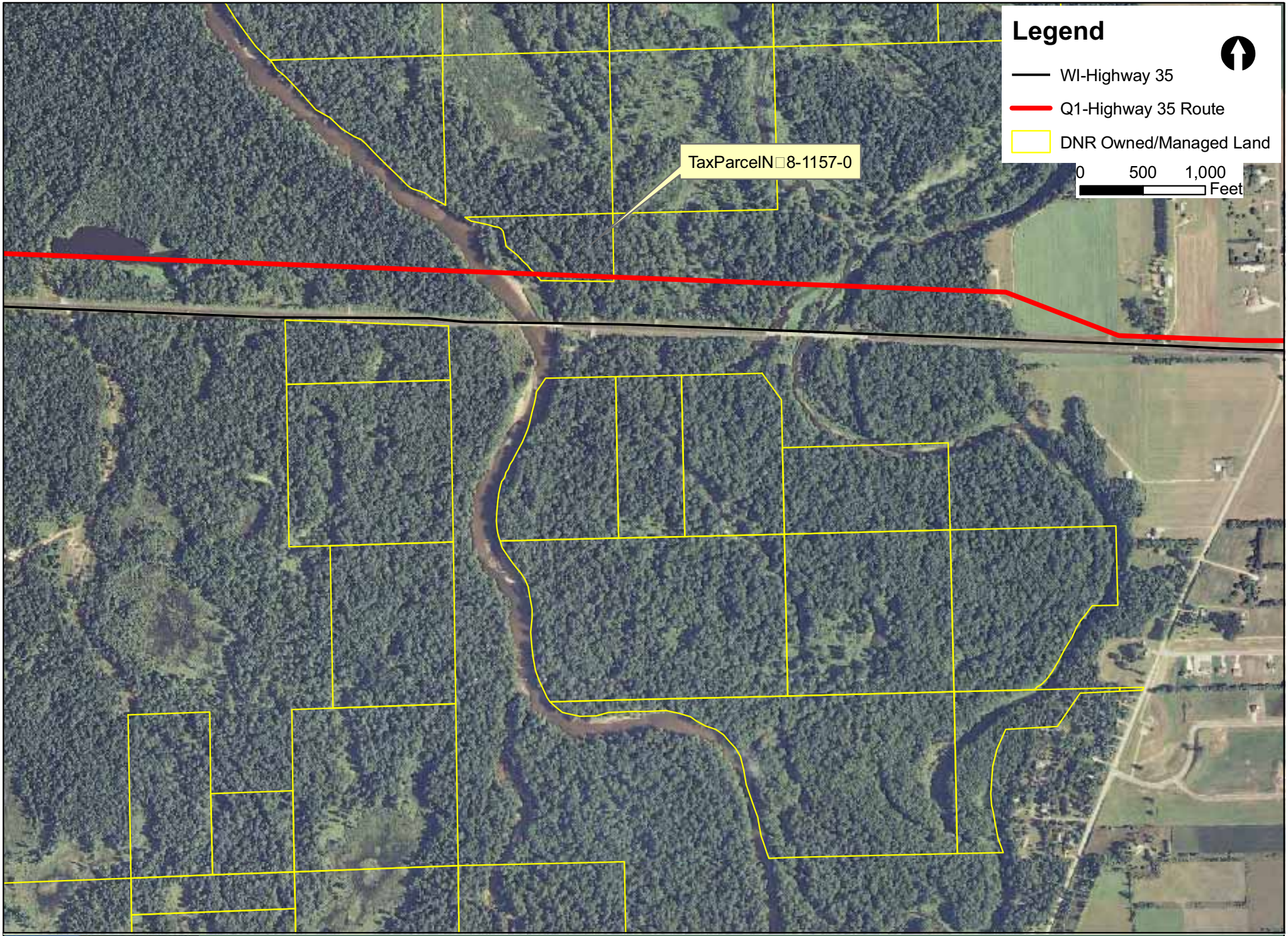

CapX2020 Hampton • Rochester • La Crosse 345kV Transmission Project

Parcel:	Internal ID:	Municipality:	Record Status:
8-1157-0	57351	Town of Holland	Current

Parcels Taxes Outstanding Taxes Assessments Deeds Permits History Parcel Map

Total Acreage: 10.97 **Township:** 18 **Range:** 08

Section: 27 **Qtr:** SW-SW Return to Search

Owners/Associations

Name	Relation	Mailing Address	City	State	Zip Code
STATE OF WISCONSIN DNR	Owner	PO BOX 7921	MADISON	WI	53707-7921

Property Addresses

Street Address	City (Postal)
STATE ROAD 35	HOLMEN

Abbreviated Legal Description

GOVERNMENT LOT 1 EX PRT FOR STH-35 AS ON PLAN NO. 14 & AS IN V238 P328

Districts

Code	Description	Taxation District
2562	Holmen School	Y
HPO	HOLMEN POSTAL DISTRICT	N
24	County Supervisory District 24	N
016003	Ward 3	N

Additional Parcel Information

Category	Description
Zoning	AGRICULTURAL DISTRICT "A"

On Current Tax Roll: Yes

Lottery Credits Claimed: 0

Lottery Credit Application will be sent during the next cycle (Sometime in October)

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 26

Date of PSCW Request: February 1, 2011
Date of Response: March, 2011

Item 01-26 / Page 2-96 / AFR Section 2.4
Describe the potential rerouting of the Marshland-Holland 69 kV line from its location near 7 Bridges Trail to the Q1-State Highway (STH) 35 Route, including what would happen to any distribution underbuild and all the route adjustments and connections that would be made. What decisions must be made to determine if this rerouting would be done?

Response
Rerouting the Marshland-Holland 69 kV line and attached distribution lines from their current location near the Seven Bridges Trail to the Q1-Highway 35 Route has been proposed by the Applicants as a potential mitigation measure that could be implemented if the Q1-Highway 35 Route were selected. The WDNR is the state agency responsible for wetland regulation and has been very involved in the route development process with the PSCW and Xcel Energy on an ongoing basis. The WDNR has suggested that the Q1-Highway 35 Route may not be permittable due to wetland impacts. The Applicants have not yet heard from the WDNR as to whether the Marshland-Holland 69 kV mitigation option is appropriate or adequate.

In the view of the Applicants, removing both the Q1 161 kV line and the Marshland-Holland 69 kV lines from their current positions in the Black River floodplain and consolidating them with the proposed 345 kV line adjacent to Highway 35 would result in a reduction from three infrastructure corridors across the Black River floodplain to one. Based on the Applicants' assessment that the proposed Project mitigation would result in an overall habitat improvement in the Black River floodplain, the Applicants are now assessing the technical feasibility of this mitigation.

If the Marshland-Holland line were re-routed, it would be re-routed as shown on Figure 1-Potential Q1-Highway 35 Mitigation in Appendix T of the CPCN Application.

While rerouting the Q1 161 kV line from its current location is assumed to be part of the Project, rerouting the Marshland-Holland line is seen as a mitigation measure that could be implemented if the WDNR and PSCW deem it appropriate to offset potential impacts of the Q1-Higway 35 Route across the Black River floodplain. The Q1 161 kV rerouting is relatively straightforward because it is the line that is being overtaken by the proposed 345 kV line from Alma to Holmen and will be co-located with the new 345 kV line. The Marshland-Holland 69 kV line is not part of the Q1-Highway 35 Route because it is an independent line, and is not affected by any of the Q1-Highway 35 Route segments.

The Marshland-Holland mitigation option also presents technical challenges related to combining three circuits (345 kV/161 kV/69 kV) and distribution lines on one set of structures. Shorter span lengths are needed for the 69 kV and distribution lines due to smaller conductor size. This could be solved by using interset poles or by using a separate alignment along Highway 35. Maintenance and accessibility needs also need to be addressed. To this end, the Applicants are conducting studies to determine if the 69 kV line could:

- Be attached to the 345/161 kV double-circuited structures to create a triple-circuit, and, if so, if interset poles would be required.
- Be constructed adjacent to the proposed 345/161 kV line.

With respect to the distribution line, the Applicants have contacted Riverland Energy Cooperative (the owner of the existing distribution lines along the Seven Bridges segment) regarding a potential buried reroute along Highway 35. Riverland Energy Cooperative provided an evaluation, attached, which notes that burying along this road would require installation of cabinets that could only be constructed by placing fill in wetlands.

Riverland Energy Cooperative

Headquarters
P.O. Box 277
Arcadia, WI 54612
Phone: (608) 323-3381
Fax: (608) 323-3014

Branch Offices
P.O. Box 276
Onalaska, WI 54650
Phone: (608) 783-2238
Fax: (608) 783-7204

P.O. Box 248
Alma, WI 54610
Phone: (608) 685-4440
Fax: (608) 685-4450

Serving Buffalo, La Crosse, and Trempealeau Counties

Your Touchstone Energy® Cooperative

March 11, 2011

Grant Stevenson
Xcel Energy
414 Nicollet Mall – MP8A
Minneapolis, MN 55401

RE: CapX2020

Dear Mr. Stevenson:

This correspondence is intended to clarify our position as it relates to our electrical distribution line crossing of the Van Loon Wildlife Area in La Crosse County, WI.

Last October, you had asked me to take a look at the relocation of our electrical distribution line facilities crossing from the Van Loon Bottoms to an alternative location to accommodate the permitting issues related to the CapX project. At that time, I responded that this was not a real good solution for us from an engineering as well as a construction perspective. In our phone conversation last week, it was determined that we would take another look at this relocation with some justification for our position.

First, considering the potential cost and scope of this particular portion of your project, it would seem additional discussion regarding the use of Dairyland Power Cooperative's Q-1 line, 161 kV right-of-way would be in the best interest of all parties involved. Following that corridor would also minimize impacts on the residents of and future development within the Town of Holland and the Village of Holmen.

I would like to make clear that the existing route for Riverland Energy Cooperative's facilities across the Van Loon Bottoms is entirely satisfactory for our needs, is and remains our preferred route for this electrical distribution circuit.

It is possible for us to construct underground facilities along the south side of Highway 35 with the following conditions and stipulations:

1) The right-of-way that is now occupied by Riverland and Xcel (and for which Riverland has easements dating back to 1942 that would be released) shall be abandoned by Riverland and Xcel in its entirety and returned to present property owners to allow natural re-vegetation.
2) A new right-of-way parallel with Highway 35 from Trempealeau County Road M to Amsterdam Prairie Road in the Town of Holland, La Crosse County, either within the State Highway right-of-way or directly adjacent to State Highway 35 right-of-way, shall be acquired by and at the sole expense of CapX2020 for and on behalf of Riverland.

