

# OVERVIEW

The Mankato-Mississippi River Transmission Line Project will **improve reliability, deliver low-cost renewable energy and provide other regional benefits** by building new, more resilient ‘backbone’ infrastructure to serve customers.

We are proposing:

- **About 120 miles of new and upgraded 345 kilovolt (kV) transmission line** between the Wilmarth Substation located in Mankato and near Kellogg at the Mississippi River.
- **About 20 miles of new 161 kV transmission line** between the North Rochester Substation near Pine Island and an existing transmission line northeast of Rochester.



**2022**

- Project identified by MISO



**2023**

- Planning
- Route development process begin
- Public and stakeholder engagement
- Preliminary engineering
- Submit Certificate of Need and Route Permit Application



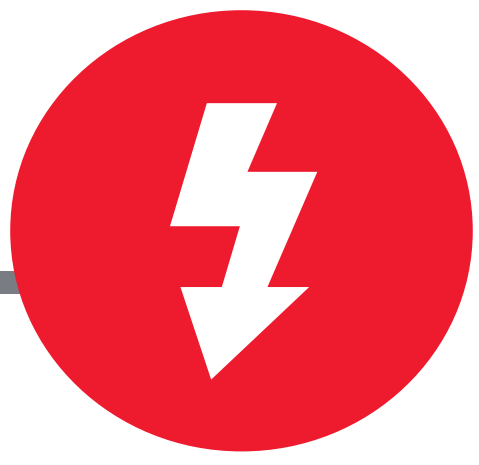
**2024-2026**

- Minnesota permitting review (including public input)
- Final engineering
- Negotiate with landowners to purchase easements
- Obtain other required permits
- Continued public and stakeholder engagement



**2026-2028**

- Construction



**2028**

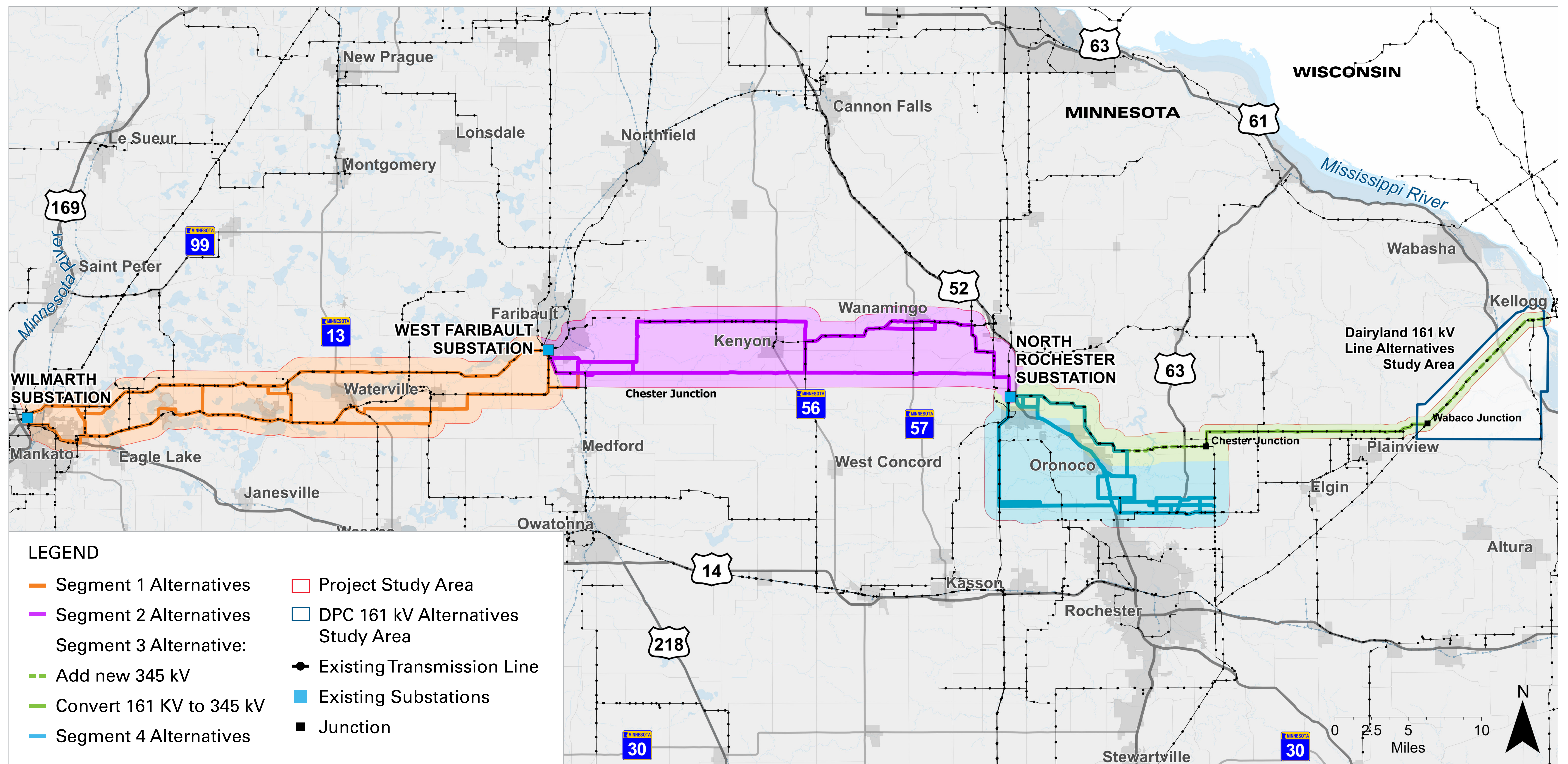
- In-service
- Restoration



# FOUR SEGMENTS, ONE PROJECT



This project has **four segments** that include a combination of new transmission lines and upgrades to existing lines. Where feasible, we've worked to identify opportunities to locate lines in existing utility or transportation corridors.



