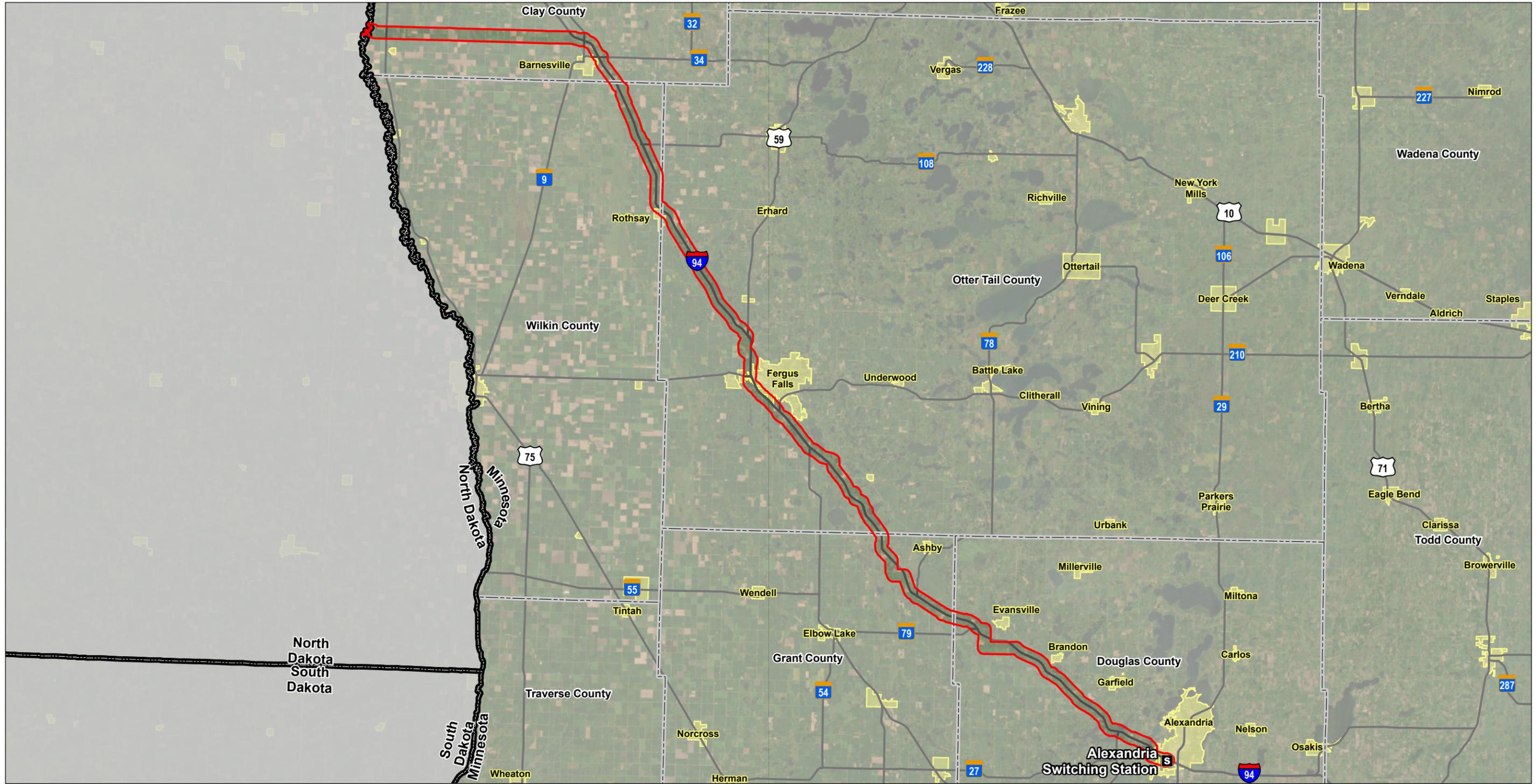


# Appendix J

## Figures

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- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary
  - Major Highway



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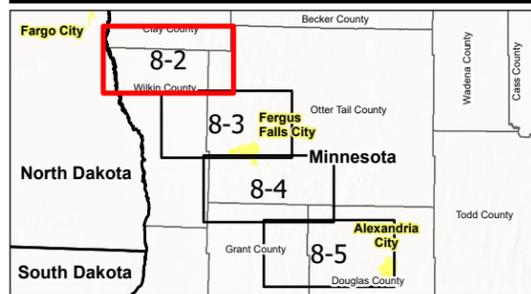
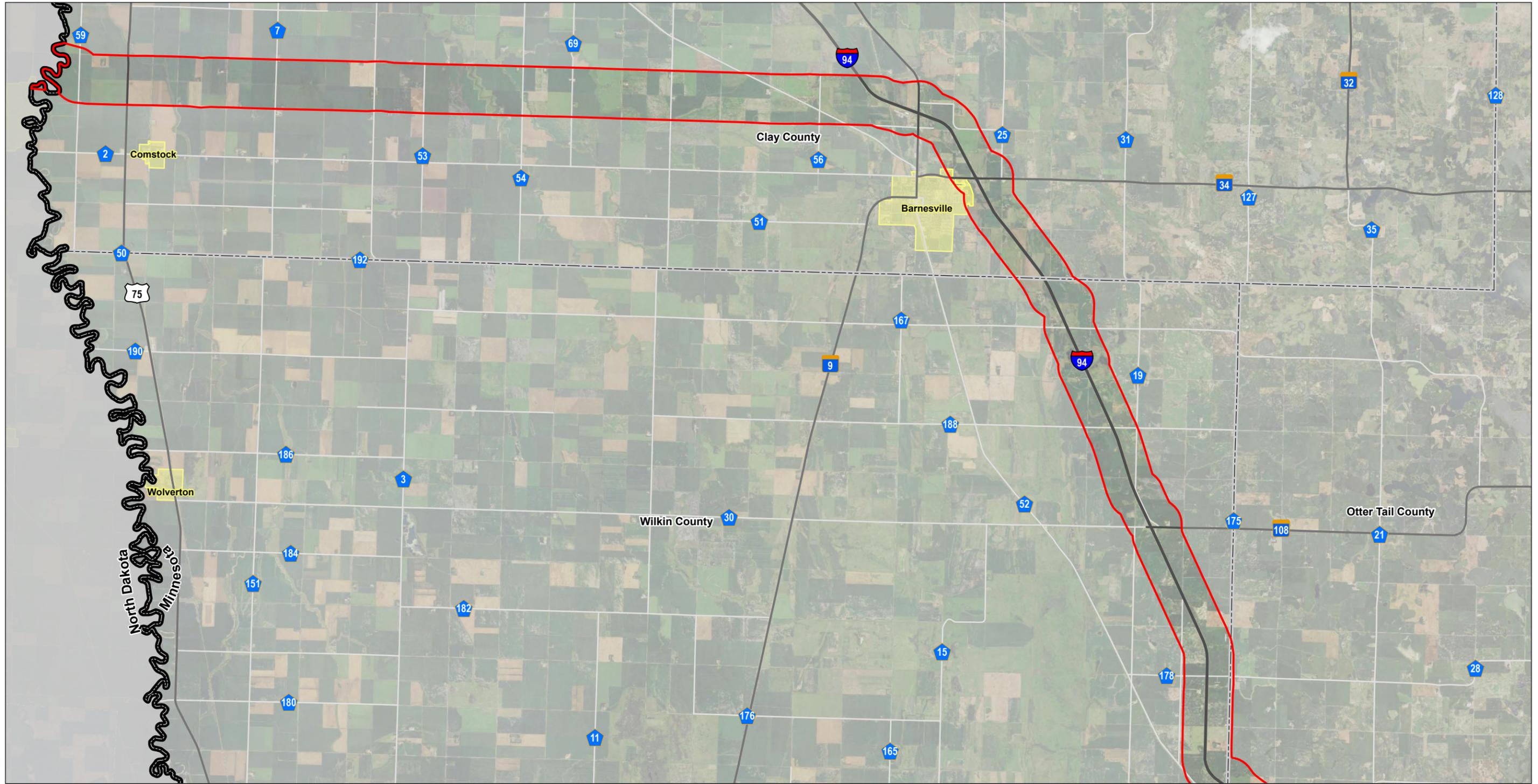
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 Clay, Wilkin, Otter Tail, Grant  
 and Douglas Counties, Minnesota

*Prepared by KJM on 2025-11-11*  
 TR by ES on 2025-10-20  
 IR by AR on 2025-10-20

**Figure 8-1**  
**Project Overview Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
 Transmission Project Certificate of Need  
 Application

*Notes*  
 1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
 2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
 3. Background: ESRI World Imagery

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- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary



