

NuStar 10" Pipeline Relocation Project

Topsoil Removal Inspection Report

Docket Number: PU-20-381

Prepared for North Dakota Public Service Commission



June 2021

Topsoil Removal Inspection Report

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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 North System Pipeline Relocation project in Cass County, North Dakota, constructed by NuStar Pipeline Operating Partnership L.P. (NuStar). 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 26 May 2021. 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 9 June 2021. Barr was to present to observe topsoil segregation by Rig Masters, Inc (Contractor) at the onset of the Project.

During the site inspection, topsoil segregation was observed by multiple operators as work started on one spread near the existing NuStar pump station east of Mapleton, ND. Minor subsoil disturbance was noted during topsoil removal but was immediately corrected by spotters and equipment operators. Barr observed that topsoil depth varied in places on the ROW and spoke with project managers and operators to ensure that spotters and equipment operators use care during continuing topsoil removal.

2 Background and Scope

2.1 Introduction

The North System Pipeline is a 10-inch pipeline originating at the Marathon Petroleum refinery located in Mandan, North Dakota that carries refined petroleum products to Fargo, North Dakota, and points further east. A section of the pipeline 2.21 miles long will be relocated to go south from the project start point, then turn west until it reaches the project end point. Refer to project siting application for detailed route information.

The pipe for the Project is designed to carry up to 3,000 barrels per hour of refined petroleum products (gasoline, diesel, etc.). The maximum allowable operating pressure for each pipeline will be 1,440 pounds per square inch gauge (psig), at a design temperature of 100 degrees Fahrenheit. 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-20-381 on 6 January 2021, granting Certificates of Corridor Compatibility No. 220, and Route Permit No. 230 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.

3 Findings of Site Inspection

3.1 Methods

Andrew Unbehaun, Project Manager/Field Inspector for Barr visited the Project site on 9 June 2021 to witness topsoil removal and segregation at the start of construction on the Project. Eric Callahan, chief on-site inspector for NuStar accompanied Barr staff on the visit. Callahan oversees daily work by construction contractors to ensure the work is being completed according to applicable codes and approved work plans and procedures.

The site was visually inspected by driving to the equipment staging area then walking the portion of the Project right-of-way (ROW) that was to be cleared first. Rig Masters, Inc. (Rig Masters) is the contractor constructing the pipeline for NuStar. Contractor equipment operators and spotters were observed during topsoil removal to check that topsoil was properly removed and segregated during the start of the construction process. Digital photographs were taken at observation points 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 inspector Eric Callahan at the NuStar pump station. Mr. Callahan and Mr. Unbehaun then proceeded to the Project construction area. Once access points had been established, equipment operators for Rig Masters began stripping topsoil from the area immediately east of 166th Ave SE . Operators and spotters were observed to maintain close surveillance of topsoil depth and changes as topsoil was scraped by two excavators and one bulldozer. The operators slowly scraped topsoil to identify topsoil depth. Topsoil depth varied in the observed area, and in some locations, small amounts of subsoil were disturbed during topsoil removal. The subsoil disturbance was immediately identified by the operators and spotters and topsoil removal depth was adjusted to prevent further subsoil inclusion in topsoil removal. Removed topsoil was stockpiled on the north side of the Right of Way during initial removal. Observations were made that wetlands and other environmentally sensitive areas were clearly marked and topsoil removal stopped at the markers to mitigate against impacts from construction. See Appendix A, Observation Maps 1-5 for photographs and descriptions of topsoil removal.

The contractors demonstrated proficiency in removing and segregating topsoil at the start of Project construction. NuStar inspectors appeared to have a strong relationship with the contractor and were involved in ensuring soil was segregated and stored properly. 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
Minor disturbance of subsoil during topsoil removal	Continue to utilize spotters and ensure operators are focusing on maintaining equipment blades at topsoil depth as removal continues.

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.

