



# **Montana-Dakota Utilities Co. 230kV Transmission Line – Morton County Project**

## ***Topsoil Removal Inspection Report***

***Docket Number: PU-21-151***

Prepared for North Dakota Public Service Commission

January 2022

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Topsoil Removal Inspection Report  
Barr

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January 2022

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Appendix A Photo Log and Observation Maps

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# 1 Executive Summary

The North Dakota Public Service Commission (PSC) retained Barr Engineering Co. (Barr) to complete site inspections for the construction of the Montana-Dakota Utilities Co. 230kV Transmission Line project in Morton County, North Dakota, constructed by the Montana-Dakota Utilities Company (MDU). The purpose of the inspections is to ensure the project is constructed in compliance with siting laws and rules and the applicable PSC Orders for the project.

A pre-construction conference call was held for the Project on 14 January 2022. Barr attended the call and reviewed project documents to become familiar with the Project and PSC Orders for the Project. Construction involving soil disturbance began 21 January 2022. Barr was to present to observe topsoil segregation by Rocky Mountain Contractors (Contractor) at the onset of the Project.

During the site inspection, topsoil segregation was observed by a single auger operator as work started on one spread southwest of R.M. Heskett Station north of Mandan, ND. Minor subsoil disturbance was noted during the initial auger drilling of topsoil but was immediately corrected by spotters and equipment operators. Barr spoke with project managers and operators to ensure that spotters and equipment operators use care during continuing topsoil removal.

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## 2 Background and Scope

### 2.1 Introduction

The Montana-Dakota Utilities Co 230kV Transmission line will be a 230-kilovolt transmission line originating at the R.M. Heskett plant located near Mandan, North Dakota and ending at the existing substation approximately one mile north of the R.M. Heskett plant.

The transmission line for the project is designed to carry 230-kilovolt electrical power to the existing substation. The Project is under the jurisdiction of the North Dakota PSC, which issued its Findings of Fact, Conclusions of Law, and Order in Case No. PU-21-150 on 28 July 2021, granting Certificates of Corridor Compatibility No. 223, and Route Permit No. 233 for the Project.

### 2.2 Regulatory Purpose and Need

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) charges the Public Service Commission with determining that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. Inspections during construction ensure that such projects are built in compliance with the siting laws (North Dakota Century Code Chapter 49-22) and rules (North Dakota Administrative Code Article 69-06) and the applicable Commission Orders.

### 2.3 Scope of Work

The North Dakota Public Service Commission retained Barr Engineering Co. to perform topsoil removal inspections of the Project. Barr's scope of work was to complete and document an on-site topsoil removal inspection at the onset of the construction phase of the project to determine that topsoil is properly removed and segregated and that the contractor demonstrated proficiency in topsoil removal and segregation in compliance with the Commission's Order. This report contains site visit observations and a summary of findings and issues that should be addressed for the Project to be considered complete and in full compliance.

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## 3 Findings of Site Inspection

### 3.1 Methods

Andrew Unbehaun, Project Manager/Field Inspector for Barr visited the Project site on 21 January 2022 to witness topsoil removal and segregation at the start of construction on the Project. Ron Davis, superintendent for Rocky Mountain Contractors (RMC), accompanied Barr staff on the visit. Mr. Davis oversees daily work by construction contractors to ensure the work is being completed according to approved work plans and procedures.

The site was visually inspected by driving to the location where the first poles were to be installed. Contractor equipment operators and spotters were observed during auger drilling for topsoil removal to check that topsoil was properly removed and segregated during the start of the construction process. Digital photographs were taken at the observation point showing typical soil removal or potential problem areas. Geographic coordinates were recorded at observation points using a handheld Global Navigation Satellite System (GLONASS) device (iPhone 8; <5m accuracy; WGS84 datum).