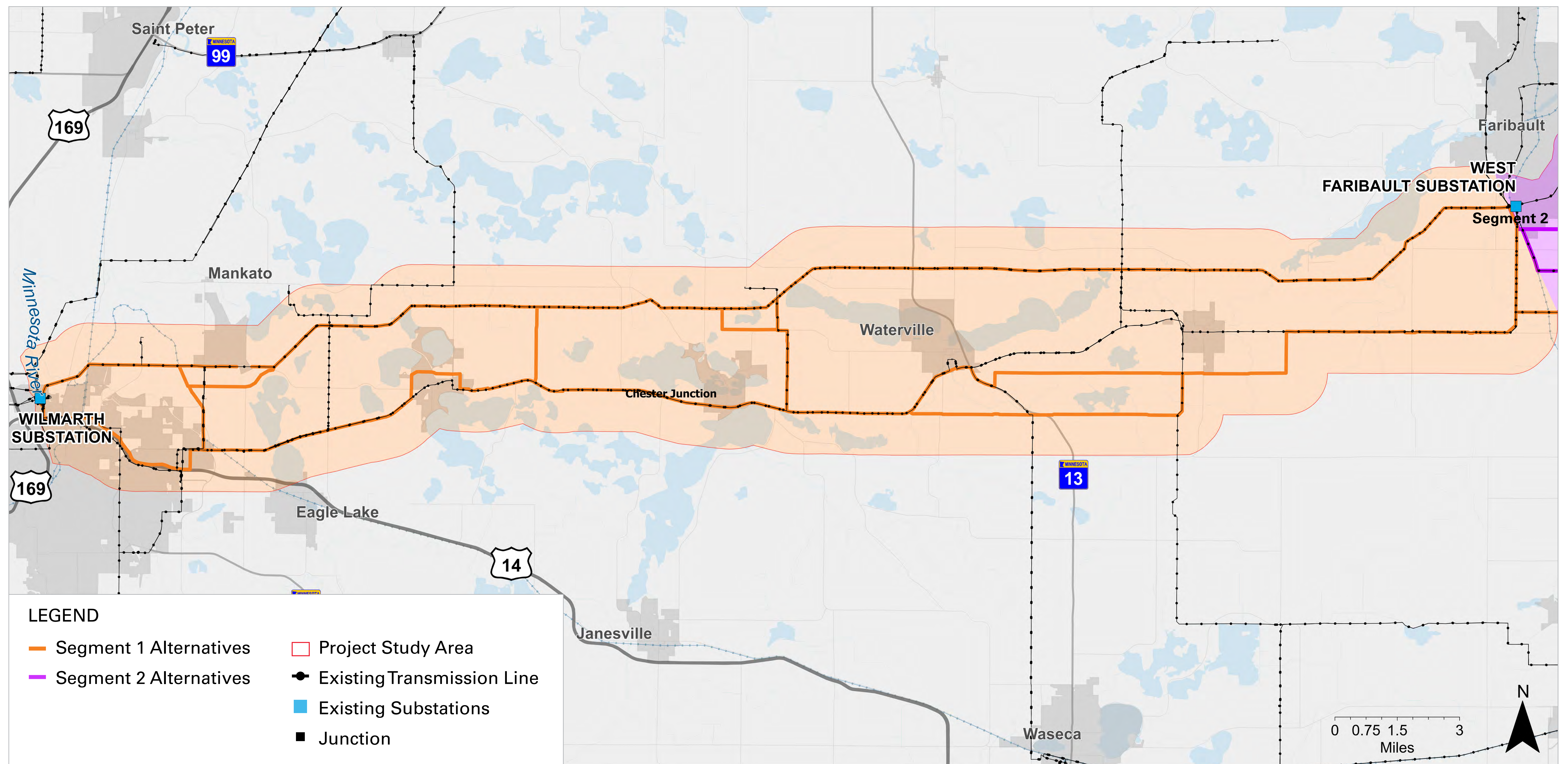
This map is a general graphic and may not show exact locations.



# SEGMENT 1: MANKATO TO FARIBAULT



**Segment 1: Develop about 40 miles of 345 kV transmission lines in existing transmission corridors between the Wilmarth Substation near Mankato and the West Faribault Substation in Faribault.**



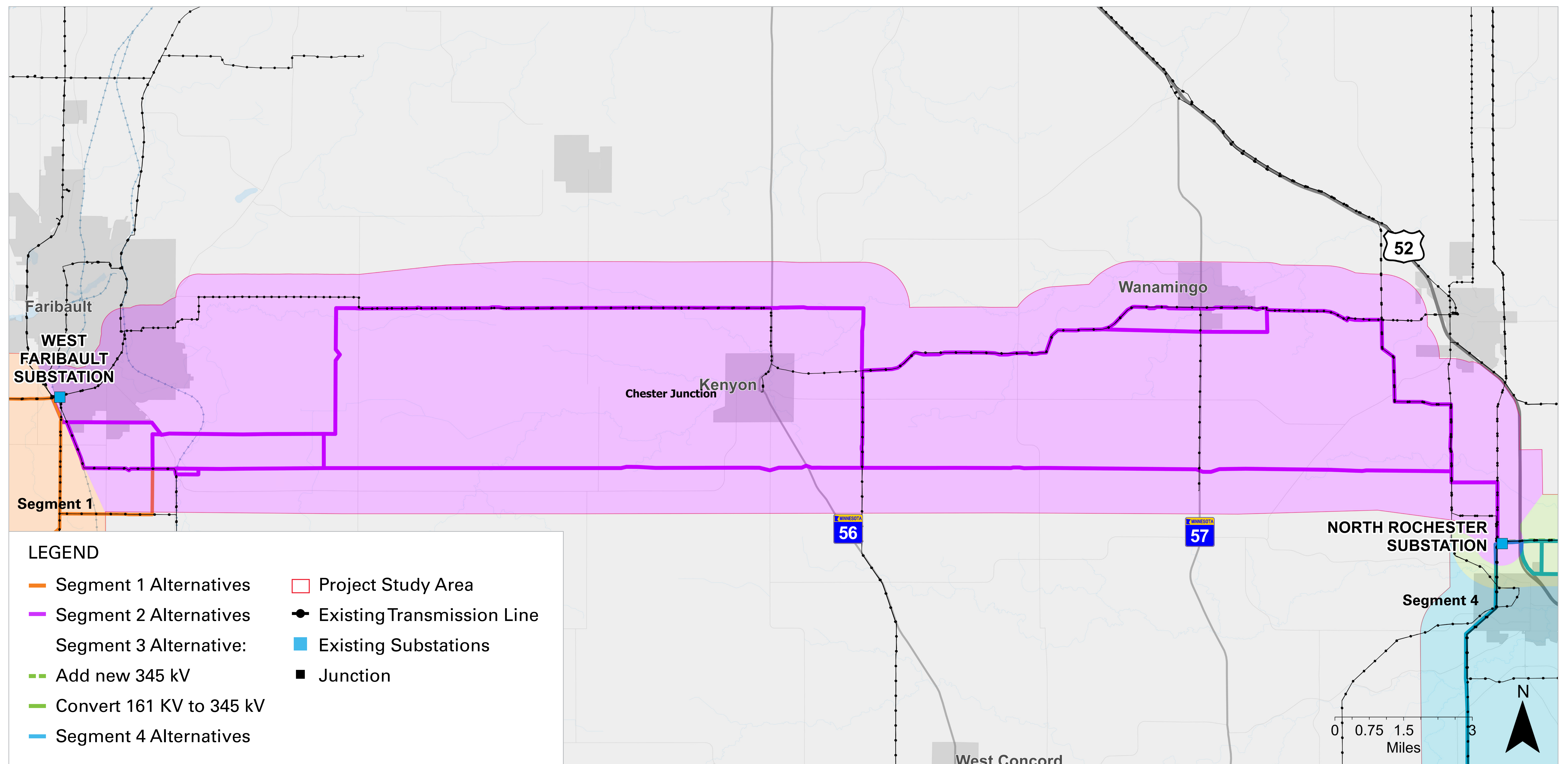
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# SEGMENT 2: FARIBAULT TO PINE ISLAND



