



X178-2 Transmission Line Rebuild Helicopter Installation Method Scope in White Mountain National Forest

August 2024

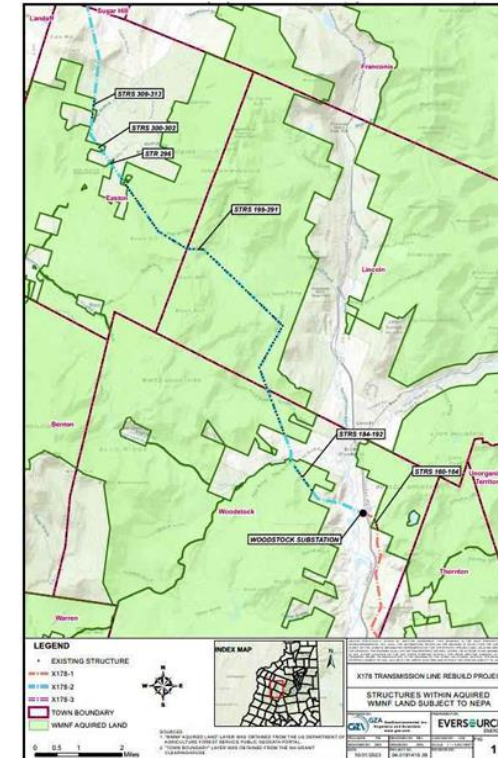
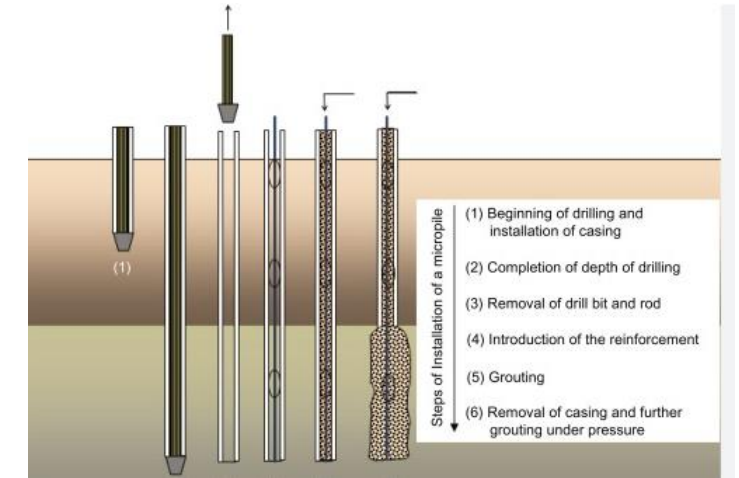


Figure 1. White Mountain National Forest Overview

Helicopter Installation Method Scope Overview

- Installation methods
- Workspace requirements
- Contingency for conventional direct imbed methods
- Preconstruction field reconnaissance scheduled Aug. 26-28th



Micropile Installation



Micropile Transmission Structure Foundation



**Existing Helicopter LZ in remote section
WMNF**



Micro Pile Foundations - Helicopter

Helicopter Installation Method Work Area



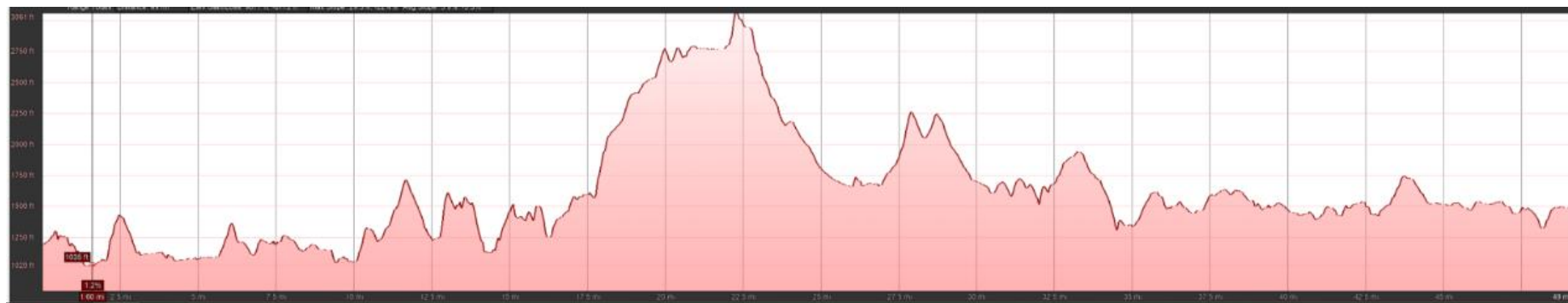
Highest STR on ES System – 2,606' / AT Crossing