### 3.2 On-Site Inspection Observations

Mr. Unbehaun met with superintendent Ron Davis at the MDU contractor parking area. Mr. Davis and Mr. Unbehaun then proceeded to the Project construction area. Once access points had been established, equipment operators for RMC began using augers to drill at the location for the first pole. Operators and spotters were observed to maintain surveillance of topsoil depth and changes as topsoil was drilled out using a 36" diameter auger with nine teeth on each leading edge of the auger. The operators slowly drilled through the topsoil to identify topsoil depth. During initial drilling, small amounts of subsoil were disturbed as topsoil was removed. The subsoil disturbance was immediately identified by the operators and spotters and topsoil removal depth was adjusted to prevent further subsoil inclusion in topsoil. Removed topsoil was stockpiled in a separate location approximately 5 feet from the hole during initial removal. Mr. Unbehaun requested that the topsoil be moved further from the drilling area during subsequent pole installations. See Appendix A, Observation Maps 1-4 for photographs and descriptions of topsoil removal.

The contractors demonstrated proficiency in removing and segregating topsoil at the start of Project construction. Work areas visited during the inspection were kept free of debris and waste, and movement of vehicles was kept within ROW boundaries.

## 4 Issues to Resolve and Recommendations

Issues	Recommendations
<b>Minor disturbance of subsoil during topsoil removal</b>	Continue to utilize spotters and ensure operators are focusing on maintaining equipment blades at topsoil depth as removal continues.

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## 5 Signatures

The services performed by Barr staff for this project have been conducted in a manner consistent with the technical skill and degree of care exercised by professionals currently practicing in this discipline under similar time and budget constraints. Findings and recommendations represent our professional judgement and are based on available information and accepted practices. No warranty is implied or expressed beyond this.

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Andrew Unbehau, Project Manager

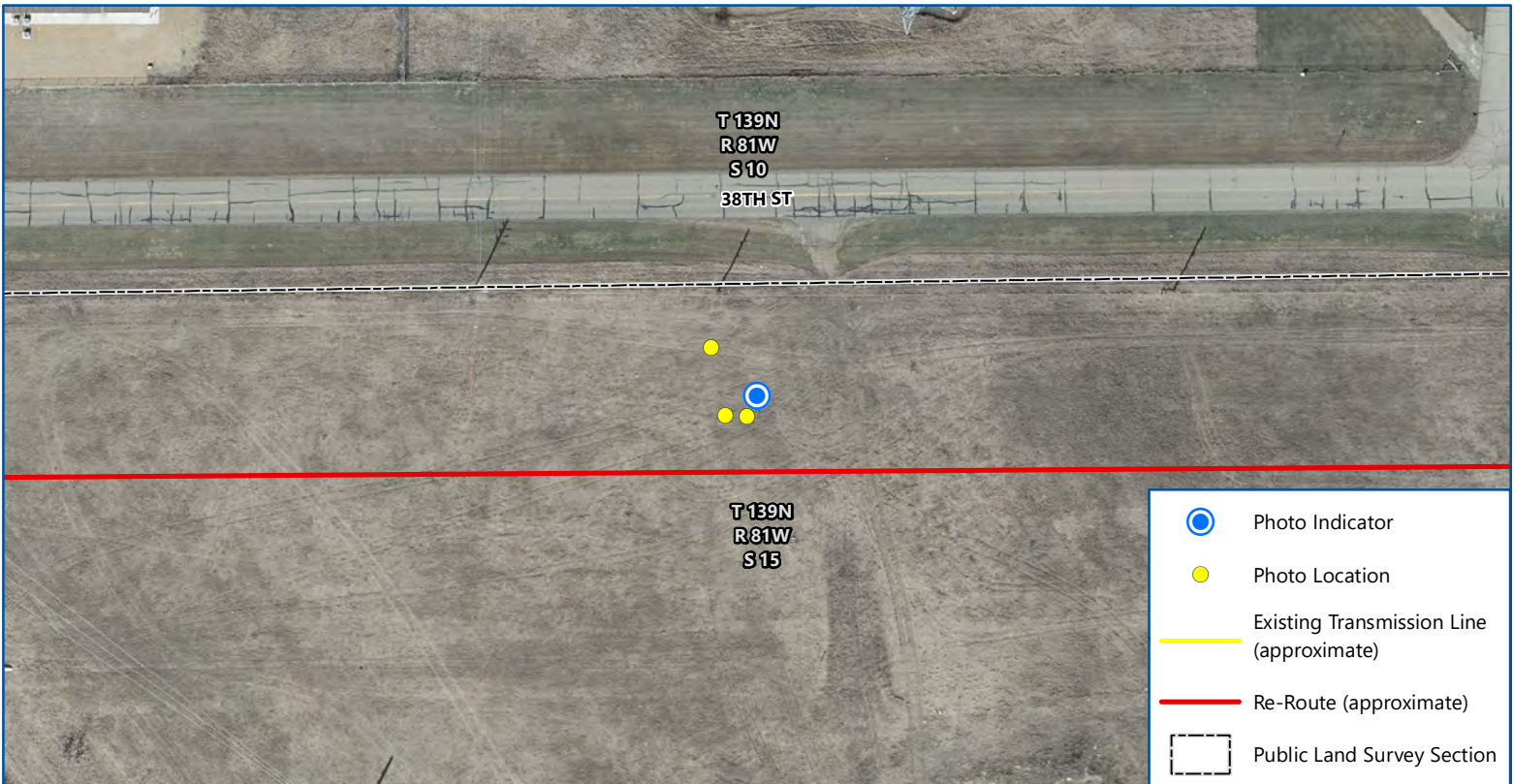
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Date