**Segment 2: Develop about 35-40 miles of 345 kV transmission lines in either a new corridor and/or in existing transmission corridors from near the West Faribault Substation to the North Rochester Substation near Pine Island.**



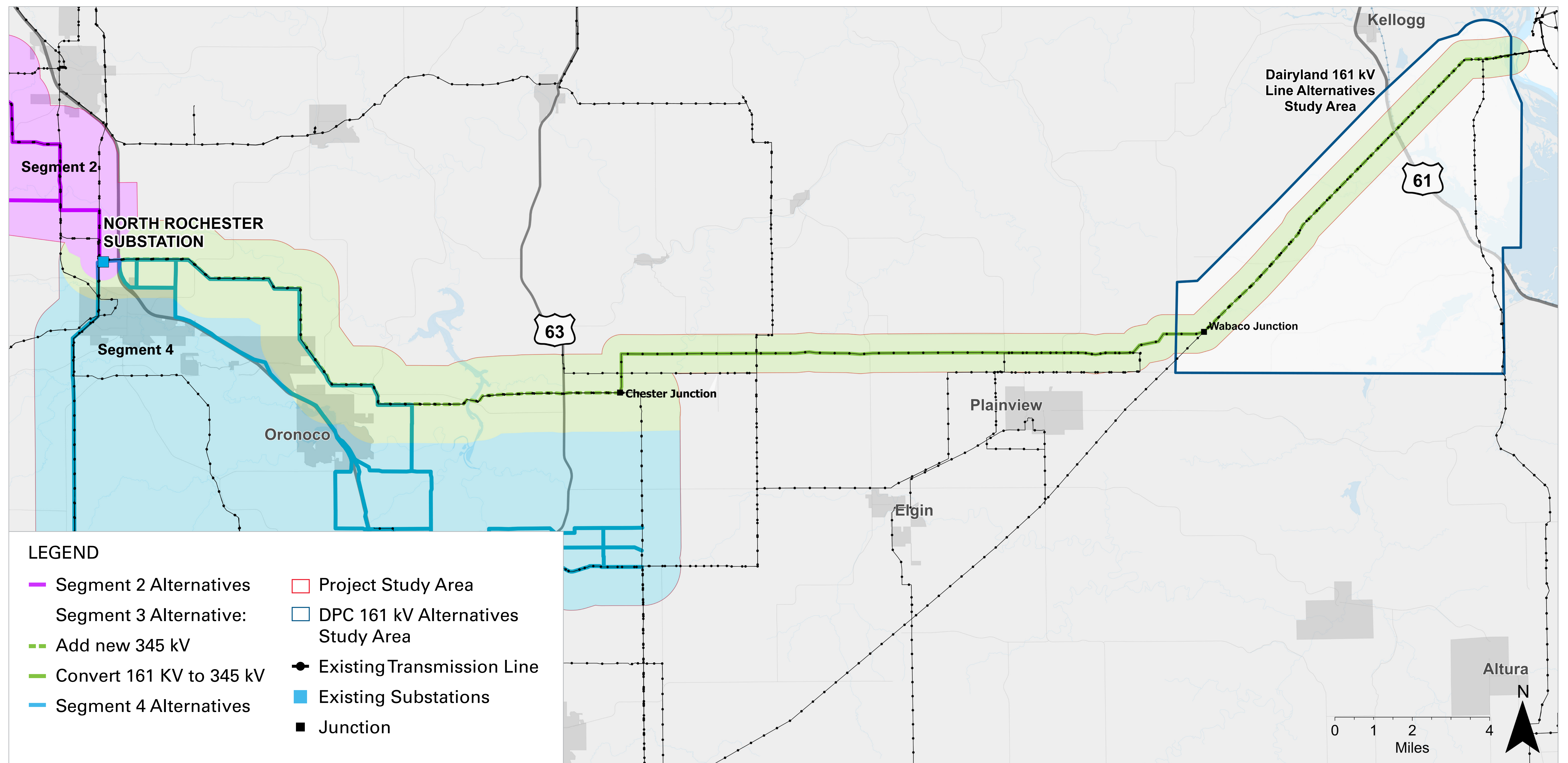
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# SEGMENT 3: PINE ISLAND TO KELLOGG



**Segment 3: Convert about 26 miles of 161 kV line to 345 kV line and install about 16 miles of new 345 kV line on existing structures between the North Rochester Substation and the Mississippi River.**



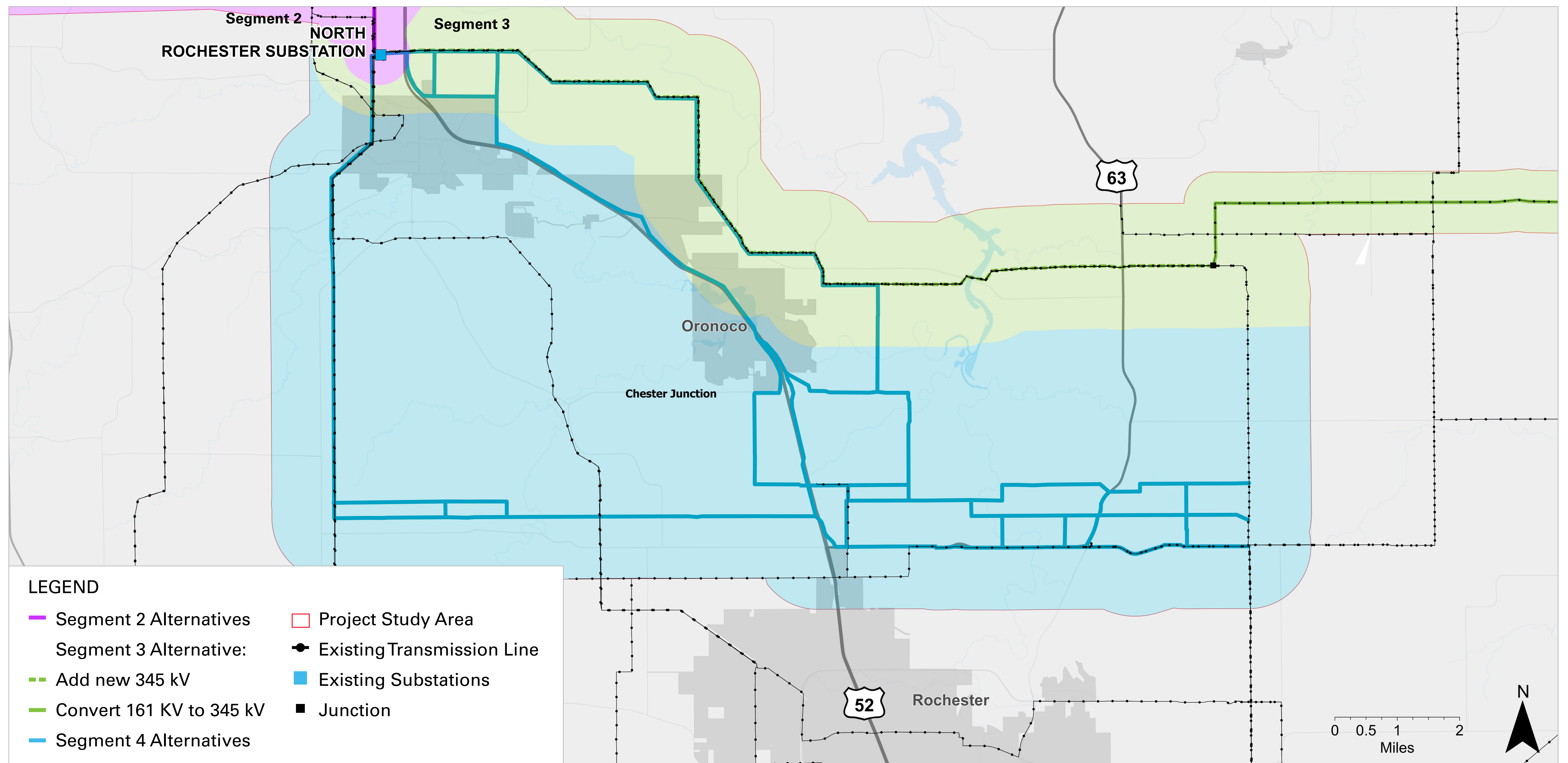
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# SEGMENT 4: ROCHESTER CONNECTOR



