



- Proposed Routes**
- Blue Route
  - Alternatives**
  - Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - NHD Watercourse
  - NHD Waterbody
  - PWT Waterbody
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed Protection Area
  - Indian Reservation Land
  - Snowmobile Trail
  - Public Land Survey Section
  - Existing Transmission Lines
  - 69 or 115 KV
  - 230 KV



Appendix S - Map 41

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





- Proposed Routes**
- Blue Route
  - Segment Options
  - C2 Segment Option
- Alternatives**
- Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - NHD Watercourse
  - PWI Watercourse
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed
  - Protection Area
  - Snowmobile Trail
  - Public Land Survey Section
- Existing Transmission Lines**
- 69 or 115 KV
  - 230 KV



Appendix S - Map 42

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



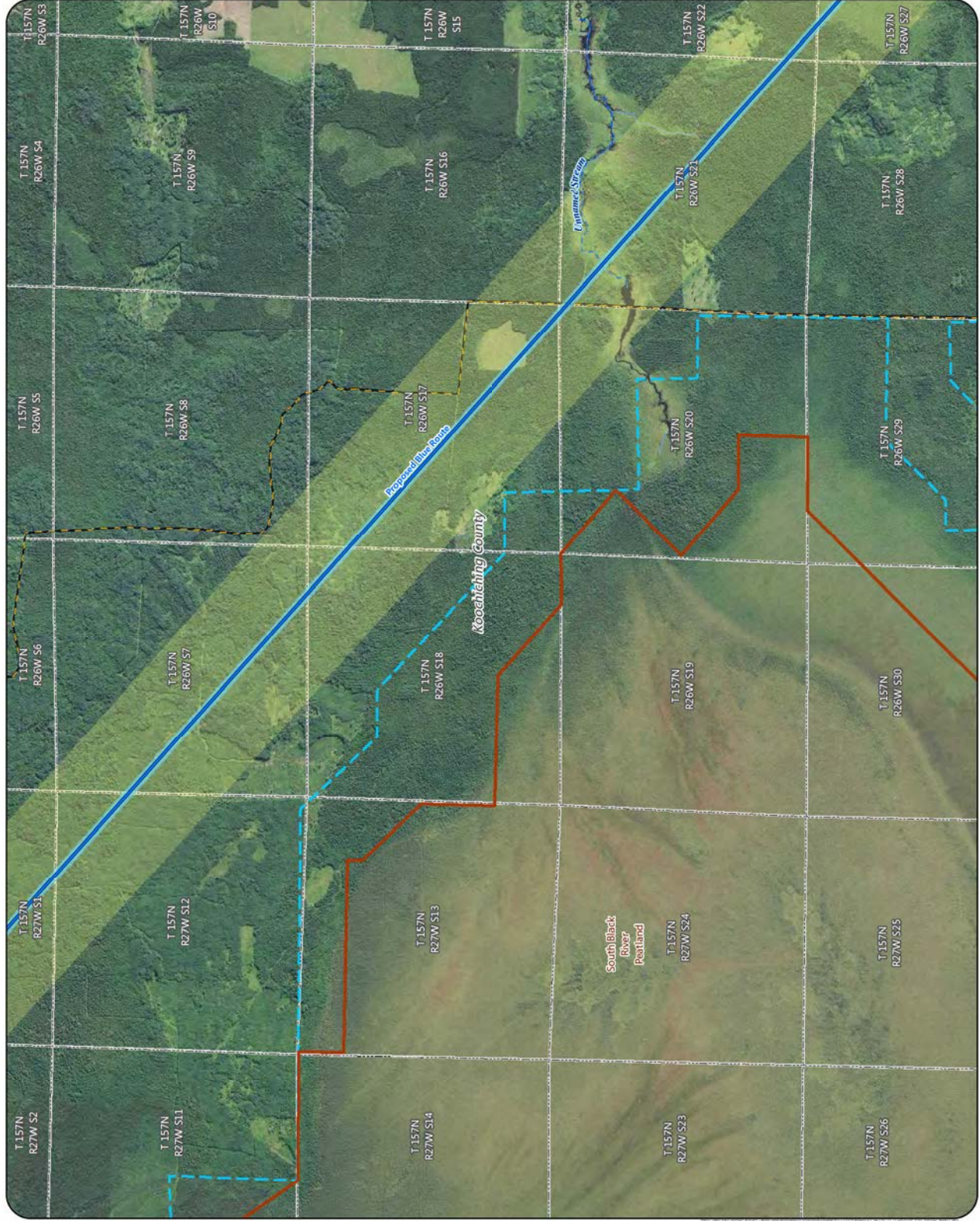


- Proposed Routes**
- Blue Route
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - NHD Watercourse
  - PMW Watercourse
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed Protection Area
  - Snowmobile Trail
  - Public Land Survey Section



Appendix S - Map 43

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





- Proposed Routes**
- Blue Route
  - Anticipated Route Width
  - NHD Watercourse
  - PWT Watercourse
  - Public Land Survey Section



Appendix S - Map 44

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





- Proposed Routes**
- Blue Route
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Aggregate Source Location
  - Carry-In Water Access
  - State Water Trail
  - NHD Watercourse
  - PWI Watercourse
  - MPCA Impaired Stream
  - Civil Township
  - Public Land Survey Section



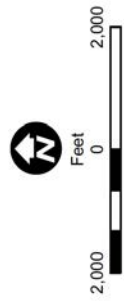
Appendix S - Map 45

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





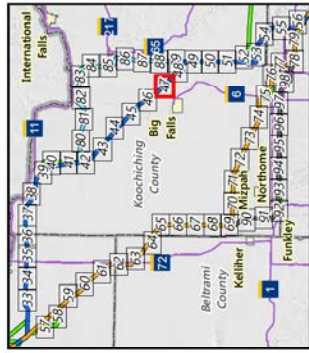
- Proposed Regeneration Site
- Blue Route
- Anticipated Route Width
- Anticipated Right-of-Way
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- Mineral Exploration or Engineering Drillhole
- Carry-in Water Access
- State Water Trail
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Ecologically Important Lowland Conifers
- Snowmobile Trail
- State Trail
- Civil Township
- Public Land Survey Section
- MPCA Database
- Tanks and Leaks
- Existing Transmission Lines
- 69 or 115 KV



Appendix S - Map 46



MAP BOOK - CENTRAL SECTION  
Great Northern Transmission Line  
Final Environmental Impact Statement



- Proposed Regeneration Site
- Blue Route
- Anticipated Route Width
- Anticipated Right-of-Way
- ✈ Airport
- ~ NHD Watercourse
- ~ PWT Watercourse
- ~ Ecologically Important Lowland Conifers
- ~ Snowmobile Trail
- ~ State Trail
- ~ Public Land Survey Section
- ~ MPCA Database
- Hazardous Waste
- Existing Transmission Lines
- 69 or 115 KV



Appendix S - Map 47

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





- Proposed Routes**
- Blue Route
- Segment Options**
- C2 Segment Option
- Anticipated Route Width**
- Anticipated Right-of-Way
- Residences**
- Commercial or Non-Residential Structure
  - NHD Watercourse
  - Ecologically Important Lowland Corridor
- Public Land Survey Section**
- Existing Transmission Lines
  - 230 kV

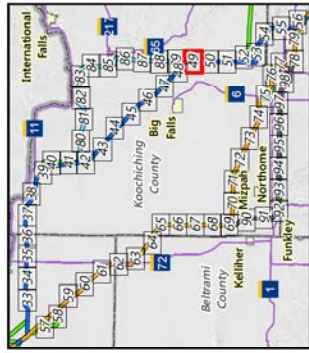


Appendix S - Map 48

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement







- Proposed Routes**
- Blue Route
  - Segment Options**
    - C2 Segment Option
    - Anticipated Route Width
    - Anticipated Right-of-Way
    - NHD Watercourse
    - Scientific and Natural Area (SNA)
    - Preliminary Peatland SNA Watershed Protection Area
    - Ecologically Important Lowland Complexes
    - Public Land Survey Section
- Existing Transmission Lines**
- 230 kV



Appendix S - Map 49

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



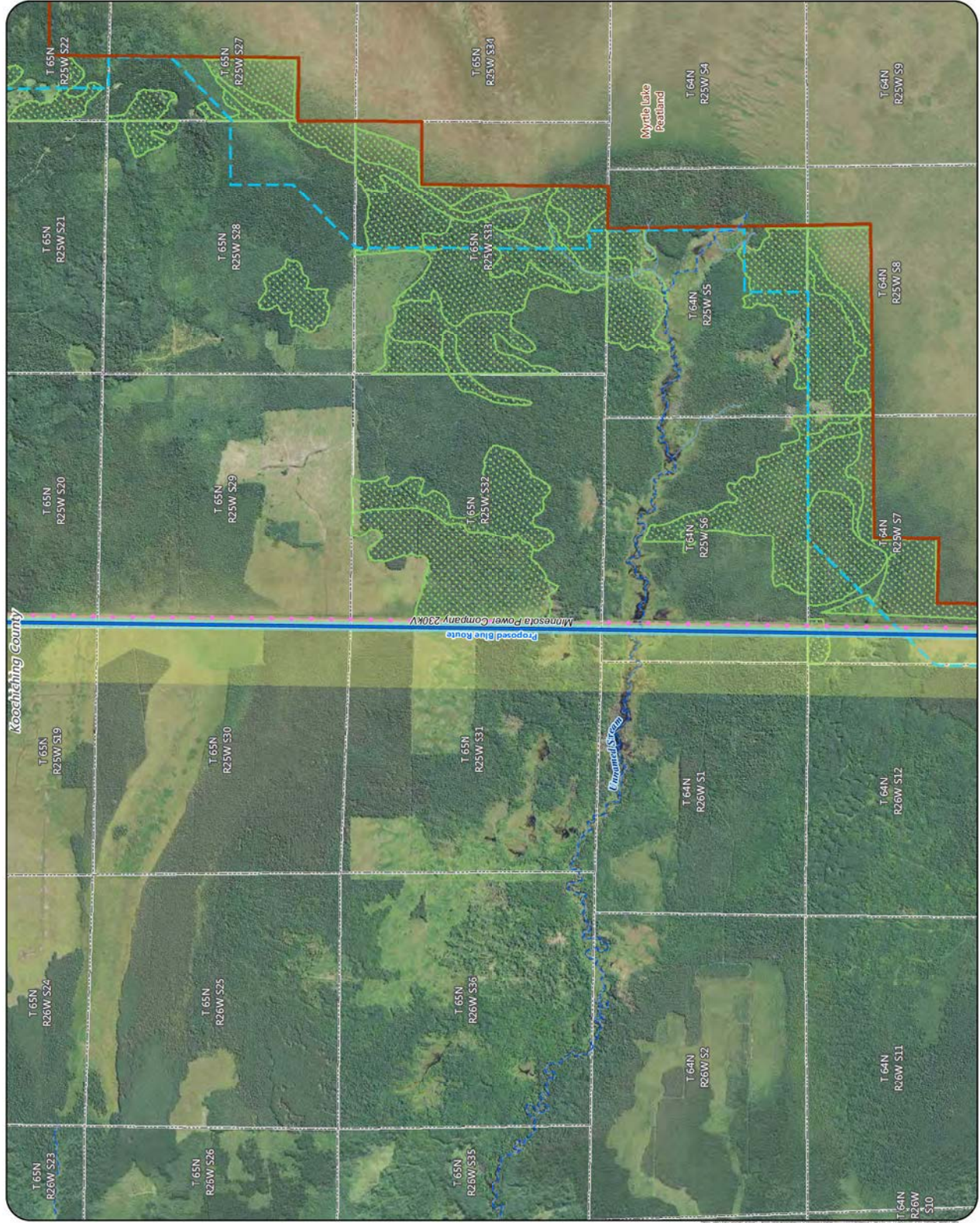


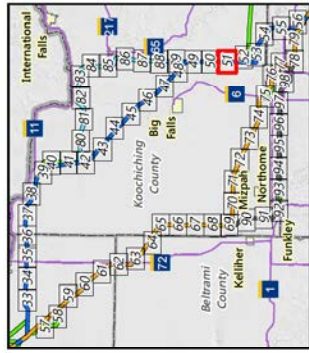
- Proposed Routes**
- Blue Route
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - NHD Watercourse
  - PWT Watercourse
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed Protection Area
  - Ecologically Important Lowland Conifers
  - Public Land Survey Section
  - Battling Transmission Lines
  - 230 KV



Appendix S - Map 50

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





- Proposed Routes**
- Blue Route
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - NHD Watercourse
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed Protection Area
  - Ecologically Important Lowland Confines
  - Public Land Survey Section
- Existing Transmission Lines**
- 230 KV
  - 500 KV



Appendix S - Map 51

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





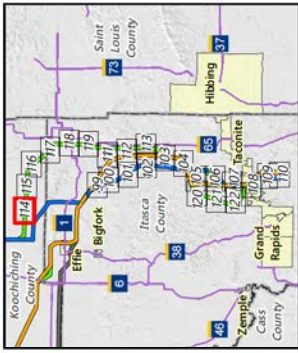
- Proposed Routes**
- Blue Route
- Alternatives**
- Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
- Other Features**
- Residences
  - Commercial or Non-Residential Structure
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - NHD Watercourse
  - PWI Watercourse
  - Ecologically Important Lowland Conifers
  - Public Land Survey Section
- Existing Transmission Lines**
- 230 KV
  - 500 KV



Appendix S - Map 52

**MAP BOOK - CENTRAL SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



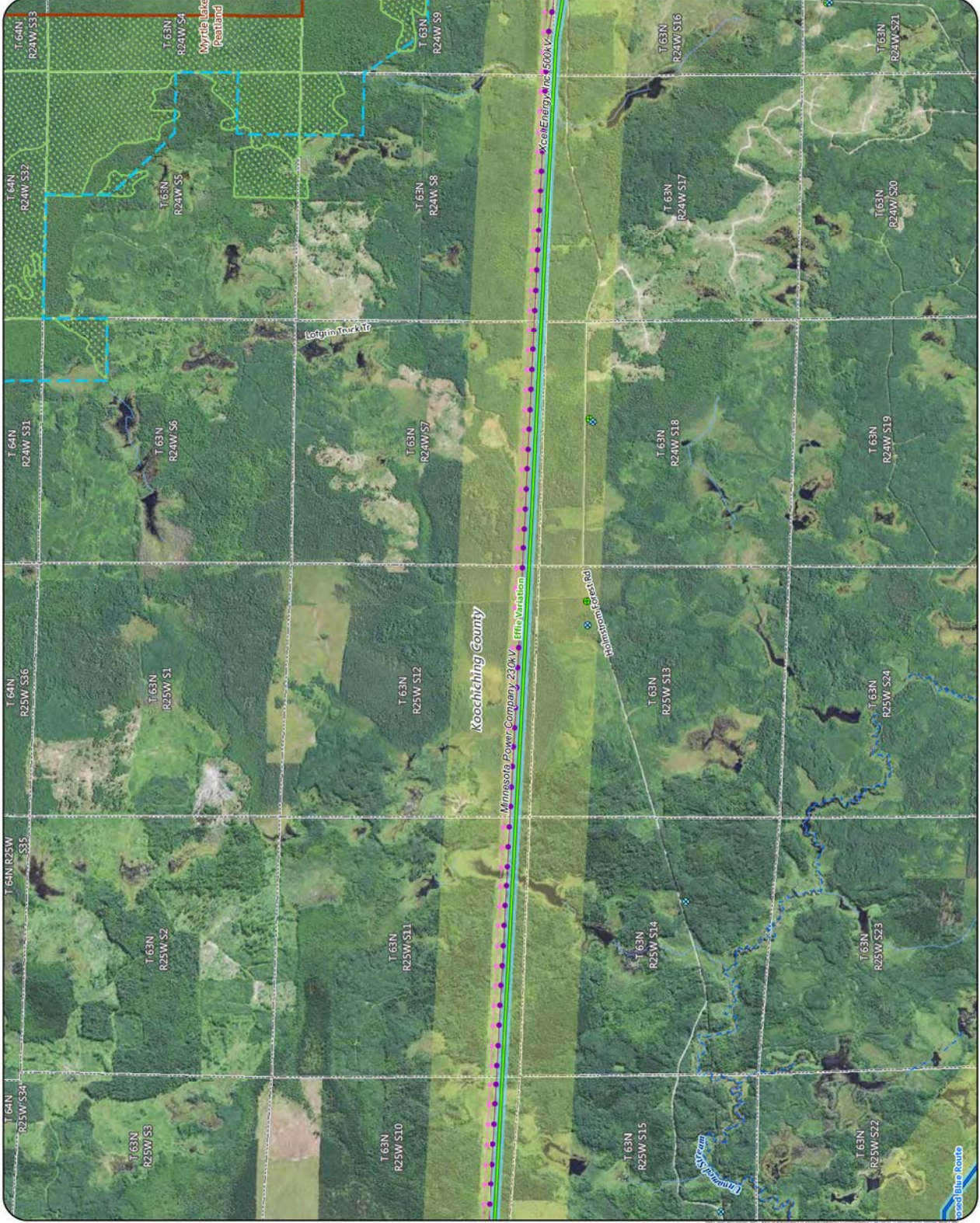


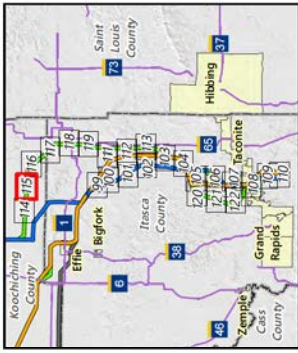
- Proposed Routes**
- Blue Route
  - Anticipated Route Width
  - Route Variation
  - Anticipated Right-of-Way
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - NHD Watercourse
  - PMI Watercourse
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed Protection Area
  - Ecologically Important Lowland Conifers
  - Public Land Survey Section
  - Existing Transmission Lines
  - 230 kV
  - 500 kV