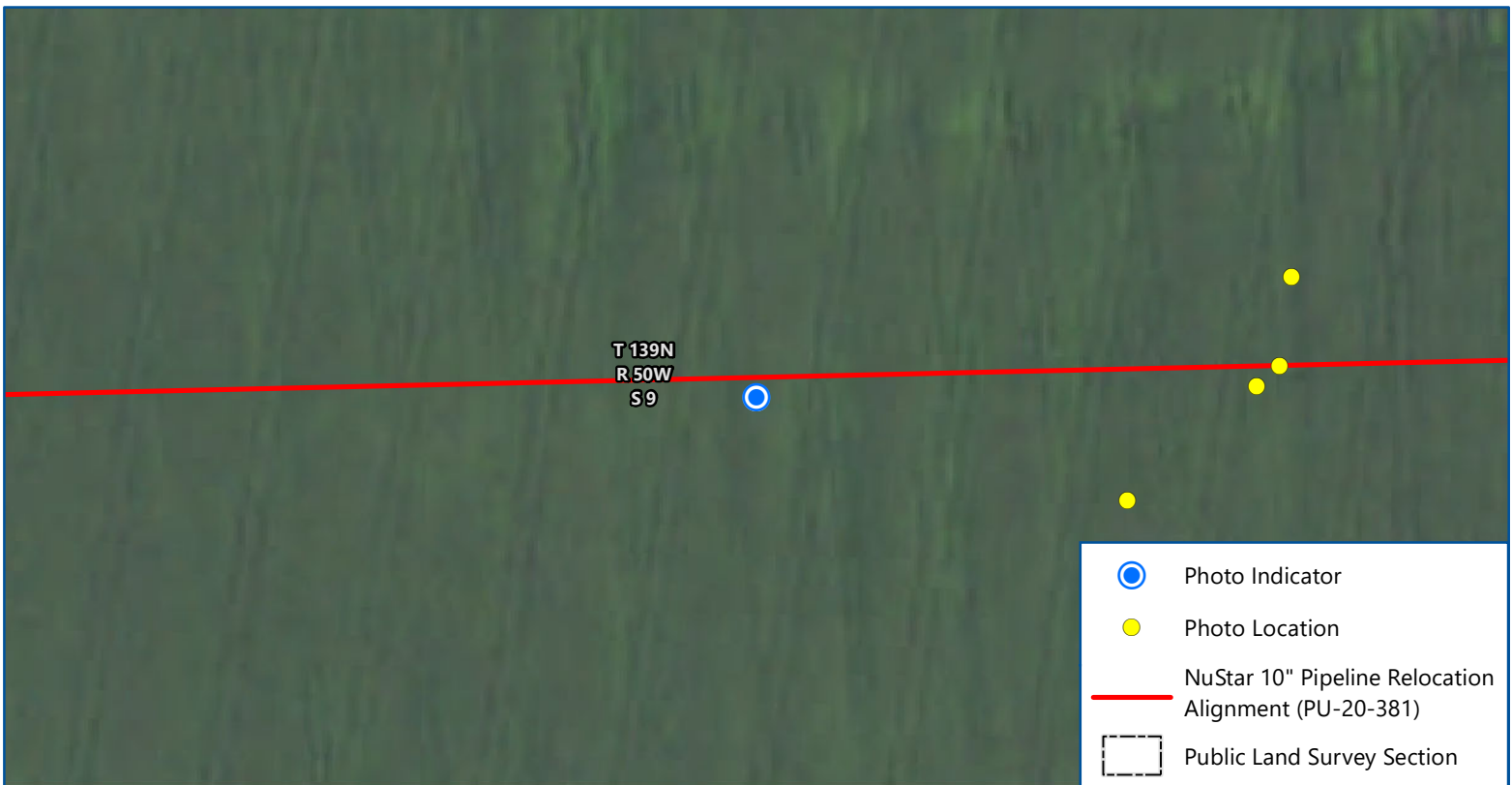
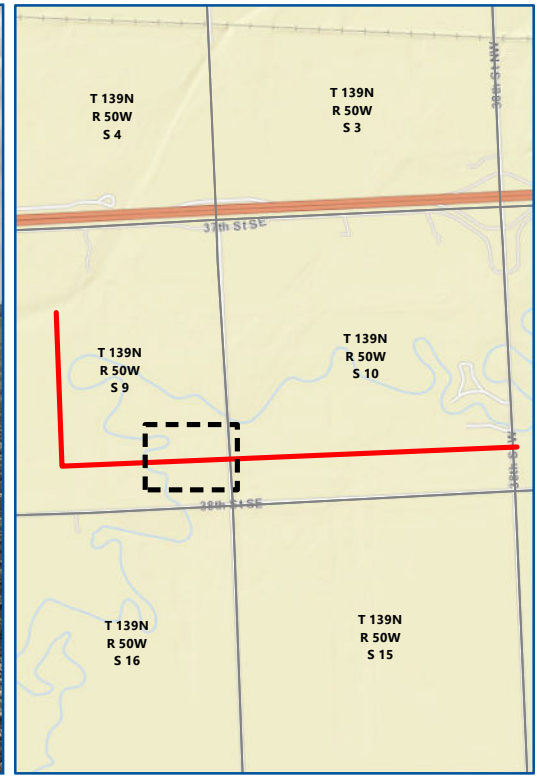
Andrew Unbehau, Project Manager