**Segment 4: Develop about 20 miles of a new single-circuit 161 kV line from the North Rochester Substation to an existing transmission line northeast of Rochester.**

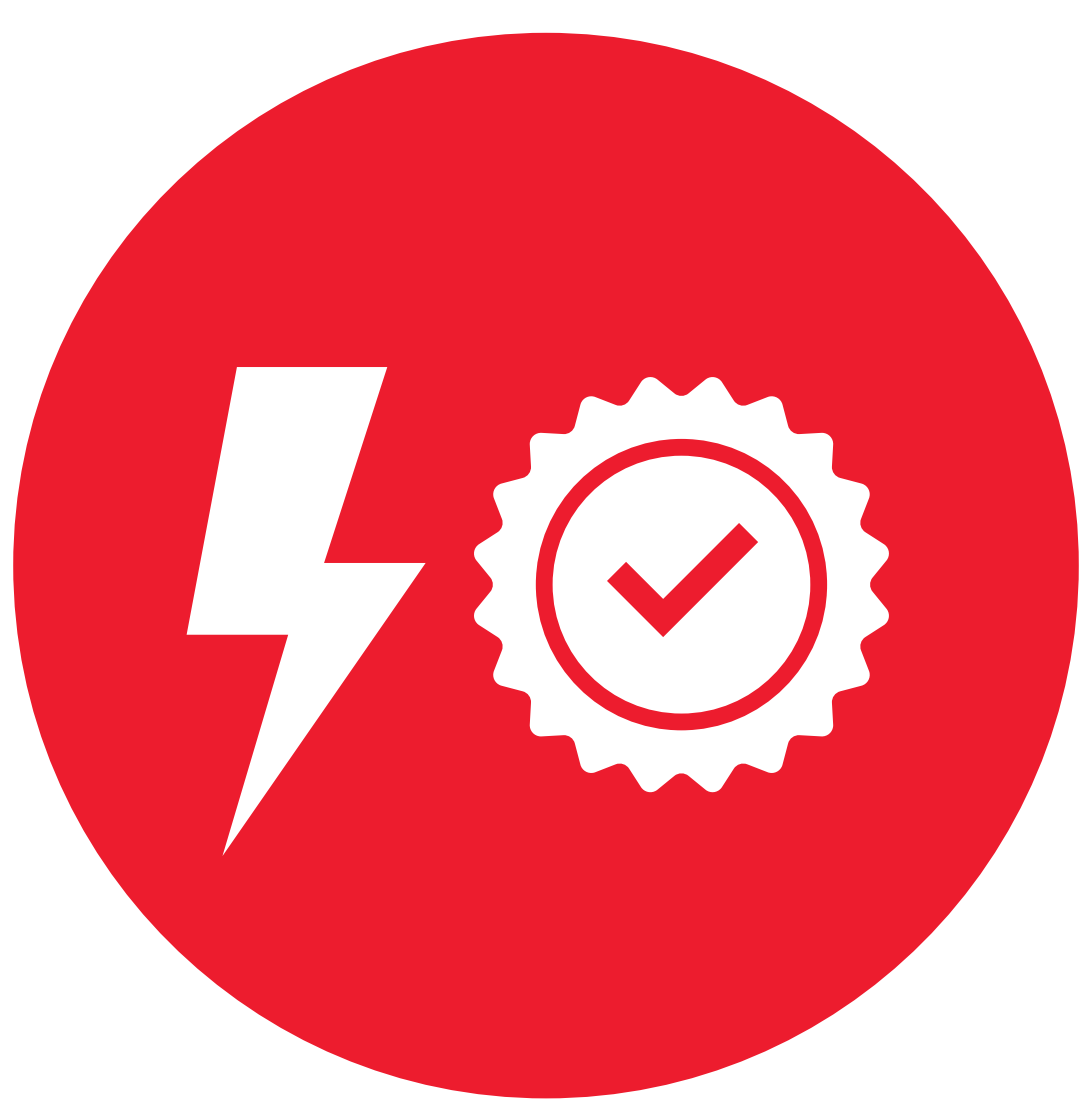


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# A NEED FOR MORE TRANSMISSION INFRASTRUCTURE IN UPPER MIDWEST

The Mankato-Mississippi River Transmission Line Project is part of a portfolio of long-range transmission projects identified by the regional grid operator, MISO, to support the following in Minnesota and throughout the Upper Midwest:



Create more system  
resiliency during  
extreme weather.



Support adding  
new low-cost  
renewable energy.



Strengthen the overall  
“backbone” of the  
transmission grid.



Improve  
reliability.



Relieve congestion  
on the grid.

# TRANSMISSION INFRASTRUCTURE BENEFITS OUR COMMUNITIES

The Mankato-Mississippi River Transmission Line Project will bring the following benefits to Minnesota and the Upper Midwest:



Increasing reliability and resilience in the Upper Midwest.



New renewable energy creates jobs, tax revenue and lease payments for southern Minnesota.



Enabling greater access to low-cost renewable energy as aging traditional resources retire.



New jobs for construction workers and companies.



Upgrading and updating infrastructure supports companies in the region.