## Appendices

## **Appendix A**

### **Photo Log and Observation Maps**



Map 1 of 4

**MDU 230KV  
TRANSMISSION LINE**

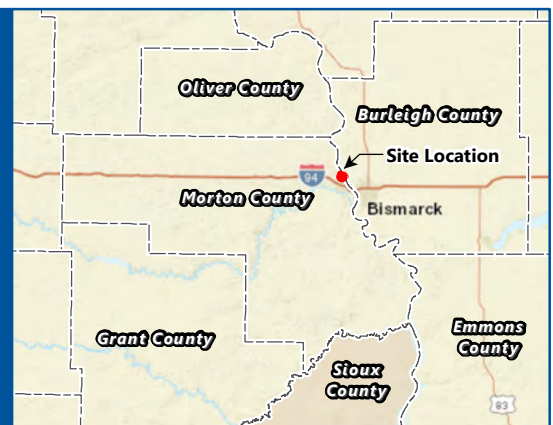
North Dakota Public Service Commission  
Mountrail County, North Dakota

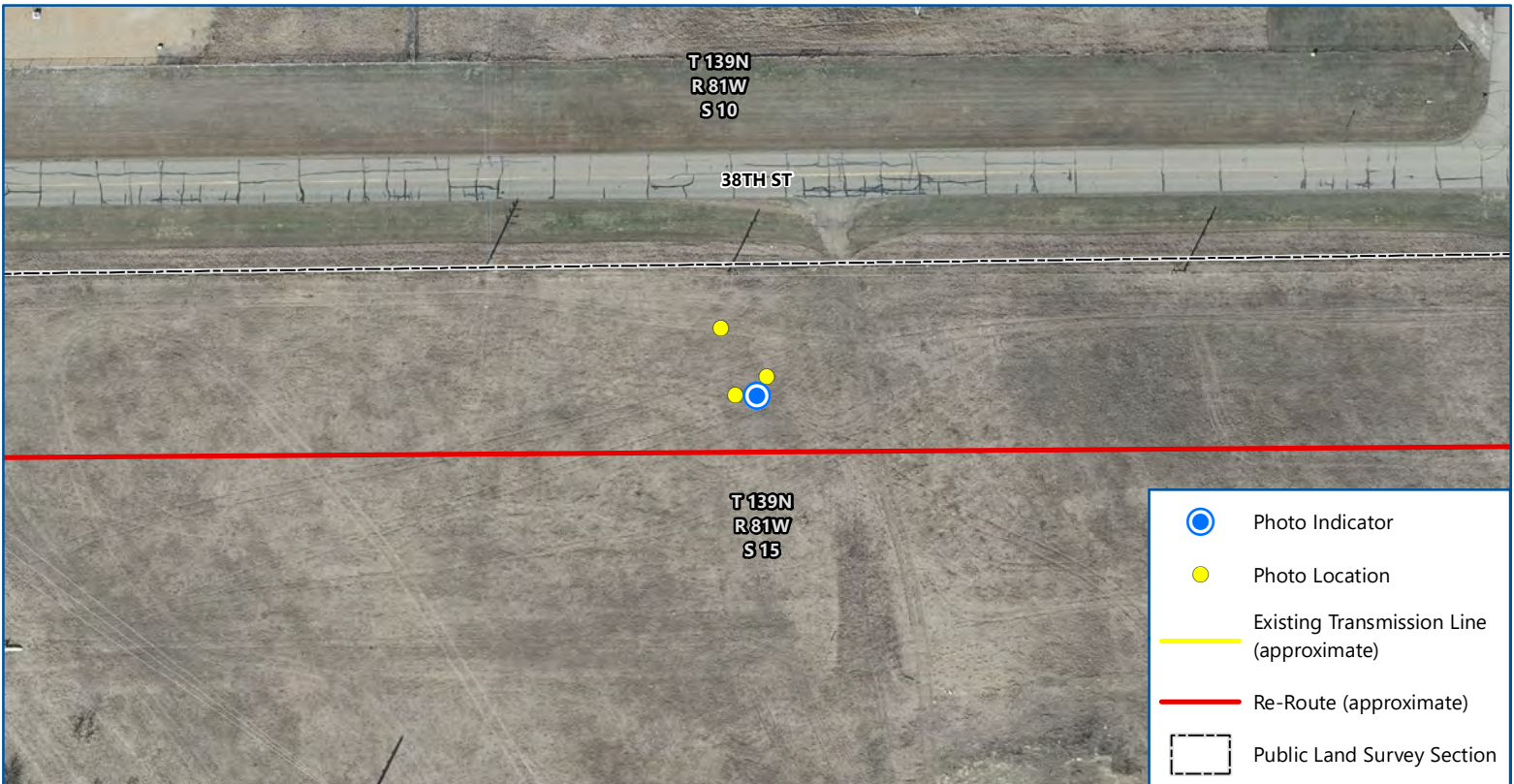


Imagery: Bismarck Mandan MPO (2020)

Date: 1/21/2022  
Photo Direction: West  
Comment: Prior to drilling.

Latitude: 46.864574  
Longitude: -100.885584  
Coordinates are in the WGS84 datum.





Map 2 of 4

**MDU 230KV  
TRANSMISSION LINE**

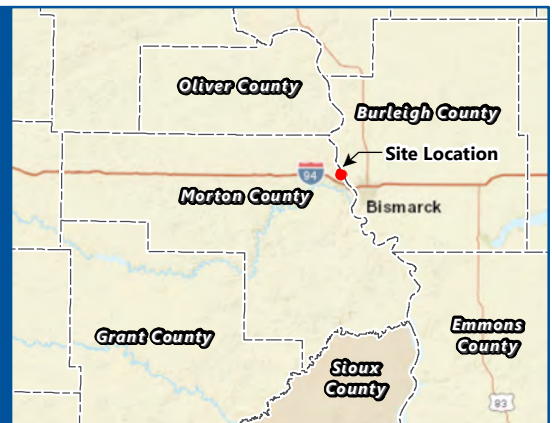
North Dakota Public Service Commission  
Mountrail County, North Dakota