Date

Appendices

Appendix A


Photo Log and Observation Maps




Map 1 of 5

**NUSTAR 10" PIPELINE RELOCATION
TOPSOIL REMOVAL INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota



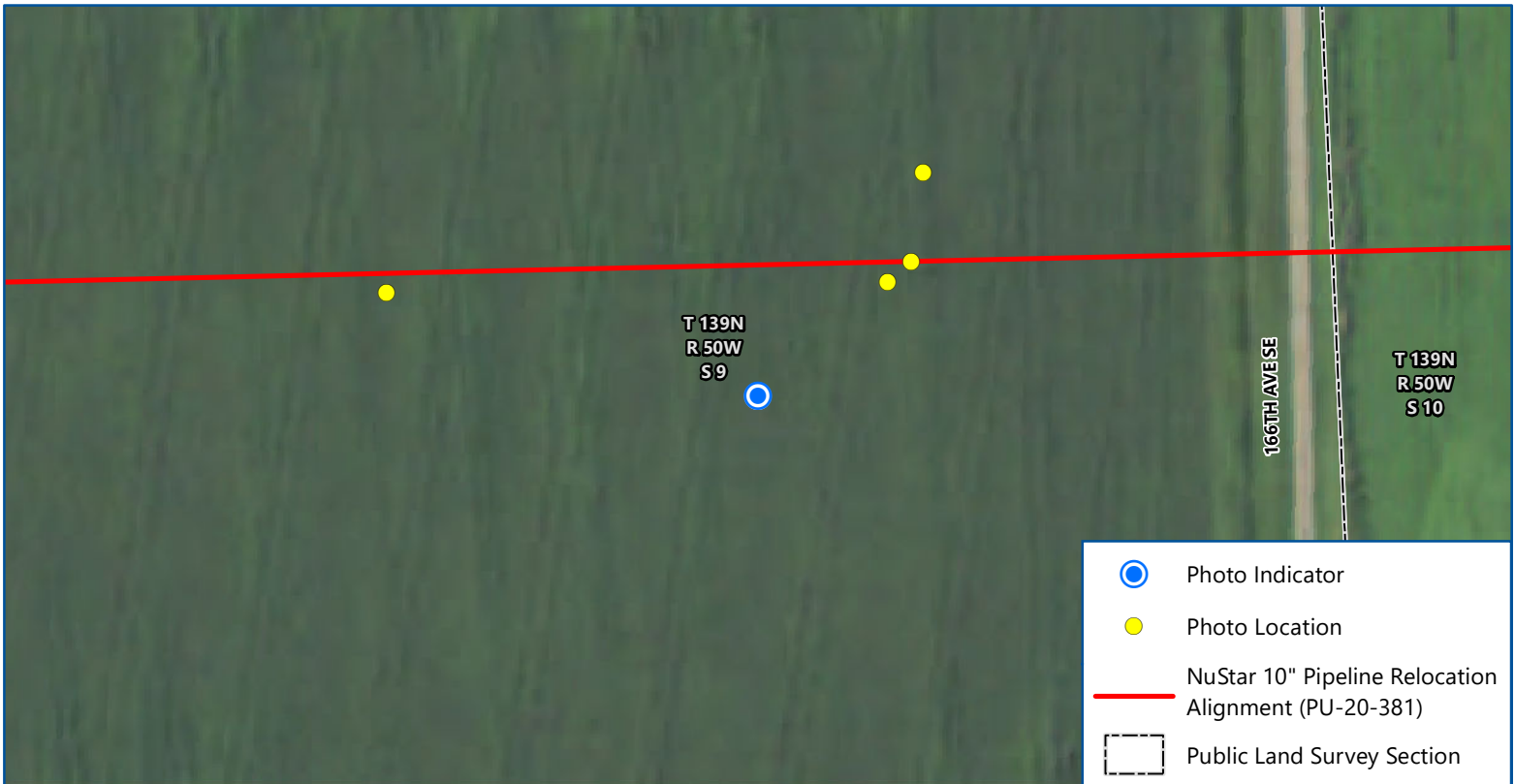
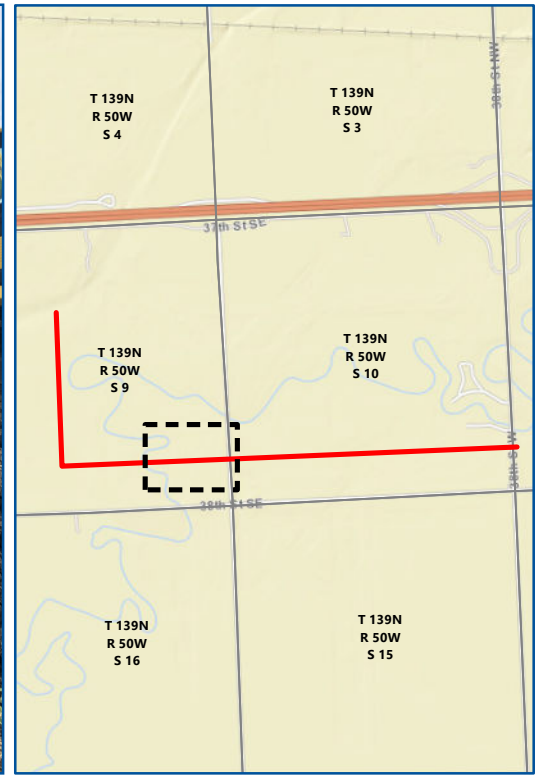