Appendix S - Map 114

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



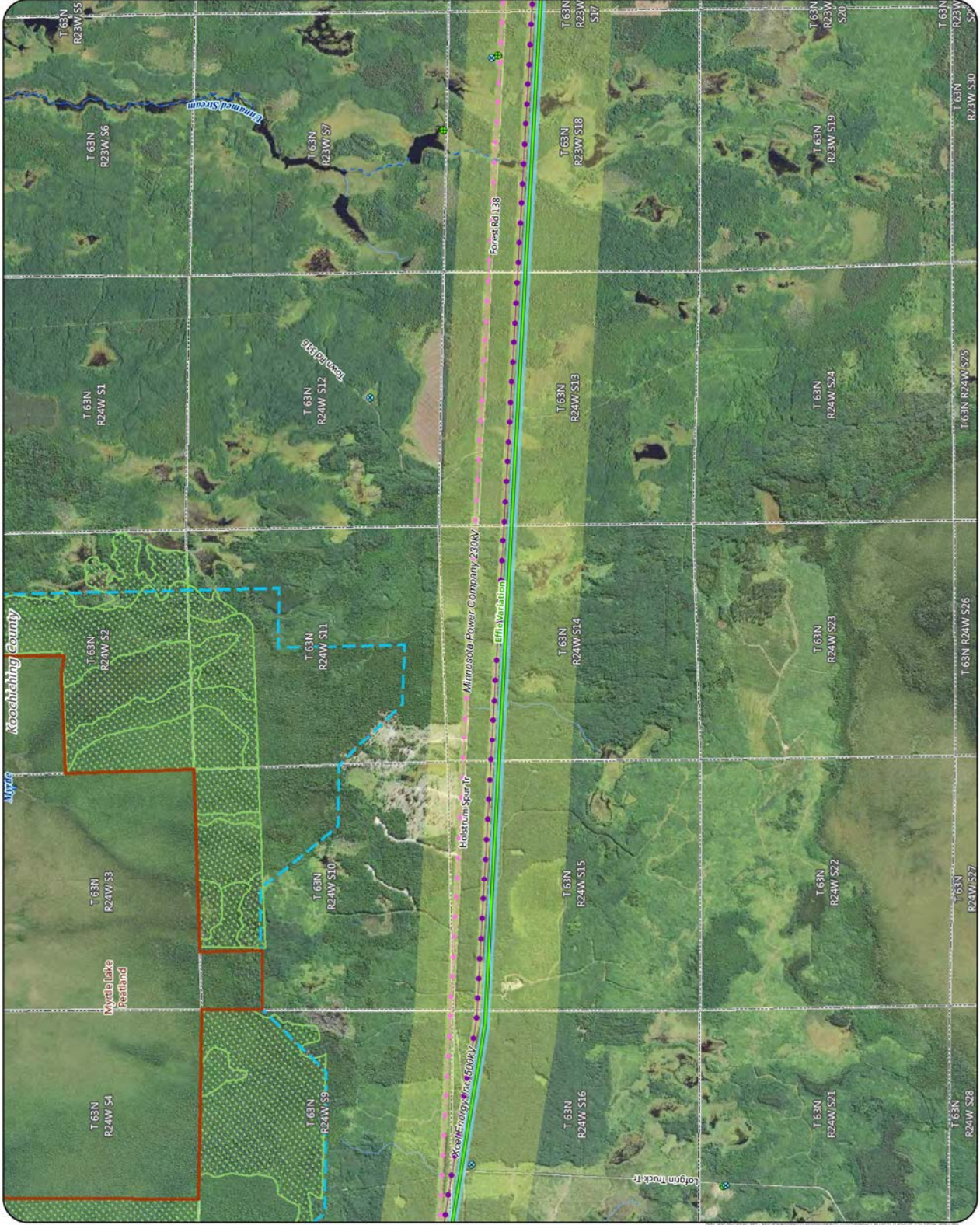


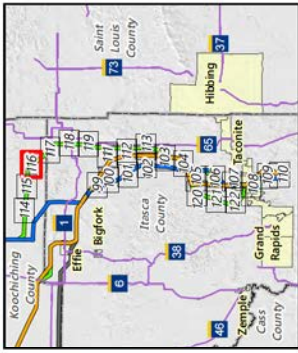
- Alternatives**
- Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - NHD Watercourse
  - PMI Watercourse
  - NHD Waterbody
  - PMI Waterbody
  - Scientific and Natural Area (SNA)
  - Preliminary Peatland SNA Watershed Protection Area
  - Ecologically Important Lowland Conifers
  - Public Land Survey Section
  - Existing Transmission Lines
    - 230 kV
    - 500 kV



Appendix S - Map 115

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





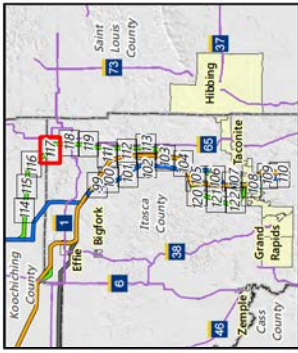
- Alternatives**
- Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - NHD Watercourse
  - PMI Watercourse
  - Trout Stream
  - NHD Waterbody
  - PMI Waterbody
  - Public Land Survey Section
  - Existing Transmission Lines
  - 230 kv
  - 500 kv



Appendix S - Map 116

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



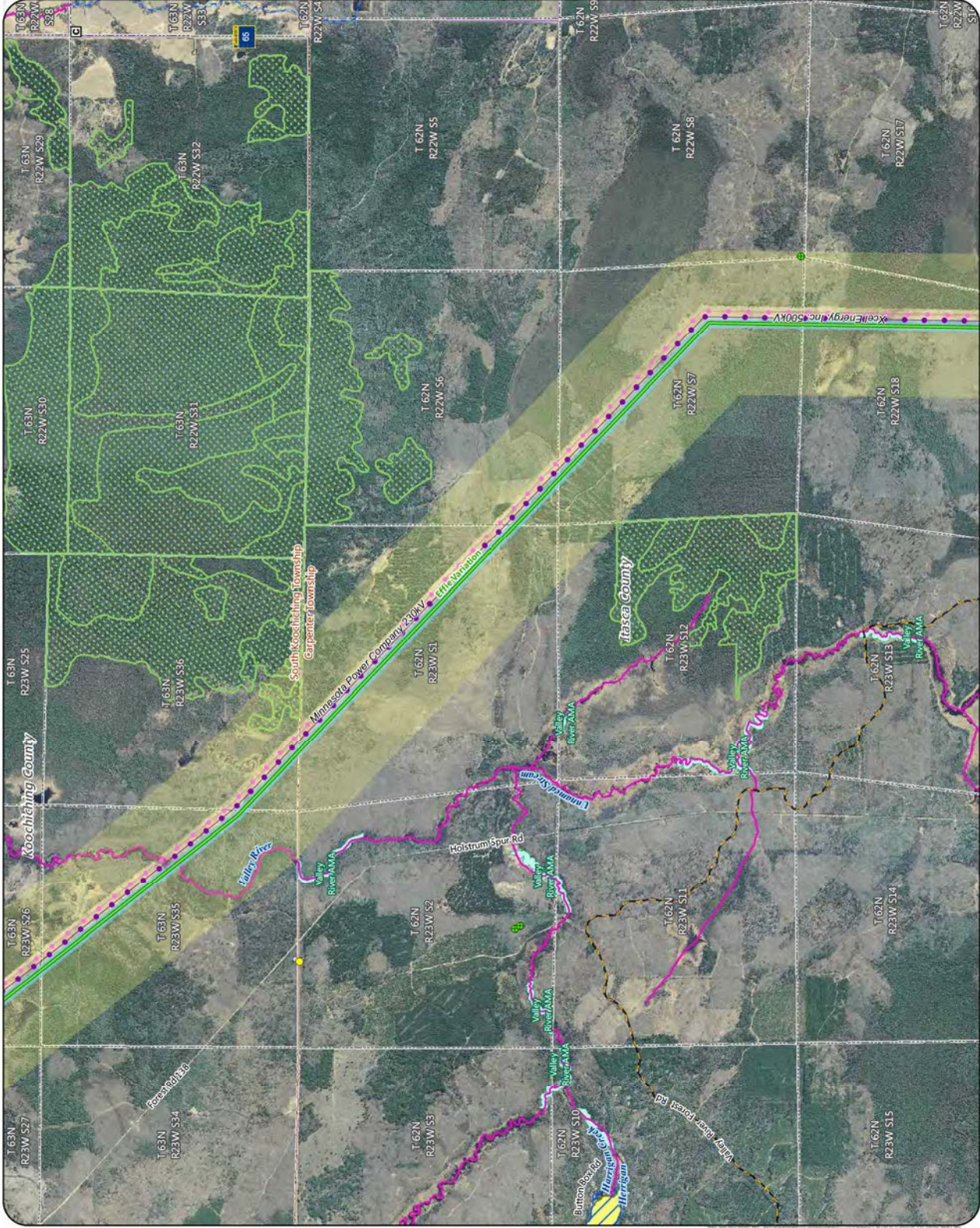


- Alternatives**
- Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - Church
  - Mineral Exploration or Engineering Drillhole
  - NHD Watercourse
  - PMI Watercourse
  - Trout Stream
  - NHD Waterbody
  - PMI Waterbody
  - Wild Rice Lake
  - Aquatic Management Area
  - Ecologically Important Lowland Conifers
  - Snowmobile Trail
  - Civil Township
  - Public Land Survey Section
  - Existing Transmission Lines
  - 230 KV
  - 500 KV

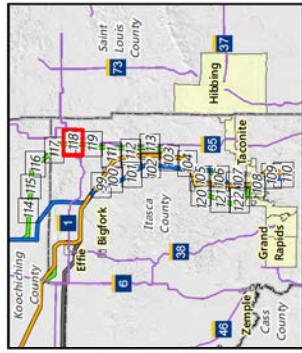


Appendix S - Map 117

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement







**Alternatives**

- Route Variation
- Anticipated Route Width
- Anticipated Right-of-Way
- Residences
- Commercial or Non-Residential Structure
- School
- Aggregate Source Location
- County Well Index
- Mineral Exploration or Engineering Drillhole
- State Forest Campground
- NHD Watercourse
- PWI Watercourse
- Trout Stream
- PWI Waterbody
- Aquatic Management Area
- State Game Refuge
- Ecologically Important Lowland Conifers
- Snowmobile Trail
- Civil Township
- Public Land Survey Section
- MPCA Database
- Tanks and Leaks
- Existing Transmission Lines
- 230 kV
- 500 kV



Appendix S - Map 118

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





**Alternatives**

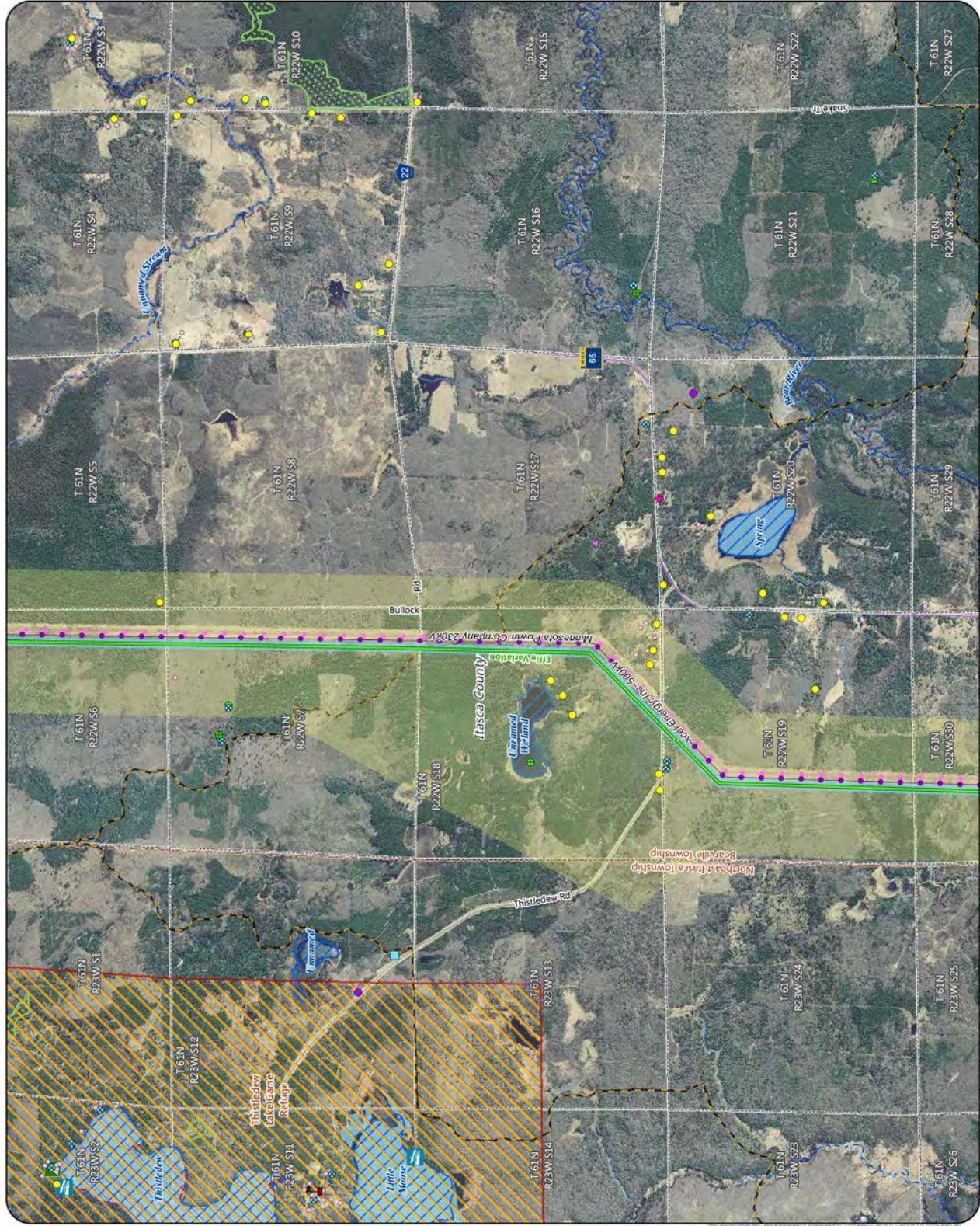
- Route Variation
- Anticipated Route Width
- Anticipated Right-of-Way
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- School
- Aggregate Source Location
- County Well Index
- Mineral Exploration or Engineering Drillhole
- State Forest Campground
- Trailer Launch Water Access
- NHD Watercourse
- PMT Watercourse
- NHD Waterbody
- PMT Waterbody
- MPCA Impaired Waterbody
- State Game Refuge
- Ecologically Important Lowland Conifers
- Snowmobile Trail
- Civil Township
- Public Land Survey Section
- MPCA Database
- Hazardous Waste
- Multiple Activities
- Existing Transmission Lines
- 230 kV
- 500 kV