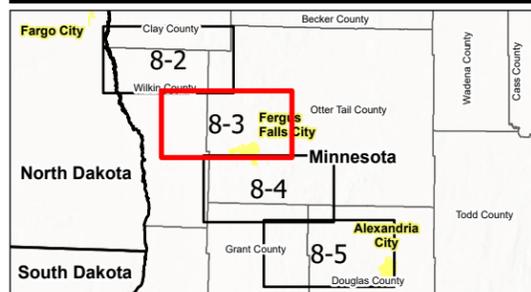
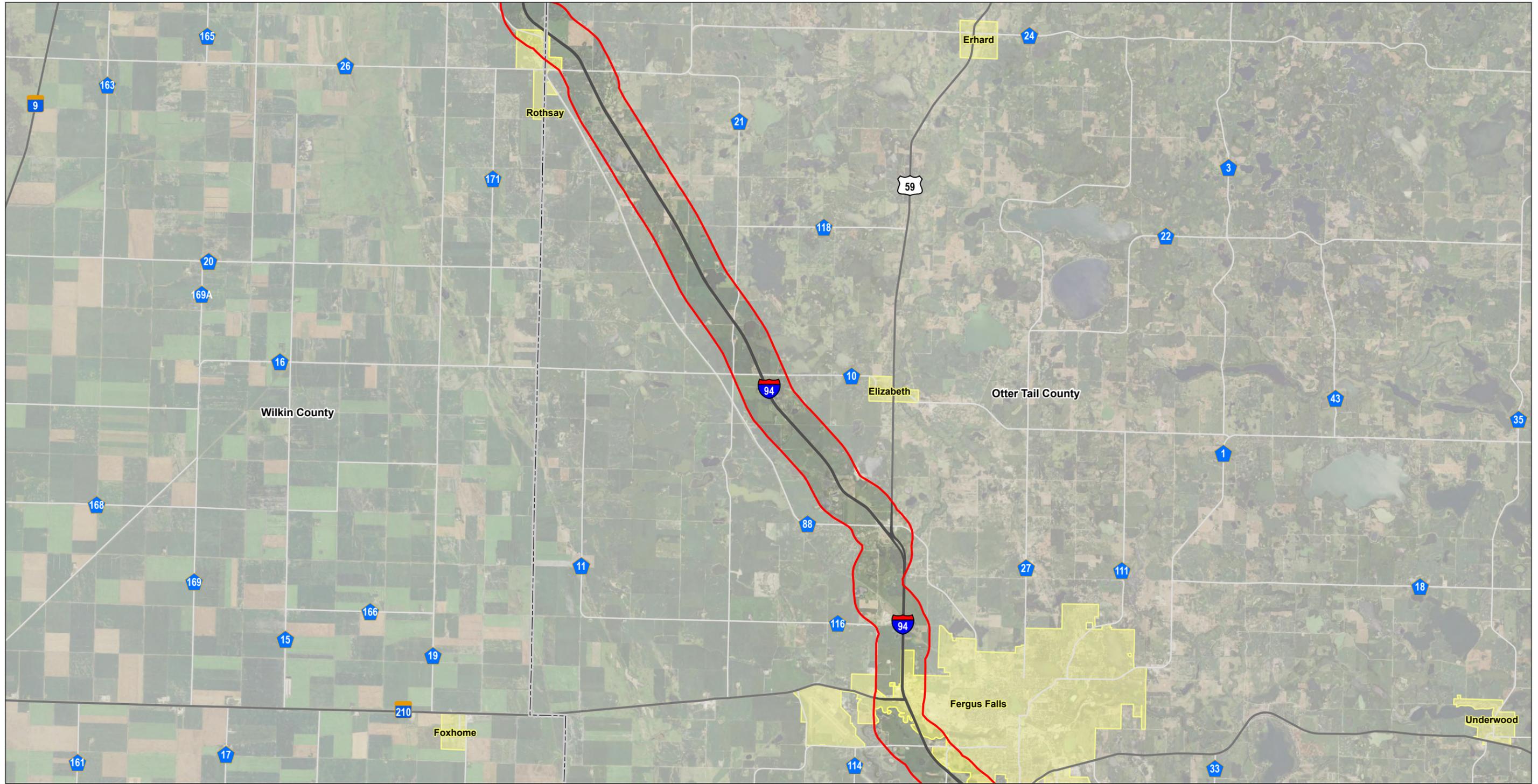
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*Project Location*  
Clay, Wilkin, Otter Tail, Grant  
and Douglas Counties, Minnesota

Prepared by KJM on 2025-11-11  
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IR by AR on 2025-10-20

**Figure 8-2**  
**Project Study Area Detail Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
Transmission Project Certificate of Need  
Application

**Notes**  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
3. Background: NAIP 2023



- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary



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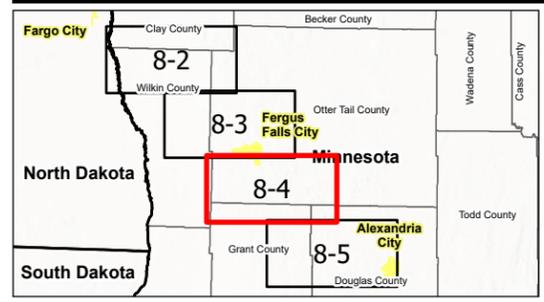
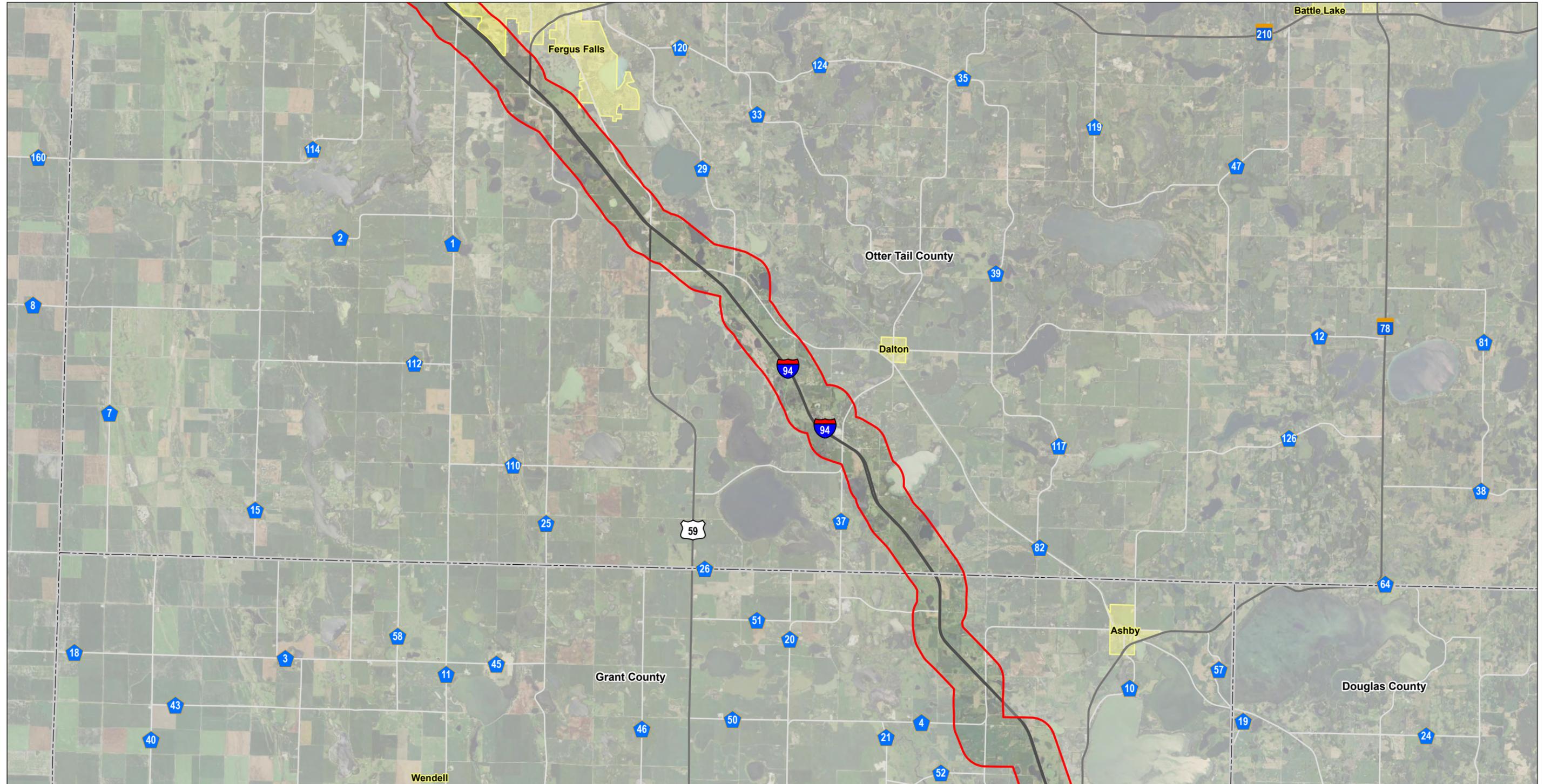
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 Clay, Wilkin, Otter Tail, Grant  
 and Douglas Counties, Minnesota

Prepared by KJM on 2025-11-11  
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**Figure 8-3**  
**Project Study Area Detail Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
 Transmission Project Certificate of Need  
 Application

Notes  
 1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
 2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
 3. Background: NAIP 2023

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- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary



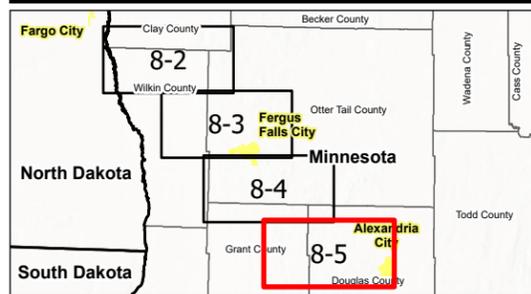
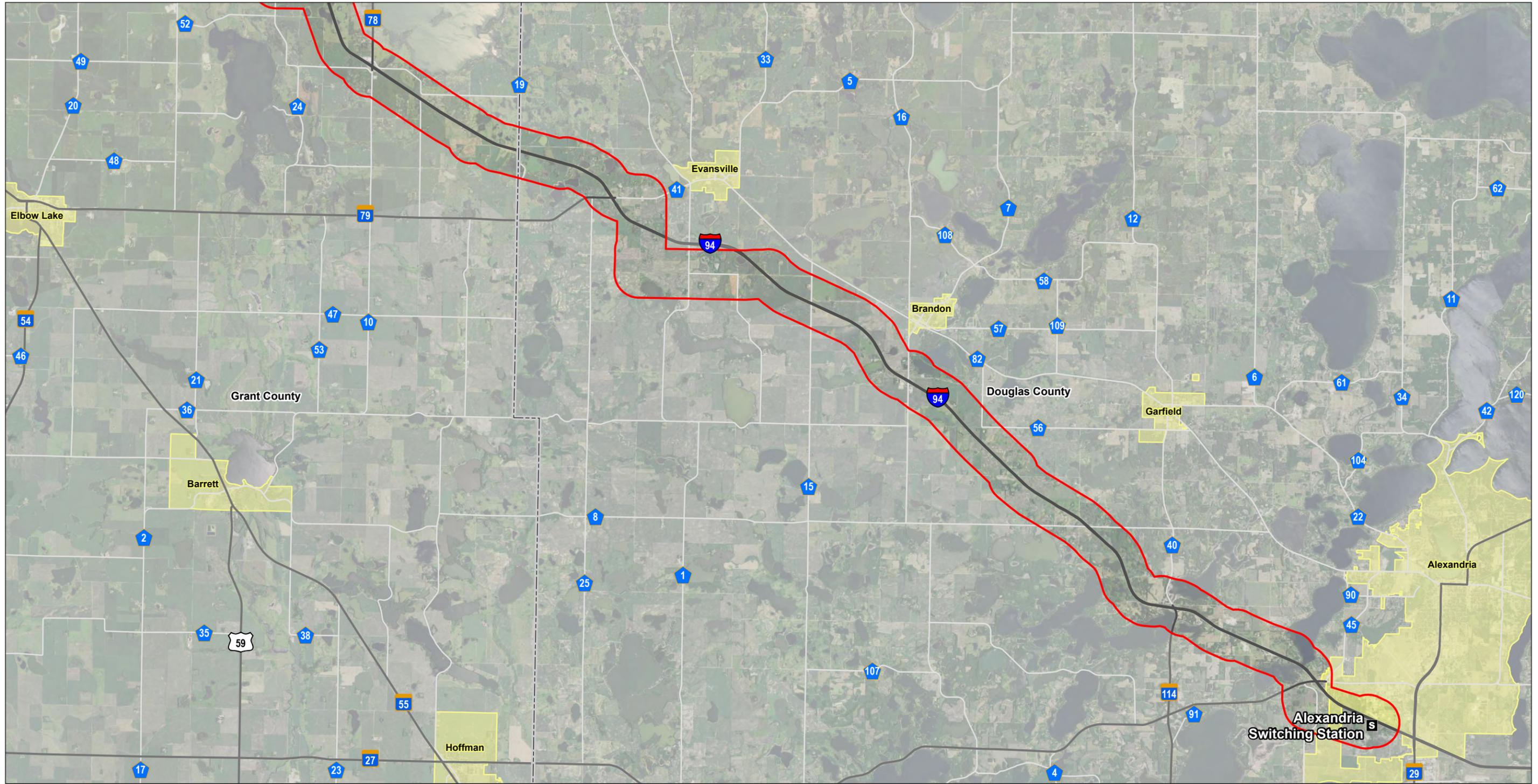
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*Project Location*  
Clay, Wilkin, Otter Tail, Grant  
and Douglas Counties, Minnesota

Prepared by KJM on 2025-11-11  
TR by ES on 2025-10-20  
IR by AR on 2025-10-20

**Figure 8-4**  
**Project Study Area Detail Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
Transmission Project Certificate of Need  
Application

**Notes**  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
3. Background: NAIP 2023



- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary



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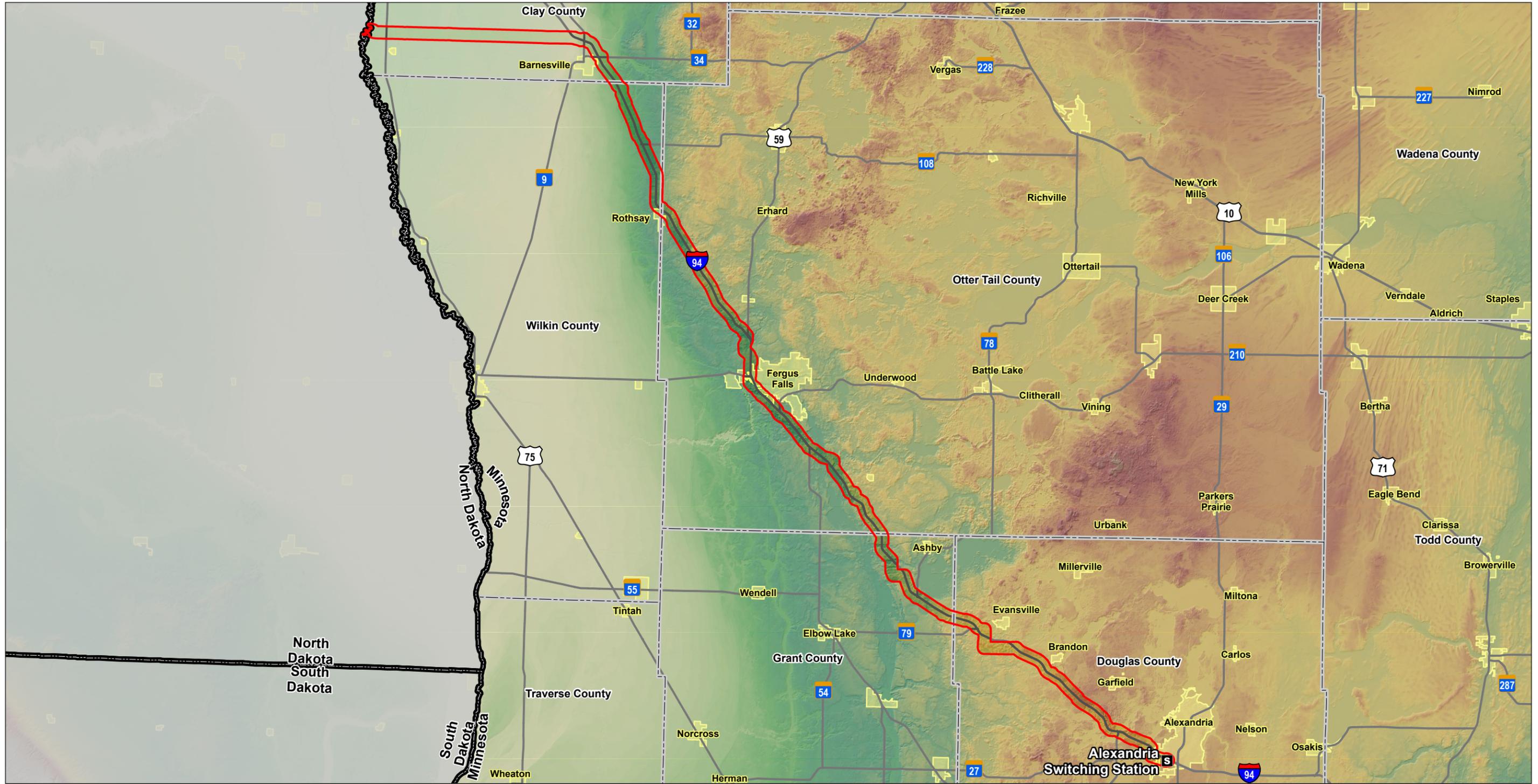
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 Clay, Wilkin, Otter Tail, Grant  
 and Douglas Counties, Minnesota

Prepared by KJM on 2025-11-11  
 TR by ES on 2025-10-20  
 IR by AR on 2025-10-20

**Figure 8-5**  
**Project Study Area Detail Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
 Transmission Project Certificate of Need  
 Application

*Notes*  
 1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
 2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
 3. Background: NAIP 2023

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**Legend**

- Project Substation
- Project Study Area
- Municipality
- County Boundary
- State Boundary
- Major Highway

**Elevation Range**

2131.23 ft

781.76 ft



0 4 8 Miles  
 (At original document size of 11x17)  
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*Project Location*  
 Clay, Wilkin, Otter Tail, Grant  
 and Douglas Counties, Minnesota