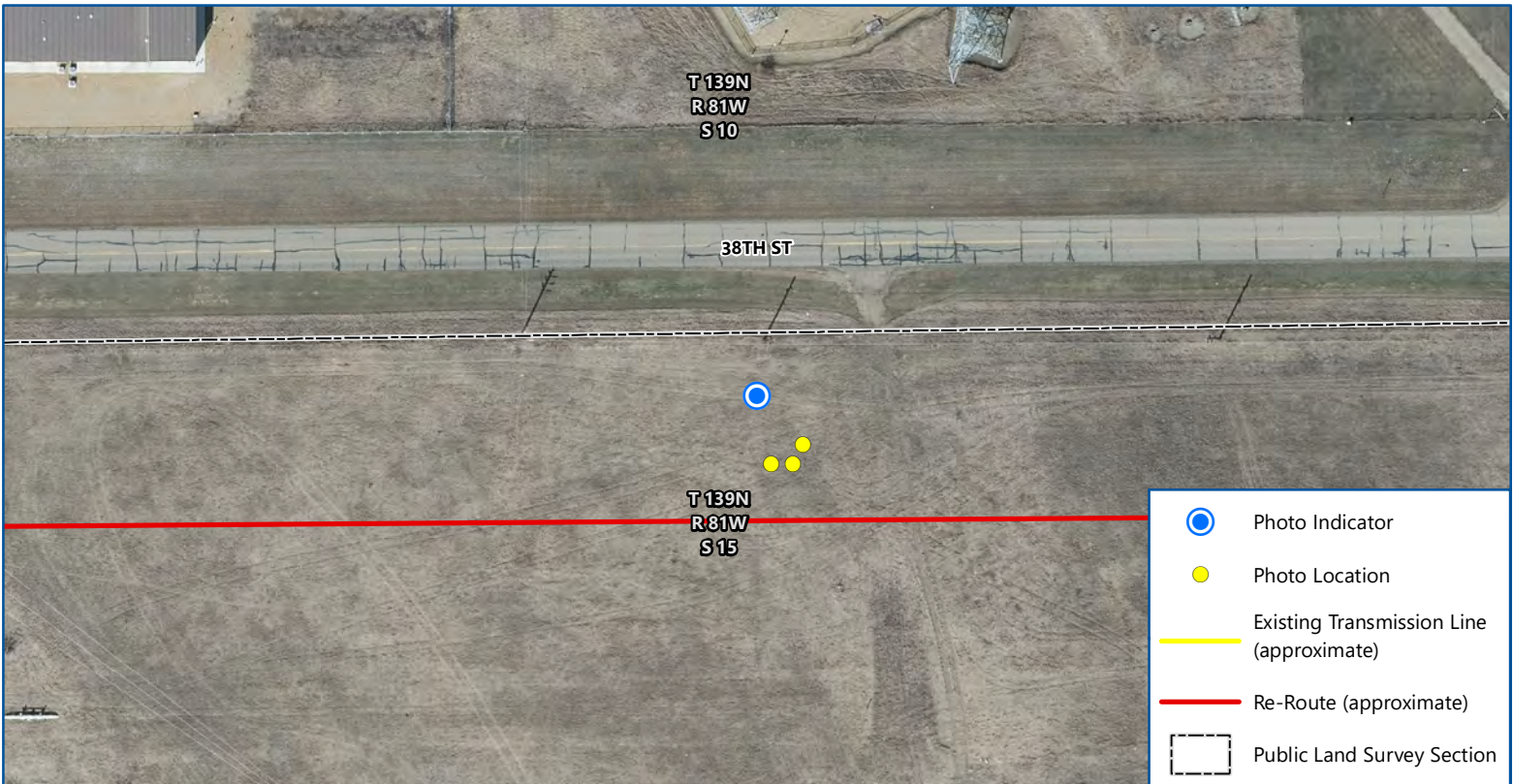


Imagery: Bismarck Mandan MPO (2020)

Date: 1/21/2022  
Photo Direction: Northwest  
Comment: Beginning of drilling.

Latitude: 46.864545  
Longitude: -100.885606  
Coordinates are in the WGS84 datum.





Map 3 of 4

**MDU 230KV  
TRANSMISSION LINE**

North Dakota Public Service Commission  
Mountrail County, North Dakota



Imagery: Bismarck Mandan MPO (2020)