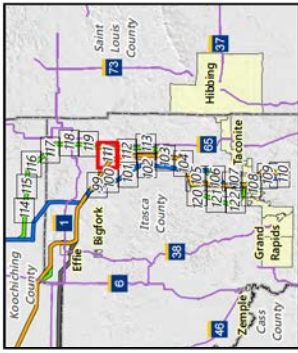


2,000  
0  
2,000  
Feet

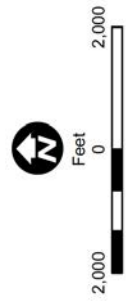
Appendix S - Map 119

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement

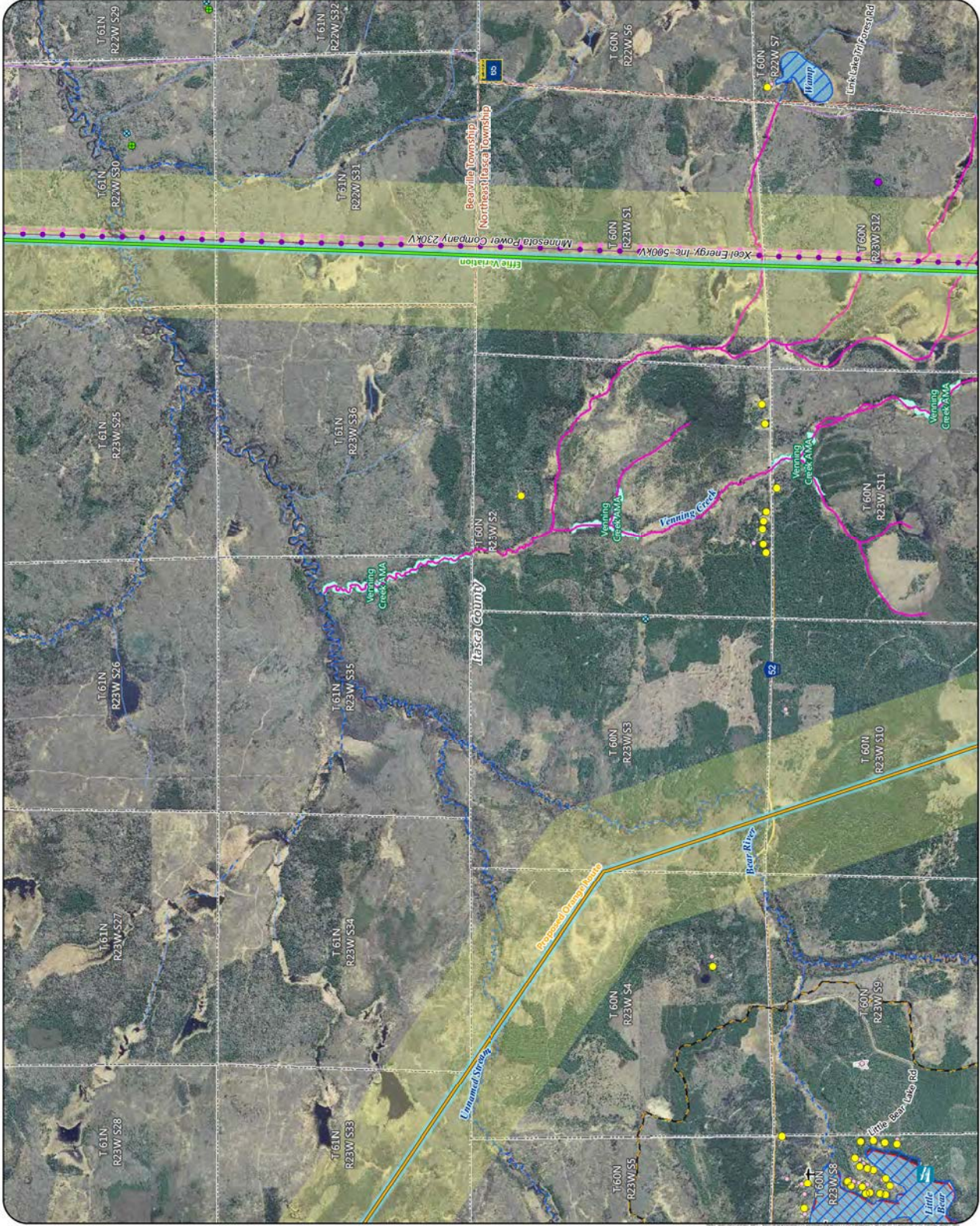


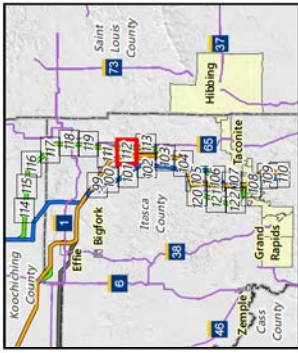


- Proposed Routes**
- Change Route
  - Alternatives
  - Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - Airstrip
  - Communication Tower
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - Trailer Launch Water Access
  - NHD Watercourse
  - PMI Watercourse
  - Trout Stream
  - NHD Waterbody
  - PMI Waterbody
  - MPCA Impaired Waterbody
  - Aquatic Management Area
  - Snowmobile Trail
  - Civil Township
  - Public Land Survey Section
  - MPCA Database
  - Tanks and Leaks
  - Multiple Activities
  - Existing Transmission Lines
  - 230 KV
  - 500 KV



Appendix S - Map 111  
**MAP BOOK - EAST SECTION**  
 Great Northern Transmission Line  
 Final Environmental Impact Statement



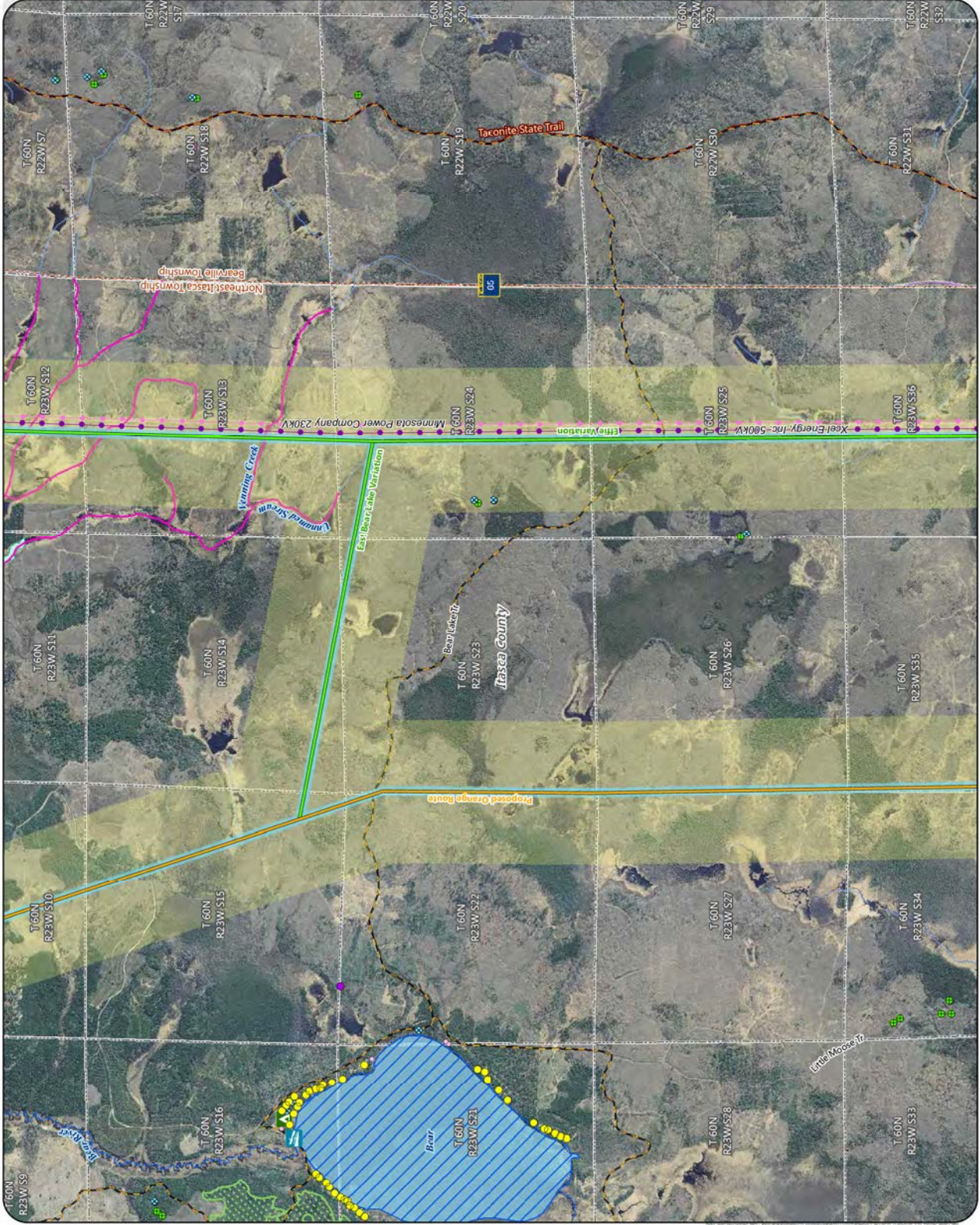


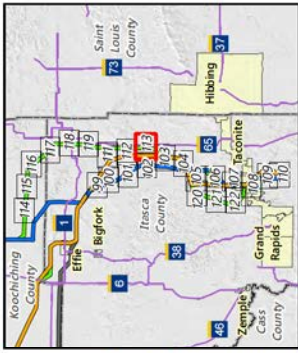
- Proposed Routes**
- Change Route
  - Alternatives**
  - Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - Aggregate Source Location
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - State Forest Campground
  - Trailer Launch Water Access
  - NHD Watercourse
  - PMW Watercourse
  - Trout Stream
  - NHD Waterbody
  - PMW Waterbody
  - Aquatic Management Area
  - Ecologically Important Lowland Conifers
  - Snowmobile Trail
  - State Trail
  - Civil Township
  - Public Land Survey Section
  - MPCA Database**
  - Multiple Activities
  - Existing Transmission Lines
  - 230 KV
  - 500 KV



Appendix S - Map 112

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



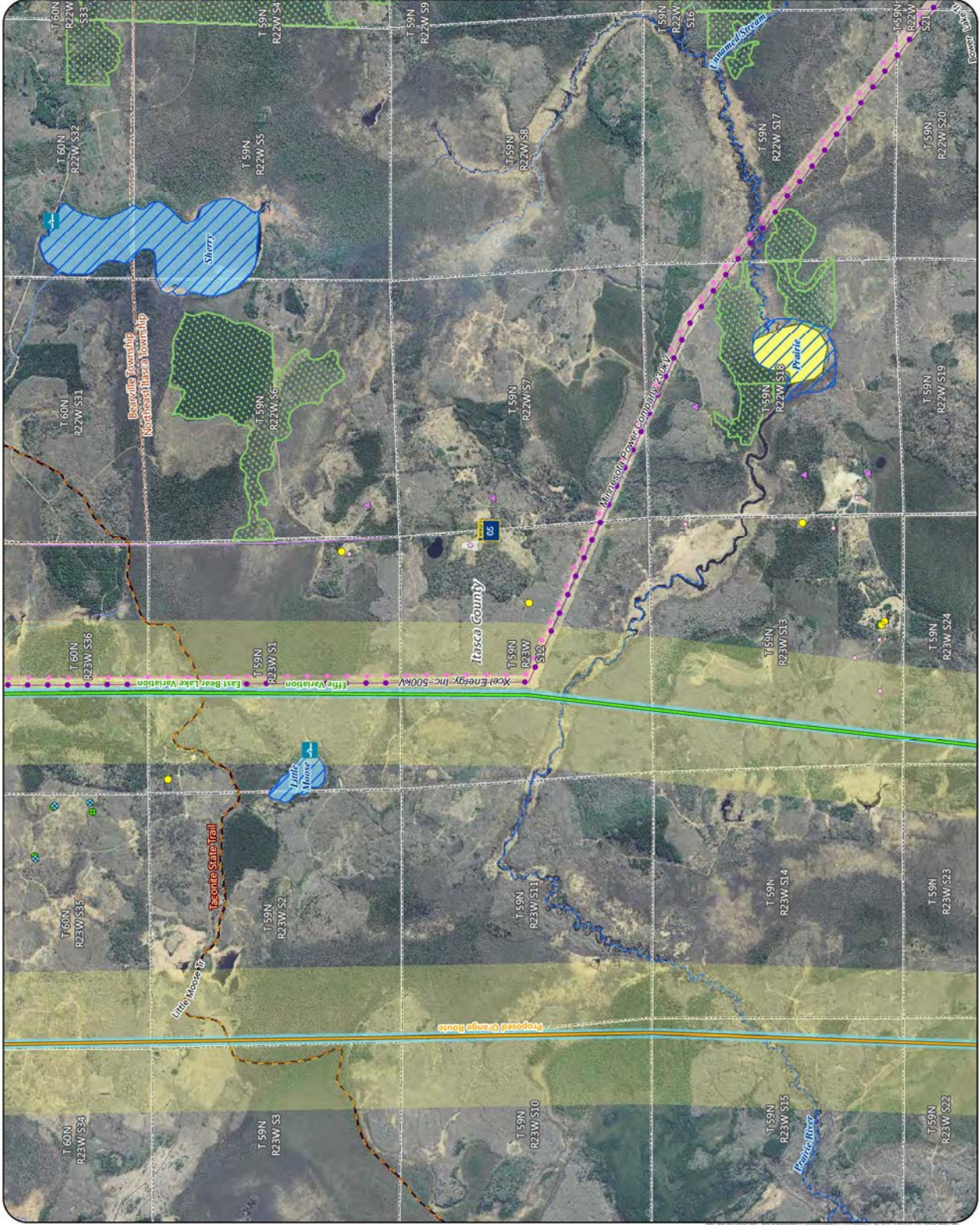


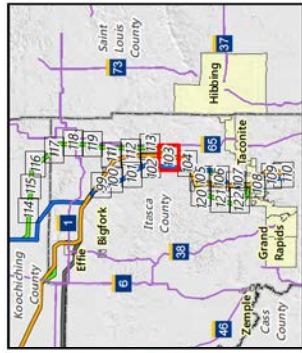
- Proposed Routes**
- Orange Route
  - Alternatives
  - Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - Aggregate Source Location
  - Communication Tower
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - Carry-in Water Access
  - NHD Watercourse
  - PMI Watercourse
  - NHD Waterbody
  - PMI Waterbody
  - Wild Rice Lake
  - Ecologically Important Lowland Conifers
  - Snowmobile Trail
  - State Trail
  - Civil Township
  - Public Land Survey Section
- Existing Transmission Lines**
- 230 kV
  - 500 kV



Appendix S - Map 113

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



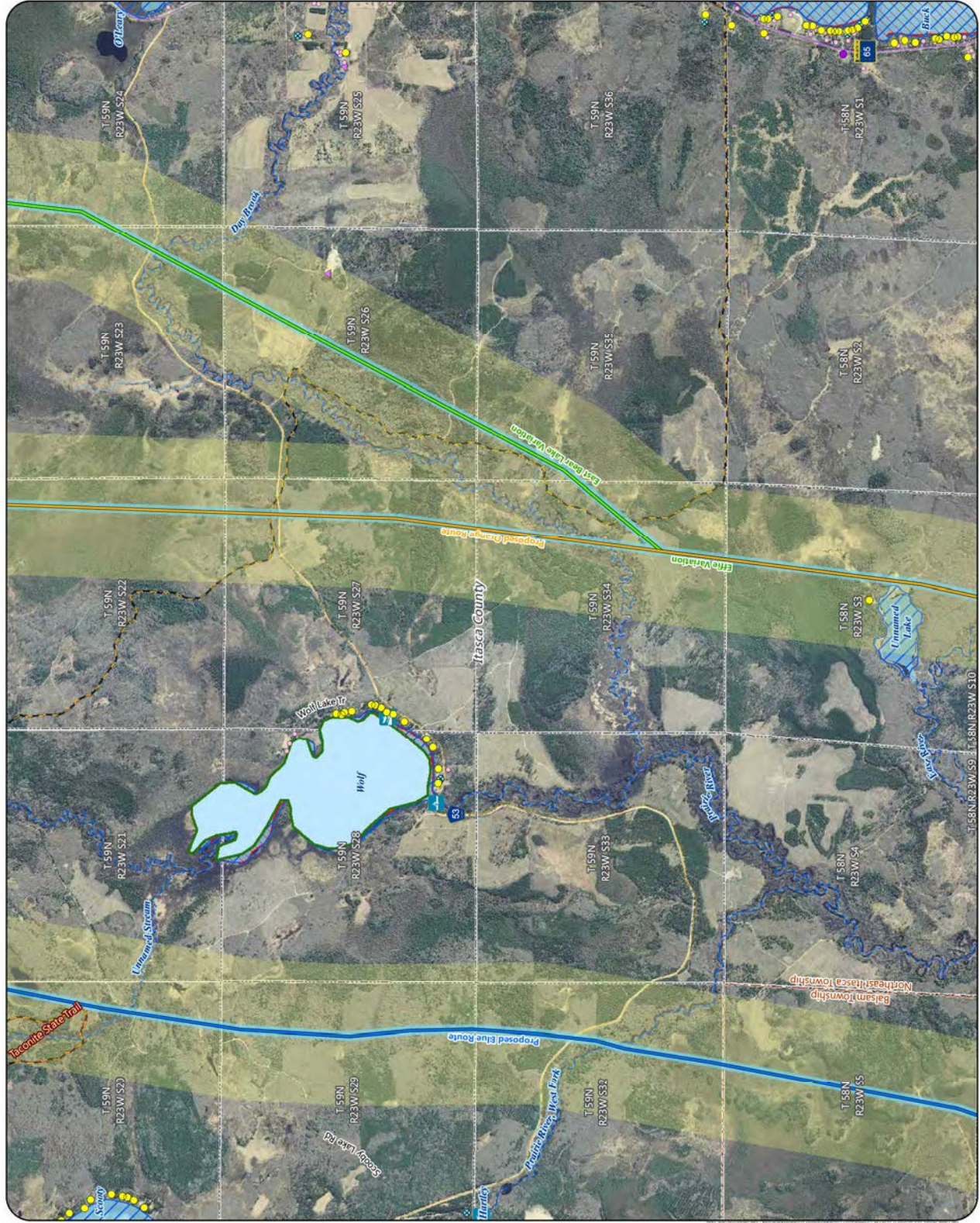


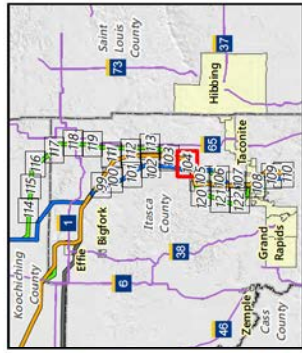
- Proposed Routes**
- Blue Route
  - Orange Route
- Alternatives**
- Route Variation
  - Anticipated Route Width
  - Anticipated Right-of-Way
- Residences**
- Commercial or Non-Residential Structure
  - Aggregate Source Location
  - County Well Index
  - Carry-in Water Access
  - Trailer Launch Water Access
  - NHD Watercourse
  - PMT Watercourse
  - NHD Waterbody
  - PMT Waterbody
  - MPCA Impaired Waterbody
  - Shallow Lake
  - Snowmobile Trail
  - State Trail
  - Civil Township
  - Public Land Survey Section
  - MPCA Database
  - Multiple Activities