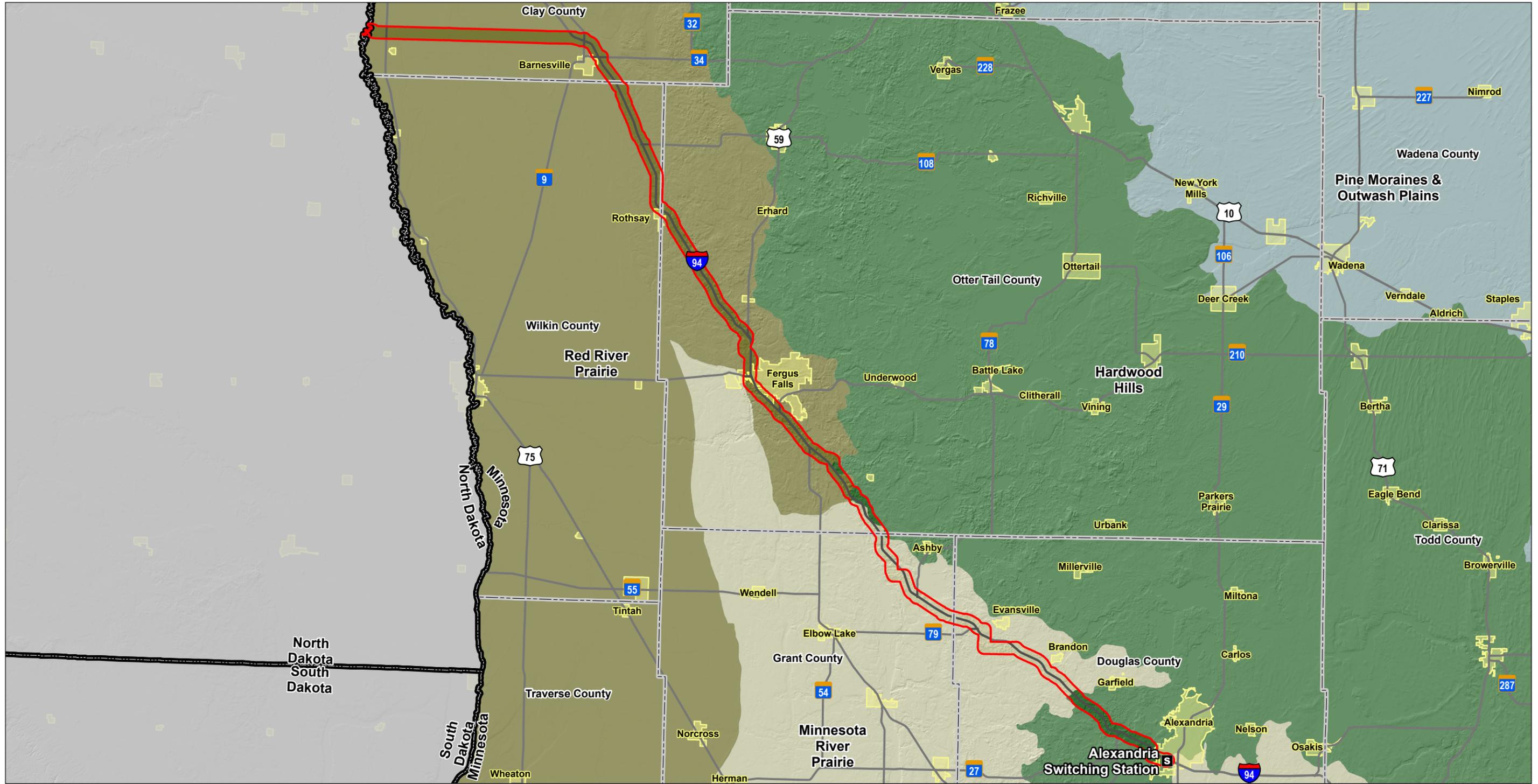
*Prepared by KJM on 2025-11-11*  
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 IR by AR on 2025-10-20

**Figure 8-6**  
**Topography in the Project Study Area Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
 Transmission Project Certificate of Need  
 Application

Notes

1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet
2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB, USGS
3. Background: USGS 1/3 arc-second DEM

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- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary
  - Major Highway

- Ecological Subsections of Minnesota**
- A - Red River Prairie
  - I - Pine Moraines & Outwash Plains
  - M - Hardwood Hills
  - Q - Minnesota River Prairie

*Project Location*  
Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota

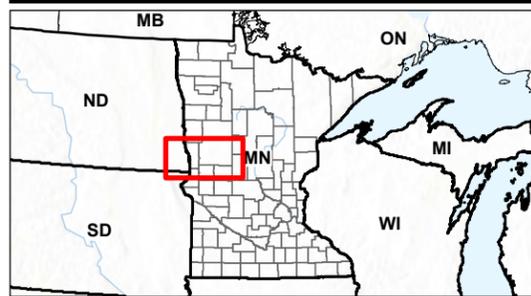
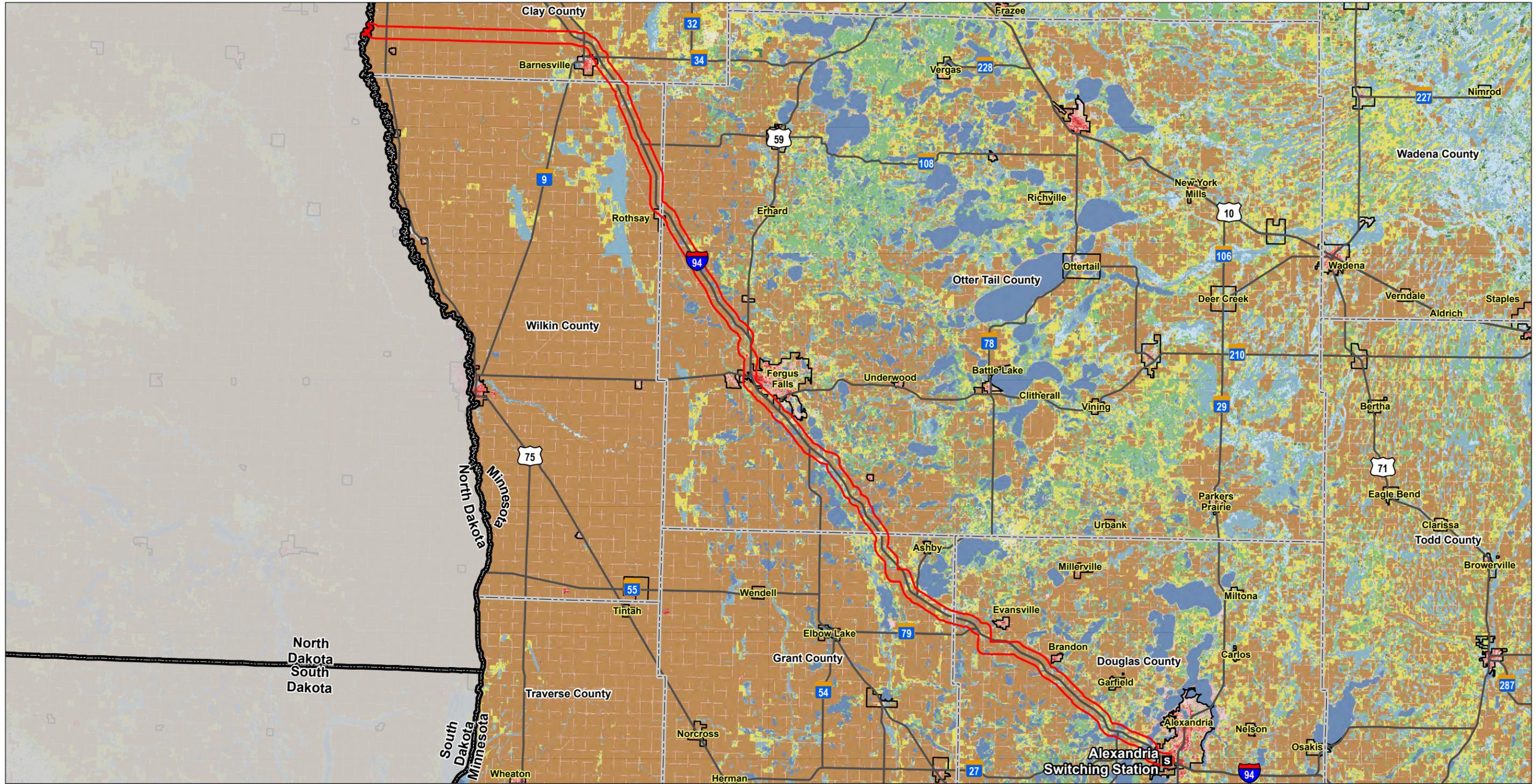
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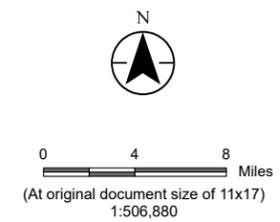
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**Figure 8-7**  
**Ecological Classification Subsections Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
Transmission Project Certificate of Need  
Application

