

# 500 kV Transmission Line Clearing

Access, clearing and geotech activities began in January 2017 and completed in fall of 2018. Overall a total of 5,306 acres were cleared and 35,031 cords of wood were salvaged.

### Clearing on Segment 2



### Salvaged Wood



### Clearing on Segment 4



# 500 kV Transmission Line Foundations

Foundation and anchor activities began in January 2018 and completed in February 2019.

Drilled Piers on Segment 1



Helical Pile on Segment 1



Complete Helical Pile Segment 1



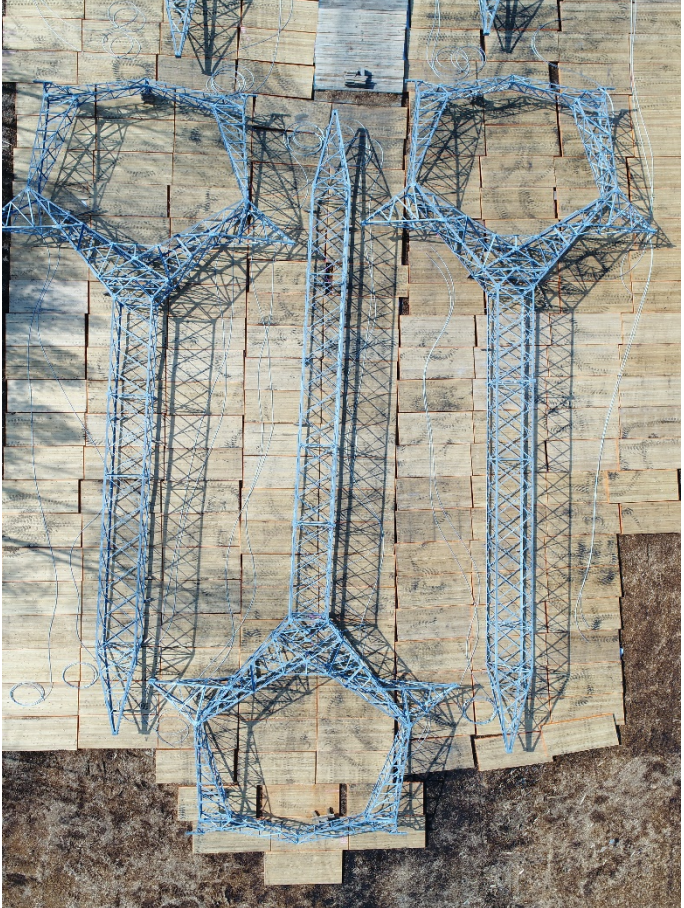
# 500 kV Transmission Line Tower Assembly

Tower assembly and setting began in April 2018 and completed in October 2019.

Assembly on Segment 1



Assembly on Segment 3



Setting on Segment 1



# 500 kV Transmission Line Overhead

Wire stringing and clipping began in April 2018 and completed in February 2020.

Clipping on Segment 1



Stringing on Segment 4



Clipping on Segment 1



500kV Transmission Line Construction Completed February 28, 2020 and the line was energized on June 1, 2020

**Substation switch closing**



**Electricity flowing on 3<sup>rd</sup> switch**



# Iron Range 230/500kV Substation Construction

Construction activities began in March 2017 and completed in February 2020

## Cap Bank Erection



## Drilled Piers in 230 kV Yard



# Iron Range 230/500kV Substation Construction (cont.)

## Transformer Firewall Installation



## Cable pulls in EEE



# Iron Range 230/500kV Substation Construction (cont.)

## Bus Construction



## Neutral Ground Reactors Install





# 230kV USI Line Modifications

## 230kV Line Modifications



# Warroad River Series Comp Construction

Construction and installation activities began in July 2018 and completed in May 2020

### Install of EEE



### Deadend Grounding



### Deadend Install

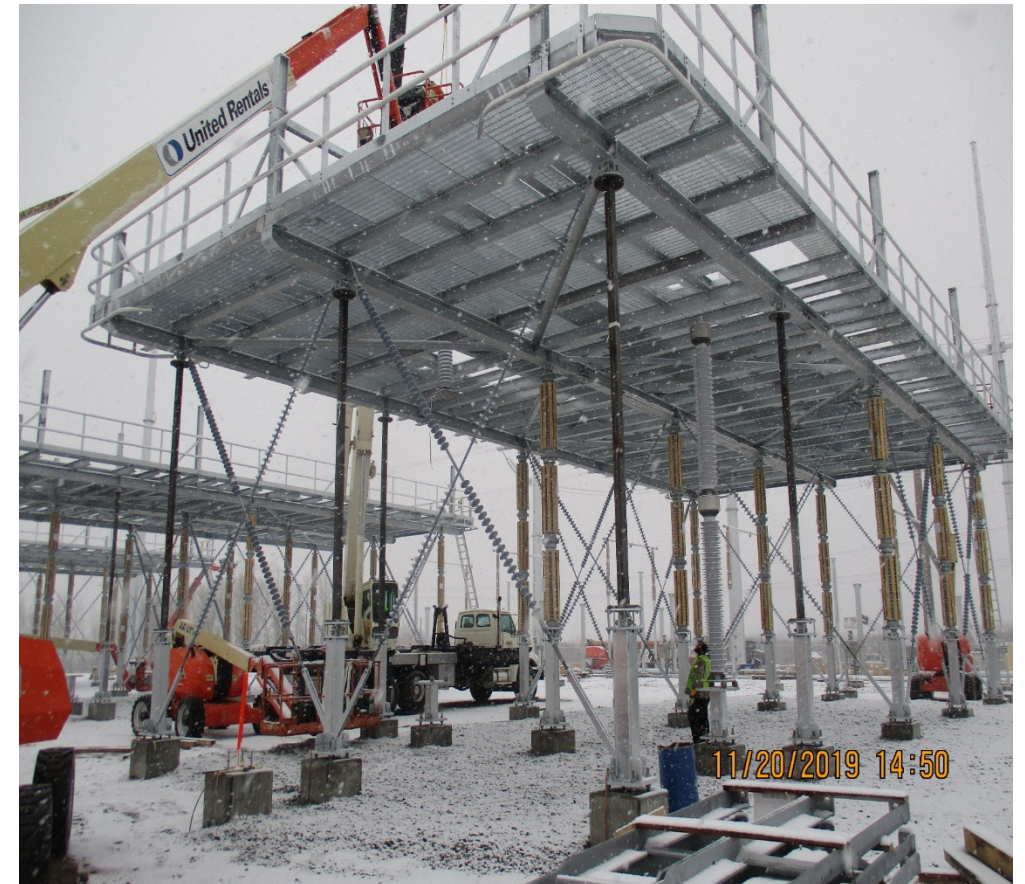


# Warroad River Series Comp Construction

## Capacitor Bank Install



## Coupling Capacitors Installation



# Warroad River Series Comp Construction

Construction completed May 2020 and was put into service July 14, 2020