3) A new right–of-way from our existing facilities at the intersection of Sawmill Road and County Highway M in Trempealeau County, adjacent to the outer boundary of road right-of-way and parallel with County Road M (all on and within private right-of-way), to the new easement located along Highway 35 as described in item 2, hereinabove, shall be acquired by and at the cost and expense of CapX2020 for and on behalf of Riverland.

4) A new right-of-way from the new Highway 35 easement to the New Amsterdam substation, adjacent to the outer boundary of road right-of-way and parallel with Amsterdam Prairie Road (all on and within private right-of-way), shall be acquired by and at the cost and expense of CapX2020 for and on behalf of Riverland.

5) All newly acquired rights-of-way shall be obtained using current Riverland Energy Cooperative easements and shall be filed with the respective county register of deeds.

6) Riverland Energy Cooperative shall be indemnified by CapX2020, its successors and assigns, against any future relocation costs due to highway improvements, relocations, or expansions of its traveled lanes, shoulders, or rights-of-way.

7) Riverland Energy Cooperative shall have the exclusive right to determine conductor size, conduit size, number of conduits required, and materials necessary for this installation.

8) All underground construction shall follow current Riverland Energy Cooperative specifications for this type of construction and shall include but not limited to the following:
   a. Cabinets will be installed at a frequency of four per mile for the purposes of grounding and serviceability.
   b. Cabinets shall be placed at the same or higher elevation than the traveled part of the highway. Access shall be elevated dry road access from the highway and be placed to allow adequate service room around each cabinet.
   c. Cables and conduits shall be installed at a depth equal to or greater than that mandated by the 2007 edition of the NESC.

The cost of relocation to this new alignment is difficult to estimate at this time as it is dependent on the location of the new right-of-way. Once new right-of-way is secured, accurate estimates can be obtained.

Again, considering the potential cost and scope of this particular portion of your project, it would seem additional discussion regarding the use of Dairyland Power Cooperative's Q-1 line, 161 kV right-of-way would be in the best interest of all parties involved. Following that corridor would also minimize impacts on the residents of and future development within the Town of Holland and the Village of Holmen.

Sincerely,
Dave Woyicki

Manager, System Operations
Riverland Energy Cooperative

CC: Dave Oelkers, Riverland Energy Cooperative
Tim Holtan, Riverland Energy Cooperative
File
Chuck Thompson, Dairyland Power Cooperative
Kurt Childs, Dairyland Power Cooperative

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-27

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-27 / Page 2-96 / AFR Section 2.1.7 and 2.4
Provide environmental data for removing the Seven Bridges 69 kV line (NSP Marshland-Holland) from the Van Loon, including construction issues that would need to be addressed, and including wetlands crossed, soils and erodability, access plans, etc. Provide overall costs for removal of this segment.

Response

Revegetation
The Applicants do not have title to any portion of land crossed by the Marshland-Holland 69kV transmission line and therefore would not have control over the ultimate revegetation of the land. However, an appropriate revegetation plan would be developed in consultation with the affected landowners and in coordination with the WDNR and USACE.

Typical Removal and Relocation Methods
Removal methods for the existing Marshland-Holland 69 kV line could incorporate a variety of measures to minimize impacts. Specific removal methods would be determined based on specific equipment types available through the selected contractor and site specific seasonal conditions at the time of removal. The general methods outlined below provide a summary of likely methods that would be utilized to minimize the need for large equipment access and potential ground disturbance during removal activities. Based on the light footprint of these removal techniques, and the ability to remove the facilities during the winter season, ground disturbance would be minimal. Access would be along previously established access paths and along the ROW where the terrain is relatively flat. The flat terrain combined with minimal ground disturbance result in a low risk for erosion.

Removal of Conductors
Conductors and shield wires can be removed using low impact methods such as accessing each structure on foot or by ATV and climbing each pole and placing conductors in pulleys (sheaves). Wires can then be pulled and wound up at an upland location.

Removal of Wood Pole Structures;
Wood poles to be cut off at ground level using chain saw. Structures can be removed as whole units or cut into pieces. Removal of the structures can be accomplished by various methods including direct access with low pressure vehicles (on frozen soil if necessary) where poles can be loaded or dragged out of wetlands, remote pulling of poles with long ropes and pulling equipment.

Cost

The estimated cost to remove approximately 1.7 miles of the Marshland–Holland 69 kV line across the Van Loon wetland complex using the methods described above is $150,000

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-28

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-28 / Page 2-96 / AFR Section 2.1.7 and 2.4
Provide environmental data for removing the Q1 161 kV line that currently goes through the southern portion of Van Loon, including construction issues that would need to be addressed, and including wetlands crossed, soils and erodability, access plans, etc. Provide overall costs for removal of this segment.

Response

Revegetation
The Applicants do not have title to any portion of land crossed by the Q1 161kV transmission line. However, an appropriate and allowable revegetation plan would be developed after determining the wishes of the landowners and through coordination with the WDNR and USACE.

Typical Removal and Relocation Methods
Removal methods for the Q1 line would be similar to removal of the Marshland-Holland line. Minimization of the use and size of vehicles and winter conditions would be used to minimize ground disturbance. Specific removal methods would be determined based on specific equipment types available through the selected contractor and site specific seasonal conditions at the time of removal. The general methods outlined below provide a summary of likely methods that would be utilized to minimize the need for large equipment access and potential ground disturbance during removal activities. Based on the light footprint of these removal techniques, and the ability to remove the facilities during the winter season, ground disturbance would be minimal. Access would be along previously established access paths and along the ROW where the terrain is relatively flat. The flat terrain combined with minimal ground disturbance result in a low risk for erosion.

Removal of Conductors
Conductors and shield wires can be removed using low impact methods such as accessing each structure on foot or by ATV and climbing each pole and placing conductors in pulleys (sheaves). Wires can then be pulled and wound up at an upland location.

Removal of wood pole structures;
Wood poles to be cut off at ground level using chain saw. Structures can be removed as whole units or cut into pieces. Removal of the structures can be accomplished by various methods including direct access with low pressure vehicles (on frozen soil if necessary) where poles can be loaded or dragged out of wetlands, remote pulling of poles with long ropes and pulling equipment.

Cost

The estimated cost to remove approximately 2.9 miles of the Q1 161 kV line across the Black River floodplain using the methods described above would be $355,000.

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-32

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-32 / Page 2-114 / AFR Section 2.4.1.2
Provide copies of all project-related correspondence to and from the owners of the BNSF, CN, and C&NW railroads and copies of all ROW sharing agreements.

Response
The Applicants' experience with constructing transmission lines across railroad corridors is that crossing permit requests are routinely approved. When ROW sharing would result from a parallel alignment, railroad approvals require a more complex evaluation. The routes for the Project would cross a former spur line of the Chicago and North Western Railroad and a line of the Canadian National Railroad. The routes would both cross and parallel segments of the Burlington Northern and Santa Fe (BNSF) railroad. Because of the potential for paralleling the BNSF, the Applicants' railroad coordination efforts have focused on the BNSF.

Communication with the BNSF railroad has been via in person and telephone meetings rather than formal written correspondence. Key conversations between the project and BNSF include:

- January 12, 2010, Mark Gjevre, project engineer with BNSF in Minneapolis:
  In a meeting at Mr. Gjevre's Minneapolis office, we described our Project and the potential longitudinal installation of the Q1-Highway 35 Route as having the center of the poles 25 feet off of BNSF property and would include three crossings of the railroad. Because there would be no poles located on BNSF property and no physical arm overhang of BNSF property except at one or three crossing points, Mr. Gjevre advised that no utility paralleling (or longitudinal) permit would be required. Mr. Gjevre also directed us to discuss the Project with BNSF's permitting contractor, Jones Lang LaSalle, and provided a copy of the BNSF Utility Accommodation Policy.
- Summer 2010, Roger Schwinghammer, Manager, Jones Lang LaSalle:
  In a telephone conversation held to describe the Project and further discuss the permitting process. Mr. Schwinghammer concurred with Mr. Gjevre's assessment that only a crossing permit would be required, and directed us to discuss the Project with Susan Odom, Manager of Network Strategy at BNSF. Ms. Odom's organization would also need to review the potential longitudinal installation to confirm only a crossing permit would be required.
- August 8, 2010, Susan Odom, Manager of Network Strategy, BNSF:
  A telephone conversation was held to describe the Project and further discuss the permitting process. Ms. Odom concurred that the Project as described with no poles on BNSF property and with no physical arm overhang of BNSF property would require a crossing permit ,but not a paralleling permit.
- August 2010, Cynthia Daniels, Associate Contract Specialist, Jones Lang LaSalle:
  Ms. Daniels reviews permit applications for the western Wisconsin area. Ms Daniels noted that properly completed permit applications can be processed in three or four weeks.

The BNSF Utility Accommodation Policy states that prior to issuing a crossing permit, "BNSF may request that an inductive interference study be performed at the expense of the utility owner. Inductive interference from certain lines has the potential to disrupt the signal system in the track causing failures in the track signals and highway grade crossing warning devices. The

General Director of Signals will determine the need for a study on a case-by-case basis." BNSF has not requested the AC study, however, the Applicants have elected to perform such a study to support the railroad permitting process.

As reported in Response 01-33, the study indicates that:

- The AC interference will *decrease* if the 345 kV project were constructed (due to magnetic fields cancellation with the double circuit)
- If further mitigation is required, the cost is estimated at less than $200,000.
- Other requirements in the policy, such as pole placement restrictions, are satisfied with the alignment, design and the use of self-supporting steel poles on foundations.

The final AC interference study report will be completed in April 2011. At that time the Applicants will apply for crossing permits from BNSF. The Applicants will also apply for crossing permits from Chicago and North Western Railroad and the Canadian National Railroad.

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-33

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-33 / Page 2-114 / AFR Section 2.4.1.2
Provide the status and preliminary results of the alternating current study requested by BNSF.

Response

Background
In its Utility Accommodation Policy, BNSF Railroad reserves the right when issuing any permit to require an inductive interference study for installations of utility lines that either parallel or cross BNSF property. The Applicants consulted with BNSF and were advised that the Project does not require a permit for parallel installation because none of the proposed alignments of the transmission line would require poles to be placed on BNSF property nor would the Project require any utility facility (such as arms or conductors) to overhang railroad property (other than at crossing points). The Project would, however, need to obtain a crossing permit from BNSF. The Q1-Highway 35 and Q1-Galesville Routes cross railroad property three times. The Arcadia Route crosses railroad property once. The Ettrick Connector-Arcadia Route and Highway 88 Connector-Q1 Route, if implemented would also cross railroad property once.