# ROUTE DEVELOPMENT PROCESS

**Our route selection process is a multi-step process** that identifies route alternatives with minimal impacts to humans and the environment. The process generally includes:

**DEVELOPING PRELIMINARY ROUTE OPTIONS –  
WE ARE HERE.**

**REFINING AND FIELD VERIFYING PRELIMINARY  
ROUTE OPTIONS.**

**SUBMITTING PROPOSED ROUTES TO THE  
MINNESOTA PUBLIC UTILITIES COMMISSION.**

Note: This process is flexible and steps may be revisited based on additional data and feedback from landowners, the public, local governments, Tribes and resource agencies.



# DEVELOPING ROUTES CONSIDERS MANY FACTORS

We evaluate **several criteria to develop new routes** for transmission line projects, including identifying opportunities, constraints and other issues:

## OPPORTUNITIES:

- Existing transmission lines and other utilities (pipelines, etc.)
- Roads and highways
- Property, field and section lines

## CONSTRAINTS OR ISSUES THAT MAY AFFECT ROUTE DEVELOPMENT:

- Existing homes and businesses
- Farmland impacts
- Airports
- Cemeteries and religious facilities
- Rivers, lakes, streams and wetlands



- Conservation areas, nature preserves, state and local parks
- Cultural and historic resources
- Sensitive animal and plant species



# REGULATORY PROCESS

We expect to apply for a combined Certificate of Need and Route Permit with the Minnesota Public Utilities Commission (PUC) in late 2023.



**Certificate of Need application:**

Describes the project need and the issues it will solve.



**Route Permit application:**

Includes at least two feasible proposed routes and the factors evaluated in developing those routes.



**After submitting these applications, the Minnesota review process will begin:**

- Public meetings and hearings will be held with public comment opportunities.
- Written comments can also be submitted to the PUC.

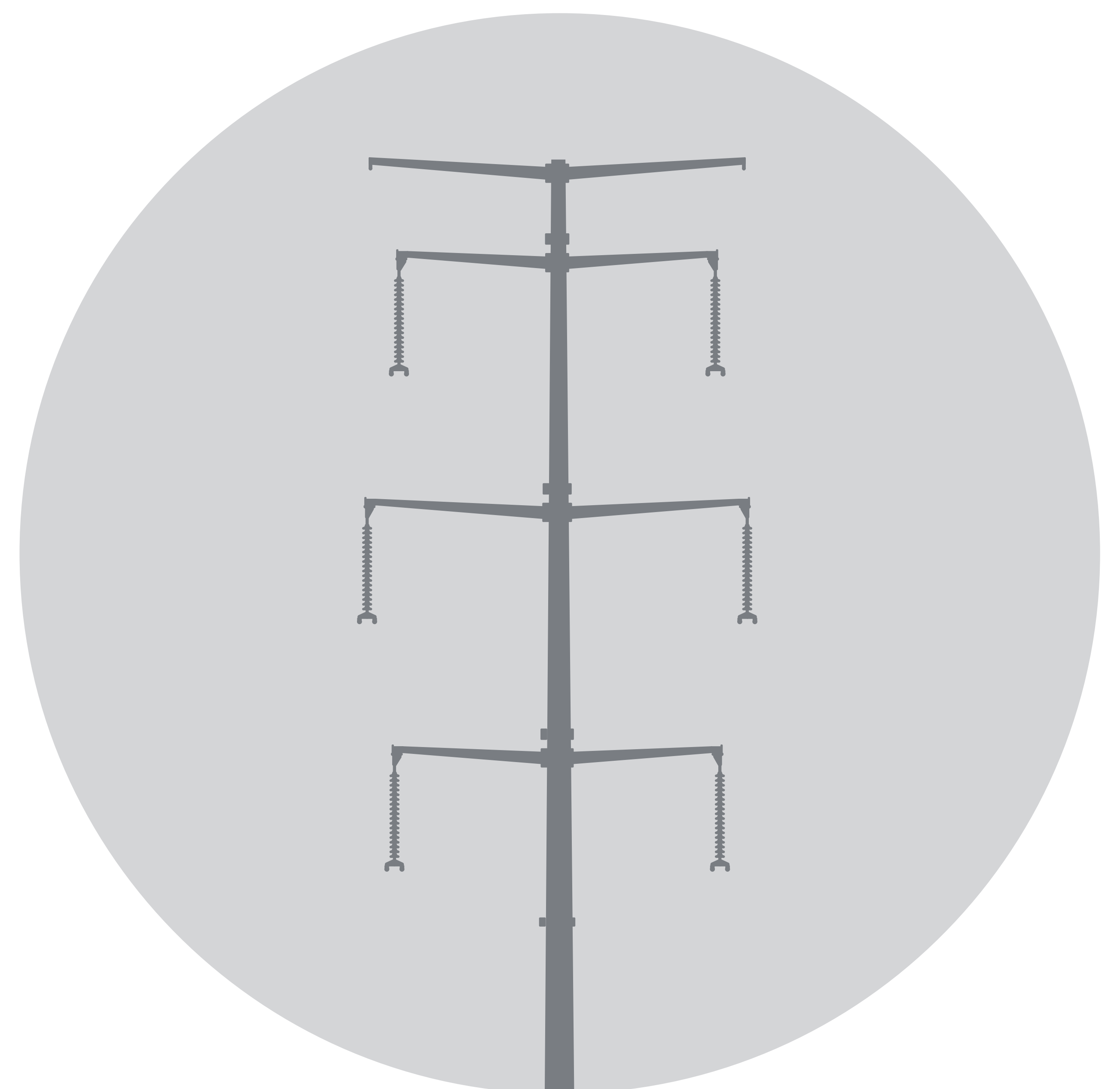
Following this process, **the PUC will decide on the Certificate of Need and Route Permit expected in 2024 or 2025.** The PUC may select one option or a combination of the options identified.