Appendix S - Map 103

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



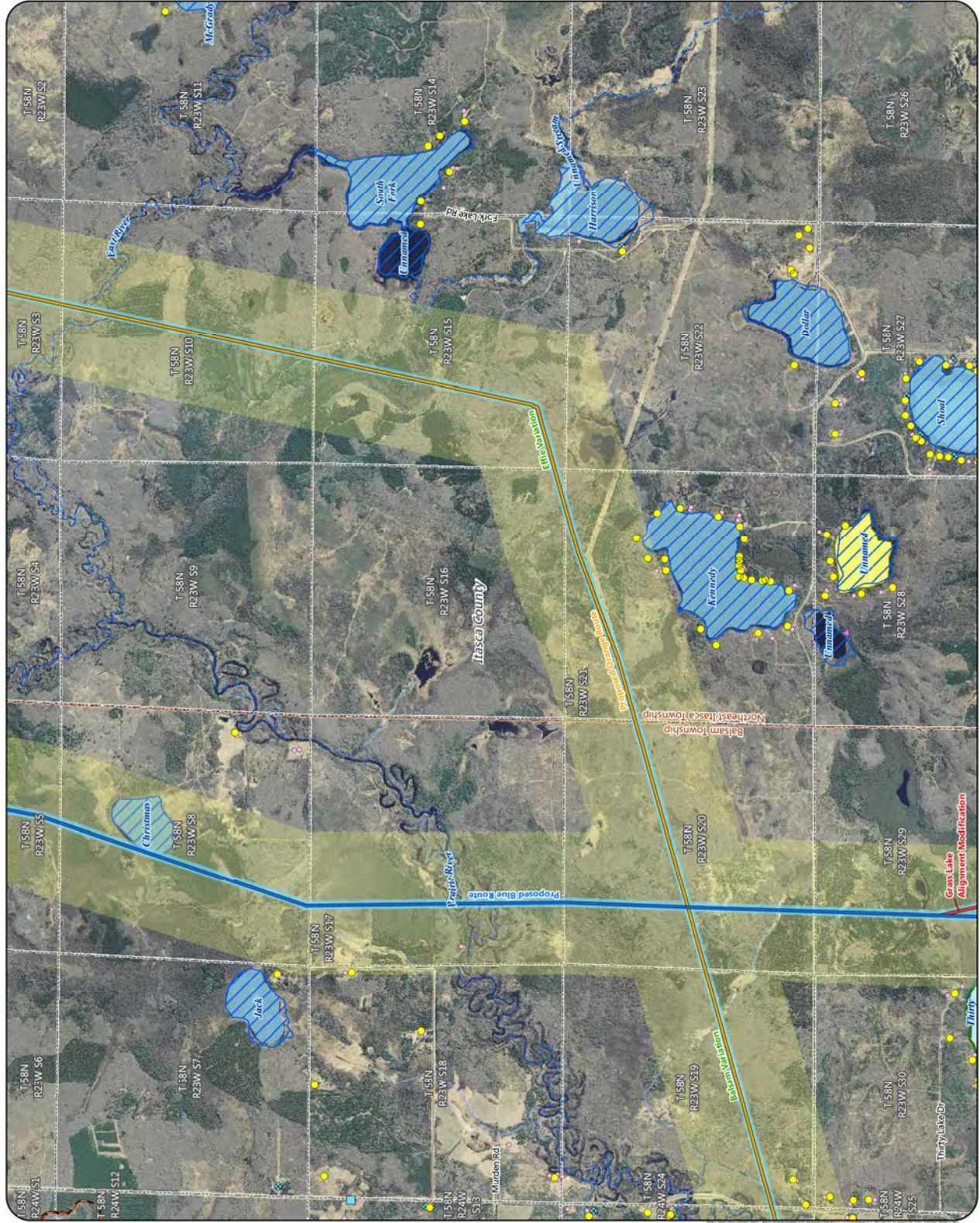


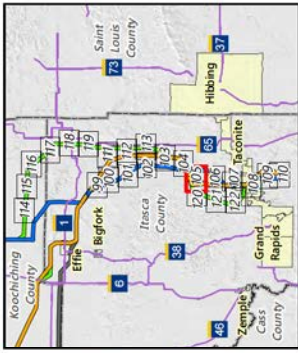
- Proposed Routes**
- Blue Route
  - Orange Route
- Alternatives**
- Route Variation
  - Alignment Modification
  - Anticipated Route Width
  - Anticipated Right-of-Way
- Residences**
- Commercial or Non-Residential Structure
  - Aggregate Source Location
  - County Well Index
  - NHD Watercourse
  - PMI Watercourse
  - NHD Waterbody
  - PMI Waterbody
  - Wild Rice Lake
  - Shallow Lake
  - Snowmobile Trail
  - State Trail
  - Civil Township
- MPCA Database**
- Public Land Survey Section
  - Hazardous Waste



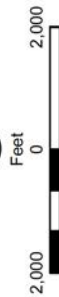
Appendix S - Map 104

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



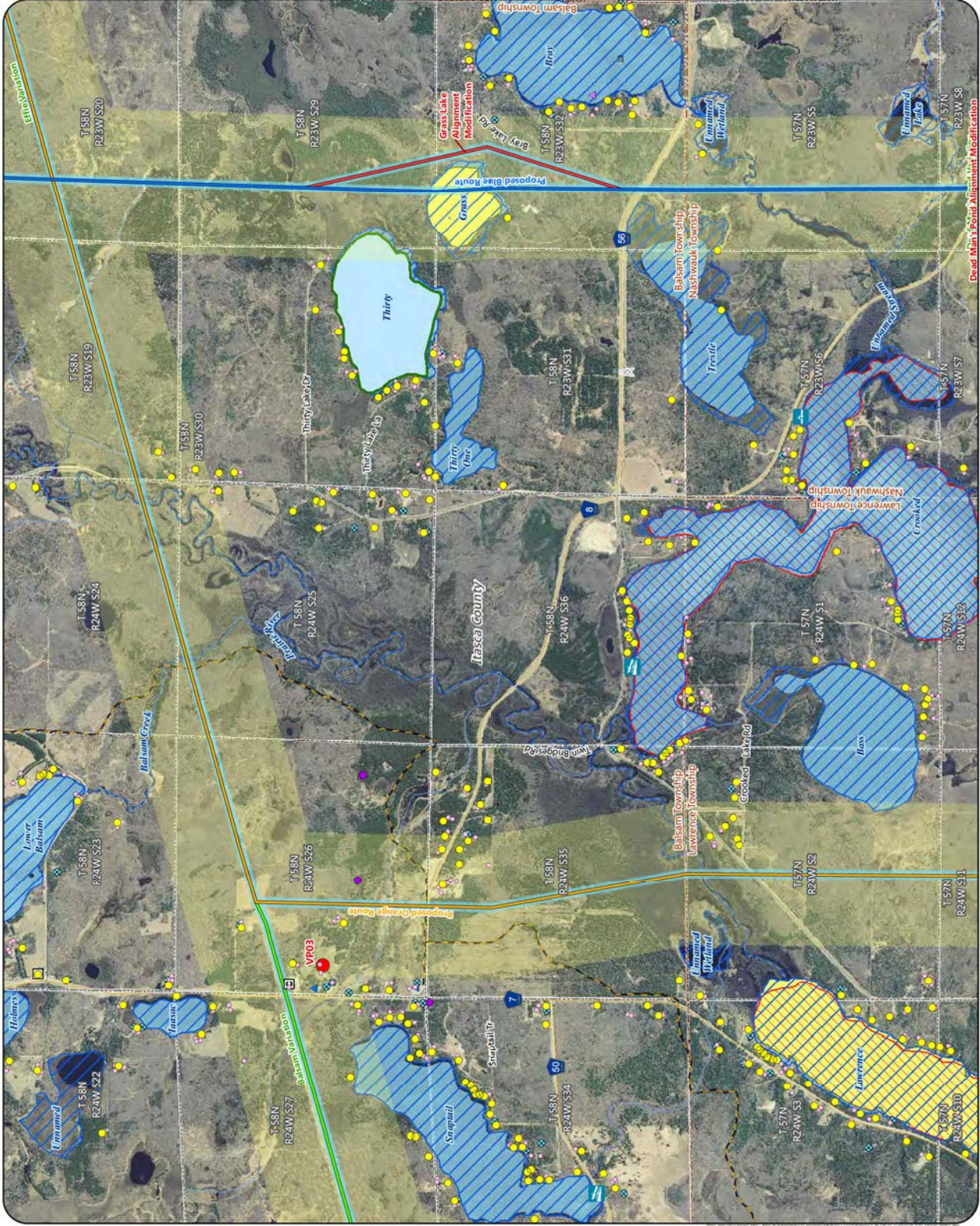


- Proposed Routes**
- Blue Route
  - Orange Route
- Alternatives**
- Route Variation
  - Alignment Modification
  - Anticipated Route Width
  - Anticipated Right-of-Way
- Visual Simulation Viewpoint**
- Residences
  - Commercial or Non-Residential Structure
  - Church
  - Aggregate Source Location
  - Communication Tower
  - County Well Index
  - Carry-in Water Access
  - Trailer Launch Water Access
  - NHD Watercourse
  - PMI Watercourse
  - NHD Waterbody
  - PMI Waterbody
  - MPCA Impaired Waterbody
  - Wild Rice Lake
  - Shallow Lake
  - Snowmobile Trail
  - Civil Township
  - Public Land Survey Section
- MPCA Database**
- Tanks and Leaks
  - Multiple Activities



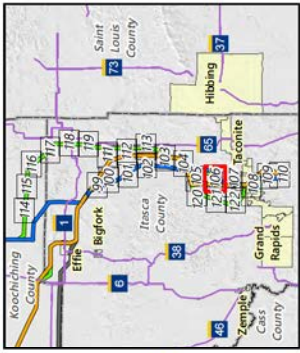
Appendix S - Map 105

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



Dead Man's Point Alignment Modification





**Proposed Routes**

- Blue Route
- Orange Route
- Blue/Orange Route

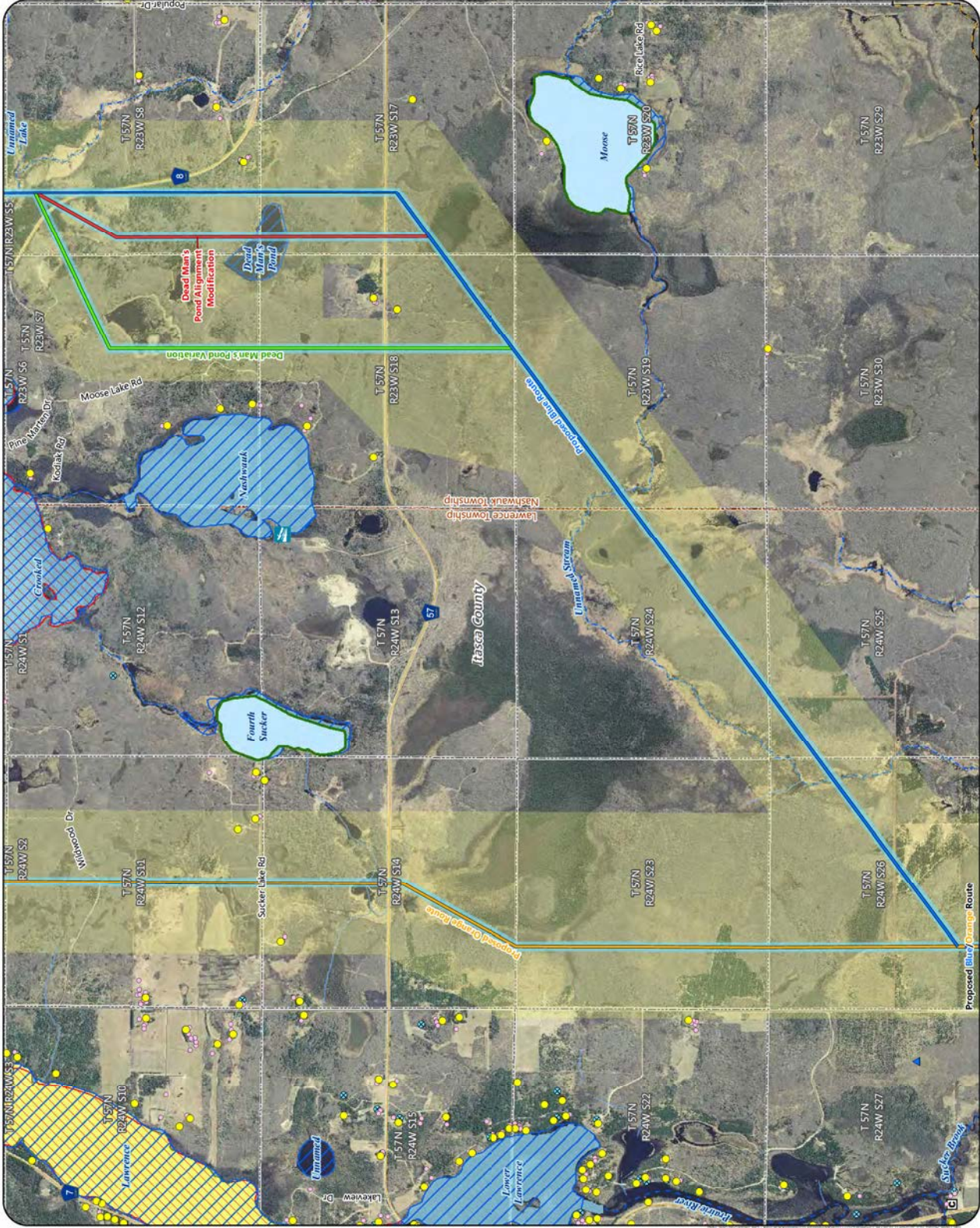
**Alternatives**

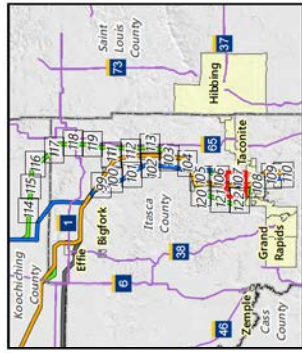
- Route Variation
- Alignment Modification
- Anticipated Route Width
- Anticipated Right-of-Way
- Residences
- Commercial or Non-Residential Structure
- ⊠ Church
- ⊠ County Well Index
- ⊠ Trailer Launch Water Access
- ⊠ NHD Watercourse
- ⊠ PMI Watercourse
- ⊠ NHD Waterbody
- ⊠ PMI Waterbody
- ⊠ MPCA Impaired Waterbody
- ⊠ Wild Rice Lake
- ⊠ Shallow Lake
- ⊠ Snowmobile Trail
- ⊠ Civil Township
- ⊠ Public Land Survey Section
- ⊠ MPCA Database
- ▲ Tanks and Leaks



Appendix S - Map 106

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



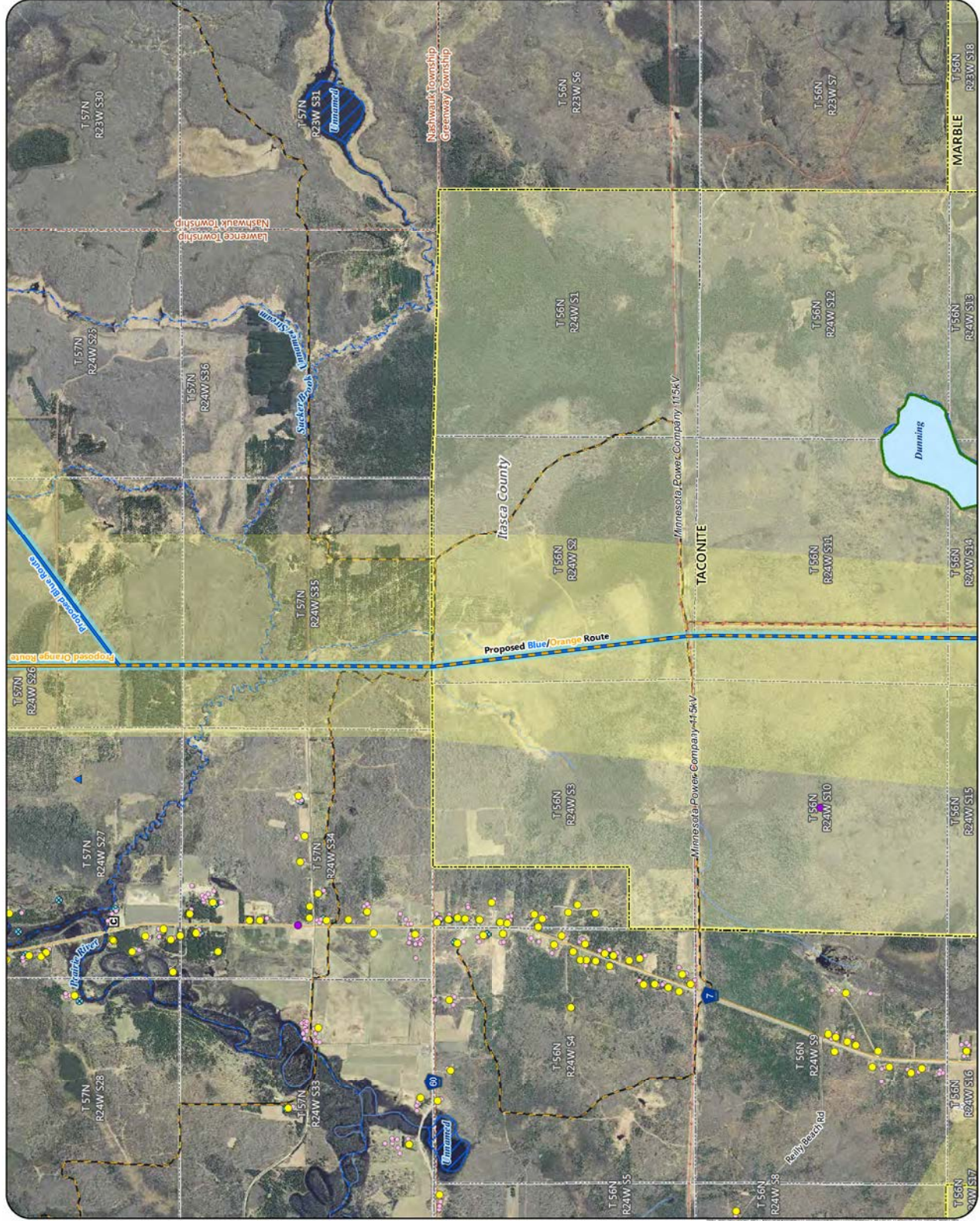


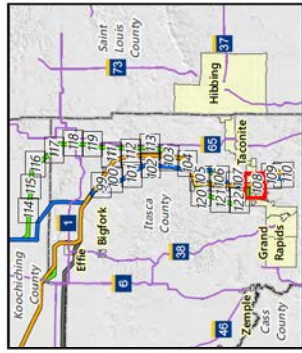
- Proposed Routes**
- Blue Route
  - Orange Route
  - Blue/Orange Route
  - Anticipated Route Width
  - Anticipated Right-of-Way
  - Residences
  - Commercial or Non-Residential Structure
  - Church
  - Communication Tower
  - County Well Index
  - NHD Watercourse
  - PMI Watercourse
  - NHD Waterbody
  - PMI Waterbody
  - Shallow Lake
  - Snowmobile Trail
  - Municipal Boundary
  - Civil Township
  - Public Land Survey Section
  - MPCA Database
  - Tanks and Leaks
  - Multiple Activities
  - Existing Transmission Lines
  - 69 or 115 kv