The Applicants engaged Power Engineers, Inc. (Power) to study the potential interaction between the proposed Project and the railroad communication systems. A preliminary report is attached. The text below summarizes the study approach, preliminary findings and next steps.

Preliminary Conclusions
Based on completion of steady-state analysis and Power's experience, if the Project were constructed induced voltages on the nearby rail system are expected to *decrease* when compared to the existing condition. This reduction is attributed to magnetic field cancellation associated with double circuits that is not present with the existing single circuit transmission lines in the corridor.

If mitigation were required, the cost is estimated at less than $200,000. Mitigation would consist of:

- Signal interference: Installation of narrow band shunts tuned to 60Hz to filter off the induced voltages on the rail. The AC filters bleed off the 60 Hz signal induced on the railroad system without interfering with the higher frequency railroad communication signals.
- Touch voltages: Improve grounding of certain railroad control cabinets with additional copper grounding and installation of crushed rock.

Study Background

Power built an extensive computer model of the railroad and the transmission configuration proposed to be located in proximity to the tracks. The study is based upon electric and railroad industry accepted protocol for AC signal interference with railroads. The protocol was developed by the Electric Power Research Institute (EPRI), American Railway Engineering and Maintenance-of-Way Association (AREMA) and the American of American Railroads (AAR).

To develop the model, Power requested information from BNSF and the Applicants. Items requested of BNSF included (but was not limited to): location of signaling equipment and grade crossings; model numbers and specifications of equipment; size and weight of rails; and electrical resistivity and thickness of the track ballast; maps and other items in order to model and understand the electrical response of the railroad system.

Items the Applicants provided included (but were not limited to): electrical loading of proposed line; structure dimensions and details such as phase spacing and conductor sag; structure foundation details; structure grounding requirements; relaying and system protection specifications including fault clearing time; location and details of substations; and other information necessary to build a model of the proposed transmission facility including potential double and triple circuit configurations.

Power conducted certain field measurements (such as soil resistivity tests) in October 2010. During this visit, Power also temporarily installed AC filtering devices on railroad equipment to demonstrate their effectiveness to BNSF maintenance personnel. BNSF personnel witnessing the tests indicated an openess to considering the devices on their communication systems because of the benefits they witnessed. Acceptance of the filters by BNSF is important as it is the most effective method to mitigate AC interference.

Study Next Steps

The computer model is currently analyzing the impacts of abnormal transmission operations (such as a fault at a pole near the tracks) and abnormal train operations (such as a failed insulating joint, stopped train and broken rail). While these abnormal conditions can result in larger interference problems, Power's experience indicates the previously discussed installation of AC filters can also successfully mitigate these potential impacts. Final results and a summary study report will be issued in April 2011.

MEMORANDUM

DATE: March 2, 2011

TO: Grant Stevenson, Xcel Energy

C: DMS SR-06 118645.22.01.101

FROM: Tyler Kent

SUBJECT: 118645 Xcel Energy CAPX2020 La Crosse 345kV Project Preliminary AC Electromagnetic Study of Burlington Northern Railroad Track System.

MESSAGE

Grant,

This memorandum is a preliminary summary of the induced voltages predicted on the Burlington Northern (BNSF) railroad track system during normal balanced steady state operation and an unbalance of 5% on the 345 kV circuit of the proposed 161/345kV double circuit transmission line. In addition, this summary is limited to normal railroad operating conditions and includes the effects of the existing conductors located in the corridor. Additional analysis is being conducted for abnormal operation of the 345 kV transmission line, including faulted conditions. These results are still being compiled and will be discussed in a later report. Present conditions were predicated based upon the new structure configuration without the energization of the 345 kV transmission line circuit. Therefore, the values presented for the current conditions are an approximation of the actual values on the railway corridor, which are expected to be within 15% during normal operating conditions. Rail-to-rail voltages are only presented for the proposed line in the memo

POWER Engineers, Inc.'s (POWER) engineering service for this study was to analyze the electromagnetic compatibility (EMC) along the two sections of the 345kV/161kV transmission line that parallels the BNSF nonelectrified railroad tracks. The 345kV/161kV transmission lines were investigated at a frequency of 60 Hz under normal balanced steady state operation. In addition, the unbalanced operation case of the 345 kV transmission line operating at a 5% unbalance is also included in this memo.

Analysis presented in this memorandum was based on a normal operating condition for the 2022 with a load of 205 MW (327 amperes) for the proposed 345 kV line circuit, 115 MW (392 amperes) for the relocated 161 kV line circuit, and 108 MW (907 amperes) for the existing 69 kV line circuit based upon maximum loading of the conductor. In addition, the operating voltage associated with each line was analyzed at 105% of the nominal voltage.

The conclusion of the preliminary analysis of the proposed line produces the following results:

1. Under steady-state future loading conditions and unbalanced operation of the 345 kV circuit of 5%:
    a. The voltages across accessible points on the rail (voltages across the insulating joints) on tracks are predicted to below the EPRI/AREMA/AAR guidelines of 50 Volts.
    b. The rail-to-rail voltages on the tracks (signaling purposes) are predicted to be below the EPRI/AREMA/AAR guidelines of 5 Volts
    c. The maximum rail-to-ground voltage is 20.1 Volts when the 345 kV transmission line is operating with an unbalance of 5%.

The following table presents the maximum voltages predicted for the line during normal operating conditions, and the 345 kV transmission circuit operating at a 5% unbalance.

Table 1: Maximum Predicted Rail-to-Ground Voltages

Circuits Energized	Circuit Operating Condition	Maximum Rail-to-Ground Voltage (V)	Maximum Voltage across an Insulating Joint (V)	Maximum Rail-to-Rail Voltage (V)
69, 161, and 345 kV	Balanced Steady State	18.7	22.5	1.2
345 kV	Balanced Steady State	15.9	18.9	Not Reported
161 kV	Balanced Steady State	15.4	15.4	Not Reported
69kV	Balanced Steady State	18.3	22.2	Not Reported
69 and 161 kV(present condition)	Balanced Steady State	22.9	27.8	Not Reported
69, 161, and 345 kV	345 kV Unbalanced 5%, All Other circuits Balanced Steady State	20.1	22.6	1.4

As shown in the table above the maximum induced voltages are expected to decrease with the new proposed configuration of the 345kV/161kV transmission line. This decrease can be accredited to magnetic field cancellation associated with the phase conductor configuration of the double circuit that was not present with the single 161 kV circuit. In addition, it is shown that the existing 69 kV transmission line to the induced voltages due to the close proximity of the 69 kV transmission line circuit.

While EPRI/AREMA/AAR guidelines do not currently have specifications for rail-to-ground voltage beyond the 50 Volts for personnel safety consideration. Equipment ratings for safe operation must be maintained. BNSF standard SES 15.01 standard has specifications for rail-to-rail voltages but does not discuss rail-to-ground voltage limits during normal operation. If it is found that the equipment used for signaling and grade crossing requires voltages less than 20 Volts rail-to-ground additional mitigation may be required by the use of 60 Hz filters to remove the 60 HZ induced voltages.

Mitigation along this corridor is expected to be minimal. Mitigation is expected for touch voltages around the signals, signal huts, and grade crossing signals for single-line-to-ground faults and possibly for BNSF requirements for rail-to-ground voltages for equipment operation. Expected mitigation options for these conditions may require:

1. The addition of narrow band shunts tuned to 60Hz to filter off the induced 60 Hz voltages on the rail.
    a. This is utilized to lower the rail-to-ground voltages and would need to be placed at a majority of the signal huts located through the parallel corridor.
2. Additional or new grounding for signals, signal huts, and grade crossing signals to minimize touch voltages associated with single-line-to-ground faults on the 345 kV transmission line.
    a. This mitigation is expected to comprise of, buried bare stranded #4/0 copper, 5/8” ground rods 8 feet in length, and additional crushed rock

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-34

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-34 / Page 2-115/ AFR Section 2.4.1.3
Provide documentation from DOT that shows the proposed sharing of ROW and crossing of interstate or state highway ROWs that is acceptable to DOT and can be permitted.

Response
The Applicants have been working with WisDOT on this Item. WisDOT officials have stated that they would be working with Xcel Energy, the Mississippi River Parkway Commission (MRPC) and the PSCW to make sure that any missing items in the CPCN Application (related to WisDOT and the MRPC) are addressed and the PSCW's concerns met. This includes any items on the current list from the PSCW and any new items that are discovered as this process unfolds.

In a March 2, 2011 e-mail, Robert Fasik (WisDOT) indicated that once any concerns identified in this process have been met, they would submit a letter to the PSCW indicating that WisDOT would not unreasonably withhold permit approvals for any of the routes that PSCW affirms as viable, including all hybrids or sub-routes of the two main routes. In addition, WisDOT would affirm that it would release (sell) any scenic easement rights as required by law if needed for Xcel Energy's Project.

Recent communications from WisDOT include letters dated December 28, 2010 and January 27, 2011. These letters have been included in the PSCW's docket. WisDOT has indicated that they would be soon formally responding to Tom Hillstrom's February 16, 2011 letter that is included in the response to Item 22.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-39

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-39 / Page 2-134 / AFR Section 2.4.6
Provide correspondence from the federal agencies (e.g. USFWS, USCOE) that documents a willingness to accept or approve impacts to their properties.

Response
The Applicants have been in ongoing discussions with USFWS regarding potential routes, particularly the most appropriate Mississippi River crossing. The USFWS has generally supported the Alma crossing for the Project. *See* USFWS letter dated February 19, 2008 stating that the USFWS believes the Alma crossing of the Mississippi River" may pose the least environmental impact" (page 20, Appendix P of the CPCN Application). To date, the USFWS has not identified any impediments to crossing at Alma or the USFWS-owned Upper Mississippi River National Wildlife and Fish Refuge. The USFWS did identify permitting impediments to a crossing of the Black River in the Van Loon area. In response, the Applicants decided not to propose the segment in the CPCN Application.

The Applicants have also conferred with the USACE regarding wetlands permitting generally and USACE-owned Lizzy Paul Pond lands located in Buffalo County along the Q1-HWY 35 and Q1-Galesville Routes. Dairyland currently holds a 25-year easement from USACE for their 161 kV Q1 line, which is scheduled to terminate on April 2, 2026. The USACE went through a "Determination of Availability" regarding a new easement for the Project and concluded that a new easement could be granted if the Q1-HWY 35 or the Q1-Galesville Route were selected. A copy of the January 12, 2011 USACE email regarding the Determination of Availability is attached.