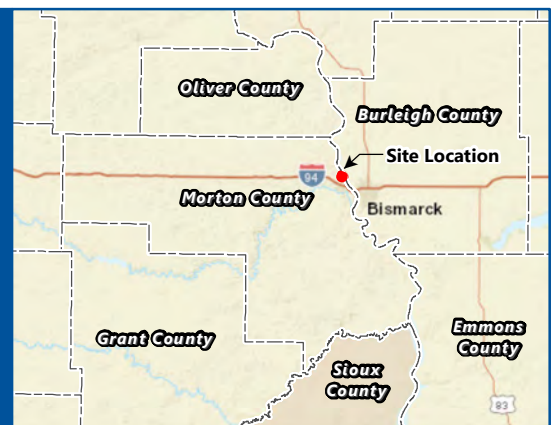
Date: 1/21/2022

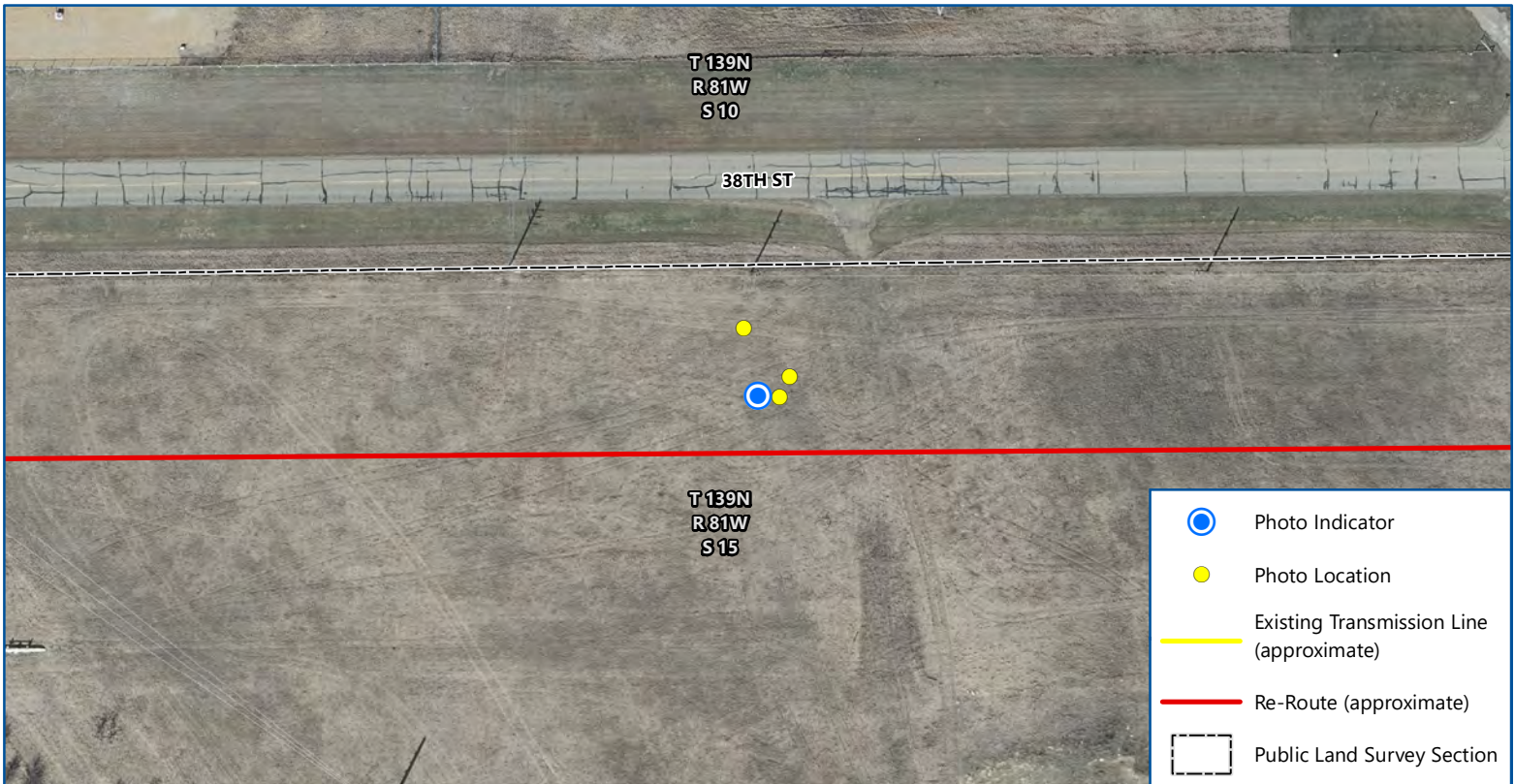
Photo Direction: Northwest

Comment: Segregating topsoil. Multiple teeth on auger leading edge to break up frozen soil.

Latitude: 46.864645

Longitude: -100.885684





Map 4 of 4

**MDU 230KV  
TRANSMISSION LINE**

North Dakota Public Service Commission  
Mountrail County, North Dakota

N

0 100  
Feet

Imagery: Bismarck Mandan MPO (2020)

Date: 1/21/2022  
 Photo Direction: Northeast  
 Comment: Segregation of subsoil and topsoil.

Latitude: 46.864546  
 Longitude: -100.885653  
 Coordinates are in the WGS84 datum.