Imagery: USDA FSA (2020)

Date: 6/9/2021
 Photo Direction: East
 Comment: Entire site as viewed from the west. Depth of topsoil in some places exceeding 12".

Latitude: 46.864769
 Longitude: -96.991772





Map 2 of 5

**NUSTAR 10" PIPELINE RELOCATION
TOPSOIL REMOVAL INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

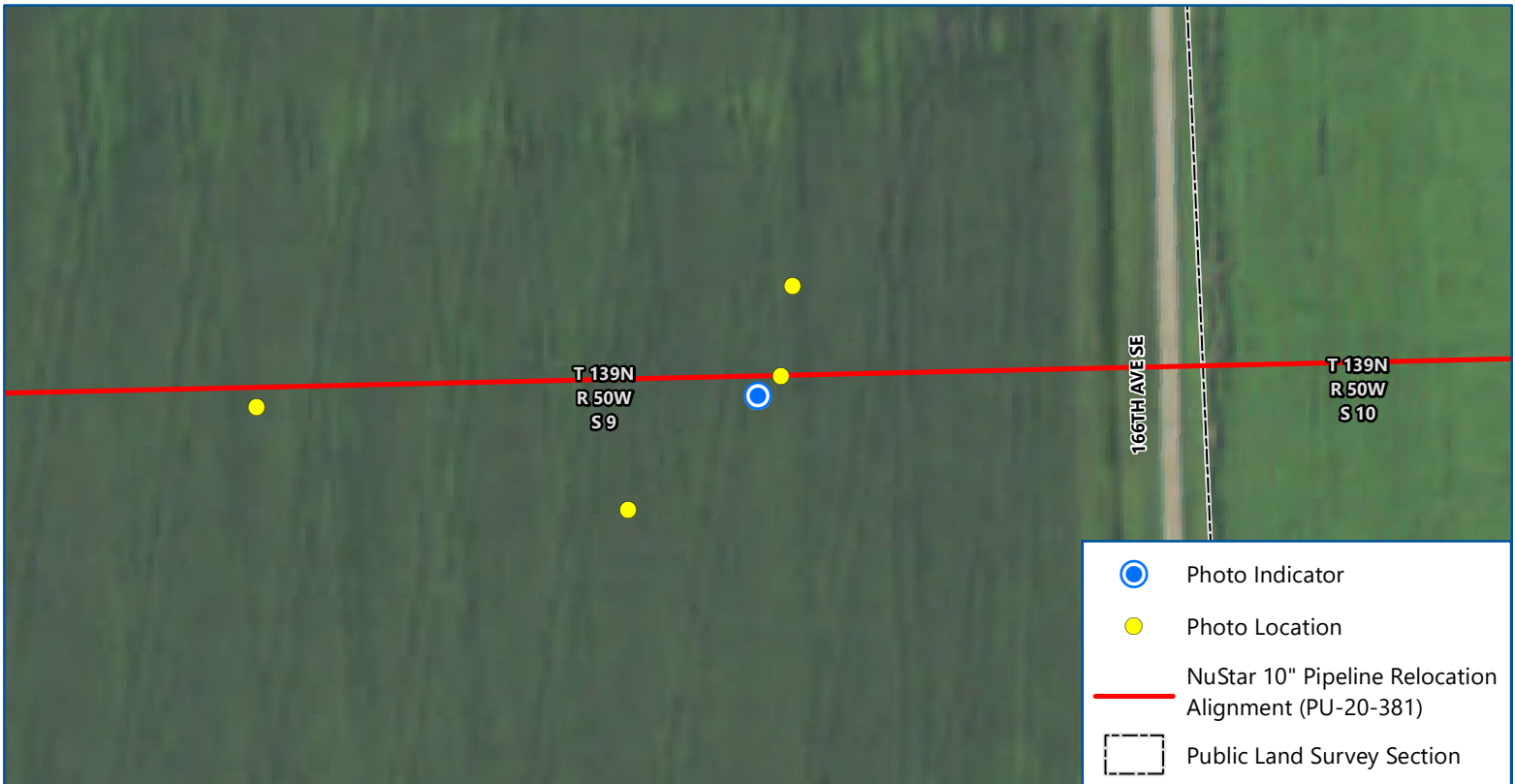
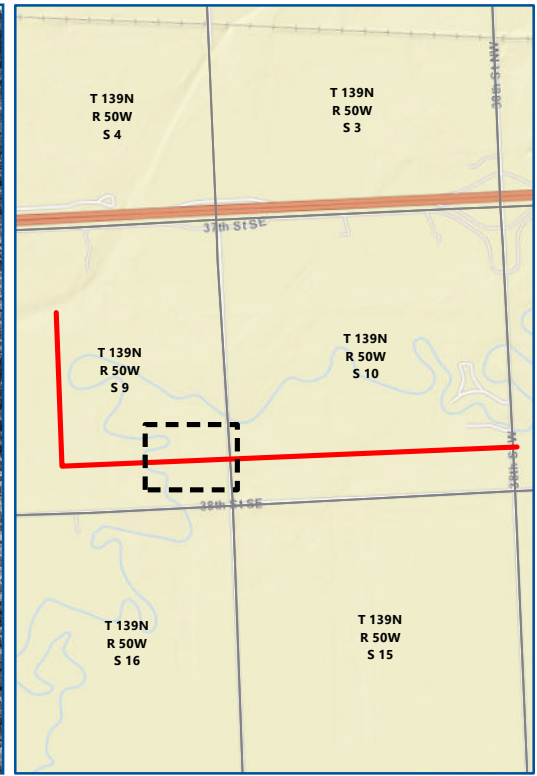
0 100
Feet

Imagery: USDA FSA (2020)

Date: 6/9/2021
 Photo Direction: Northwest
 Comment: Initial scraping of topsoil.