Appendix S - Map 107

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





**Proposed Routes**

- Blue Route
- Orange Route
- Blue/Orange Route

**Alternatives**

- Route Variation
- Anticipated Route Width
- Anticipated Right-of-Way

- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- Communication Tower
- County Well Index
- Mineral Exploration or Engineering Drillhole
- Trailer Launch Water Access

- NHD Watercourse
- PM Watercourse
- MPCA Impaired Stream
- NHD Waterbody
- PM Waterbody
- Shallow Lake
- Snowmobile Trail

- Municipal Boundary
- Civil Township
- Public Land Survey Section

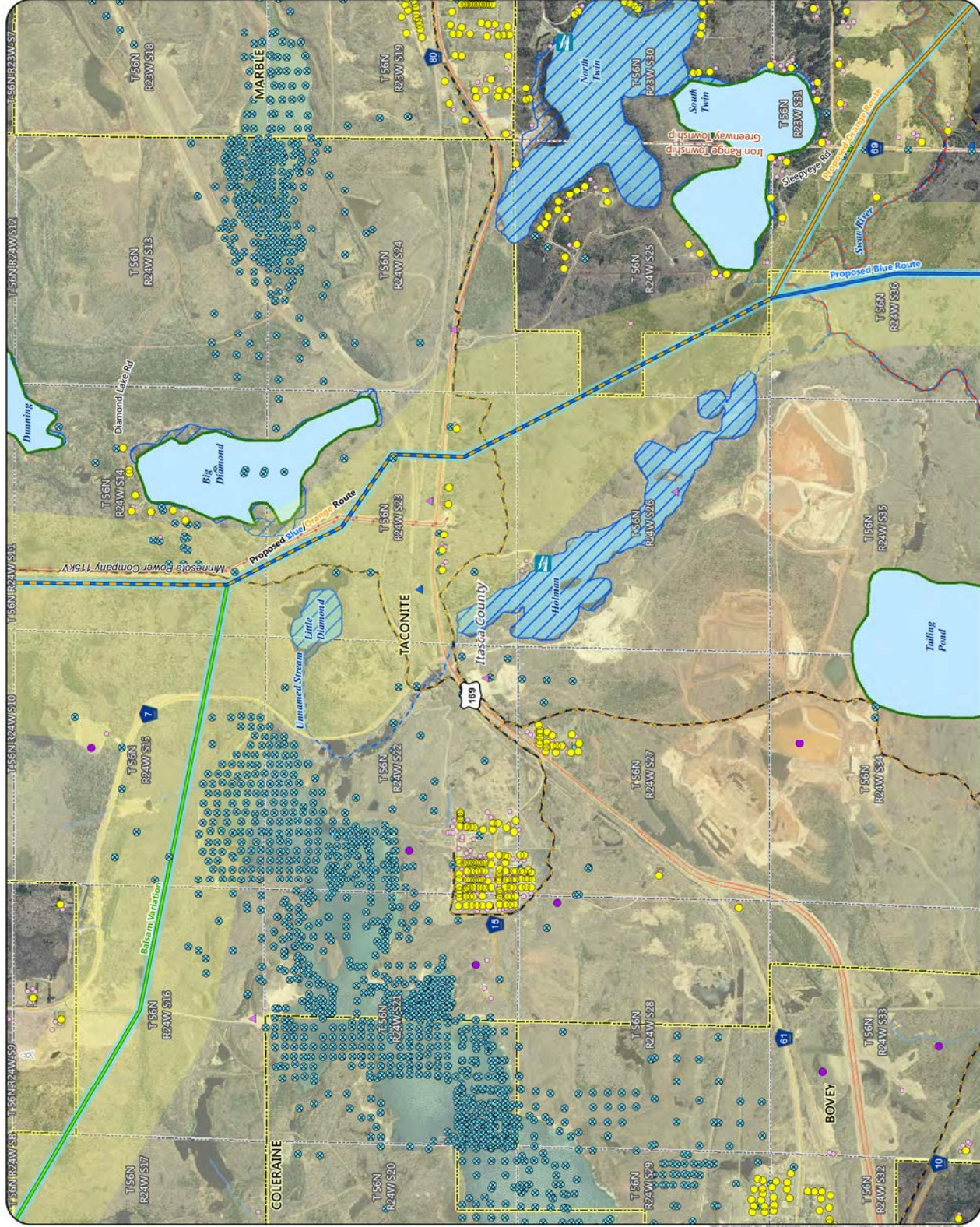
- MPCA Database
- Hazardous Waste
- Investigation and Cleanup
- Tanks and Leaks
- Multiple Activities

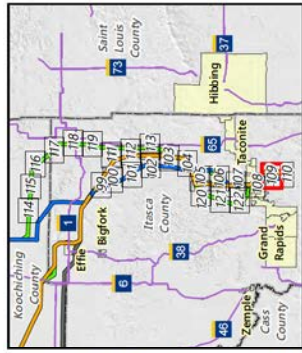
- Existing Transmission Line
- 69 or 115 KV



Appendix S - Map 108

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



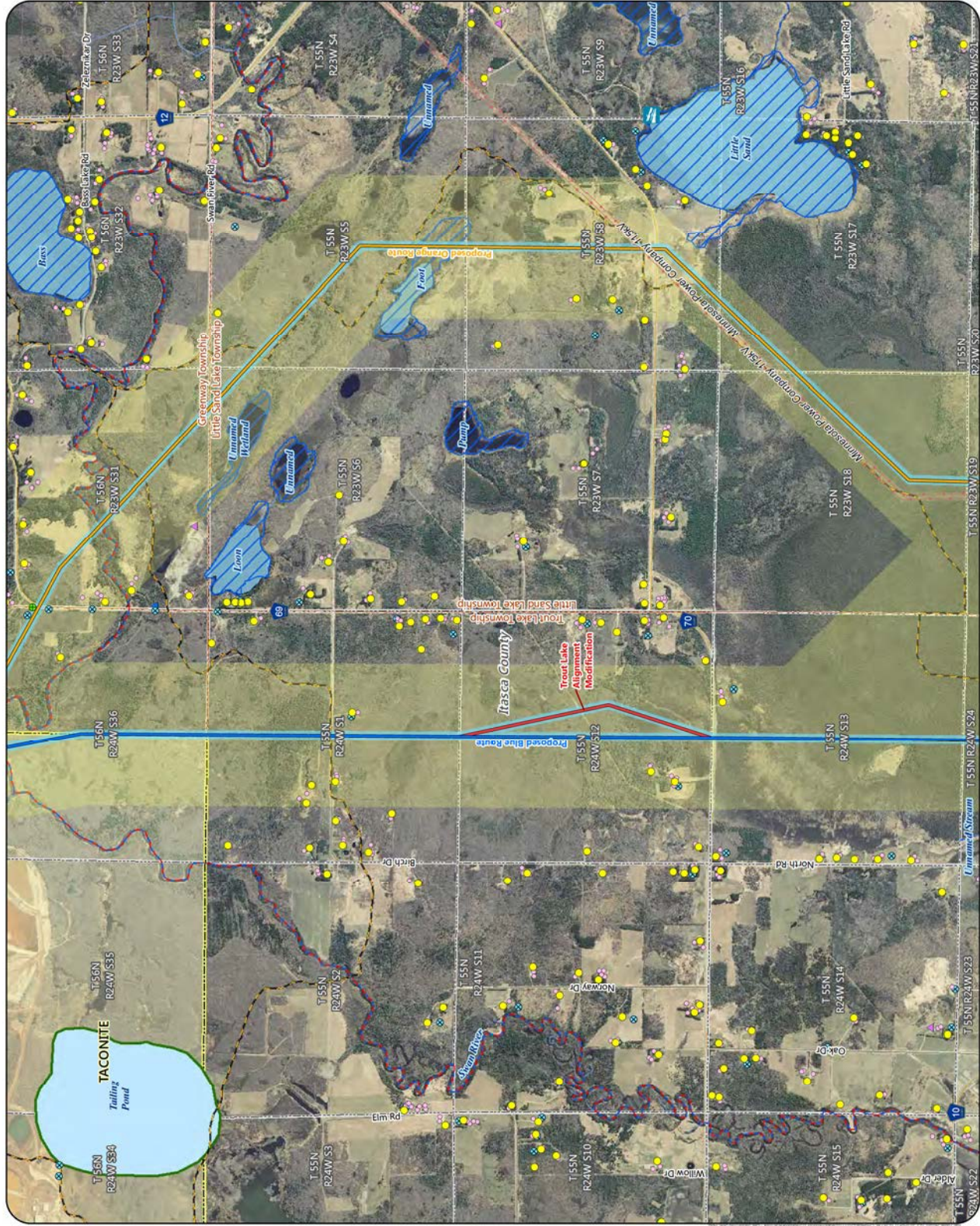


- Proposed Routes**
- Blue Route
  - Orange Route
- Alternatives**
- Alignment Modification
  - Anticipated Route Width
  - Anticipated Right-of-Way
- Residences**
- Commercial or Non-Residential Structure
  - Aggregate Source Location
  - County Well Index
  - Mineral Exploration or Engineering Drillhole
  - Trailer Launch Water Access
- NHD Watercourse**
- PMI Watercourse
  - MPCA Impaired Stream
  - NHD Waterbody
  - PMI Waterbody
  - Shallow Lake
  - Snowmobile Trail
- Municipal Boundary**
- Civil Township
  - Public Land Survey Section
- MPCA Database**
- Tanks and Leaks
  - Multiple Activities
  - Existing Transmission Lines
  - 69 or 115 kv



Appendix S - Map 109

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement





**Proposed Iron Range 500 kV Substation**

- Blue Route
- Orange Route

**Alternatives**

- Alignment Modification
- Anticipated Route Width
- Anticipated Right-of-Way

- Residences
- Church
- Cemetery
- Aggregate Source Location
- Communication Tower
- County Well Index
- Trailer Launch Water Access
- NHD Watercourse
- PMI Watercourse
- MPCA Impaired Stream
- Trout Stream
- NHD Waterbody
- PMI Waterbody
- Shallow Lake
- Aquatic Management Area
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

