

+NuStar 10" Pipeline Relocation Project

As-Built Inspection Report

Docket Number: PU-20-381

Prepared for North Dakota Public Service Commission



September 2022

As-Built Inspection Report

September 2022

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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. A Topsoil Removal Inspection Report was previously submitted to the PSC.

As-built inspections were conducted on 26 August 2022. Property owners plan to disk the field following project completion so seed mix was not inspected or placed. The pipeline route was inspected, and reclamation and fertilization were observed to be done according to Natural Resources Conservation Service (NRCS) recommendations. The right of way was clear of waste, and grading had been completed to restore the area affected to as near as practicable to the grade as it existed prior to construction. Overall, project construction appears to be in compliance with the applicable siting laws, rules, and PSC orders.

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 locations further east. A section of the pipeline, 2.21 miles long, has been 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 is 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 as-built inspections of the Project. Barr's scope of work was to complete and document an on-site as-built inspection upon completion of the construction phase of the project to verify the project was constructed in compliance with the siting laws, rules, and applicable Commission Orders and to verify the topsoil was replaced and covered as required 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

Anna Nieuwsma, Field Inspector for Barr, visited the Project site on 26 August 2022 to conduct as-built inspections. Eric Callahan, chief on-site inspector for NuStar, accompanied Barr staff on the visit. Mr. 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) where construction activities had been conducted by Rig Masters, Inc. (Rig Masters), the contractor constructing the pipeline for NuStar. Contractor equipment had been removed from the site prior to the site inspection. Completed grade restoration and straw mulching was observed. Digital photographs were taken at observation points at regular intervals along the pipeline route. Geographic coordinates were recorded at observation points using a handheld Global Navigation Satellite System (GLONASS) device (iPhone 11; <5m accuracy; WGS84 datum).

3.2 On-Site Inspection Observations

Mrs. Nieuwsma met with Mr. Callahan at the NuStar pump station. Mr. Callahan and Mrs. Nieuwsma then proceeded to the Project construction area. The topsoil replacement and straw mulch placement appeared to be in compliance with NRCS guidelines (See Appendix A).

The contractors appear to have done a satisfactory job replacing subsoil and topsoil, reclaiming, and constructing the project to meet all siting laws, rules, and Commission Orders. Palmer inspectors appeared to have a strong relationship with the contractor and were involved in ensuring soil was restored and the area was reclaimed properly. Work areas visited during the inspection were free of debris and waste, and fences and gates had been repaired or replaced.

4 Issues to Resolve and Recommendations

As-built inspection of the North System Pipeline project verified that the project is constructed in compliance with the siting laws, rules, and applicable Commission Orders. No major issues were observed during the as-built inspection. However, Barr makes the following recommendations for post construction monitoring and observance:

Issues	Recommendations
Soil conditions	Monitoring of the soil condition as agricultural uses resume
Additional potential issues	Refer to project Storm Water Pollution Prevention Plan (SWPPP) for additional postconstruction recommendations