Latitude: 46.864604
 Longitude: -96.99098
 Coordinates are in the WGS84 datum.





Map 3 of 5

**NUSTAR 10" PIPELINE RELOCATION
TOPSOIL REMOVAL INSPECTION
PU-20-381**

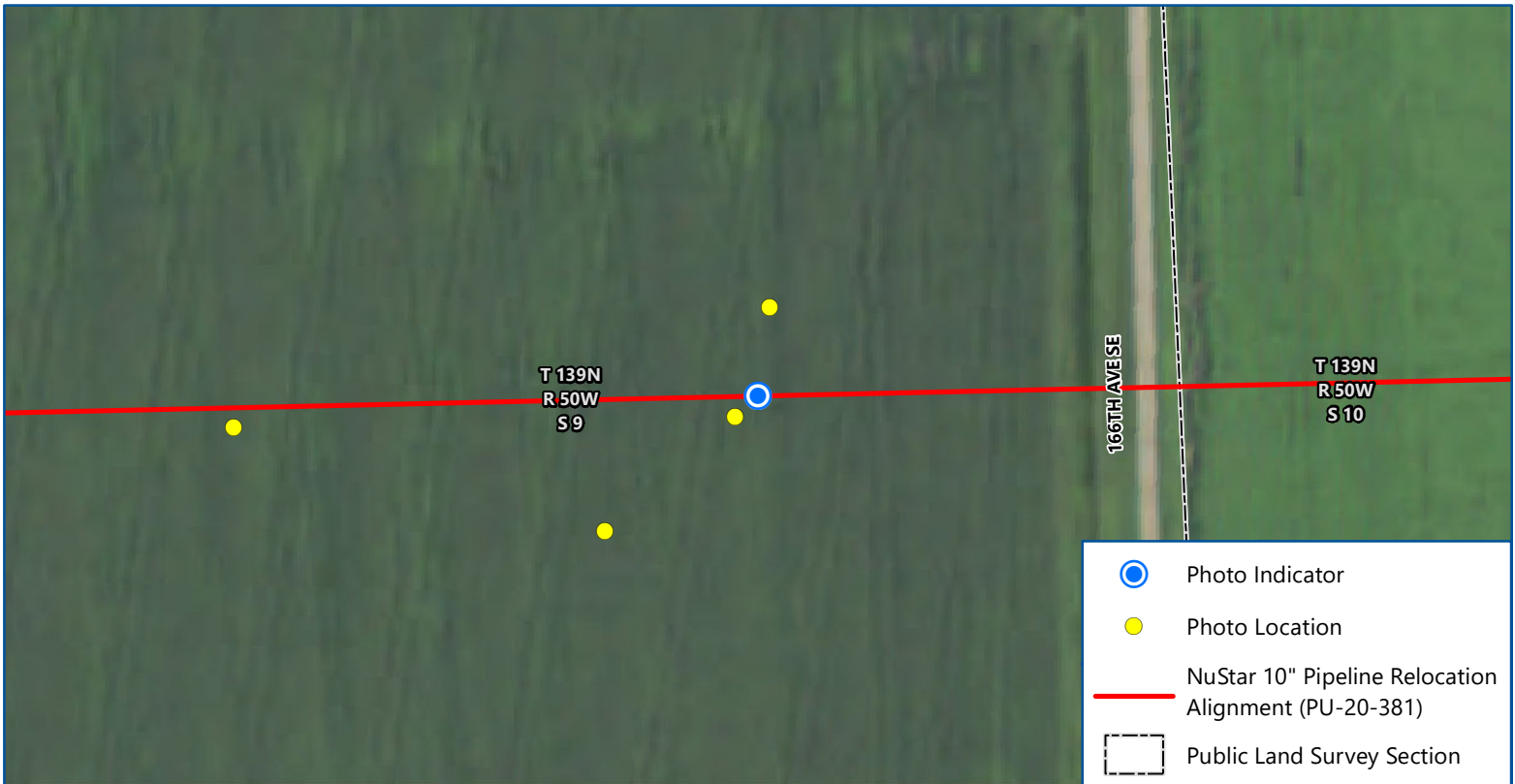
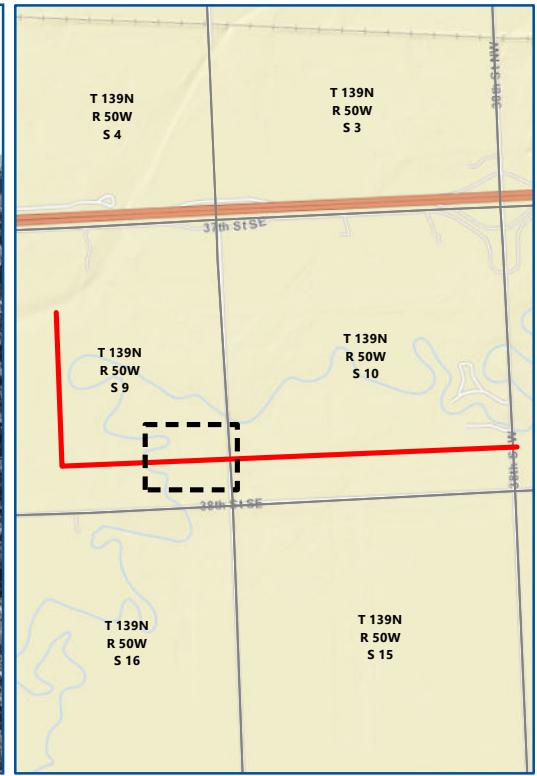
North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 6/9/2021
 Photo Direction: West
 Comment: Subsoil just visible in removal of topsoil