Bog Pond Peatland Wetland Complex



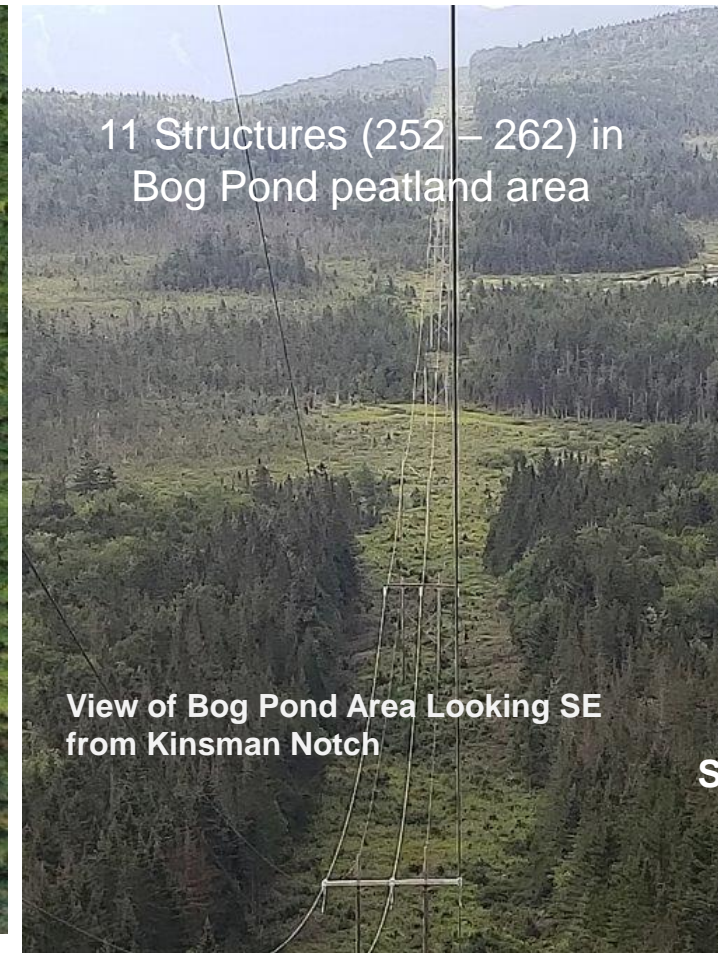
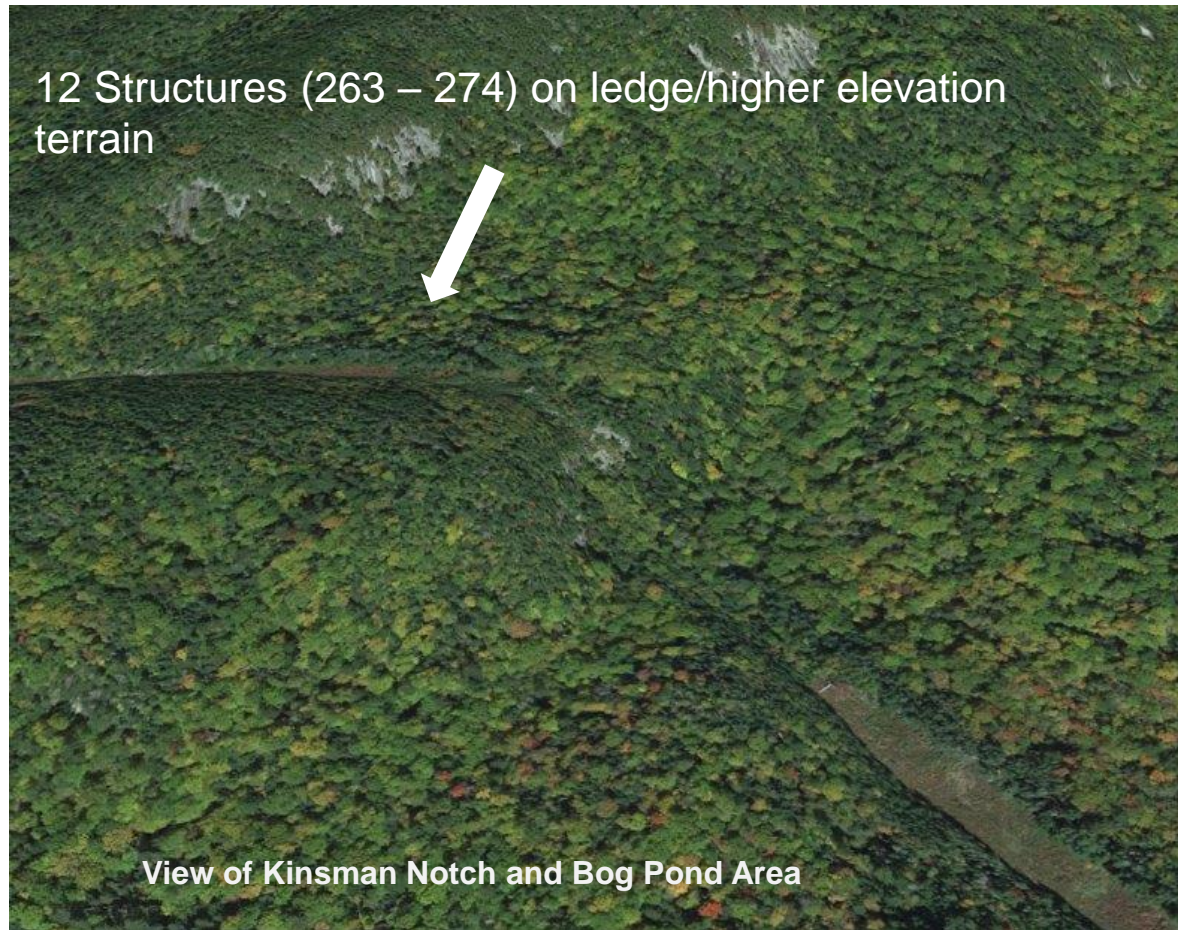
9+ Miles with no crossings/entry points