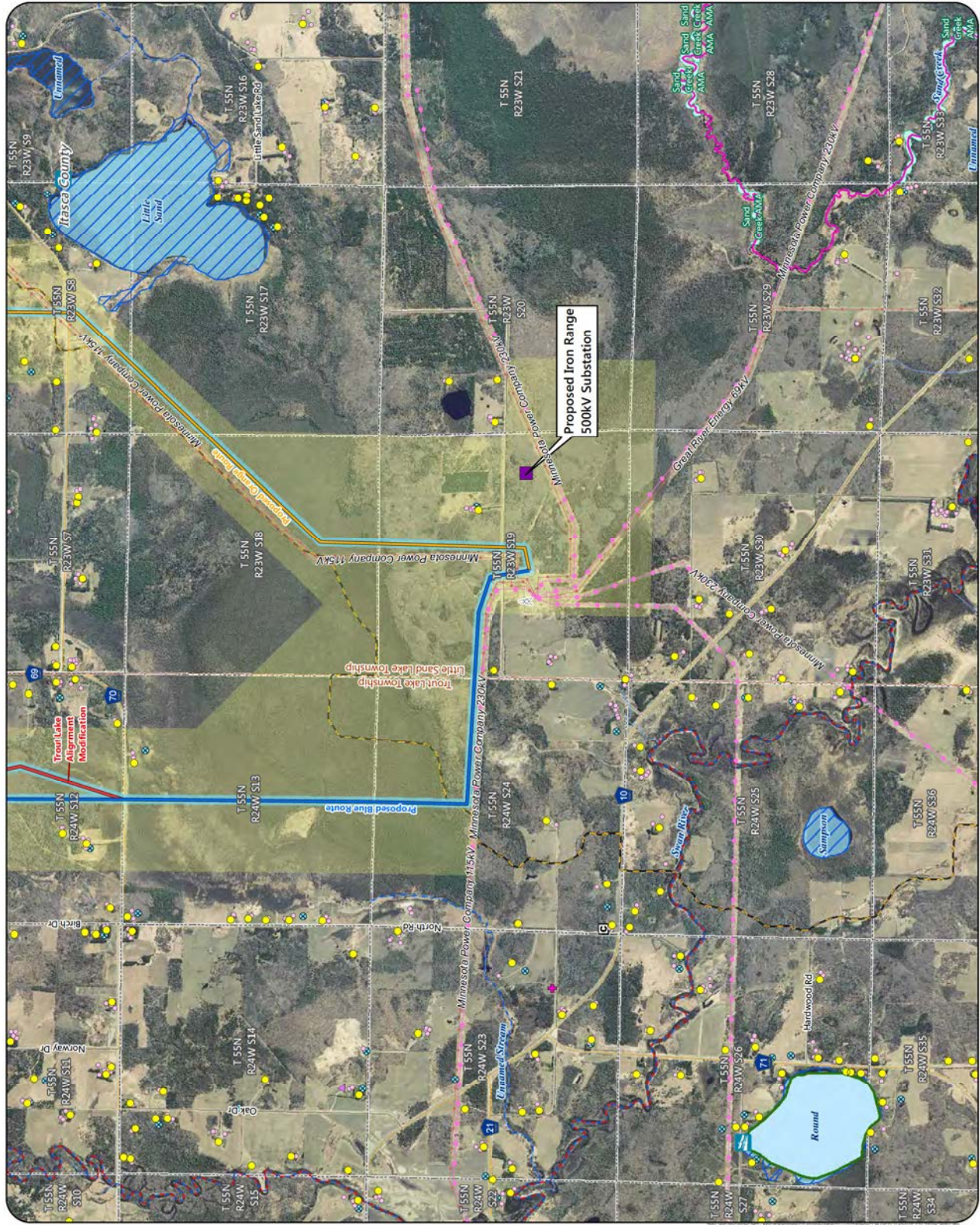
**Existing Transmission Lines**

- 69 or 115 kV
- 230 kV

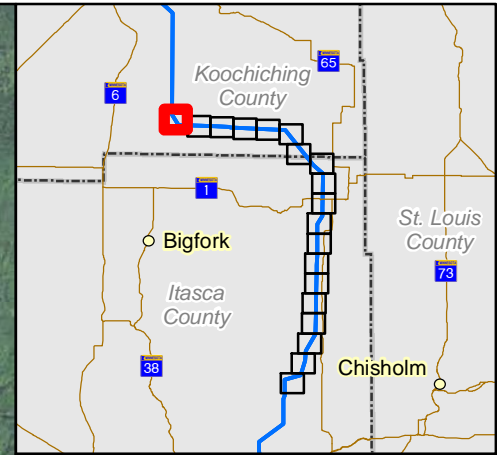


Appendix S - Map 11C

**MAP BOOK - EAST SECTION**  
Great Northern Transmission Line  
Final Environmental Impact Statement



# EXHIBIT B



**Proposed Routes**

- Blue/Effie Rev A Centerline
- Blue/Effie EIS Corridor

**Constraints**

- Residence

**Existing Transmission**

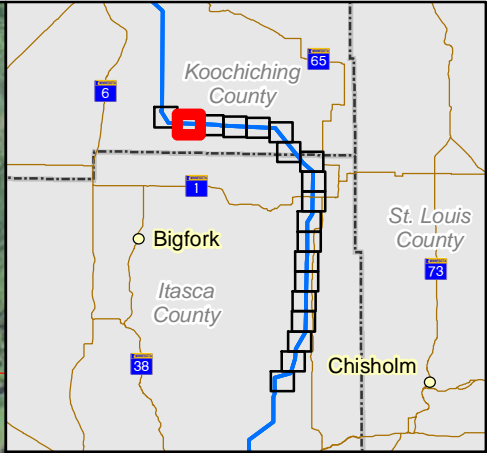
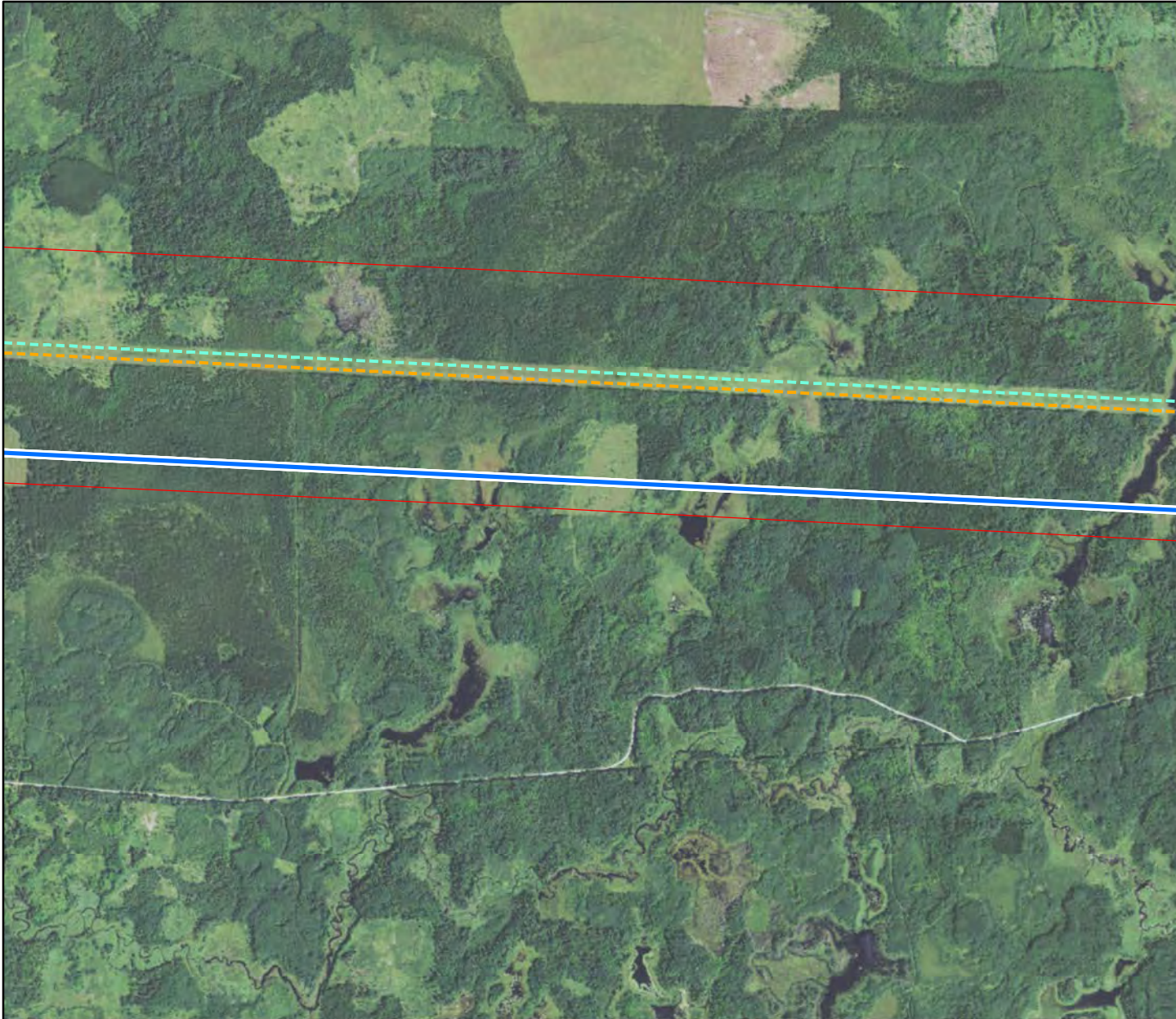
- Minnesota Power 230 kV
- Xcel Energy 500 kV



								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



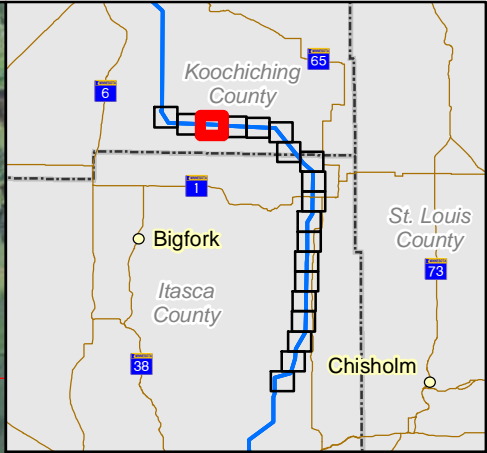
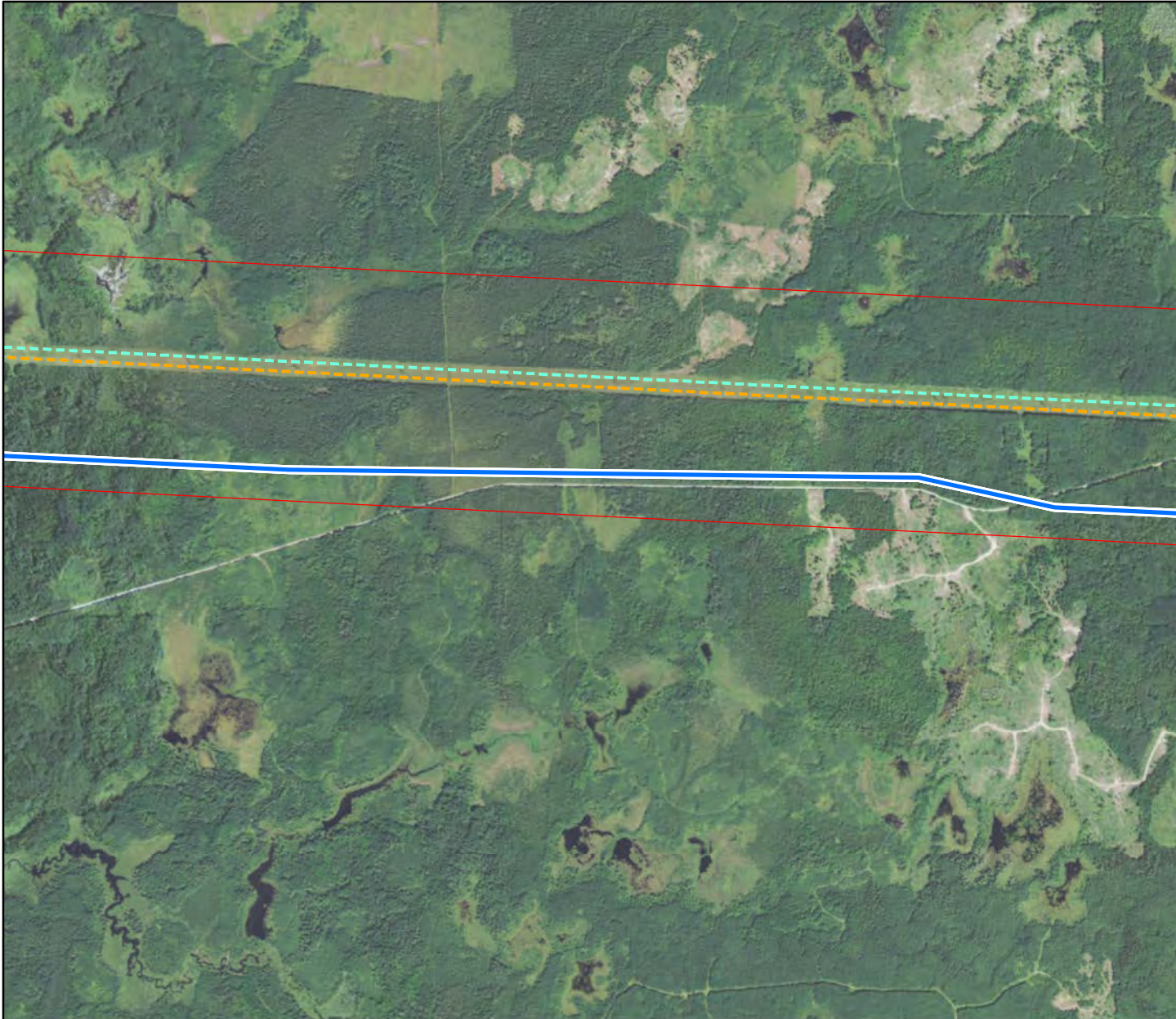
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- - - Minnesota Power 230 kV
  - - - Xcel Energy 500 kV



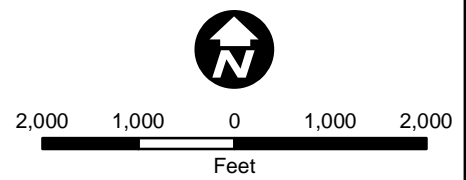
							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV

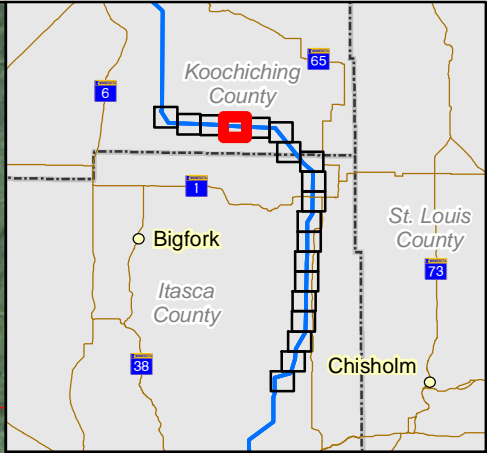


							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		

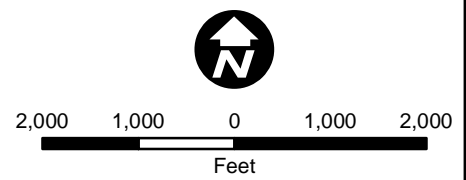


GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	





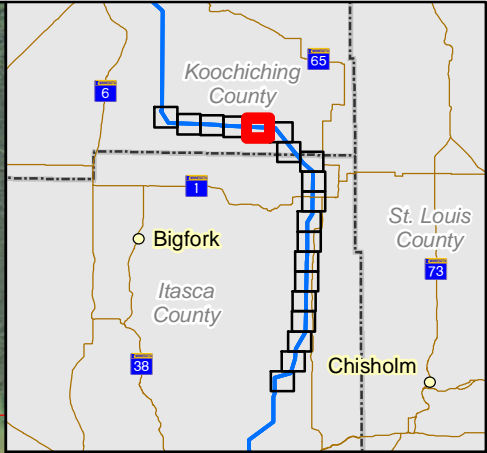
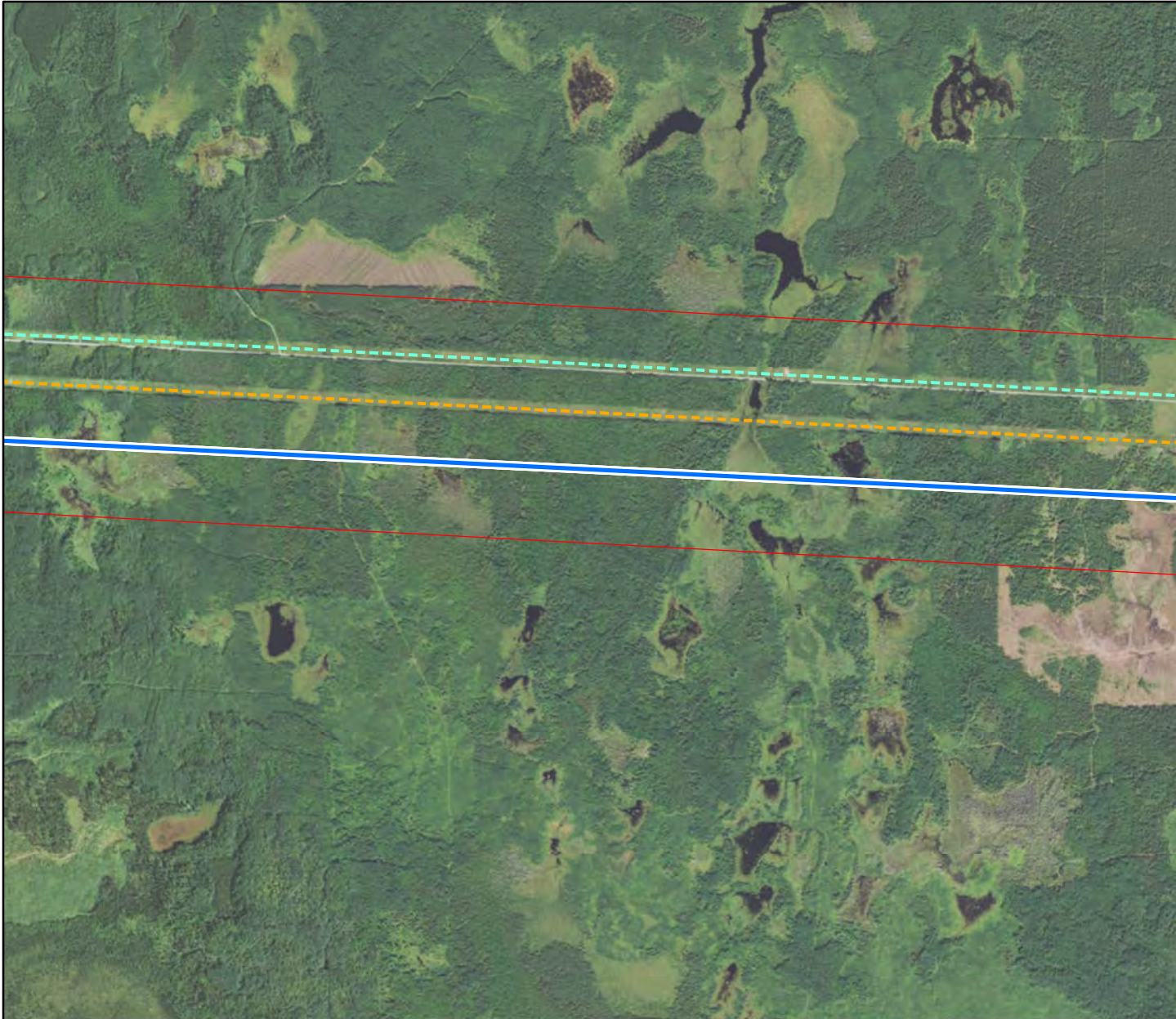
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- - - Minnesota Power 230 kV
  - - - Xcel Energy 500 kV



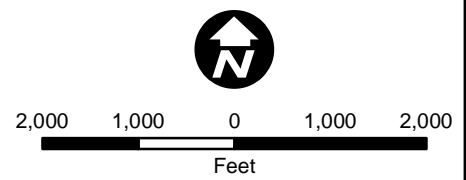
								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



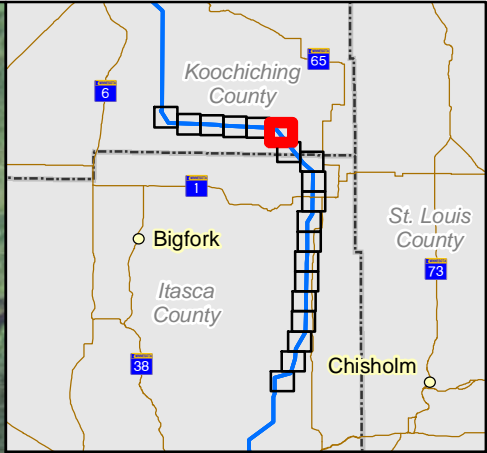
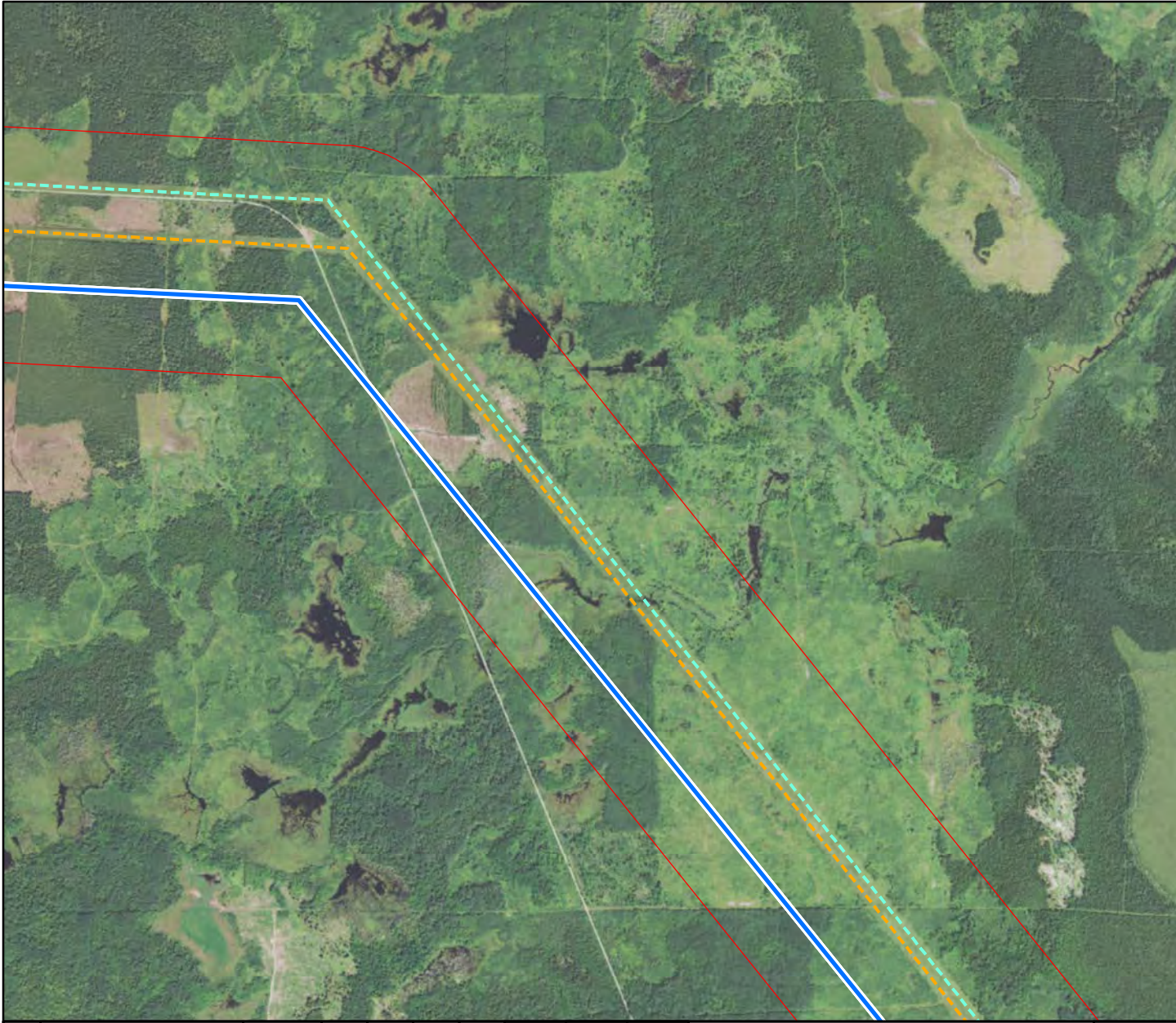
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