**Notes**  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
3. Background: USGS Hillshade



Legend	
Project Substation	Perennial Ice/Snow
Project Study Area	Developed, Open Space
Municipality	Developed, Low Intensity
County Boundary	Developed, Medium Intensity
State Boundary	Developed, High Intensity
Major Highway	Barren Land (Rock/Sand/Clay)
Land Cover (NLCD, 2023)	Mixed Forest
Open Water	Shrub/Scrub
	Grassland/Herbaceous
	Pasture/Hay
	Woody Wetlands
	Emergent Herbaceous Wetlands
	Deciduous Forest
	Evergreen Forest



*Project Location*  
Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota

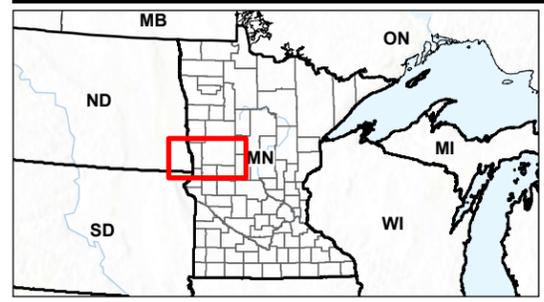
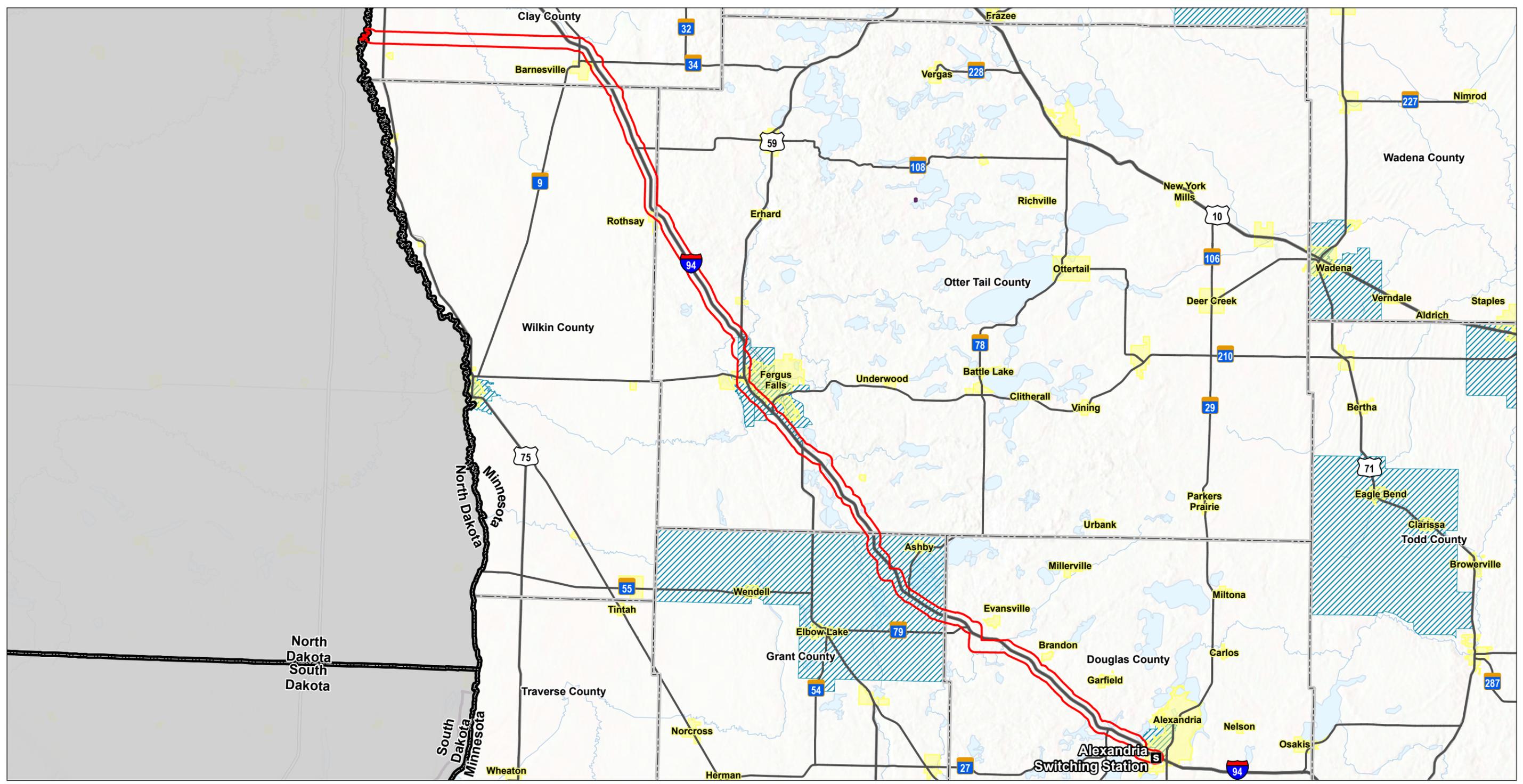
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**Figure 8-8**  
**Land Cover in the Project Study Area Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
Transmission Project Certificate of Need  
Application

*Notes*  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, NLCD, USCB  
3. Background: ESRI World Imagery

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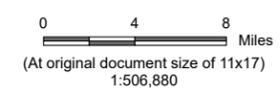
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- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary
  - Major Highway
  - MPCA Environmental Justice Areas
  - Consider for poverty issues
  - Census Tribal Areas

*Project Location*  
Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota

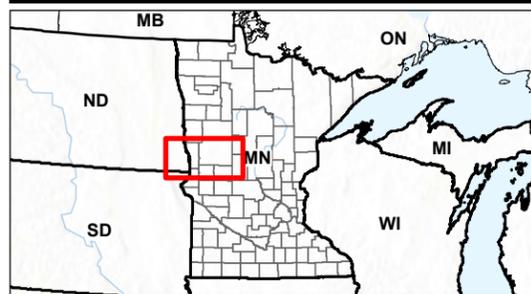
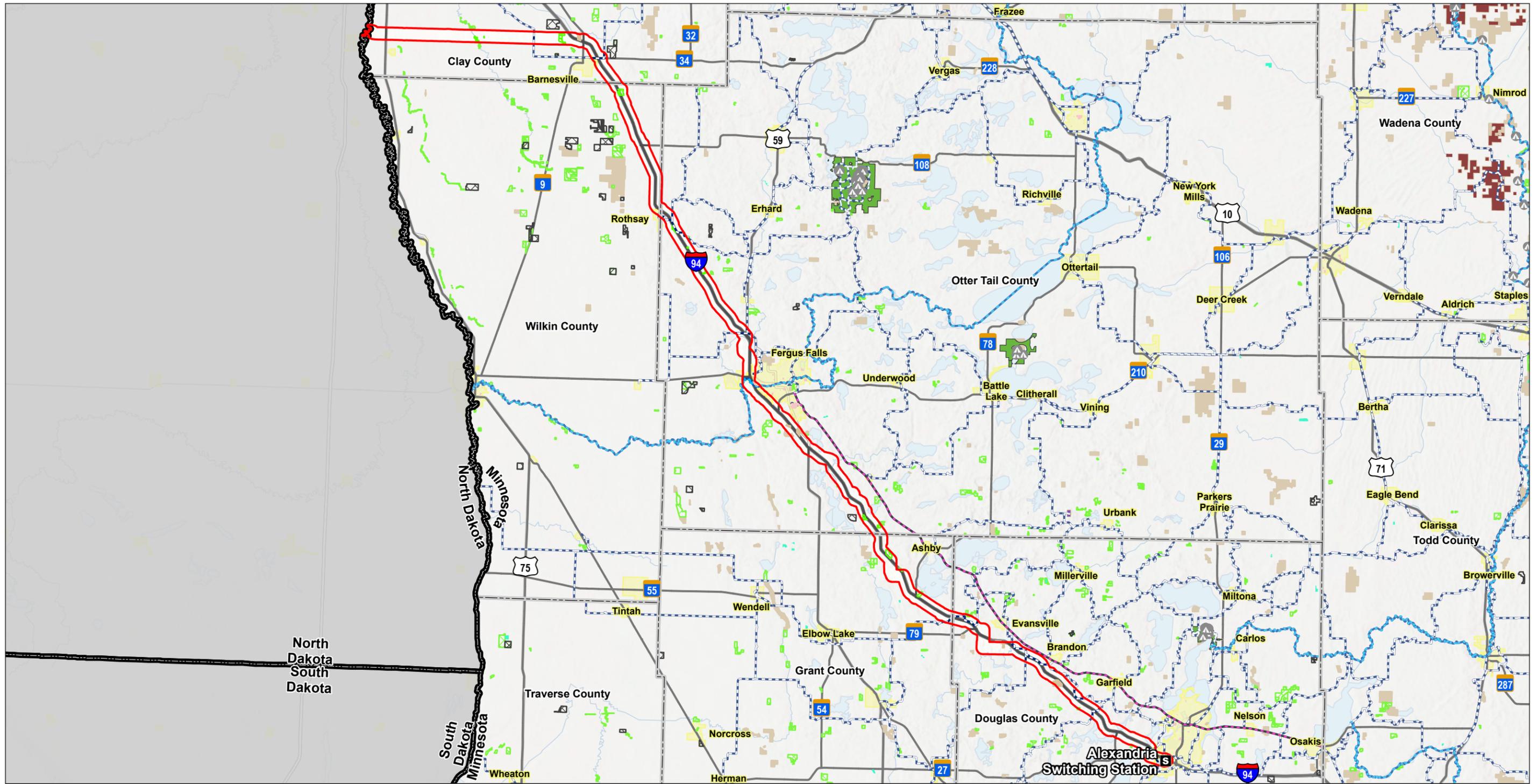
*Prepared by KJM on 2025-11-11*  
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IR by AR on 2025-10-20