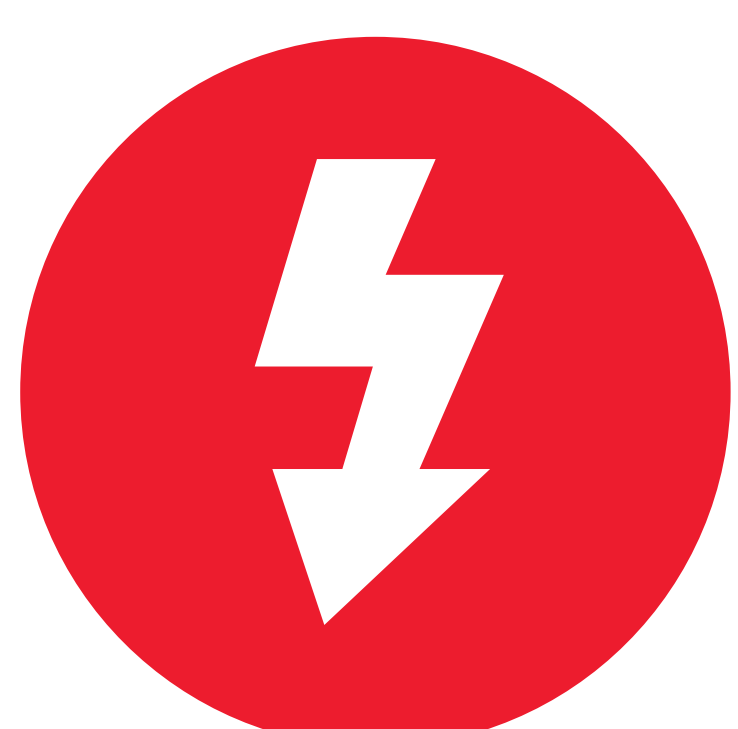
# TRANSMISSION LINE INFRASTRUCTURE

## ANTICIPATED DESIGN\*:

- Steel transmission structures
- Single pole style for most structures
- Typical pole height is 100-150 feet (depending on the terrain)
- Typical Right-of-Way is 150-foot-wide for a 345 kV line
- Typical Right-of-Way is 80-100-foot-wide for a 161 kV line
- 800-1,200 feet between structures for 345 kV segments
- 300-500 feet between structures for the 161 kV segments



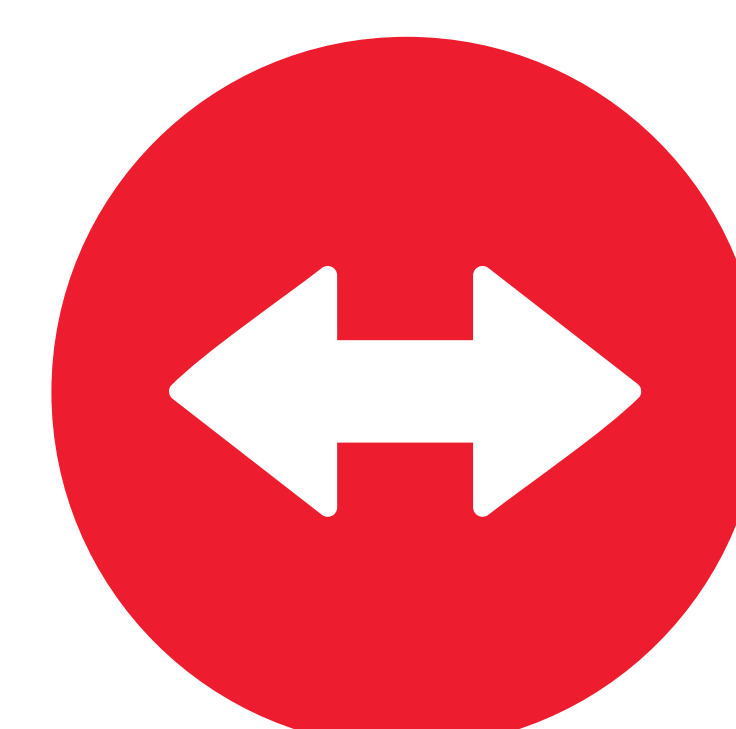
## TRANSMISSION LINE STRUCTURES VARY IN HEIGHT BASED ON FACTORS LIKE:



Voltage



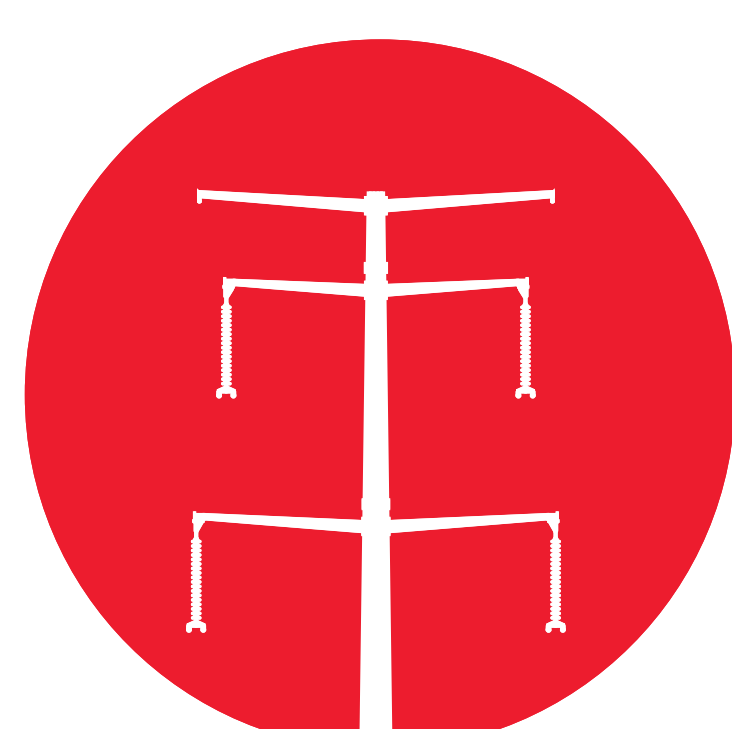
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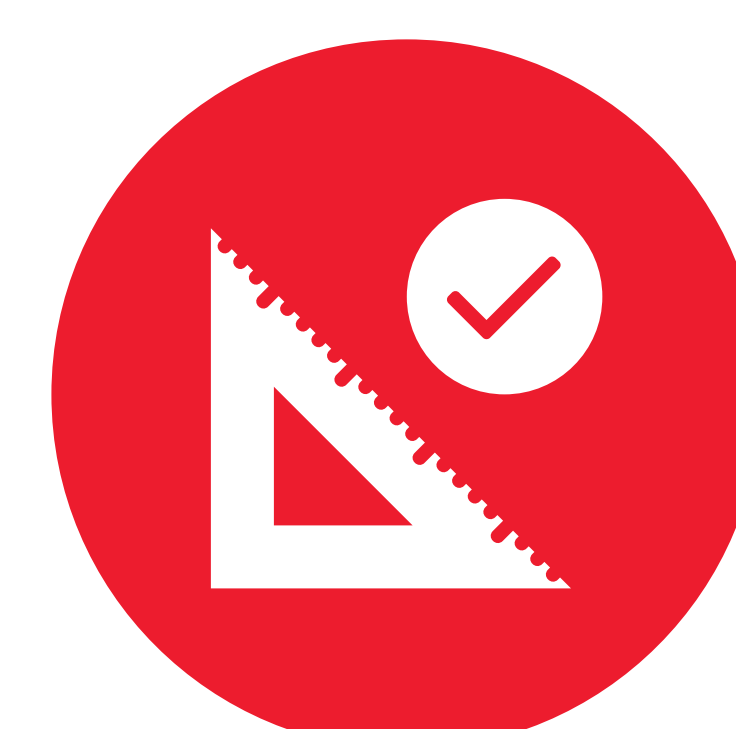
Distance between  
structures



Terrain



Structure  
types



Minimum clearance  
prescribed by  
National Electric  
Safety Code  
and Company  
standards

\*Design is subject to change based on final engineering and other factors.