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Schwartz, Sarah B

From: Peterson, Kenneth J MVP [kenneth.j.peterson@usace.army.mil]
Sent: Wednesday, January 12, 2011 2:11 PM
To: Schwartz, Sarah B
Cc: Sommerland, Kevin J MVP; Botz, Christopher M MVP
Subject: RE: Revised Lizzy Paul Pond Figure

Sarah,

I have communicated with our environmental and cultural offices here in the St. Paul District and based on the current drawings we have no objections to issuing a long term easement for the Lizzy Paul Pond location should that alignment be selected.

When final alignment is determined please provide me with a legal description of the lands necessary for the easement.

Please contact me if you have any questions.

Thank you,

Ken Peterson
Realty Specialist
651-290-5359

-----Original Message-----
From: Schwartz, Sarah B [mailto:sarah.b.schwartz@xcelenergy.com]
Sent: Monday, August 23, 2010 3:17 PM
To: Peterson, Kenneth J MVP
Subject: FW: Revised Lizzy Paul Pond Figure

Hi Ken,

I just received the revised drawing from the consultant. This shows both the existing and proposed line. You will note that the proposed line is larger and spaced further apart.

Sarah

From: Rothfork, Mark [mailto:Mark.Rothfork@aecom.com]
Sent: Monday, August 23, 2010 3:10 PM
To: Schwartz, Sarah B
Subject: Revised Lizzy Paul Pond Figure

Sarah,

Here is the revised figure showing existing poles. Let me know if you need anything else. Thanks.

~Mark

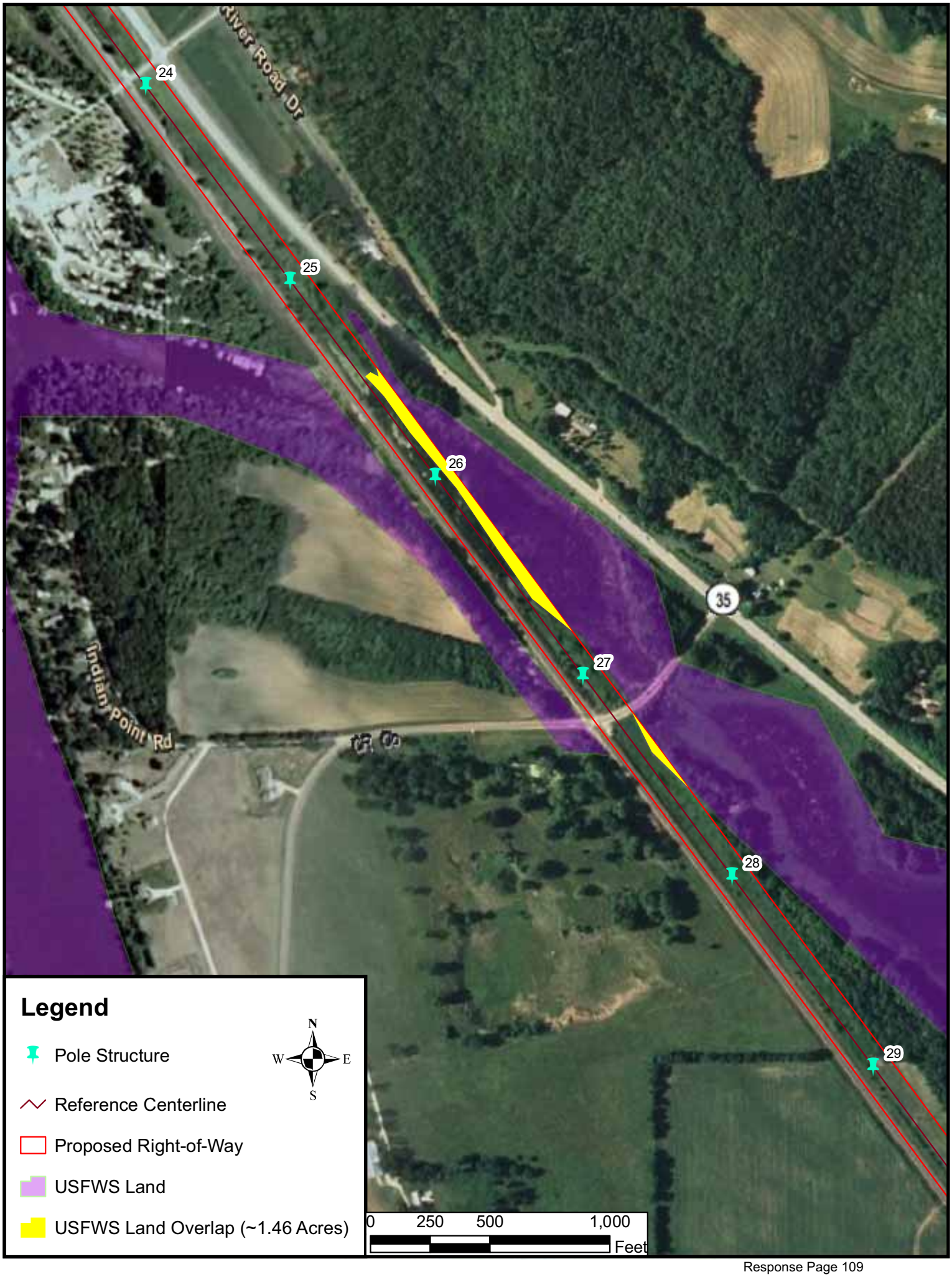
Mark Rothfork
Associate

Design + Planning
D +1 763.551.2440 M +1 763.257.6821

Mark.Rothfork@aecom.com <mailto:Mark.Rothfork@aecom.com>

AECOM
161 Cheshire Lane North, Suite 500
Minneapolis, MN 55441 USA

T +1 763.852.4200 F +1 763.551.0400
www.aecom.com <http://www.aecom.com>


River Road Dr
24
25
26
27
28
29
35
Indian Point Rd
Legend
Pole Structure
Reference Centerline
Proposed Right-of-Way
USFWS Land
USFWS Land Overlap (~1.46 Acres)
N
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250
500
1,000
Feet

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-41

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-41 / Application Page 2-135 / AFR Section 2.4.8
Discuss the potential location, impacts, and feasibility of a route segment to connect segment 8C to segment 18B to avoid rare bird nesting areas at the Amsterdam Grasslands Area owned by the Mississippi Valley Conservancy.

Response:
A connector segment has been developed as requested and is shown on the attached figure. The connector would connect Segments 8C and 18C as an alternative the proposed alignment that would continue from 8C to Segments 9 and 18H.

In this response, the Applicants have also provide a summary of the potential impacts to rare breeding bird species and habitat along Segment 9 of the proposed alignment adjacent to the New Amsterdam Grasslands Area (NAG). Two state-threatened bird species and several birds recognized as species of greatest conservation need are known to nest within the NAG. During pre-application consultation between the WDNR and Applicants, the WDNR stated that it has GPS coordinates for nest locations of at least one threatened bird species along the east boundary of NAG near the proposed Segment 9 centerline and ROW. As such, it was agreed that bird surveys in this area were unnecessary, since species presence was already confirmed.

Four transmission line structures along Segment 9 are proposed within the NAG just west of the shared WI-53 road ROW. The structures are located just within the NAG eastern property boundary (5 feet west of the property boundary). The proposed Segment 9 follows the east boundary of the large extensive grassland and shrub habitat present within the NAG that provides rare bird nesting habitat. Based on the habitat type (grassland with sparse shrub groupings), the transmission line could be constructed through this location with minimal impact to habitat.

To avoid direct impacts, the Applicants would coordinate with the WDNR to avoid known nesting areas for final structure placement, as well as construction access, to the maximum extent practicable. Access routes would be planned to avoid removal of shrubs. Should temporary vegetation clearing be required, the Applicants would minimize disturbance by clearing during the non-breeding season (approximately mid-August through April), and only clear areas required for structure placement, work space and access. Cleared areas would be allowed to revegetate to pre-existing grassland and shrub habitat.

Indirect impacts to nesting birds could result from temporary disturbance during construction (e.g. vehicle passage, work crew activity, noise etc). To avoid indirect impacts to nesting birds, the Applicants would limit construction activities to the non-breeding season (approximately mid-August through April) along this portion of Segment 9. If unforeseen circumstances prevent the Applicants from adhering to these timing constraints, the Applicants would coordinate with the WDNR to determine the level of potential impacts to nesting birds. If impacts to state listed bird species are unavoidable during the breeding season the Applicants may pursue an Incidental Take Permit through coordination with WDNR.

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Legend

Proposed Transmission Line Alternatives
- Q1-Highway 35 Route
- Arcadia Route
- Arcadia-Alma Option
- Q1-Galesville Route
- 161kV to Genoa
- 161kV to Mayfair
- 161kV to Tremval
- 8C to 18B Connector

Project Features
- Transmission Line Structure
- Segment Endpoint
- Access Route

Existing Utilities (HDR, PSCW)
- Substation
- Proposed Substation Siting Area
- 69 kV Transmission Line
- 161 kV Transmission Line
- Natural Gas Pipeline

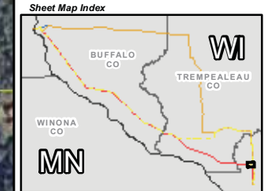
Structures (Stantec, NAIP 2008)
- Homes
- Schools
- Commercial/Industrial
- Animal Housing
- Equipment Storage
- Metal Shed

Transportation (BTS)
- Interstate Highway
- US Highway
- State Highway

Jurisdiction (WDNR, Buffalo, La Crosse and Trempealeau)
- City, Village or Town
- Parcels

0 200 400 Feet

Sheet Map Index



Data Sources: WDNR, WisDOT, BTS, Stantec, HDR PSCW, LMIC, FCC, Platts, Census, Buffalo, La Crosse, and Trempealeau Counties,
WI_CPCN_SheetMap
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Aerial Photography Published by National Agriculture Imagery Program (NAIP), 2008

CapX2020

Hampton • Rochester • La Crosse 345kV Transmission Project

Xcel Energy • Dairyland Power Cooperative • Rochester Public Utilities • Wisconsin Public Power, Incorporated • Southern Minnesota Municipal Power Agency

8C to 18B Connector Map

Revised March 2011

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-43

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-43 / Application Page 2-135 / AFR Section 2.4.8
Paragraph 1 of this Section mentions NHI occurrences within two miles of the route options whereas paragraph 2 begins a summary based on intersection of the occurrences with the route. Provide the summary of rare species occurrences consistent with the two-mile search area by route and route segment and by taxa (i.e. plant or animal group). This response can be combined with the preceding requirement about historical occurrences. Include a separate, but similar table by route and route segment for rare species occurrences noted during the surveys completed specifically for this project, which should be primarily birds and plants.