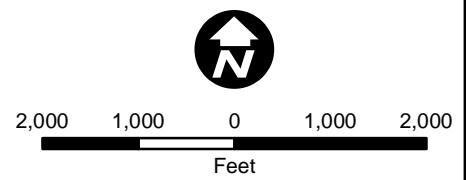
							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



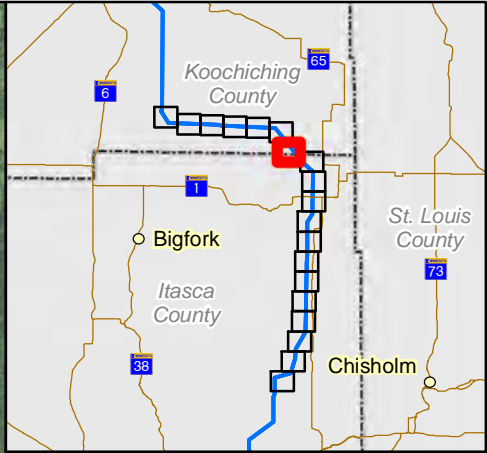
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



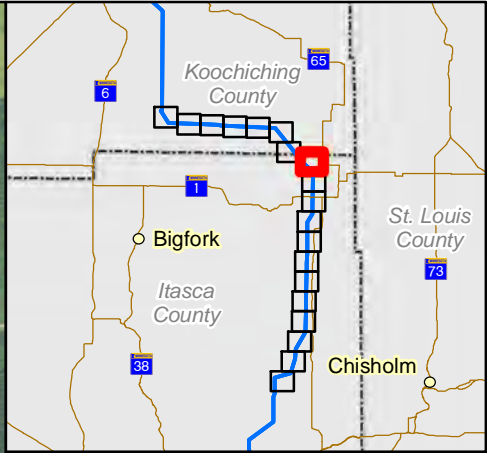
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- - - Minnesota Power 230 kV
  - - - Xcel Energy 500 kV



							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



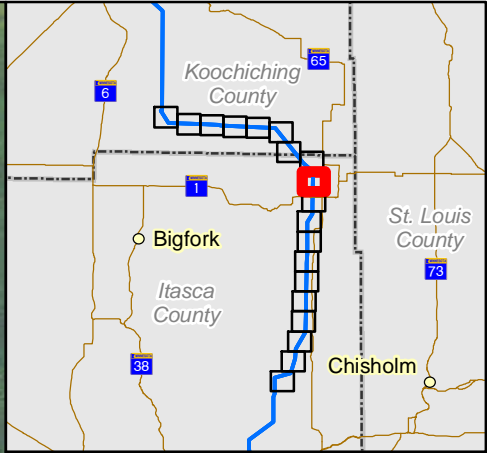
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- - - Minnesota Power 230 kV
  - - - Xcel Energy 500 kV



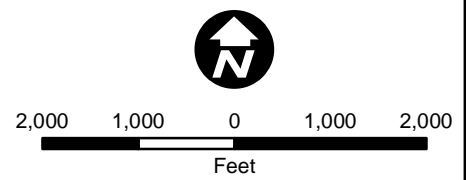
								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



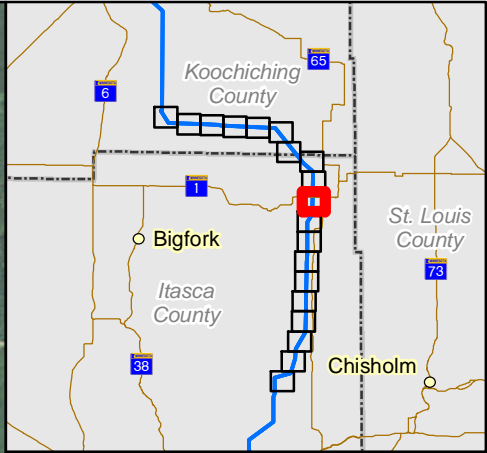
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- - - Minnesota Power 230 kV
  - - - Xcel Energy 500 kV



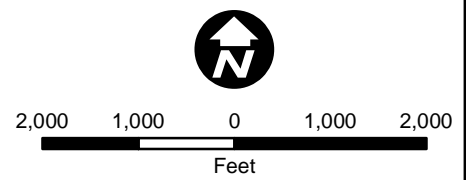
								DSGN	RR	01/15/16
								DRN	ZM	01/15/16
								CKD		
								SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



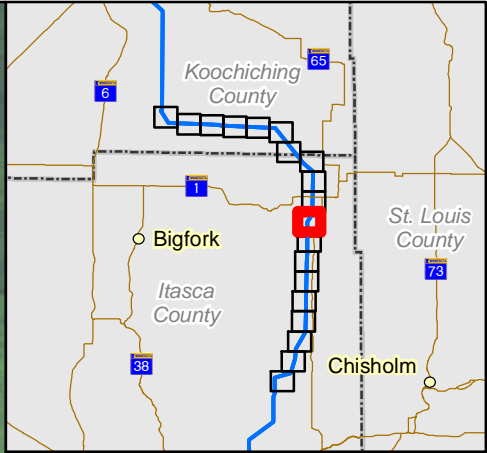
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



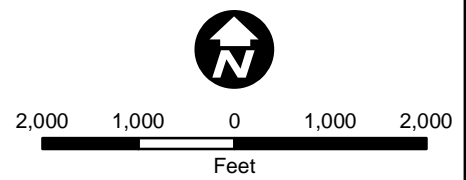
								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- - - Minnesota Power 230 kV
  - - - Xcel Energy 500 kV

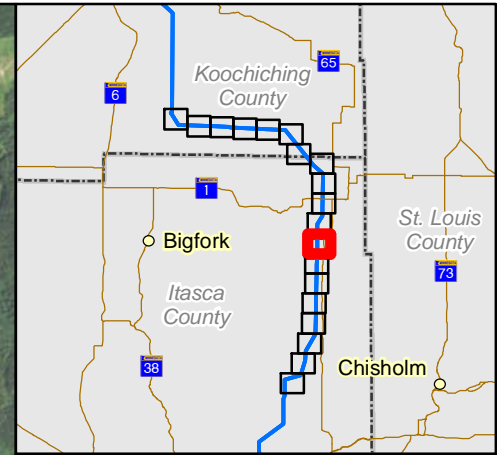


							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	





**Proposed Routes**

- Blue/Effie Rev A Centerline
- Blue/Effie EIS Corridor

**Constraints**

- Residence

**Existing Transmission**

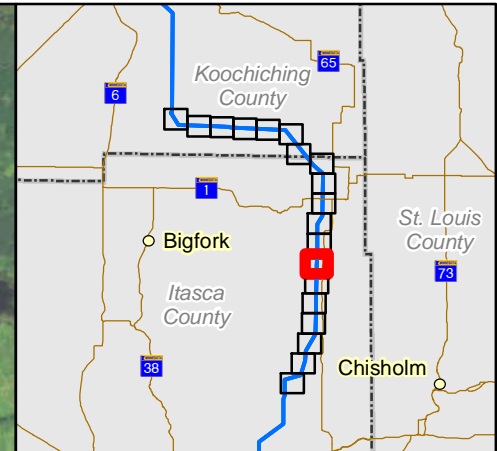
- Minnesota Power 230 kV
- Xcel Energy 500 kV



							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



**Proposed Routes**

- Blue/Effie Rev A Centerline
- Blue/Effie EIS Corridor

**Constraints**

- Residence

**Existing Transmission**

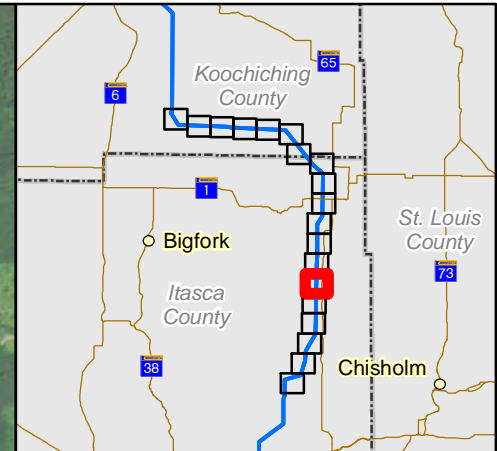
- Minnesota Power 230 kV
- Xcel Energy 500 kV



							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



**Proposed Routes**

- Blue/Effie Rev A Centerline
- Blue/Effie EIS Corridor

**Constraints**

- Residence

**Existing Transmission**

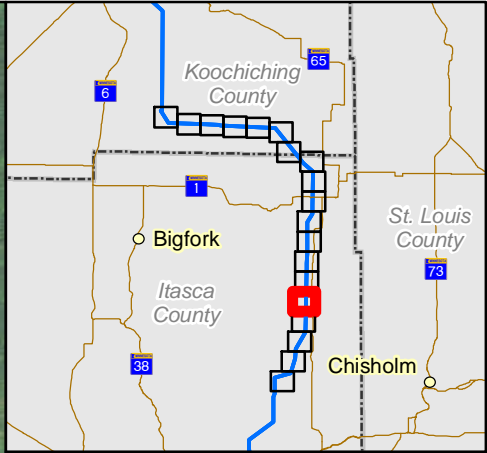
- Minnesota Power 230 kV
- Xcel Energy 500 kV



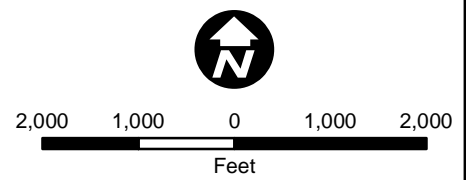
							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



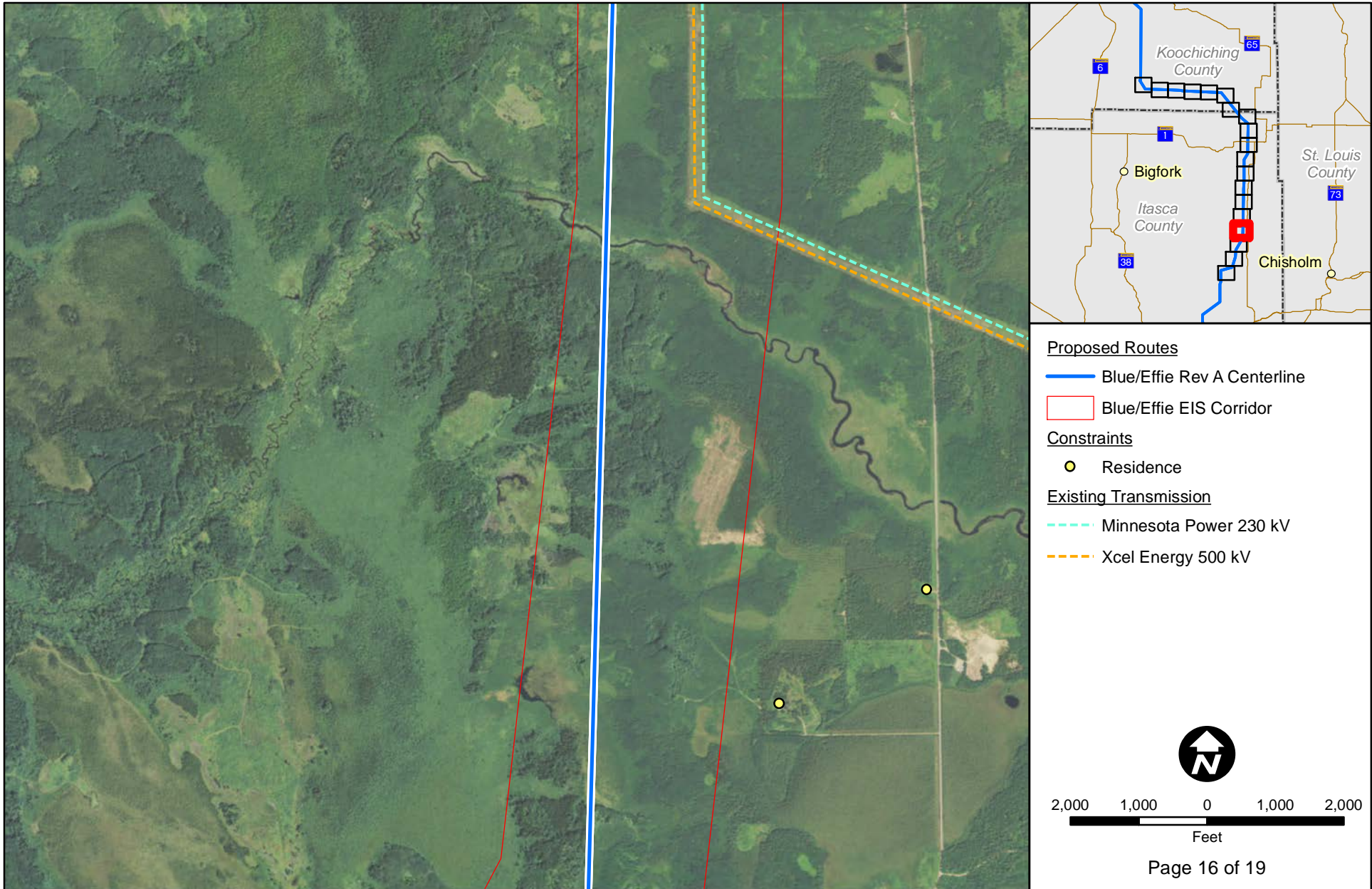
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



**Proposed Routes**

- Blue/Effie Rev A Centerline
- Blue/Effie EIS Corridor

**Constraints**

- Residence

**Existing Transmission**

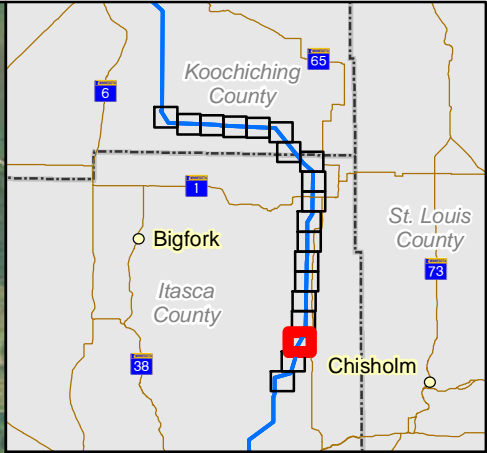
- Minnesota Power 230 kV
- Xcel Energy 500 kV

2,000 1,000 0 1,000 2,000  
Feet

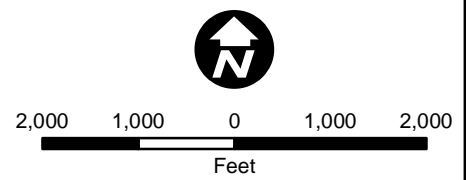
								DSGN	RR	01/15/16
								DRN	ZM	01/15/16
								CKD		
								SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