Latitude: 46.864767
 Longitude: -96.990695
 Coordinates are in the WGS84 datum.





Map 4 of 5

NUSTAR 10" PIPELINE RELOCATION TOPSOIL REMOVAL INSPECTION PU-20-381

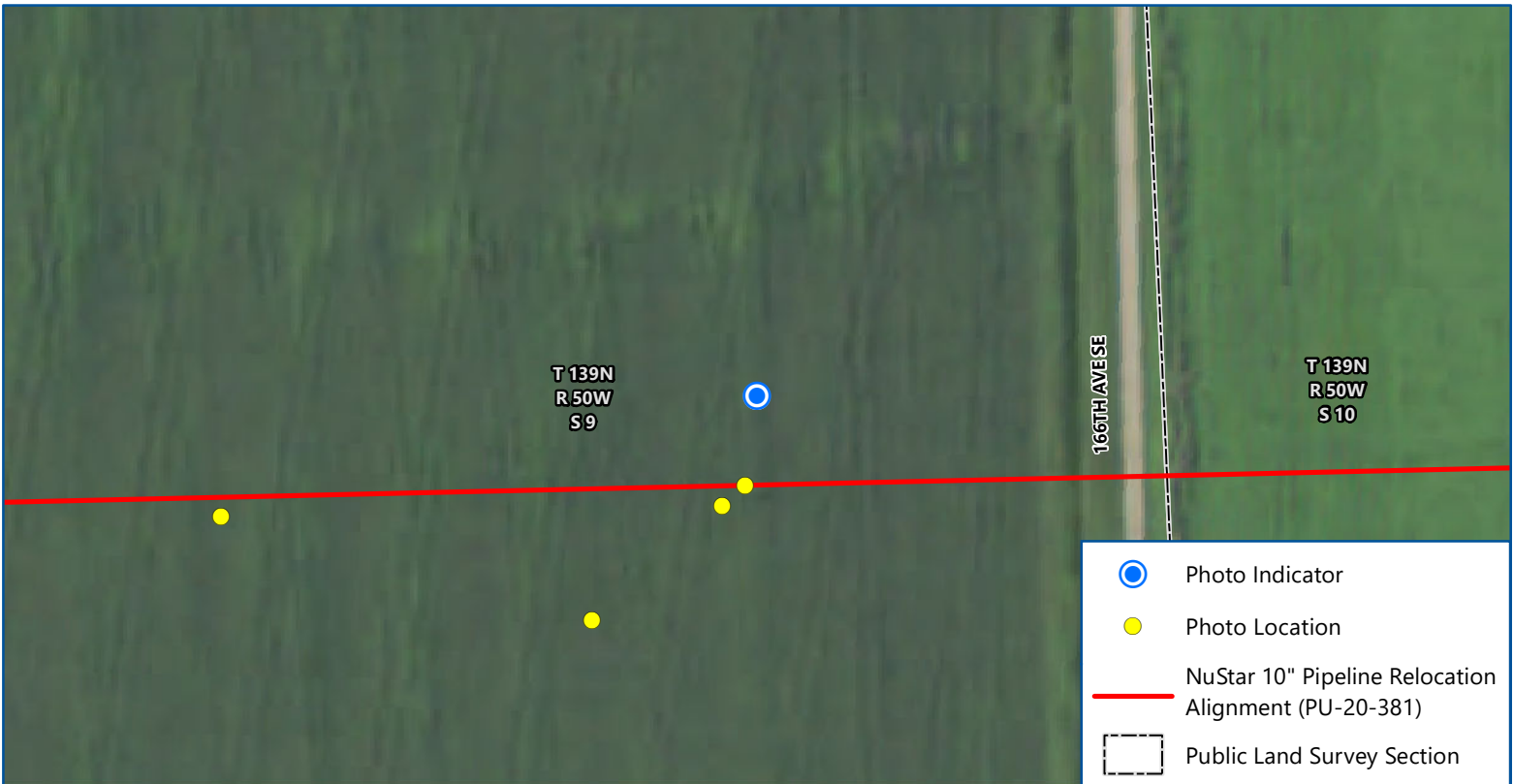
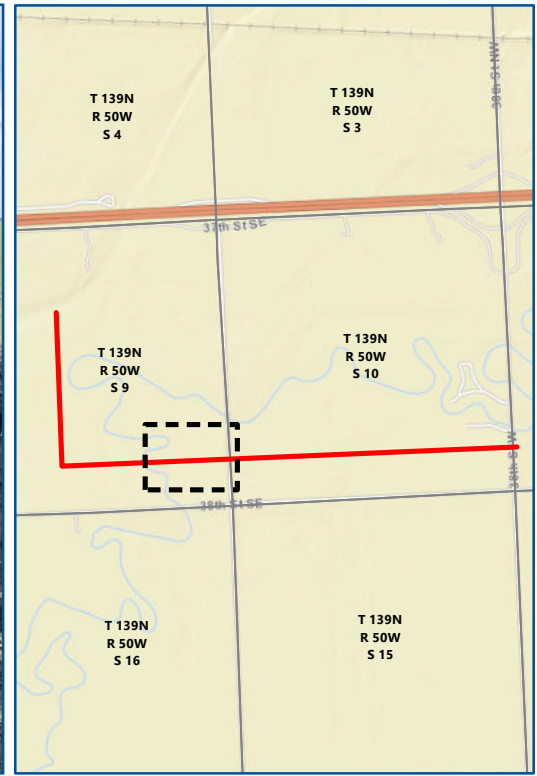
North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 6/9/2021
 Photo Direction: West
 Comment: No subsoil visible in topsoil stockpile.

Latitude: 46.864797
 Longitude: -96.990644
 Coordinates are in the WGS84 datum.





Map 5 of 5

NUSTAR 10" PIPELINE RELOCATION TOPSOIL REMOVAL INSPECTION PU-20-381

North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 6/9/2021
 Photo Direction: West
 Comment: Initial stockpiling of topsoil

Latitude: 46.864927
 Longitude: -96.990614
 Coordinates are in the WGS84 datum.