**Figure 8-9**  
**Environmental Justice Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
Transmission Project Certificate of Need  
Application

*Notes*  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, NLCD, USCB  
3. Background: ESRI World Imagery

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**Legend**

- Project Substation
- Project Study Area
- Municipality
- County Boundary
- State Boundary
- Major Highway
- MNDNR Campsite

- State Trail
- Water Trail
- Snowmobile Trail
- MNDNR Walk in Access Sites
- BWSR Conservation Easements (RIM Reserve)
- Local Government Land
- Wetland Banking Easements

- Forest Inventory
- State Forest
- State Park
- State Wayside

MNDNR Management Units



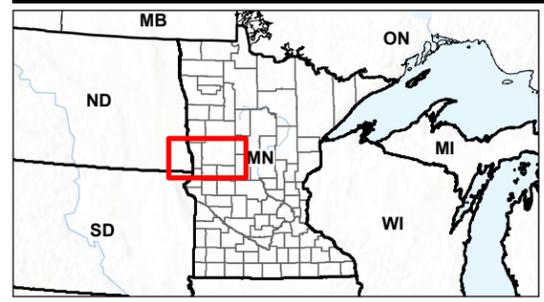
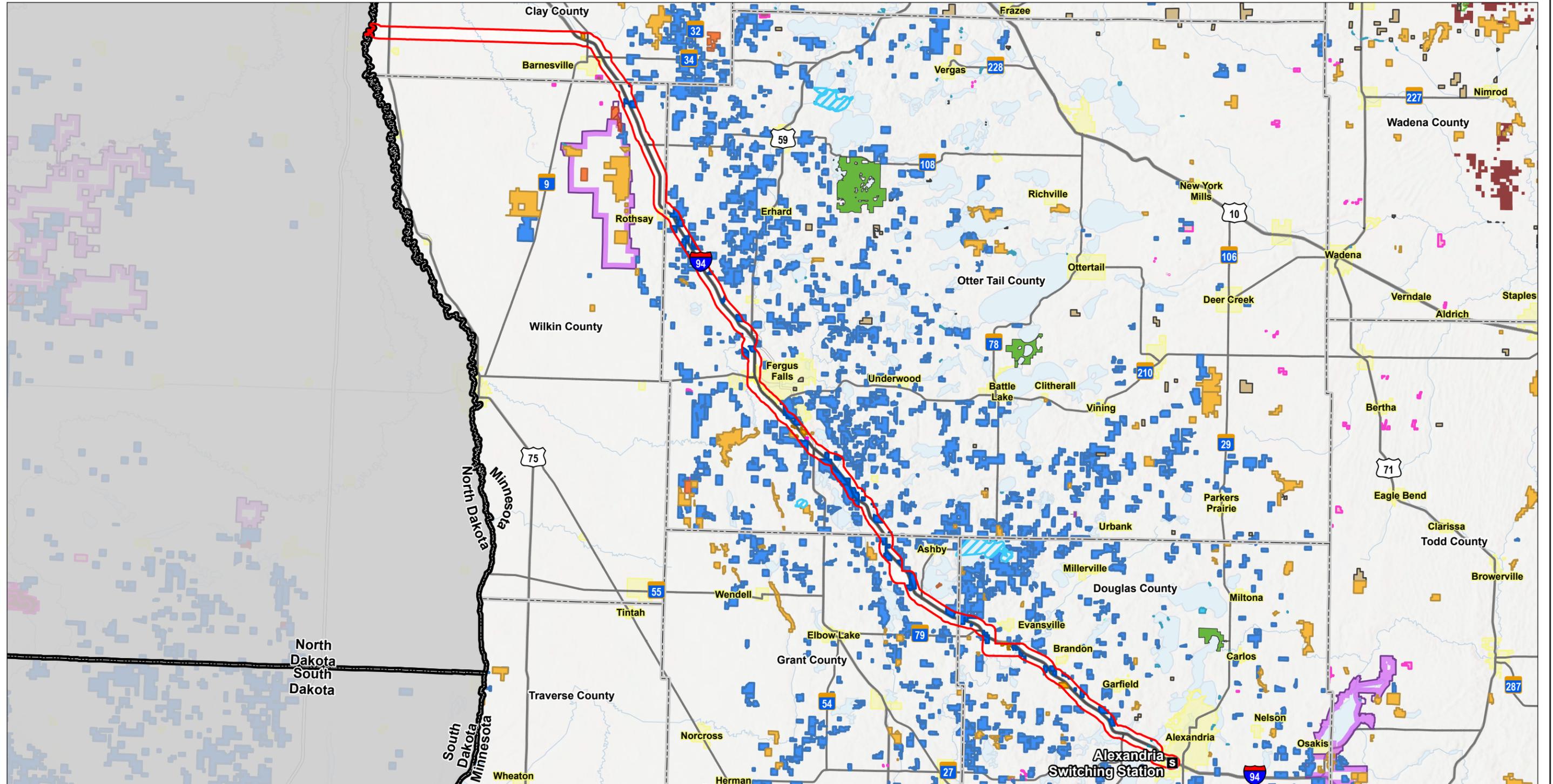
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Project Location: Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota  
Prepared by KJM on 2025-11-11  
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IR by AR on 2025-10-20

**Figure 8-10**  
**Land Use in the Project Study Area Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
Transmission Project Certificate of Need  
Application

**Notes**  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, BWSR, MnDOT, MNDNR, USCB, USGS  
3. Background: ESRI World Hillshade

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**Legend**

- Project Substation
- Project Study Area
- Municipality
- County Boundary
- State Boundary
- Major Highway
- Important Bird Area
- Migratory Waterfowl Feeding and Resting Areas

**MNDNR Management Units**

- State Forest
- State Park
- State Wayside
- Aquatic Management Area
- Fish Management Area
- Forest Recreation Area
- Other Forest Land
- Scientific and Natural Area

**USFWS Interest**

- Wildlife Management Area
- USFWS Critical Habitat
- Farm Service Agency Transfer Parcel
- National Wildlife Refuge
- Waterfowl Production Area

**Project Location**  
Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota

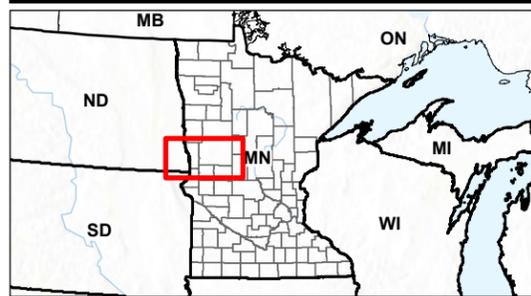
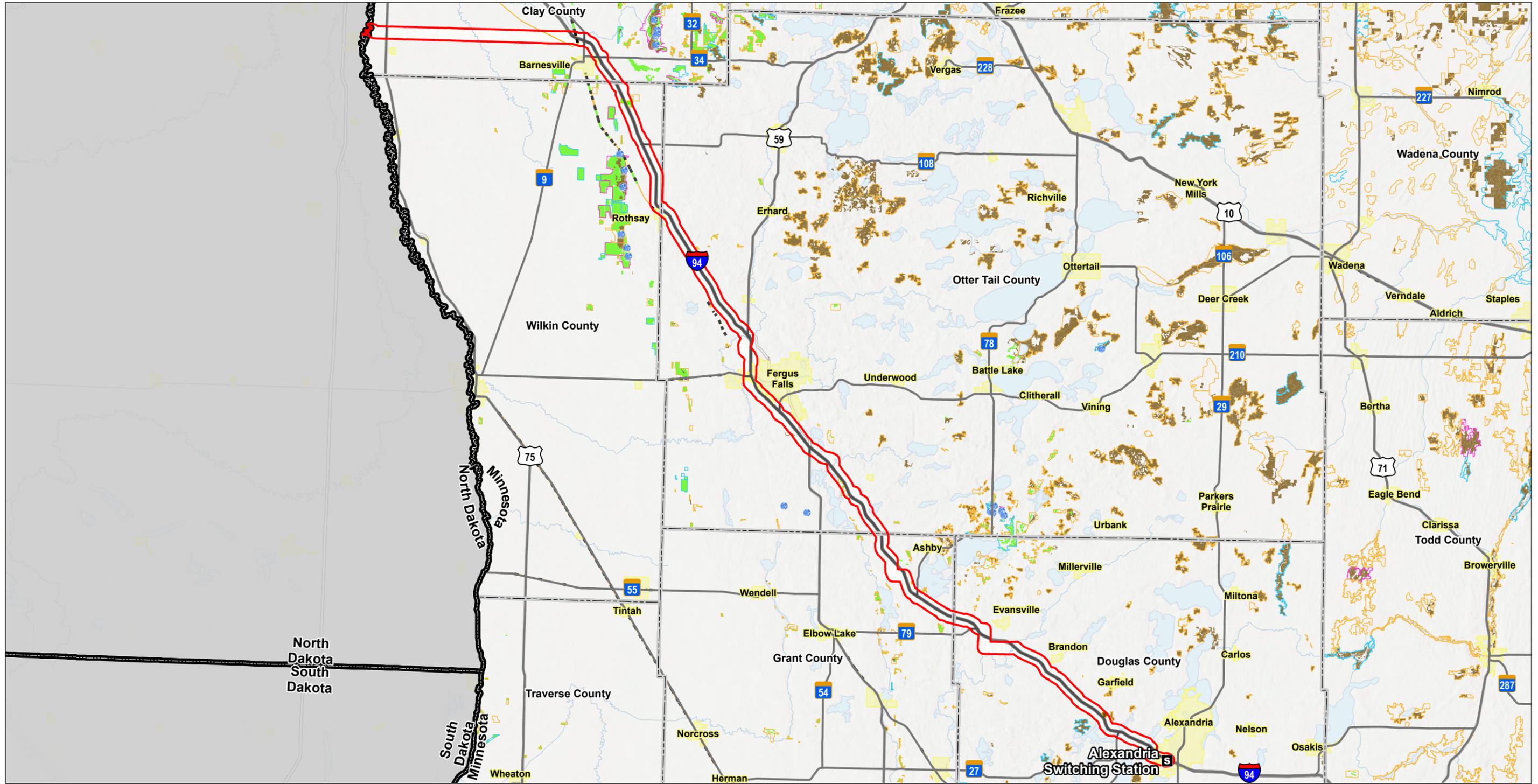
Prepared by KJM on 2025-11-11  
TR by ES on 2025-10-20  
IR by AR on 2025-10-20