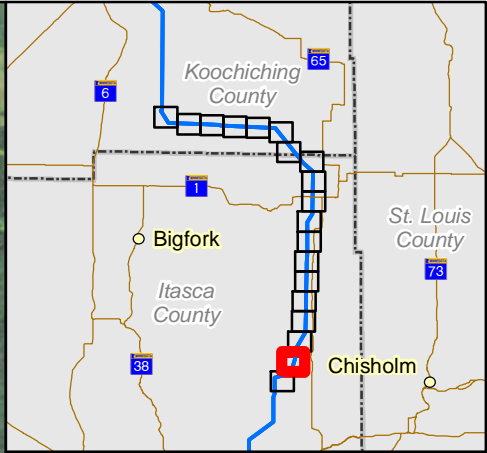
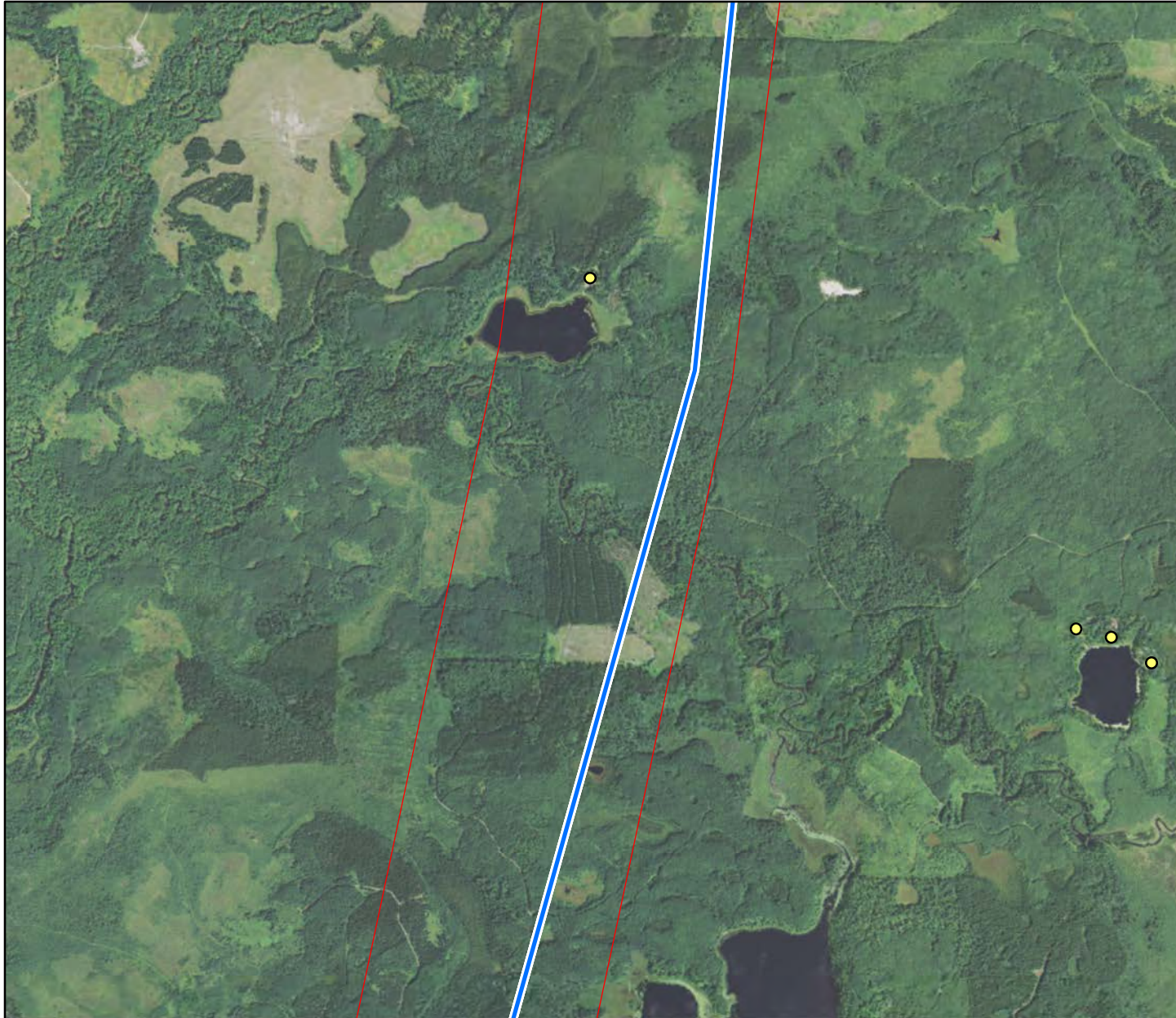
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



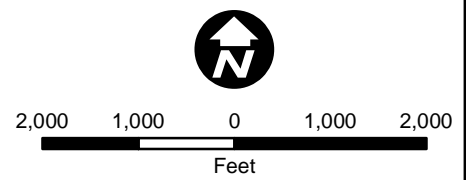
								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



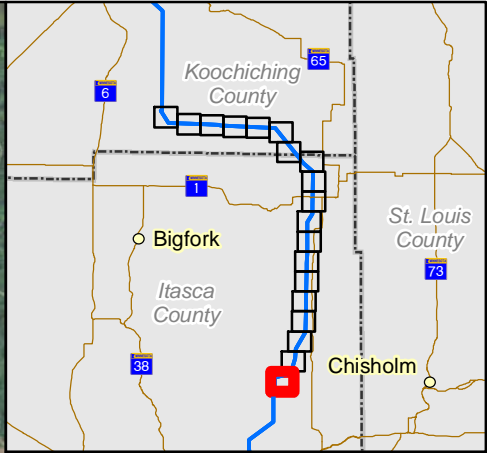
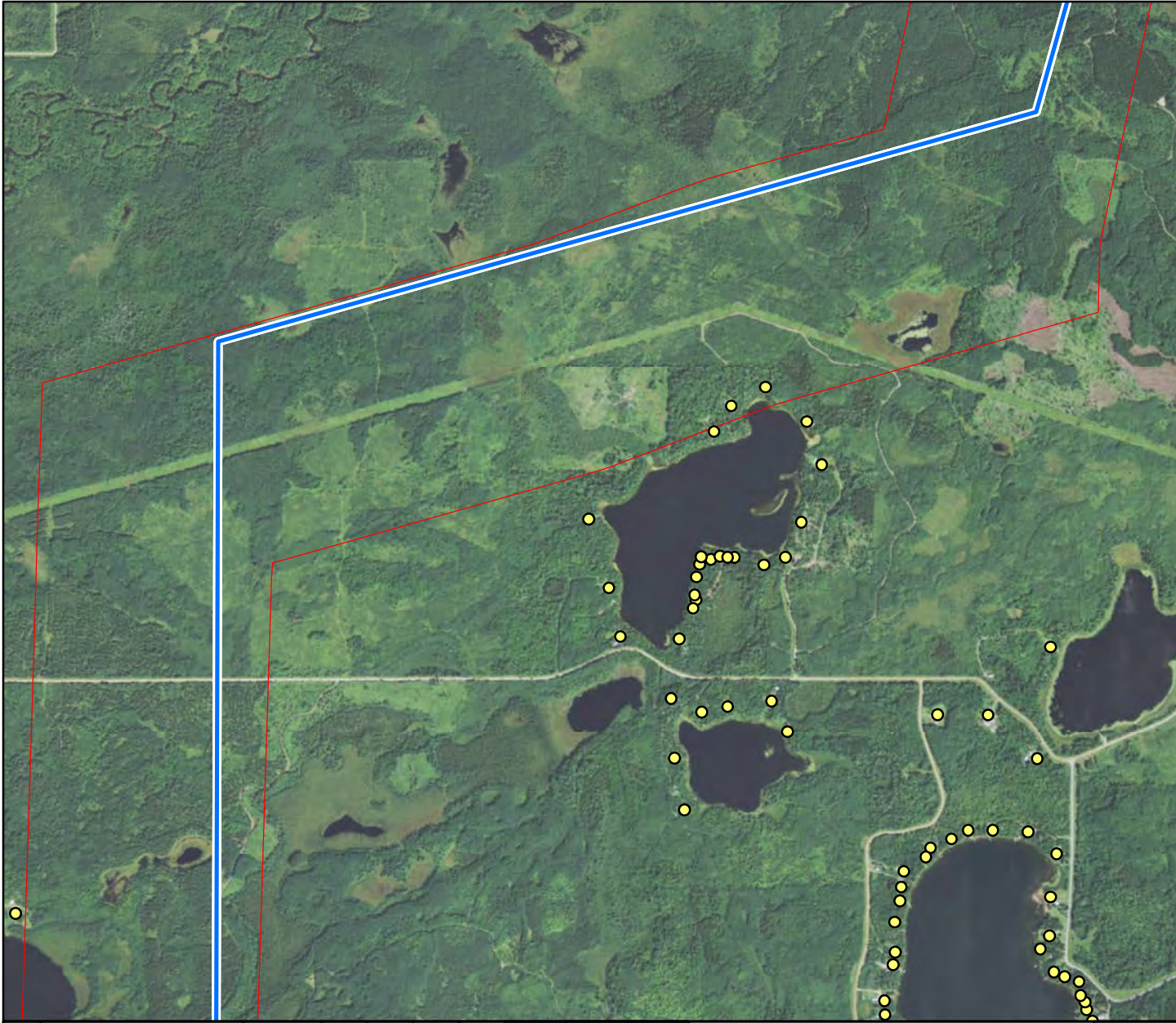
- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



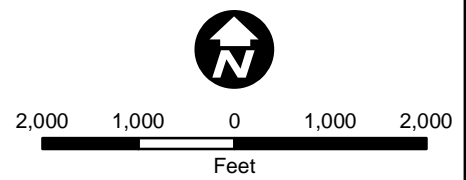
							DSGN	RR	01/15/16
							DRN	ZM	01/15/16
							CKD		
							SCALE: 1 IN = 2000 FT		
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD	FOR 8.5 x 11 ONLY		



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



- Proposed Routes**
- Blue/Effie Rev A Centerline
  - Blue/Effie EIS Corridor
- Constraints**
- Residence
- Existing Transmission**
- Minnesota Power 230 kV
  - Xcel Energy 500 kV



								DSGN	RR	01/15/16	
								DRN	ZM	01/15/16	
								CKD			
								SCALE: 1 IN = 2000 FT			
REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD		FOR 8.5 x 11 ONLY			



GREAT NORTHERN TRANSMISSION		JOB NUMBER	REV
MINNESOTA POWER		137979	
BLUE -EFFIE REV A ROUTE		DRAWING NUMBER	
		<b>EXHIBIT B</b>	



**Route Permit for the Great Northern Transmission Line  
Minnesota Public Utilities Commission E-015/TL-14-21**

**Attachment A**

County	Township (N)	Range (W)	Section(s)
Roseau	161	35	7-18
	161	36	13-21
	161	37	3, 4, 9-11, 13-15, 23, 24
	162	37	4, 5, 8, 9, 16, 17, 20, 21, 28, 29, 32, 33
	163	37	19, 20, 29, 30, 32, 33
	163	38	16-27
	163	39	7-10, 13-17, 23, 24
	163	40	1-12
	163	41	1, 2, 11, 12
	164	41	26, 27, 35
Lake of the Woods	160	30	24-30
	160	31	25-30
	160	32	25-33
	160	33	18-20, 25-30, 32-36
	160	34	2, 3, 11-13
	161	34	7, 17, 18, 20, 21, 27-29, 33-35
Koochiching	63	23	15-18, 21, 22, 26, 27, 34-36
	63	24	7-18
	63	25	6-18
	63	26	1,12
	64	25	6, 7, 18, 19, 30, 31
	64	26	1, 12, 13, 24, 25, 36
	65	25	5-8, 17-20, 29-32
	66	25	30-32
	66	26	5-9, 15-17, 21-23, 25-27, 36
	66	27	1
	67	26	31
	67	27	23, 25, 26, 35, 36
	155	25	1, 12
	156	25	6-9, 15-17, 21-23, 25-27, 35,36
	157	26	1, 2, 6-8, 16-18, 20-23, 26-28, 34-36
	157	27	1, 2, 12
	158	27	3, 10, 14, 15, 22, 23, 26, 27, 34, 35
	159	27	5, 6, 8-10, 15, 16, 21, 22, 27, 28, 33, 34
160	28	1-4, 19, 29-33	
160	29	19-30	
Itasca	55	23	18-20, 29, 30
	56	24	1-3, 10-15, 22-26, 36
	57	23	5-8, 17-20
	57	24	23-27, 34, 35
	58	23	3, 10, 15-17, 19-22, 29-32
	59	23	1, 11-14, 23-27, 34, 35
	60	23	1, 12, 13, 24, 25, 36
	61	22	5-8, 17-19, 30, 31
	61	23	13, 24, 25, 36

**Route Permit for the Great Northern Transmission Line  
Minnesota Public Utilities Commission E-015/TL-14-21**

**Attachment A**

	62	22	6-8, 17-20, 29-32
	62	23	1, 2, 12

**MINNESOTA PUBLIC UTILITIES COMMISSION  
COMPLAINT HANDLING PROCEDURES FOR  
PERMITTED ENERGY FACILITIES**

**A. Purpose**

To establish a uniform and timely method of reporting complaints received by the permittee concerning permit conditions for site preparation, construction, cleanup and restoration, maintenance, operation, and resolution of such complaints.

**B. Scope**

This document describes complaint reporting procedures and frequency.

**C. Applicability**

The procedures shall be used for all complaints received by the permittee and all complaints received by the Minnesota Public Utilities Commission (Commission) under Minn. R. 7829.1500 or Minn. R. 7829.1700 relevant to this permit.

**D. Definitions**

**Complaint:** A verbal or written statement presented to the permittees by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other route and associated facilities permit conditions. Complaints do not include requests, inquiries, questions or general comments.

**Substantial Complaint:** A written complaint alleging a violation of a specific permit condition that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

**Unresolved Complaint:** A complaint which, despite the good faith efforts of the permittee and a person, remains to both or one of the parties unresolved or unsatisfactorily resolved.

**Person:** An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

**E. Complaint Documentation and Processing**

1. The permittee shall designate an individual to summarize complaints for the Commission. This person's name, phone number and email address shall accompany all complaint submittals.
2. A person presenting the complaint should to the extent possible, include the following information in their communications:
  - a. name, address, phone number, and email address;
  - b. date of complaint;
  - c. tract or parcel number; and
  - d. whether the complaint relates to a permit matter or a compliance issue.
3. The permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:
  - a. docket number and project name;
  - b. name of complainant, address, phone number and email address;
  - c. precise description of property or parcel number;
  - d. name of permittee representative receiving complaint and date of receipt;
  - e. nature of complaint and the applicable permit condition(s);
  - f. activities undertaken to resolve the complaint; and
  - g. final disposition of the complaint.

**F. Reporting Requirements**

The permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit. The permittee shall report all complaints to the Commission according to the following schedule:

**Immediate Reports:** All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to the Commission's Consumer Affairs Office at 1-800-657-3782 (voice messages are acceptable) or [consumer.puc@state.mn.us](mailto:consumer.puc@state.mn.us). For e-mail reporting, the email subject line should read "PUC EFP Complaint" and include the appropriate project docket number.

**Monthly Reports:** During project construction and restoration, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be filed by the 15th of each month to Daniel P. Wolf, Executive Secretary, Public Utilities Commission, using the eDockets system. The eDockets system is located at:  
<https://www.edockets.state.mn.us/EFiling/home.jsp>

If no complaints were received during the preceding month, the permittee shall file a summary indicating that no complaints were received.

**G. Complaints Received by the Commission**

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the permittee.

**H. Commission Process for Unresolved Complaints**

Commission staff shall perform an initial evaluation of unresolved complaints submitted to the Commission. Complaints raising substantial permit issues shall be processed and resolved by the Commission. Staff shall notify the permittee and appropriate persons if it determines that the complaint is a substantial complaint. With respect to such complaints, each party shall submit a written summary of its position to the Commission no later than ten days after receipt of the staff notification. The complaint will be presented to the Commission for a decision as soon as practicable.

**I. Permittee Contacts for Complaints and Complaint Reporting**

Complaints may be filed by mail or email to:

Jim Atkinson  
Environmental Siting and Permitting Manager  
Minnesota Power  
30 West Superior Street  
Duluth, Minnesota 55802  
(218) 355-3561  
[jbatkinson@mnpower.com](mailto:jbatkinson@mnpower.com)

This information shall be maintained current by informing the Commission of any changes as they become effective.

**MINNESOTA PUBLIC UTILITIES COMMISSION  
COMPLIANCE FILING PROCEDURE FOR  
PERMITTED ENERGY FACILITIES**

**A. Purpose**

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

**B. Scope and Applicability**

This procedure encompasses all compliance filings required by permit.

**C. Definitions**

**Compliance Filing:** A filing of information to the Commission, where the information is required by a Commission site or route permit.

**D. Responsibilities**

1. The permittee shall file all compliance filings with Daniel P. Wolf, Executive Secretary, Public Utilities Commission, through the eDockets system. The eDockets system is located at: <https://www.edockets.state.mn.us/EFiling/home.jsp>

General instructions are provided on the eDockets website. Permittees must register on the website to file documents.

2. All filings must have a cover sheet that includes:
  - a. Date
  - b. Name of submitter/permittee
  - c. Type of permit (site or route)
  - d. Project location
  - e. Project docket number
  - f. Permit section under which the filing is made
  - g. Short description of the filing

3. Filings that are graphic intensive (e.g., maps, engineered drawings) must, in addition to being electronically filed, be submitted as paper copies and on CD. Paper copies and CDs should be sent to: 1) Daniel P. Wolf, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN 55101-2147, and 2) Department of Commerce, Energy Environmental Review and Analysis, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

The Commission may request a paper copy of any electronically filed document.

**PERMIT COMPLIANCE FILINGS<sup>1</sup>**

PERMITTEE: Minnesota Power  
 PERMIT TYPE: High-Voltage Transmission Line Route Permit  
 PROJECT LOCATION: Roseau, Lake of the Woods, Koochiching & Itasca Counties  
 PUC DOCKET NUMBER: E015/TL-14-21

Filing Number	Permit Section	Description of Compliance Filing	Due Date
1	9.1	Plan and profile of right-of-way (ROW)	30 days before ROW preparation for construction
2	5.2	Contact information for field representative	14 days prior to construction
3	5.2.11	Restoration complete	60 days after completion of all restoration activities
4	9.2	Periodic status reports	Monthly, until after project is in service
5	8.0	Complaint procedures	Prior to start of construction
6	Complaint Handling Procedures	Complaint reports	By the 15th of each month
7	5.1	Notification to landowners	First contact with landowners after permit issuance
8	9.3	Notice of completion and date of placement in service	Three days prior to energizing
9	9.4	Provide as-built plans and specifications	Within 90 days after completion of construction

<sup>1</sup> This compilation of permit compliance filings is provided for the convenience of the permittee and the Commission. It is not a substitute for the permit; the language of the permit controls.



Filing Number	Permit Section	Description of Compliance Filing	Due Date
10	9.5	Provide GPS data	Within 90 days after completion of construction
11	5.2.13	Notification of previously unrecorded archaeological sites	Upon discovery
12	5.0.1	Construction Environmental Control Plan (CECP)	30 days prior to Plan and Profile submittal
13	5.0.2	Avian Mitigation Plan	30 days prior to Plan and Profile submittal
14	5.0.3	Agricultural Impact Mitigation Plan (AIMP)	30 days prior to Plan and Profile submittal
15	5.0.4	Vegetation Management Plan (VMP)	30 days prior to Plan and Profile submittal
16	5.0.5	Consultation with the United States Fish and Wildlife Service (USFWS)	Monthly, until after project is in service
17	5.0.6	Mineral Resource Plan	30 days prior to Plan and Profile submittal
18	n/a	Confirmation of Project analysis and compliance with applicable NERC TPL Criteria by RTO	30 days prior to construction