# WORKING WITH LANDOWNERS

**EASEMENTS** are a permanent right authorizing a utility to use the Right-of-Way (ROW) to build and maintain a transmission line. Landowners are paid a fair market value for the easement and can continue to use the land if their use doesn't interfere with the operation and maintenance of the transmission line.

**RIGHTS-OF-WAY** are the actual land areas acquired for a specific purpose such as a transmission line, roadway or other infrastructure.

## LAND USES IN THE EASEMENT AREA

### Agriculture

After initial construction, agricultural activities can continue outside the small area with the transmission structures.

### Vegetation Management

Trees growing near power lines can be a safety hazard and are a major contributor to electric service interruptions nationwide. There may be some areas where tree removal and pruning will be needed.

Our goal is to provide safe, reliable electric service while also taking care of one of your community's valuable natural resources.

### Buildings and Structures

Generally, buildings or other structures are not allowed in the ROW/easement for transmission lines due to clearance and safety concerns. Landowners can only build structures in the easement area after receiving written approval from the utility.



This picture includes an existing 161 kV transmission line.



# MANKATO- MISSISSIPPI RIVER PROJECT PARTNERS

We are working with utility partners to develop portions of the new infrastructure to serve southern and southeast Minnesota and western Wisconsin, including several companies who helped build the Capx2020 transmission projects.

## DEVELOPMENT PARTNERS



## DEVELOPMENT DETAILS

- Xcel Energy will develop and own the infrastructure between the Wilmarth Substation near Mankato and the North Rochester substation near Pine Island (Segments 1 and 2).
- All project partners will participate in the additional 345 kV infrastructure from the North Rochester substation to the Mississippi River (Segment 3) and the 161 kV line from Pine Island to the Rochester area (Segment 4).
- The permits for Segments 1, 2, 3 and 4 will be submitted in one combined Certificate of Need and Route Permit.
- Dairyland Power will develop a related segment, relocation of the 161 kV portion east of Plainview, which will be permitted separately from this project.

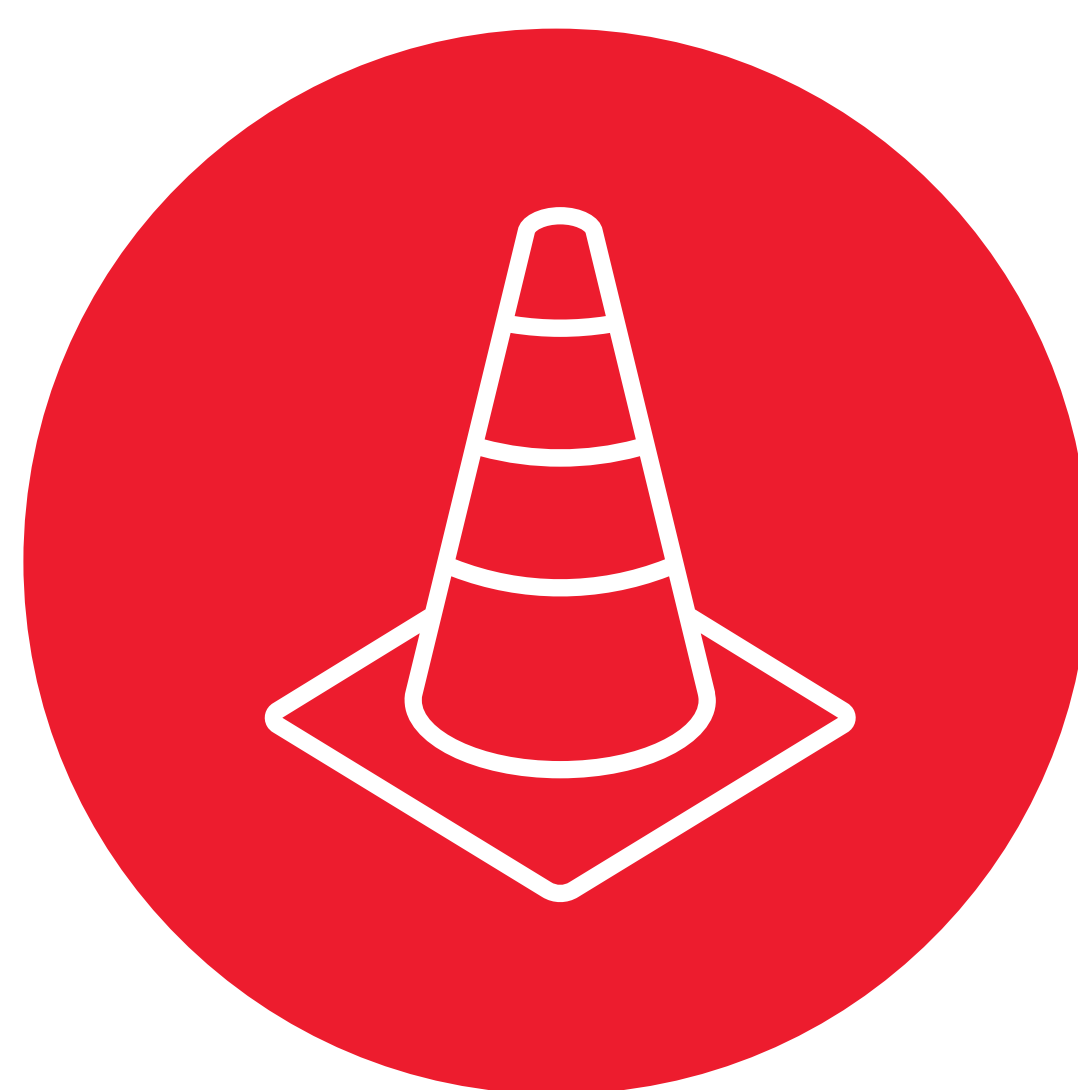


# CONSTRUCTION AND RESTORATION ACTIVITIES

Our typical transmission line construction process includes the following steps:



1. Soil surveys and  
property staking



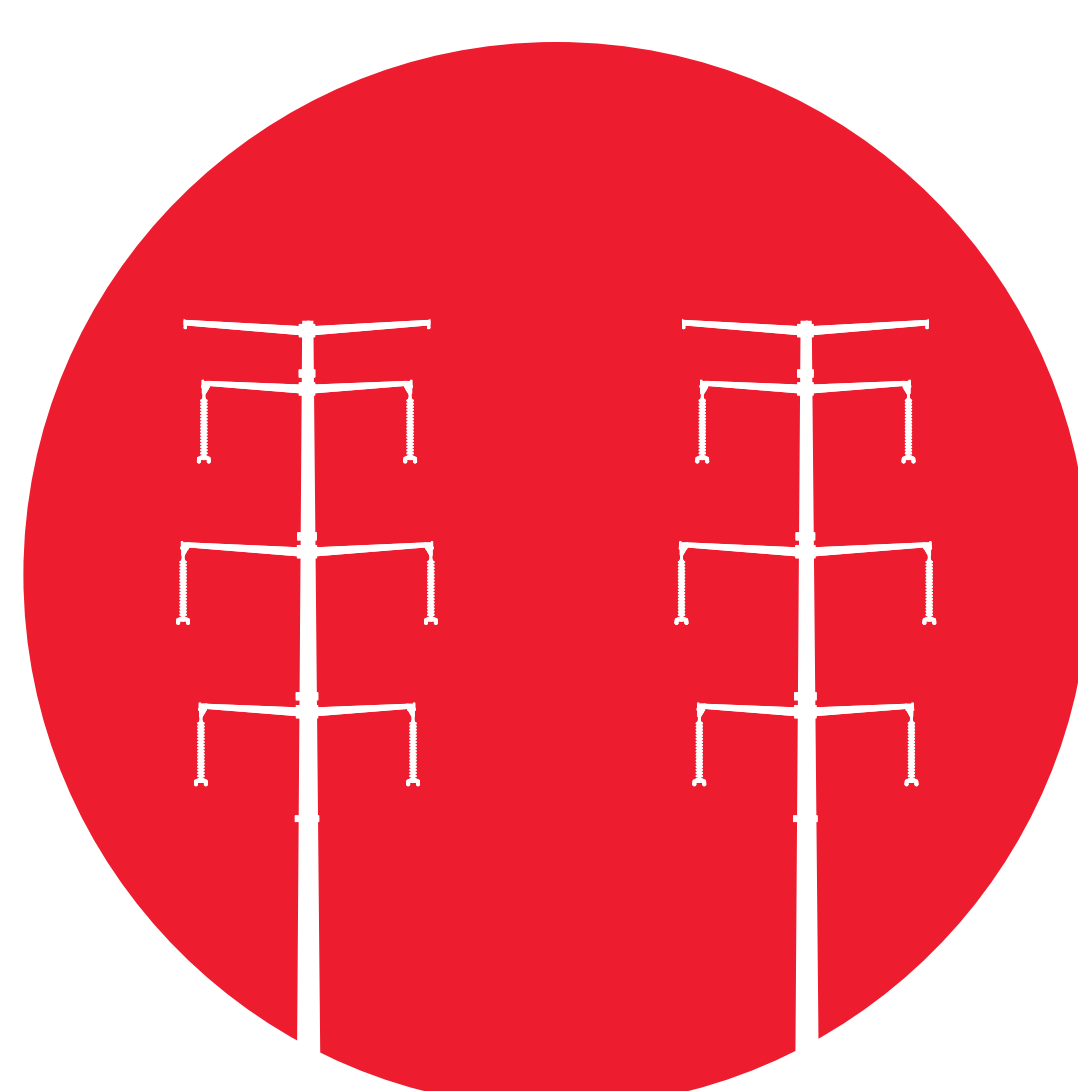
2. Construction  
access and  
vegetation clearing



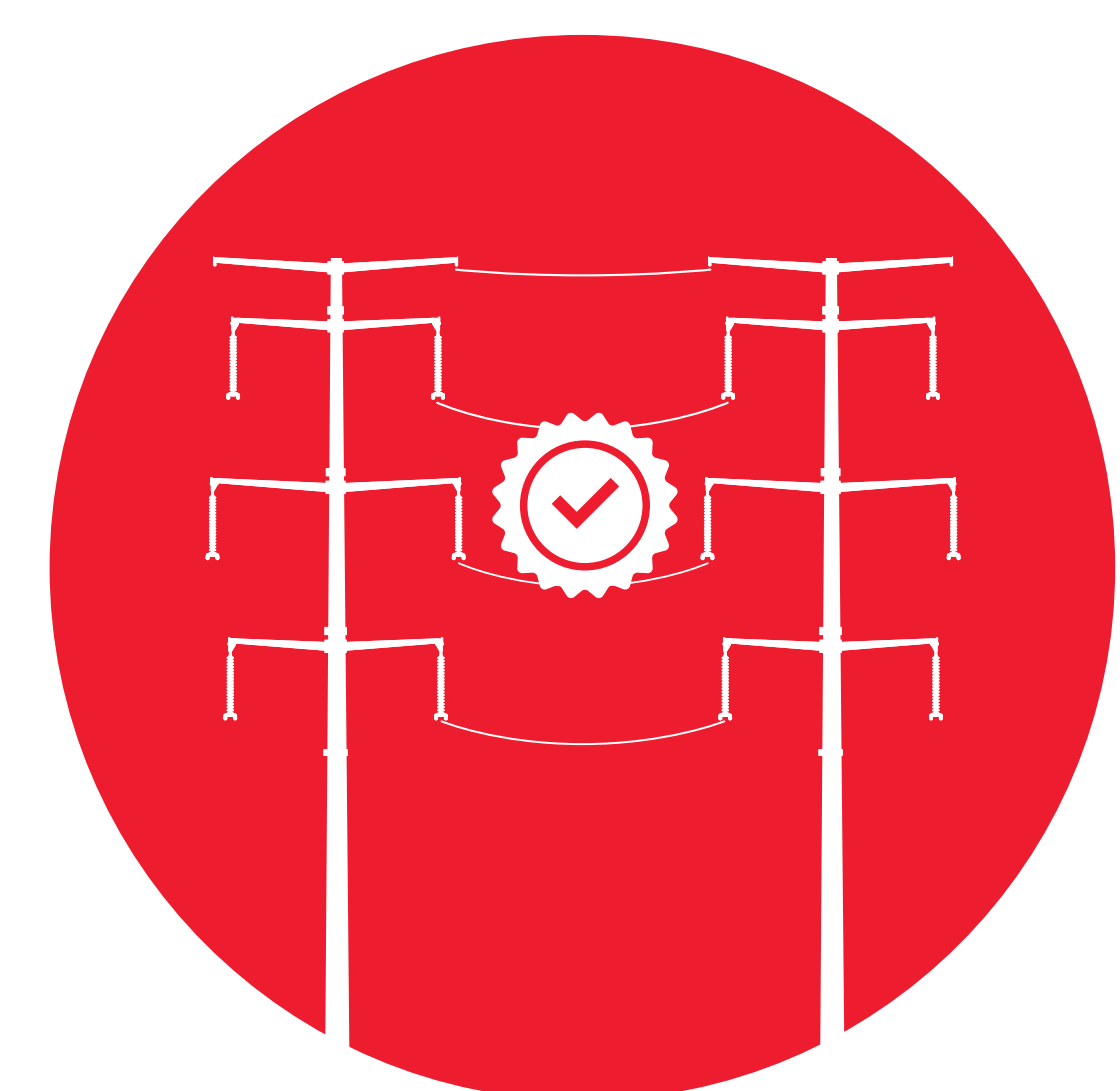
3. Mobilizing  
equipment and  
delivering material



4. Foundation  
construction



5. Installing structures  
and stringing conductor



6. Land  
restoration

**We currently expect construction to start in 2026 with the project in-service in 2028.**