**Figure 8-11**  
**Wildlife Resources in the Project Study Area Map**  
Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit Transmission Project Certificate of Need Application

**Notes**  
1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
2. Data Sources: Xcel, Stantec, Audubon, MnDOT, MNDNR, USCB, USGS, USFWS  
3. Background: ESRI World Hillshade

Scale: 0 4 8 Miles  
(At original document size of 11x17)  
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**Legend**

- Project Substation
- Project Study Area
- Municipality
- County Boundary
- State Boundary
- Major Highway

- Calcareous Fen
- DNR Native Prairie
- DNR Native Plant Community
- MBS Railroad Rights-of-Way Prairies
- Very Good
- Good

- Fair
- Sites of Biodiversity Significance**
- Outstanding
- High
- Moderate



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(At original document size of 11x17)  
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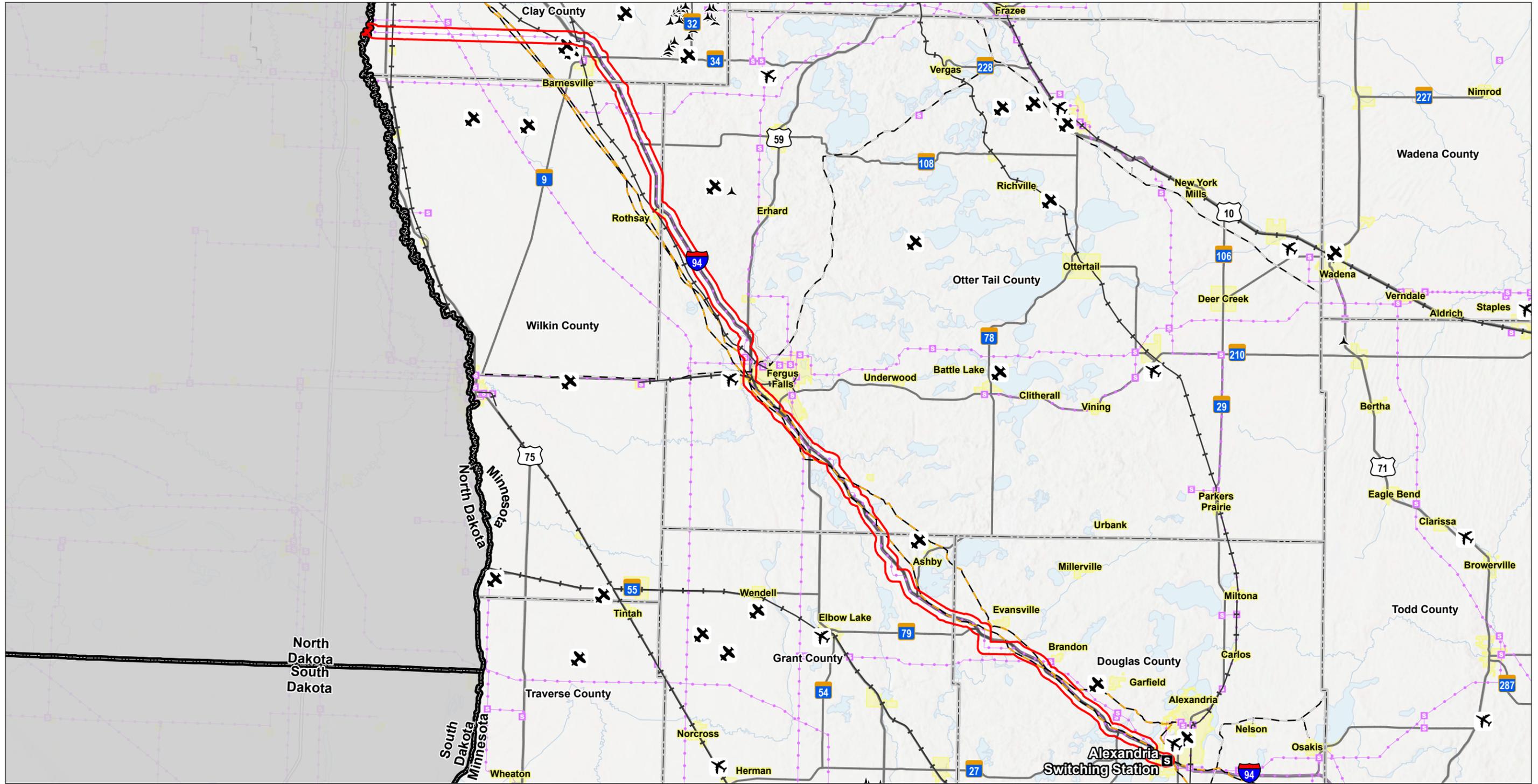
*Project Location*  
Clay, Wilkin, Otter Tail, Grant  
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Prepared by KJM on 2025-11-11  
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IR by AR on 2025-10-20

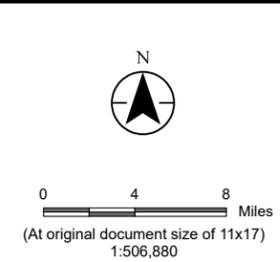
**Figure 8-12**  
**Vegetation Resources in the Project Study Area Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
 Transmission Project Certificate of Need  
 Application