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 Unbehaun, Project Manager

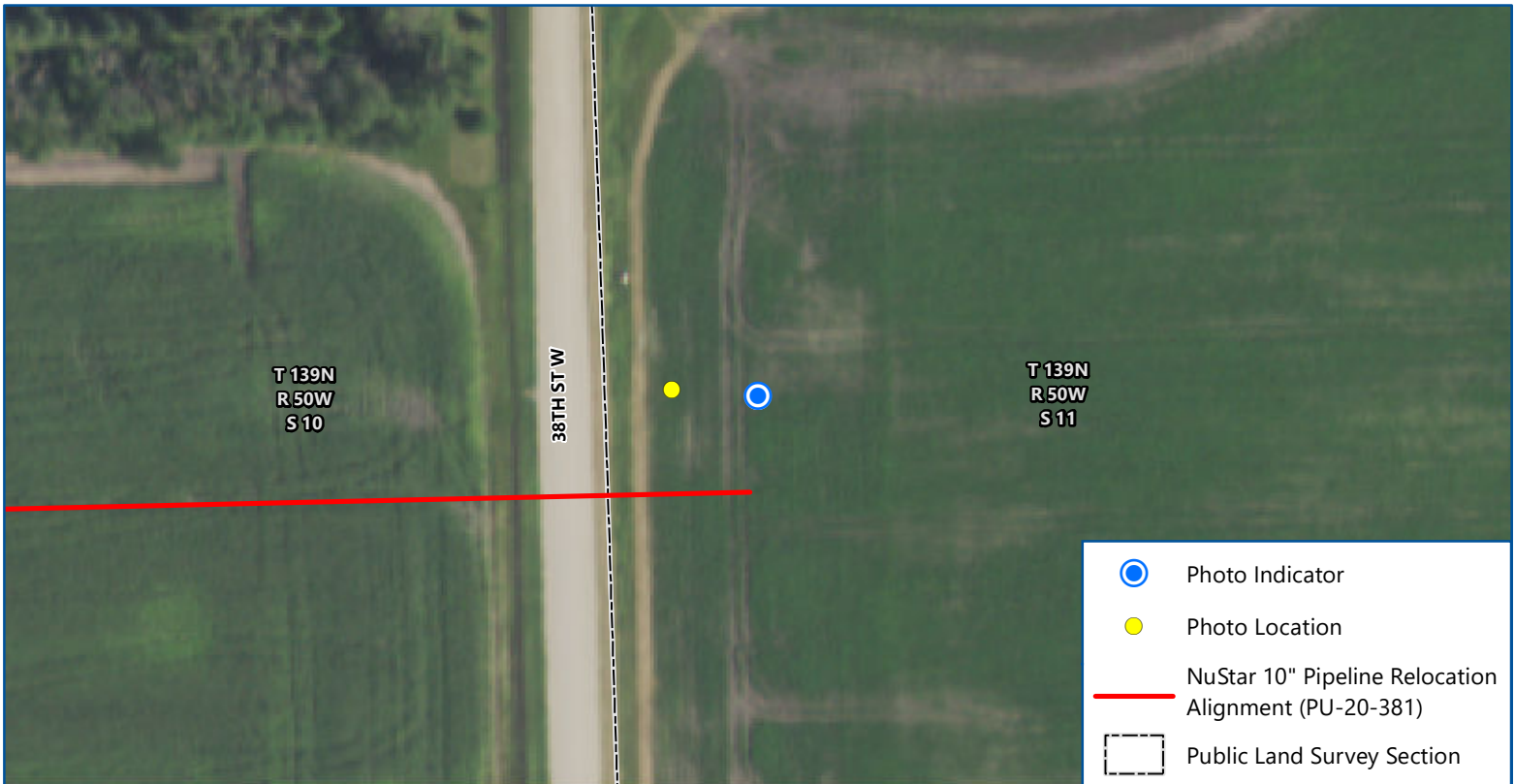
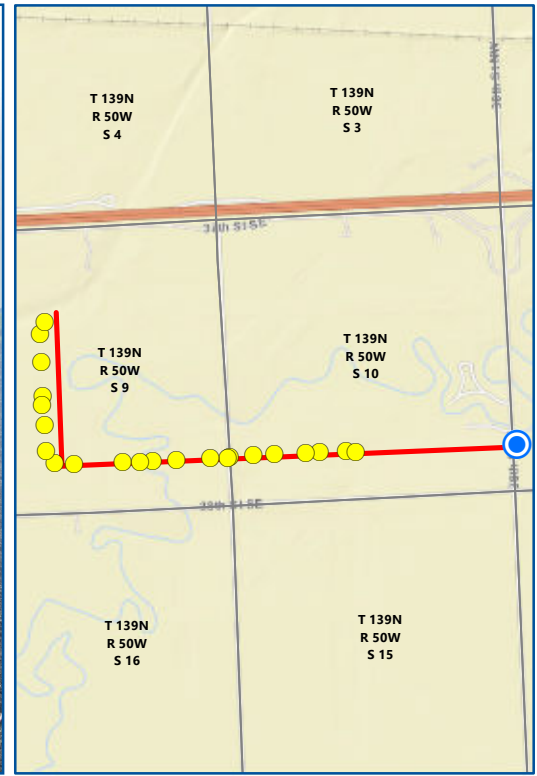
September 14, 2022