Response:
The information in the first portion of the request was provided in Tables 1A and 1B of the confidential Rare Species and Natural Communities Analysis and Survey Summary Report submitted as part of the CPCN Application. The Applicants fashioned these tables based on the AFRs, as well as another applicant's response to a data request on another 345kV transmission line project that was recently ordered by the PSCW.

In response to the first portion of the request, the Applicants used the data previously provided in Tables 1A and 1B to create a single summary table that quantifies all historic (pre-1970) and non-historic (since 1970) Natural Heritage Inventory (NHI) element occurrence (EO) records within 2 miles of the routes, substations, and staging areas (Completeness Response Item 43, Table 1; Attached). The NHI EO records are presented in a non-confidential form, are generalized by taxa (i.e. birds, fish, plants, etc.), and summarized by route. The number of species comprising the EO records is also provided and is broken down by NHI status (i.e. threatened, endangered, and special concern) for historic and non-historic records. Rows for taxa groups not having an EO record for a specific status or period were not included in the table (e.g. no historic EO records for endangered birds were noted in the NHI database, so there is no row representing that category).

The Applicants and the WDNR cooperatively screened the threatened and endangered NHI EO records for habitat suitability in each habitat area along individual route segments during pre-application consultation meetings. The WDNR acknowledged this in a meeting with the Applicants on February 17, 2011. Because of this the WDNR acknowledged that a summary of historic and non-historic NHI EO records by route segment, as requested above, was unnecessary.

In response to the second portion of the request regarding a summary of rare species detected during the surveys completed specifically for this Project, the Applicants present a table for rare birds and a text summary for rare plants and reptiles. A non-confidential summary table is provided as Completeness Response Item 43, Table 2 (Attached). This table quantifies state-threatened and special concern birds detected during two years of pre-application breeding bird surveys completed for this project. No state-

endangered or federally listed bird species were detected. The data is summarized by route, segment, and Feature ID (e.g. Feature ID 2I-F7 is along segment 2I). Completeness Response Item 43, Table 2 is a distilled version of Table 5 that appears in the confidential version of the Rare Species and Natural Communities Analysis and Survey Summary Report submitted as part of the CPCN.

The number of rare plants and reptiles detected during surveys completed specifically for this project included two rare plant species and two rare reptile species. Three occurrences of one threatened plant species were found along the Q1 Route (not included as a proposed route in the CPCN Application) and one occurrence of one special concern plant species was found along the Q1-Highway 35 Route. Two threatened reptile species were found along several of the routes. One occurrence of each threatened reptile species was documented along the Q1 Route, one occurrence of one species was documented along the Q1-Highway 35 Route and one occurrence of one species was documented along both the Arcadia and Q1-Galesville Routes in the same location. This same information is summarized by route segment as part of Completeness Response Item 44, Table 1, submitted under confidential cover to adhere to NHI license and data use policies regarding the location of sensitive rare species.

Completeness Response Item 43. Table 1. Historic and Non-Historic (Current) NHI Element Occurrence Records within 2 Miles of Routes, Substations and Staging Areas by Species Group

Wisconsin NHI EO Records [1]		Number EO Records (Species) within Two Miles of Route and Substation Locations [4]							Number EO Records (Species) within Two Miles of Staging Areas								
Group Name	**State Status[2, 3]**	**Q1 Route**	**Q1-Highway 35 Route**	**Arcadia Route**	**Arcadia Alma Option**	**Q1-Galesville Route**	**Briggs Road West Substation**	**Briggs Road East Substation**	**Staging Area 1**	**Staging Area 2**	**Staging Area 3**	**Staging Area 4**	**Staging Area 5**	**Staging Area 6**	**Staging Area 7**	**Staging Area 8**	**Staging Area 9**
Birds	Threatened - Historic	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Historic	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	-- (--)
	Endangered - Non-Historic	2 (2)	2 (2)	1 (1)	1 (1)	2 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Threatened - Non-Historic	19 (6)	19 (6)	5 (3)	-- (--)	13 (6)	-- (--)	1 (1)	-- (--)	-- (--)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	22 (6)	20 (6)	5 (3)	-- (--)	19 (6)	-- (--)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
	Total	44 (15)	42 (15)	11 (7)	1 (1)	35 (15)	-- (--)	1 (1)	1 (1)	-- (--)	2 (2)	1 (1)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)
Butterfly	Endangered - Non-Historic	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	4 (4)	4 (4)	1 (1)	-- (--)	2 (2)	-- (--)	-- (--)	2 (2)	-- (--)	4 (4)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	5 (5)	5 (5)	1 (1)	-- (--)	3 (3)	-- (--)	-- (--)	2 (2)	-- (--)	4 (4)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
Dragonfly	Special Concern - Historic	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	3 (2)	3 (2)	5 (4)	2 (2)	5 (4)	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	1 (1)	1 (1)	3 (3)	-- (--)	-- (--)	-- (--)
	Total	4 (3)	4 (3)	5 (4)	2 (2)	5 (4)	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	1 (1)	1 (1)	3 (3)	-- (--)	-- (--)	-- (--)
Fish	Endangered - Historic	-- (--)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
	Threatened - Historic	3 (2)	3 (2)	2 (2)	2 (2)	3 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Historic	3 (3)	3 (3)	3 (2)	1 (1)	3 (2)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Endangered - Non-Historic	8 (6)	6 (4)	5 (4)	4 (4)	5 (4)	-- (--)	-- (--)	4 (4)	-- (--)	3 (3)	3 (3)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Threatened - Non-Historic	7 (5)	7 (5)	5 (4)	3 (3)	7 (4)	-- (--)	-- (--)	2 (2)	-- (--)	3 (3)	3 (3)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	23 (8)	22 (8)	19 (9)	8 (8)	24 (9)	1 (1)	1 (1)	8 (8)	-- (--)	10 (7)	8 (7)	1 (1)	5 (5)	2 (2)	-- (--)	-- (--)
	Total	44 (19)	41 (17)	35 (18)	18 (16)	43 (18)	1 (1)	1 (1)	14 (14)	-- (--)	17 (13)	15 (14)	1 (1)	7 (7)	2 (2)	-- (--)	-- (--)

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Completeness Response Item 43. Table 1. Historic and Non-Historic (Current) NHI Element Occurrence Records within Two Miles of Routes, Substations, and Staging Areas by Species Group (Cont.)

Wisconsin NHI EO Records [1]		Number EO Records (Species) within Two Miles of Route and Substation Locations [4]							Number EO Records (Species) within Two Miles of Staging Areas								
Group Name	State Status[2, 3]	Q1 Route	Q1-Highway 35 Route	Arcadia Route	Arcadia Alma Option	Q1-Galesville Route	Briggs Road West Substation	Briggs Road East Substation	Staging Area 1	Staging Area 2	Staging Area 3	Staging Area 4	Staging Area 5	Staging Area 6	Staging Area 7	Staging Area 8	Staging Area 9
Mammal	Special Concern - Non-Historic	-- (--)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	-- (--)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
Mayfly	Endangered - Non-Historic	1 (1)	1 (1)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	3 (3)	3 (3)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
	Total	4 (4)	4 (4)	2 (2)	-- (--)	2 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	2 (2)	-- (--)	-- (--)	-- (--)
Mussel	Endangered - Historic	4 (4)	4 (4)	-- (--)	-- (--)	4 (4)	-- (--)	-- (--)	3 (3)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Threatened - Historic	2 (2)	2 (2)	-- (--)	-- (--)	2 (2)	-- (--)	-- (--)	2 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Historic	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Endangered - Non-Historic	2 (2)	2 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Threatened - Non-Historic	1 (1)	1 (1)	1 (1)	-- (--)	2 (2)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	3 (3)	3 (3)	1 (1)	1 (1)	3 (3)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	13 (12)	13 (12)	2 (2)	1 (1)	12 (12)	-- (--)	-- (--)	5 (5)	-- (--)	2 (2)	3 (3)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)
Plants	Threatened - Historic	6 (4)	6 (4)	2 (2)	-- (--)	5 (4)	-- (--)	-- (--)	-- (--)	2 (2)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Historic	18 (9)	18 (9)	15 (9)	-- (--)	21 (10)	4 (3)	5 (3)	-- (--)	2 (2)	9 (5)	6 (3)	4 (3)	3 (3)	-- (--)	-- (--)	-- (--)
	Threatened - Non-Historic	8 (4)	8 (4)	5 (4)	-- (--)	7 (4)	3 (2)	3 (2)	-- (--)	-- (--)	-- (--)	-- (--)	3 (2)	1 (1)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	8 (5)	9 (6)	9 (7)	-- (--)	9 (6)	5 (3)	6 (3)	-- (--)	-- (--)	2 (2)	1 (1)	5 (3)	1 (1)	-- (--)	-- (--)	-- (--)
	Total	40 (19)	41 (19)	31 (18)	-- (--)	42 (18)	12 (7)	14 (7)	-- (--)	4 (4)	12 (8)	8 (5)	12 (7)	5 (5)	-- (--)	-- (--)	-- (--)
Snails	Threatened - Non-Historic	2 (1)	2 (1)	1 (1)	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)
	Total	2 (1)	2 (1)	1 (1)	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)

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Completeness Response Item 43. Table 1. Historic and Non-Historic (Current) NHI Element Occurrence Records within Two Miles of Routes, Substations, and Staging Areas by Species Group (Cont.)