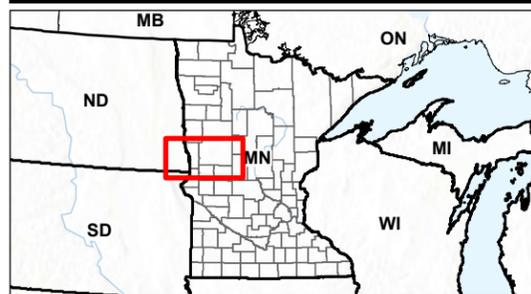
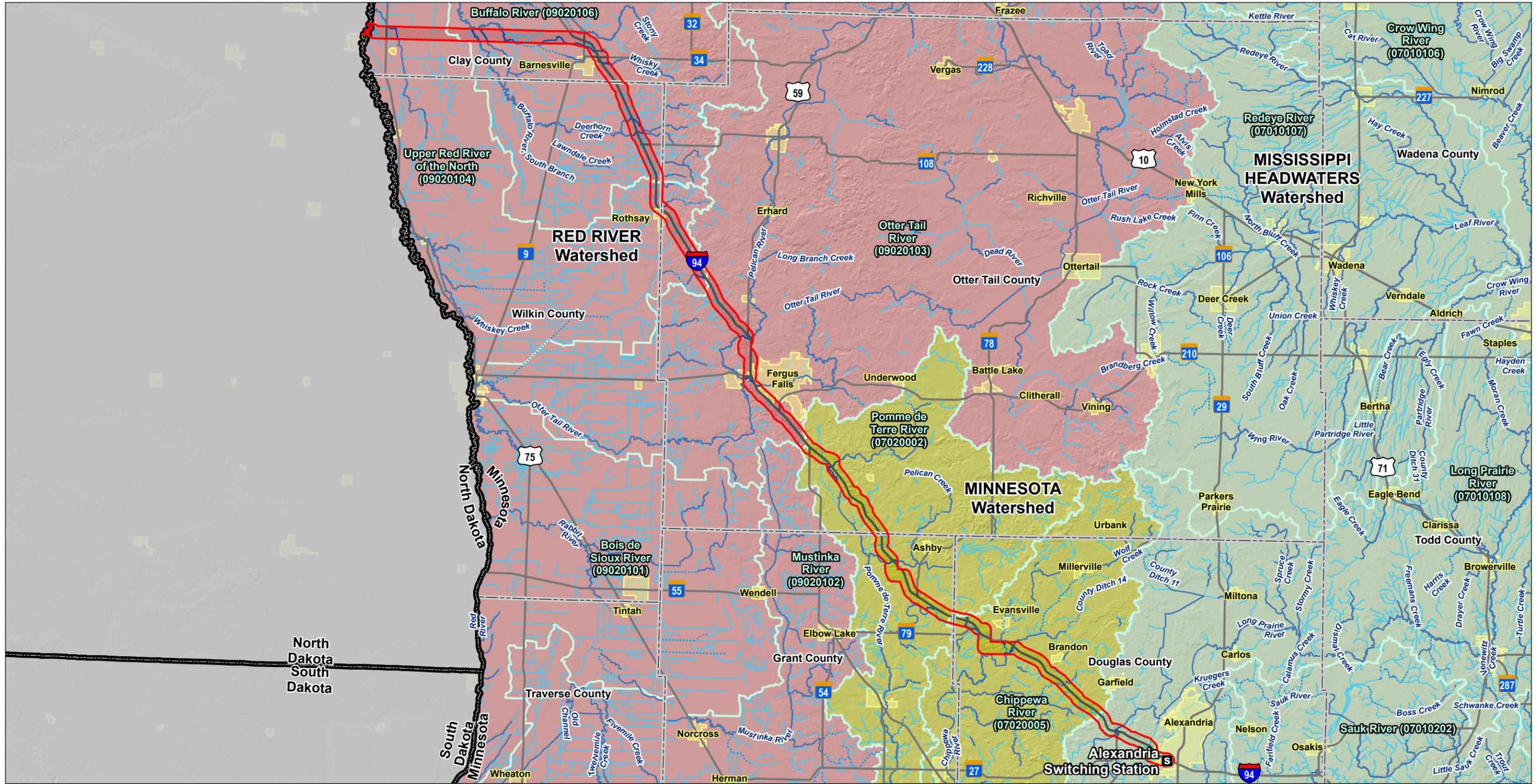
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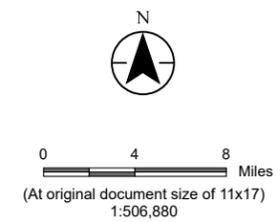


- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary
  - Major Highway
  - Railroad
  - Existing Wind Turbines
  - Private Airport
  - Public Airport
  - Existing Substation
  - Existing Electric Transmission Line
  - Approximate Pipeline Location
  - Gas Transmission Pipelines
  - Hazardous Liquid Pipelines





- Legend**
- S Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary
  - Major Highway
  - ~ USGS Watercourse
  - ~ MNDNR Public Watercourse Inventory
  - ~ Public Water Watercourse
  - ~ Public Ditch/Altered Natural Watercourse
  - Watershed Boundary - HUC 08
  - Watershed Basin - HUC 04
  - Minnesota River
  - Mississippi Headwaters
  - Red River



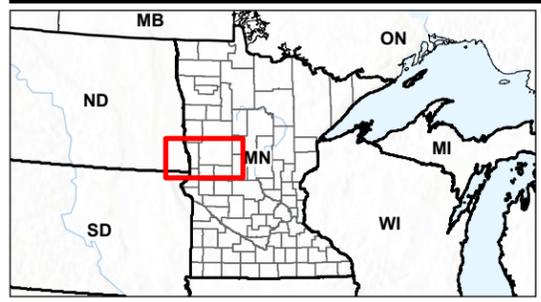
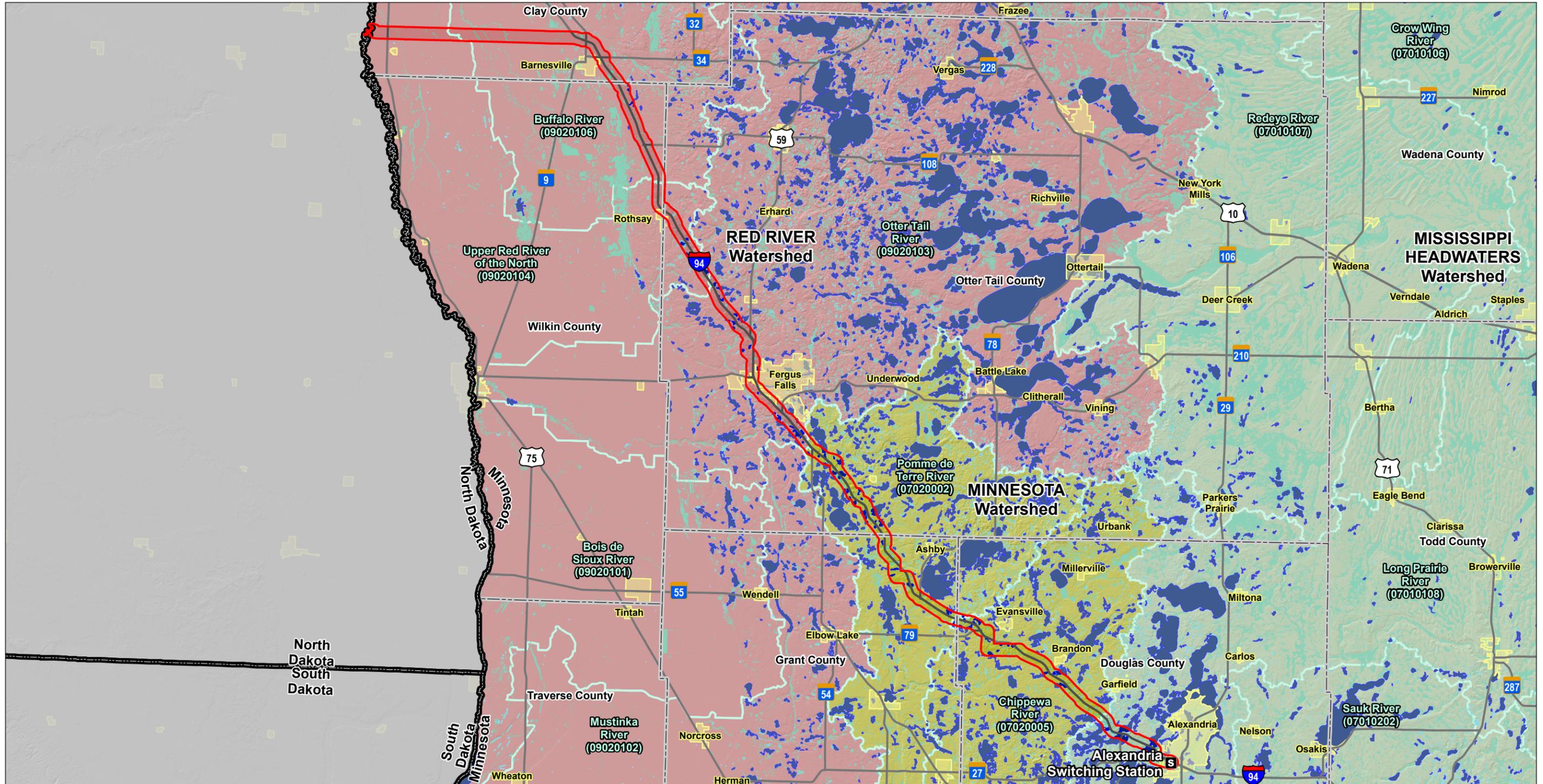
Project Location: Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota  
 Prepared by KJM on 2025-11-11  
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 IR by AR on 2025-10-20

**Figure 8-14**  
**Watercourses in the Project Study Area Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit  
 Transmission Project Certificate of Need  
 Application

**Notes**  
 1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
 2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
 3. Background: USGS Hillshade

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- Legend**
- Project Substation
  - Project Study Area
  - Municipality
  - County Boundary
  - State Boundary
  - Major Highway
  - Minnesota Public Waters Basins Inventory

- National Wetland Inventory
- USGS Waterbody
- Watershed Boundary - HUC 08
- Watershed Basin - HUC 04
- Minnesota River
- Mississippi Headwaters
- Red River



0 4 8 Miles  
 (At original document size of 11x17)  
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*Project Location*  
 Clay, Wilkin, Otter Tail, Grant and Douglas Counties, Minnesota

*Prepared by KJM on 2025-11-11*  
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 IR by AR on 2025-10-20

**Figure 8-15**  
**Waterbodies and Wetlands in the Project Study Area Map**  
 Bison-Alexandria 345 kV 2<sup>nd</sup> Circuit Transmission Project Certificate of Need Application

*Notes*  
 1. Coordinate System: NAD 1983 StatePlane Minnesota Central FIPS 2202 Feet  
 2. Data Sources: Xcel, Stantec, MnDOT, MNDNR, USCB  
 3. Background: USGS Hillshade