Date


Appendices

Appendix A

Photo Log and Observation Maps



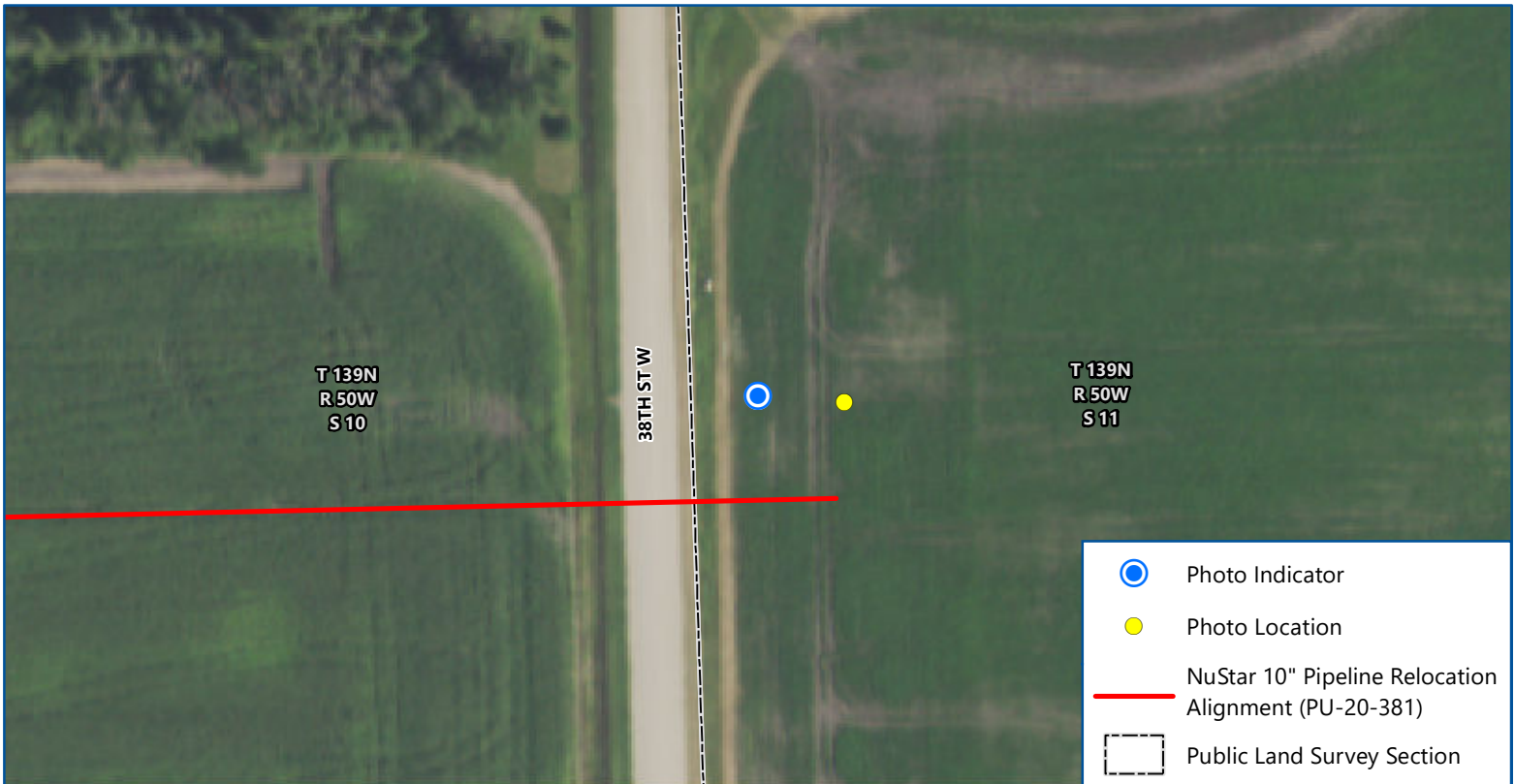
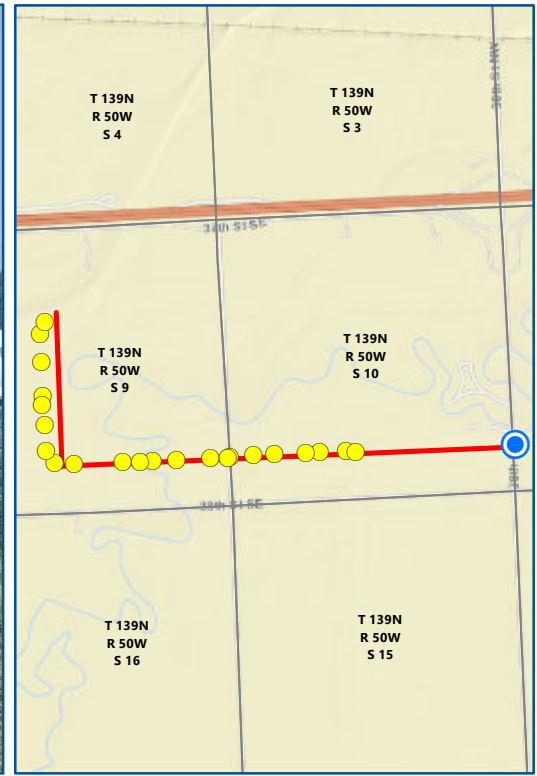
Map 1 of 24
**NUSTAR 10" PIPELINE RELOCATION
 AS-BUILT INSPECTION**
PU-20-381
 North Dakota Public Service Commission
 Cass County, North Dakota