Wisconsin NHI EO Records [1]		Number EO Records (Species) within Two Miles of Route and Substation Locations [4]							Number EO Records (Species) within Two Miles of Staging Areas								
Group Name	State Status[2, 3]	Q1 Route	Q1-Highway 35 Route	Arcadia Route	Arcadia Alma Option	Q1-Galesville Route	Briggs Road West Substation	Briggs Road East Substation	Staging Area 1	Staging Area 2	Staging Area 3	Staging Area 4	Staging Area 5	Staging Area 6	Staging Area 7	Staging Area 8	Staging Area 9
Snake	Special Concern - Historic	1 (1)	1 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Endangered - Non-Historic	1 (1)	1 (1)	1 (1)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	2 (1)	3 (1)	1 (1)	-- (--)	3 (1)	-- (--)	-- (--)	-- (--)	1 (1)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	4 (3)	5 (3)	2 (2)	-- (--)	5 (3)	-- (--)	-- (--)	-- (--)	2 (2)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
Turtle	Threatened - Non-Historic	8 (2)	7 (2)	1 (1)	-- (--)	4 (2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Special Concern - Non-Historic	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	9 (3)	8 (3)	1 (1)	-- (--)	4 (2)	-- (--)	-- (--)	-- (--)	-- (--)	1 (1)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
Total Species	**Endangered - Historic**	**4 (4)**	**4 (4)**	**1 (1)**	**-- (--)**	**5 (5)**	**-- (--)**	**-- (--)**	**3 (3)**	**-- (--)**	**-- (--)**	**-- (--)**	**-- (--)**	**1 (1)**	**-- (--)**	**-- (--)**	**-- (--)**
	Threatened - Historic	**11 (8)**	**11 (8)**	**4 (4)**	**2 (2)**	**10 (8)**	**-- (--)**	**-- (--)**	**2 (2)**	**2 (2)**	**1 (1)**	**1 (1)**	**-- (--)**	**-- (--)**	**-- (--)**	**-- (--)**	**-- (--)**
	Special Concern - Historic	**25 (16)**	**25 (16)**	**18 (11)**	**1 (1)**	**14 (8)**	**4 (3)**	**5 (3)**	**-- (--)**	**3 (3)**	**10 (6)**	**7 (4)**	**4 (3)**	**3 (3)**	**-- (--)**	**1 (1)**	**-- (--)**
	Endangered - Non-Historic	**15 (13)**	**13 (11)**	**8 (7)**	**5 (5)**	**10 (9)**	**-- (--)**	**-- (--)**	**4 (4)**	**-- (--)**	**3 (3)**	**4 (4)**	**-- (--)**	**1 (1)**	**-- (--)**	**-- (--)**	**-- (--)**
	Threatened - Non-Historic	**45 (19)**	**44 (19)**	**18 (14)**	**4 (4)**	**34 (19)**	**3 (2)**	**4 (3)**	**3 (3)**	**-- (--)**	**6 (6)**	**5 (5)**	**3 (3)**	**3 (3)**	**-- (--)**	**-- (--)**	**1 (1)**
	Special Concern - Non-Historic	**69 (33)**	**68 (34)**	**43 (28)**	**11 (11)**	**80 (33)**	**7 (5)**	**8 (5)**	**11 (11)**	**1 (1)**	**21 (18)**	**14 (13)**	**7 (5)**	**11 (11)**	**2 (2)**	**-- (--)**	**-- (--)**
	Total	**169 (84)**	**165 (82)**	**92 (57)**	**23 (21)**	**153 (79)**	**14 (9)**	**17 (10)**	**23 (23)**	**6 (6)**	**41 (33)**	**31 (27)**	**14 (9)**	**19 (18)**	**2 (2)**	**1 (1)**	**1 (1)**
Other	Bird Rookery - Non-Historic	2 (1)	2 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	2 (1)	2 (1)	-- (--)	-- (--)	1 (1)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
Natural Communities	Aquatic - Non-Historic	22 (7)	22 (7)	17 (8)	-- (--)	24 (7)	8 (5)	8 (5)	-- (--)	-- (--)	4 (4)	-- (--)	8 (5)	3 (2)	-- (--)	-- (--)	-- (--)
	Terrestrial - Non-Historic	12 (6)	12 (6)	3 (2)	-- (--)	7 (5)	3 (2)	4 (3)	-- (--)	-- (--)	7 (4)	1 (1)	3 (2)	-- (--)	-- (--)	-- (--)	-- (--)
	Total	34 (13)	34 (13)	20 (10)	-- (--)	31 (12)	11 (7)	12 (8)	-- (--)	-- (--)	11 (8)	1 (1)	11 (7)	3 (2)	-- (--)	-- (--)	-- (--)

[1] Wisconsin NHI database queried on March 15, 2010.

[2] Species group and status row ommitted where no Wisconsin NHI EO record was listed within two miles of routes, substation location, or staging areas.

[3] Species total for each plant/animal group and total for all species does not reflect cumulative total of preceding rows, rather actual total of species considering both historic and current records. For example, a plant/animal group comprised of two threatened species with one having a historic and non-historic hit would be reflected as two species, rather than three.

[4] Analysis based on variable width rights-of-way for routes and substation locations created by the Applicants on October 21, 2010 and October 20, 2010 respectively.

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Completeness Response Item 43. Table 2. Rare Bird Species Detected During Surveys

Completeness Response 43, Table 2. Summary of Rare Bird Species Detected during Breeding Bird Point Count Surveys Conducted in 2009 and 2010 at Habitat Feature IDs along Portions of the Q1, Q1-Highway 35, Arcadia and Q1-Galesville Routes of the CapX2020 Hampton-Rochester-La Crosse 345kV Transmission Project in Buffalo, Trempealeau and La Crosse Counties Wisconsin.

	Number of Birds Detected by Route, Habitat Feature ID and Year [2]																																
	All Routes	Q1, Q1 - Highway 35, and Q1 - Galesville Routes																	Q1 Route			Q1 - Galesville and Arcadia Routes			All Routes		Q1-Hwy 35 Route	Arcadia Route					2009 Subtotal	2010 Subtotal	Total
	1-FW2	2E - Railroad Corridor	2G-F4		2G-F8		2G-F14		2G-F16		2H-F2		2I-F7		2I-W1/W2		2I-G3		5B-W1	5B-W3/W4/W5/W6/W7/FW1		13B2-F4		13D-F1	Substation		8B-F1/W1/FW2/FW3/FW4/FW5/FW5	11G-F2	11G-F4	11G-W1	11G-SL1	11G-F12			
Wisconsin Status [1]	2009	2009	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2010	2009	2010	2009	2010	2009	2009	2010	2009	2010	2010	2010	2010	2010			
Threatened (THR) Bird Detections	1	0	0	0	0	0	0	0	0	0	0	0	1	2	40	4	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	**43**	**7**	**50**
Special Concern (SC) Bird Detections	2	23	0	3	2	3	1	2	2	5	0	0	1	2	3	6	1	3	2	6	21	0	5	0	1	9	4	7	13	5	2	13	**46**	**101**	**147**
Total Listed Individuals	**3**	**23**	**0**	**3**	**2**	**3**	**1**	**2**	**2**	**5**	**0**	**0**	**2**	**4**	**43**	**10**	**1**	**3**	**2**	**6**	**22**	**0**	**5**	**0**	**1**	**9**	**5**	**7**	**13**	**5**	**2**	**13**	**89**	**108**	**197**
Total Listed Species	**2**	**6**	**0**	**1**	**2**	**3**	**1**	**2**	**1**	**3**	**0**	**0**	**2**	**3**	**4**	**4**	**1**	**2**	**2**	**3**	**4**	**0**	**2**	**0**	**1**	**2**	**5**	**3**	**3**	**3**	**1**	**7**	**14**	**15**	**21**

[1] Status: END or THR = Endangered or Threatened Species protected pursuant to Wisconsin's Endangered Species Law (s. 29.604, Wis Stats., and Administrative Rule NR27); SC = Special Concern Species tracked by the Wisconsin DNR Natural Heritage Inventory Working List (2009). No federally listed bird species were detected during the surveys.

[2] Summary of birds detected includes all rare individual birds and bird species detected after the 10-minute point count periods or enroute to the next station.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-46

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-46 / Page 2-137 / AFR Section 2.4.8
Summarize by route and by route segment any potential impacts the project could have on NHI species and habitats. Include segments where the applicants have proposed to remove existing lines and co-locate them with the proposed 345 kV line such as the line along Seven Bridges. Discuss impacts based on the proposed construction actions, including access routes, the proposed schedule and construction sequence, and in relation to the habitat of the species.

Response
The potential impacts the Project could have on rare species and habitats were detailed in Tables 3a and 3b of the confidential Rare Species and Natural Communities Analysis and Survey Summary Report, as well as Sections 4.1, 4.2, and 4.3 of the confidential and redacted versions of the report. Further summary of the potential impacts to threatened and endangered species identified during refined habitat assessments and species surveys completed for the Project are presented by route and route segment in the last column of Completeness Response Item 44, Table 1 (confidential). The impact column in Completeness Response Item 44, Table 1 has been generalized by taxa. This column considers construction actions, including access routes, scheduling, and construction sequence in relation to the species habitat.

Impacts to rare species are not anticipated to result from connecting the existing Seven Bridges line to the proposed Highway 35 transmission line. Based on review of the WDNR NHI data, the proposed segment would cross a historic element occurrence record of a special concern terrestrial plant. However, this area is now used actively for agricultural purposes and has been heavily disturbed over time. Impacts to this rare plant are unlikely. Rare species were not encountered near or at the proposed point of connection to the Q1-Highway 35 Route at Segment 8A. Segment 8B, encompassing the Black River Floodplain to the east, is the closest segment where rare species were identified.

Information regarding segments where the Applicants have proposed to remove existing lines and co-locate them and related impacts are discussed in the responses to Items 01-26, 01-27 and 01-28.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-47

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-47 / Page 2-137 / AFR Section 2.4.8
Do the habitat maps and tables provided in the Confidential Report include construction and staging areas and any off-ROW access areas? If not, provide this information. Note that Table 6, which is referenced on page 2-137 for additional information on this topic, does not distinguish off-ROW access.

Response
Figures 1a-1d of the confidential Rare Species and Natural Communities Analysis and Survey Summary Report submitted as part of the CPCN Application show proposed staging areas and off ROW access roads in relation to the Natural Heritage Inventory (NHI) historic and non-historic element occurrence records. Figure 2 of the Rare Species and Natural Communities Analysis and Survey Summary Report shows proposed off-ROW access roads in relation to the mapped habitat types along the routes. Additionally, each of the staging areas is shown in detail on figures in Appendix K: Staging Areas and Substation Sites of the CPCN Application.

Information on staging areas and off ROW access roads is not included in the habitat assessment tables of the Rare Species and Natural Communities Analysis and Survey Summary Report. However, habitat for the staging areas is described in the text of the report and is further summarized in Completeness Response Item 55. Information on habitat types along each of the off-ROW access roads was not provided directly in the Rare Species and Natural Communities Analysis and Survey Summary Report; however, the report does contain several references to where that information is provided in the CPCN. Sections 4.3.1, 4.3.3 and 4.3.4 and Table 8 of the Rare Species and Natural Communities Analysis and Survey Summary Report reference Appendix T, Table 4: Additional Off-ROW Access Paths of the CPCN, which provides detailed information on length, width and landcover for each access road.