Elevation profile

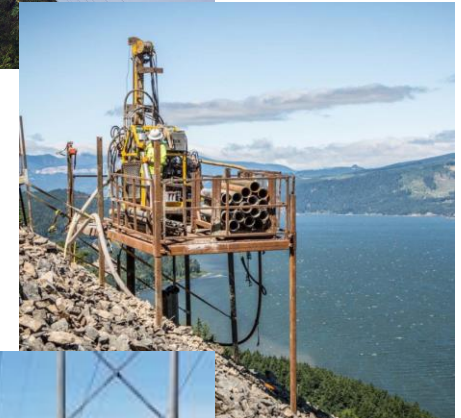
Helicopter Installation Method Locations

- 23 Structure locations proposed for helicopter installation methods



Helicopter Installation Method

- Matting pieces to be flown to a structure replacement location and put in place via ground crews.
- Ground crews will be deployed to work locations utilizing smaller helicopters with temporary matted landing pads. Low ground pressure Fat Truck vehicles may also be utilized.
- Drilling equipment and grouting equipment is flown to a structure installation location.
- Holes (piles) will be drilled using cased hole techniques with recycled water.
- Drilling spoils will be deposited in uplands, if possible, or may be containerized and flown out to a more suitable location.
- Holes are grouted with sand-cement mortar or neat cement.
- Steel reinforcement/anchors are installed in the grouted pile.
- Repeat this process for each micropile at structure base.
- A steel cap is installed upon the micropiles and transmission structure segments are flown in and erected at each location.
- Structure elements will be flown in and erected with the assistance of helicopters and ground crews



Helicopter Installation Method



Helicopter mobilization of equipment



Drilling platform for micropiles

Alternative Direct Imbed and Access Contingency

- As a contingency, conventional work pads and in-ROW access roads and timber mat access ways are shown on the environmental permit plan set in the event that helicopter operations are interrupted and conventional (direct imbed) methods and the necessary vehicles and equipment are required for the structure installation work.
- Assuming no disruption of the helicopter operations, the footprint of the micropile structure work area will be smaller than the 100'x100' work pad areas currently shown and gravel and matting access between structures will not be required.
- There is also the potential that a low ground pressure Fat Truck vehicle may be used to transport personnel and some equipment between the structure locations roughly along the access routes shown, which will be less impacting than the full timber mat access as currently shown.



Helicopter Installation Method Video