The reference to Appendix A, Table 6 on page 2-137 of Section 2.4.8 of the CPCN should be a reference to Appendix T, Table 4: Additional Off-ROW Access Paths. A quantitative summary of the potential habitat impacts from off-ROW access roads was calculated from Appendix T, Table 4 and is provided by route in Table 8 of the Rare Species and Natural Communities Analysis and Survey Summary Report.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-48

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-48 / Page 2-137 / AFR Section 2.4.8
Describe by taxa how the proposed project could be modified to avoid, minimize, or mitigate any potential adverse effect on the species. It is acceptable to combine species with similar habitat requirements where avoidance, minimization, or mitigation measures may be similar. Provide a detailed description of how "standard construction techniques and construction timing should result in minimal ground disturbance....."

Response
Potential impacts to rare species, as well as avoidance, minimization or mitigation measures are summarized by taxa in Sections 4.1 and 4.2 of both the confidential and redacted versions of the *Rare Species and Natural Communities Analysis and Survey Summary Report* provided to the WDNR Office of Energy and the PSCW.

Regarding the portion of this question raised within the incompleteness letter "Provide a detailed description of how 'standard construction techniques and construction timing should result in minimal ground disturbance….' "; the Applicants are compelled to cite the entire paragraph from which this sentence fragment was referenced in order to place this statement within context.

> *"The Applicants' standard construction techniques and construction timing should result in minimal ground disturbance along existing ROWs, and the change to existing habitat conditions from the resulting transmission facilities would be minimal. More permanent habitat modification may occur in forested bluff lands adjacent to existing ROWs as well as along forest roads proposed for construction access. Once a route has been selected, the WDNR would be consulted to discuss the results of the species surveys, to identify areas where additional species surveys may be required and to develop any avoidance measures. If avoidance measures cannot be implemented, supplemental information may be needed to evaluate the potential for an incidental take.*"

As stated, impacts along existing disturbed ROWs are anticipated to be minimal. If a route is ordered, more information would be available based on final design and non-standard construction techniques that may be necessary. At that time, the Applicants would provide more detail and consult with the WDNR to determine the necessity of implementing avoidance measures or protection protocols for specific listed species (or other species the WDNR may identify) in specific areas along the ordered route.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-53

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-53 / Page 2-156 / AFR Section 2.5.1
If matting and ice roads are not viable options in wetlands due to site conditions and weather, what construction options will be used? Has helicopter construction been evaluated? If so, provide details including cost.

Response
The use of heavy lift helicopters for the installation of the foundations and structures for the 13 structures across the Van Loon wetland complex has been considered, evaluated and estimated. Eliminating the matted access roads and using the heavy lift helicopter techniques to install the foundations and structures would increase the cost for this approximate 1.7 -mile section of line by approximately 15 percent totaling $150,000.

The specifics of the construction methods for installing vibratory caisson foundations and setting the tubular pole structures are described in Appendix J of the CPCN Application.

The Applicants prefer the use of matting and/or ice roads not only for cost reasons, but more for the flexibility in construction methods and schedule that a ground based access road network provides. Because the helicopter installation occurs over a shorter timeframe, 1 to 3 weeks versus 2 to 3 months, the risk of complications (and the resulting increased cost) from weather, material availability, equipment performance or other reasons is increased dramatically.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-54

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-54 / Page 2-156 and Appendix J / AFR Section 2.1.7.1
Show estimated costs assuming that helicopter installation is required for all wetland impacts within the Black River Floodplain.

Response
The estimated cost for installation of the 13 structures (vibratory caisson foundations and setting of pole structures) across the Black River floodplain using heavy lift helicopter techniques is approximately $1,055,000 (base cost without overheads, adders, contingencies, etc.). This cost includes only mobilization and demobilization of the helicopter and supporting labor and equipment, installation of 39 vibratory caissons and setting of 13 structures (39 poles). All other costs to complete the installation including the use of helicopter techniques to install the conductor and shield wires are included in other estimates. The estimated cost to install the 13 structures using a ground-based technique is approximately $905,000. As stated in the response to Item 53, eliminating the matted access roads and using the heavy lift helicopter techniques to install the foundations and structures would increase the cost for this approximate 1.7 -mile section of line by approximately 15 percent totaling $150,000.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-55

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-55 / Page 2-157 / AFR Section 2.5.1.7
Provide a habitat description and description of rare species impacts at each of the staging areas.

Response
The CPCN Application notes in the third full paragraph of page 2-157 under Section 2.5.1.7. Location of Staging Areas:

"*Staging areas are usually established for projects of this type. Staging involves delivering the equipment and materials necessary to construct the new transmission line or substation facilities. Construction of the Project would likely include a number of staging areas. Materials would be stored at the staging areas until they are needed. These areas are selected for their location, access, security and ability to efficiently and safely warehouse supplies. The areas are also chosen to minimize vegetation clearing, excavation and grading. The staging areas outside the transmission line ROW would be obtained from private landowners through lease options. Site maps showing planned staging areas are provided in Sheet Maps 5 through 15 (Appendix K).*

While some of the identified staging parcels contain wetlands and forest areas, equipment storage and work areas would only occur on already cleared areas. No tree clearing or work in wetlands is anticipated at any of the staging areas. Additional description of the environmental impacts associated with staging areas is located in Section 2.5.7."

The first paragraph on page 2-171 of Section 2.5.7 Equipment Staging Areas of the CPCN Application further describes the staging areas and potential impacts.

A non-confidential summary of Natural Heritage Inventory (NHI) historic (pre-1970) and current (since 1970) element occurrences (EO) within the 2-mile search area for route, substation, and staging area, sorted by animal, plant, or natural community group, has been provided in Completeness Response Item 43, Table 1: Historic and Current NHI Element Occurrence Records within 2 Miles of Routes, Substations, and Staging Areas by Species Group. This table shows the number of Rare Species and Natural Community EO Records within a 2 mile area of each staging area. A summary of staging areas that fall within the extent of the NHI EO Record limits is provided in the response to Item 43.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-56

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-56 / Application Page 2-159/ AFR Section 2.5.6.1.
Identify locations where there is greater than 10 percent slope; include whether or not these areas are located near / in sensitive areas

Response:
The Applicants received further clarification of this question from the WDNR. Specifically, the WDNR requested that the Applicants address where poles would be located in:

- Highly erodible soils regardless of slope
- Slopes greater than 10 percent
- Slopes greater than 10 percent in highly erodible soils

In addition, the WDNR requested that the Applicants determine whether or not these pole locations would be near wetlands, waterways or threatened or endangered resources. It was agreed that the Applicants could use soil mapping units that have a “C” slope or greater in order to define the areas greater than 10 percent. The definition of “C” slopes varies from one published soil survey to another. However, generally speaking, a “C” slope mapping convention is used for soils within landscapes exhibiting 6 to 12 percent slopes. Therefore, the use of these mapping units as a basis for this slope determination is considered conservative.

Poles that are within proximity of wetlands and waterways are identified in yellow and green in supplemental Table 1. Criteria that were used to define the poles that would be within proximity of wetlands and waterways include:

1) Poles that would be located within 300 feet of wetlands and waterways along each route and on ”C” slopes (6-12 percent slopes); or

2) Poles that would be located in landscape units having greater than 10 percent slope directly adjacent to a wetland or waterway and more than 300 feet from the wetland or waterway in question.

At a February 17, 2011 meeting the WDNR stated that the identification of poles near threatened and endangered species has been adequately addressed within the *Rare Species and Natural Communities Analysis and Survey Summary Report*. Details regarding the types of avoidance and minimization measures that would be employed at such locations are discussed within both the redacted and confidential versions of the referenced report.

In areas where a pole would be located on a slope that exceeds 10 percent, the Applicants note that no additional ROW over that proposed in the CPCN Application would be necessary. Appropriate erosion control methods that would be used in these circumstances would be specified in the Project Erosion Control Plan that would be prepared subsequent to the CPCN order being issued. If grading is necessary at a pole construction area, a typical construction pad would be approximately 40 feet by 60 feet.

Supplemental Table 1 identifies poles, organized by route, that are located in soils that meet the following criteria: 1) highly erodible soils with slopes less than 10 percent; 2) slopes greater than 10 percent; 3) slopes greater than 10 percent with high erodibility.

Supplemental Table 1

Route	Highly Erodible Soils; less than 10 Percent Slope	Slopes greater than 10 Percent; Not Highly Erodible Soils	Slopes greater than 10 Percent; Highly Erodible Soils
Q1–Highway 35	89, 90, 91, 99, 101, 105, 106, 109, 111, 127, 136*, 224, 592B, 593, 813, 816, 817, 818, 822, 823, 825, 826, 827	13, 45, 60, 86, 112, 129, 145, 146, 153, 162, 166, 175, 179, 181, 183, 184, 189, 190, 191, 192, 193	15, 16, 17, 18, 19, 21B, 20#, 21, 22, 29, 30, 31, 32, 33, 41, 42, 43, 69, 73, 75A, 77, 83,92#, 93, 97, 98, 100, 102, 103, 104, 107, 110, 112A, 112B, 114, 115, 116, 117, 118, 119, 120, 121, 123, 124, 125, 126, 128, 131 133, 134, 144, 154, 170, 171, 812, 814, 815, 819
Arcadia Route/ Arcadia Alma Option	235, 236, 241, 244, 246, 251, 254, 256, 257, 259, 280, 303, 304, 752, 759, 760, 761, 768, 769, 770	13, 231, 236C, 236D, 236E, 236F, 253, 260, 264, 271, 284, 301, 306#, 312, 313, 323, 325, 326, 332, 350, 365, 366A, 367, 368, 375, 376, 377, 384, 390, 392*,396, 402*, 410, 418, 726, 727, 729, 730, 731, 733, 856, 864*, 866, 867, 870, 871	15, 17, 232, 233, 234, 236A, 236B, 236G, 237, 238, 240. 242. 243. 245. 247. 248. 249. 250. 252. 255. 262. 273. 274. 275. 279. 282. 283. 285. 297. 300A, 302, 307#, 308, 309, 310, 314, 315, 316, 317, 320, 321, 324, 327, 328, 329, 330, 331, 333, 334*, 342, 348, 349, 351, 352, 353, 354, 355*#, 356, 357*, 364, 369#, 372, 378, 385*, 397, 399, 400, 403, 404, 405, 406, 412, 414, 415, 416, 417, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 747A, 748, 749, 750, 762, 763, 764, 844, 845, 857, 858, 868*, 872
Q1–Galesville Route	89, 90, 91, 99, 101, 105, 106, 109, 111, 127, 136*, 752, 756, 759, 760, 761, 768, 769, 770	13, 45, 60, 86, 112, 129, 145, 146, 593, 609, 726, 727, 729, 730, 731, 733, 856, 864*, 866, 867, 870, 871,	15, 16, 17, 18,19, 21B, 20#, 21, 22, 29, 30, 31, 32, 33, 41, 42, 43, 69, 73, 75A, 77, 83, 92#, 93, 97, 98, 100, 102, 103, 104, 107, 110, 112A, 112B, 114, 115, 116, 117, 118, 119, 120, 121, 123, 124, 125, 126, 128, 131, 133, 134, 144, 597, 602, 606, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 747A, 748, 749, 750, 762, 763, 764, 844, 845, 857, 858. 868*, 872
* Pole adjacent to wetland; # Pole adjacent to waterway			

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-62

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-62 / Page 2-181 - 2-182 / AFR Section 2.6.8.4
Identify endangered, threatened, and special concern species or important or valuable natural communities potentially affected by the proposed substation sites.

Response
The redacted and confidential versions of the Rare Species and Natural Communities Analysis and Survey Summary Report addresses habitat and other natural features in the third full paragraph on page 20 under Section 3.2 - Habitat Characterization, Proposed Substation Locations:

A summary of rare species element occurrences (EO) intersecting each substation location or within a 2-mile search area of each substation location is sorted by taxa and provided in the following tables of the confidential Rare Species and Natural Communities Analysis and Survey Summary Report:

Table 1a: Historic NHI Element Occurrence Records

Table 1b: Current NHI Element Occurrence Records

Information in these tables was used to provide the summary text presented on page 2-181-182 under Section 2.6.8.4 of Application.

In addition, the EO records summarized in the tables are depicted by EO ID# on the following figures of the confidential Rare Species and Natural Communities Analysis and Survey Summary Report:

Figure 1a. Historic NHI Threatened and Endangered Species

Figure 1b. Historic NHI Special Concern Species and Natural Communities

Figure 1c. Current NHI Threatened and Endangered Species

Figure 1d. Current NHI Special Concern Species and Natural Communities

To supplement the above information, a non-confidential summary of NHI historic and current EO records within the 2-mile search area for each route, substation, and staging area is summarized by taxa in Completeness Response Item 43. Table 1: Historic and Current NHI Element Occurrence Records within 2 Miles of Routes, Substations, and Staging Areas by Species Group.

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-65

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-65 / Application 2-197; Appendix P / AFR Section 2.9.1
The letter dated December 23, 2010, to DNR was not sent and should be replaced in this Appendix with the correct letter dated January 10, 2011.

Response:
A copy of the letter dated January 10, 2011 that was submitted with the Rare Species report is attached to this response and should replace the letter currently located in Appendix P. This letter is located on pages 131 and 132 of the Appendix and is the last item in Appendix P.

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CapX2020

Delivering electricity you can rely on

REVISED March 2011

January 10, 2011

Ms. Shari Koslowsky
Wisconsin Department of Natural Resources
Office of Energy
101 S. Webster St. SS/7
Madison, WI 53707

RE: CapX2020 Hampton-Rochester-La Crosse 345 kV Transmission Project
PSCW Docket No. 5-CE-136

Dear Ms. Koslowsky:

Northern States Power Company, a Wisconsin corporation (Xcel Energy), Dairyland Power Cooperative (Dairyland) and WPPI Energy (WPPI) (collectively, the Applicants) propose to construct a new 345 kilovolt (kV) transmission line between Hampton, Minnesota; Rochester, Minnesota: and La Crosse, Wisconsin and two new 161 kV transmission lines in the Rochester area. Xcel Energy has prepared and filed an Application on January 3, 2011 with the Public Service Commission of Wisconsin (PSCW) for authorization to construct the Wisconsin portion of the 345 kV line from Alma, Wisconsin to a new transmission substation (Briggs Road Substation located in the town of Onalaska, near Holmen) and associated 161 kV system interconnections at the new substation termed the "La Crosse Project" or "Project". The line would be approximately 40 to 55 miles long depending on the final route selected and includes crossing the Mississippi River at Alma. A Route Permit Application (RPA) for the Minnesota portion of project is pending in the *Matter of the Application by Xcel Energy for a Route Permit for the Hampton-Rochester- La Crosse 345 Transmission Line Project*.

The Applicants evaluated habitat, surveyed for threatened and endangered species, and determined potential impacts to rare species and natural communities along the Project's proposed routes. This information is provided in the attached confidential Rare Species and Natural Communities Analysis and Survey Summary Report. The methods used to evaluate the sensitive species and natural communities discussed in this report included: review of the Wisconsin Department of Natural Resources (WDNR) Natural Heritage Inventory (NHI) database; habitat characterization along each of the proposed routes; consultation with the WDNR and PSCW; and species specific surveys and refined habitat assessments. This confidential report provides the results of the evaluation including locations of: threatened, endangered and special concern species identified; potentially suitable habitat for threatened, endangered, and special concern species, and; sensitive areas and natural communities. Potential impacts that could result from the Project are also discussed.

Subject to receipt of PSCW authorization for this Project, the Applicants anticipate construction of the transmission line to begin in January 2013 and be completed in October 2015. The Applicants request that you review and provide any comments on the attached report. These comments will be used by the Applicants to identify appropriate modifications, if any, to construction methodology to reduce or eliminate potential impacts on rare species and natural communities, and by the PSCW in their review of the project.

If you have any question on the proposed project or would like additional information please contact me at 612-330-6538.

Sincerely,

Tom Hillstrom
CapX2020 Hampton-Rochester-La Crosse Transmission Project Routing Lead
Xcel Energy

Enclosures

cc: Ms. Cheryl Laatcsh, WDNR
Mr. Tom Lovejoy, WDNR
Mr. Armund Bartz, WDNR
Mr. William Fannucchi, PSCW

CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-66

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-66 / Application Page 2-202 ; Table 2.9-3 / AFR Section 2.9.2.2.
Provide a determination by DATCP as to whether or not the project would require an Agricultural Impact Statement (AIS). If an AIS is required, document that the necessary information (Notification Packet) has been provided to DATCP so that the AIS can be prepared in time for staff to fit its analyses into the PSC review timeframe.

Response
A February 10, 2011 letter from Peter Nauth of the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) Agricultural Impact Program stating that the agency has reviewed the information provided and that an AIS would be prepared has is attached. The letter further states that at this time it appears that the DATCP has enough information to prepare the report. The Applicants would provide any additional or updated information that is made available to the PSCW regarding the Project, as requested by the DATCP.

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State of Wisconsin
Governor Scott Walker

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

February 10, 2011

Mr. Tom Hillstrom
Xcel Energy
414 Nicollet Mall MP8A
Minneapolis, MN 55401

Re: CapX Twin Cities-Rochester-La Crosse Transmission Line & Substation Project
Buffalo, Trempeauleau, and La Crosse Counties
Wisconsin PSC Case: 5-CE-136

Dear Mr. Hillstrom:

We have reviewed the information that you provided regarding the CapX Project and have determined that an agricultural impact statement (AIS) will be prepared for the proposed project.

At this time it appears that we have enough information to prepare the report. Please provide to us any additional or updated information that you may make available to the Public Service Commission regarding the proposed project.

If you have any questions about the AIS Program, please contact me at the above address or call 608.224.4650.

Sincerely,

Peter Nauth

Peter Nauth
Agricultural Impact Program

cc: William Fannucchi, PSC
Mark Rothfork, AECOM

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-91

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-91 / Not Applicable / AFR Conservation and Load Management

1. For each load serving entity for the La Crosse study area provide the following: A) The number of residential customers in the La Crosse study area that participate in a direct load program. Break out between air conditioning only and air conditioning with water heating. B) The percentage of residential customers in the study area that participate in a direct load program, broken out by air conditioning only and air conditioning with water heating. C) The coincident load reduction available from the residential customers participating in these programs in the La Crosse study area.

Response

See the attached table.

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Item	Question	Customer Class	Program	Xcel Energy			Riverland Energy Cooperative		
				Number of Customers Participating	Percent of Customers Participating	Coincident Load Relief (kW)	Number of Customers Participating	Percent of Customers Participating	Coincident Load Relief (kW)
O-91	1. For each load serving entity for the La Crosse study area provide the following: A) The number of residential customers in the La Crosse study area that participate in a direct load program. Break out between air conditioning only and air conditioning with water heating. B) The percentage of residential customers in the study area that participate in a direct load program, broken out by air conditioning only and air conditioning with water heating. C) The coincident load reduction available from the residential customers participating in the these programs in the La Crosse study area.	Residential	Air Conditioning Direct Load Control	5,149	9.5%	3,500	1,111	6.6%	589
			Water Heating Direct Load Control	743	1.4%	0 (see note 1)	7,808	46.2%	3,123
O-92	2. For each load serving entity in the La Crosse study area provide the following: A) The number and percentage of commercial and industrial customers in the La Crosse study area that are on a Commercial Load Control Rider. How much load does this represent? B) The number and percentage of commercial and industrial customers in the La Crosse study area that participate in a Peak Control program. How much load does this represent?	Commercial and Industrial	Peak Alert with Generators				23	7.8%	3,440
			Peak Alert without Generators				18	6.1%	750
			Interruptible Irrigation				58	19.6%	3,248
			Peak Alert - Primary Metered				5	1.7%	300
			Air Conditioning Direct Load Control	393	4.3%	1,030			
			Generator Direct Control	10	0.1%	2,596			
			Peak Control Interruptible Rate	32	0.3%	4,997			

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CapX2020
Hampton – Rochester – La Crosse
345 kV Transmission Project
Docket 5-CE-136
Completeness Response: Item 01-95

Date of PSCW Request: February 1, 2011
Date of Response: March 2011

Item 01-95 / Not Applicable / AFR Conservation and Load Management
5. What energy efficiency services have any other load serving entities provided in the La Crosse study area?

Response
Riverland Energy Cooperative also provides electrical service in the La Crosse area. In addition to interruptible and controllable rate programs, Riverland Energy Cooperative provides the following rebate incentives for energy efficiency:

Air Conditioning	
14 SEER	$40/ton
15 SEER	$60/ton
16 SEER	$80/ton
Heat Pumps	
Air to Air (14 SEER or Greater)	$120/ton
Geo Heat Pump	$200/ton
Water Heating	
Electric Water Heater .90 EF or greater	$250
Solar Water Heater	$300
Energy Star Appliances	
Dehumidifier	$25
Refrigerator	$25
Room AC	$25
Dishwasher	$25
Clothes Washer	$25
Lighting Rebates	
CFL	$1 / lamp
T8 Retrofits	$5/ fixture
T5 fixtures	$7.50
LED Exit Signs	$5
LED Security Lights	$15