 0 100
 Feet
 Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: Tie in location

Latitude: -96.968249
 Longitude: 46.864891
 Coordinates are in the WGS84 datum.







Map 2 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

North Dakota Public Service Commission
Cass County, North Dakota





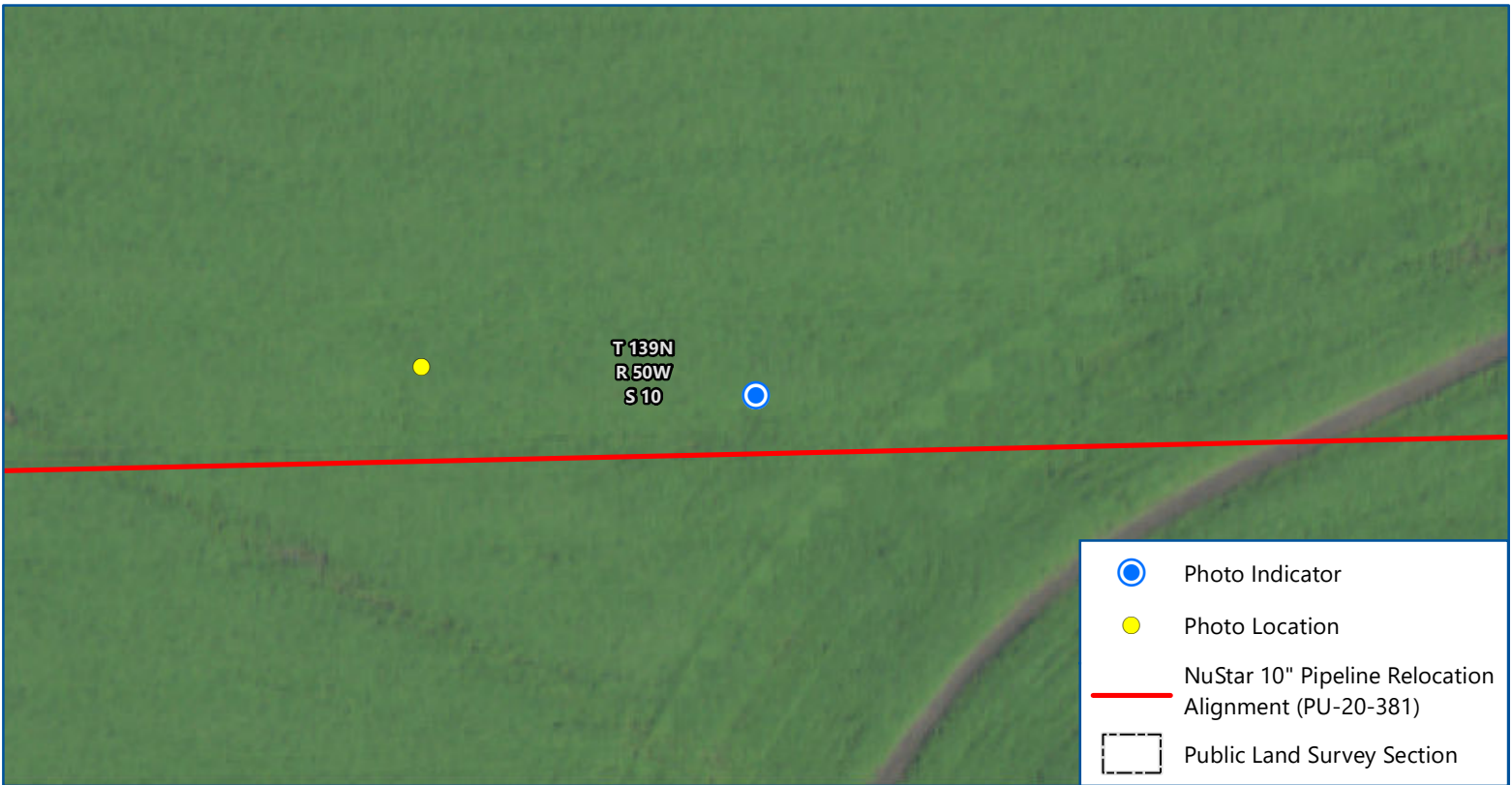
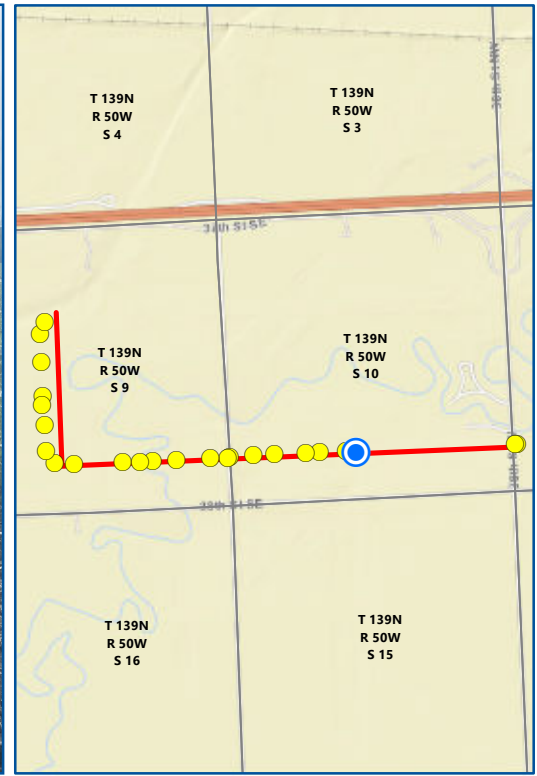
Feet

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.968434
 Longitude: 46.864904
 Coordinates are in the WGS84 datum.







Map 3 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota



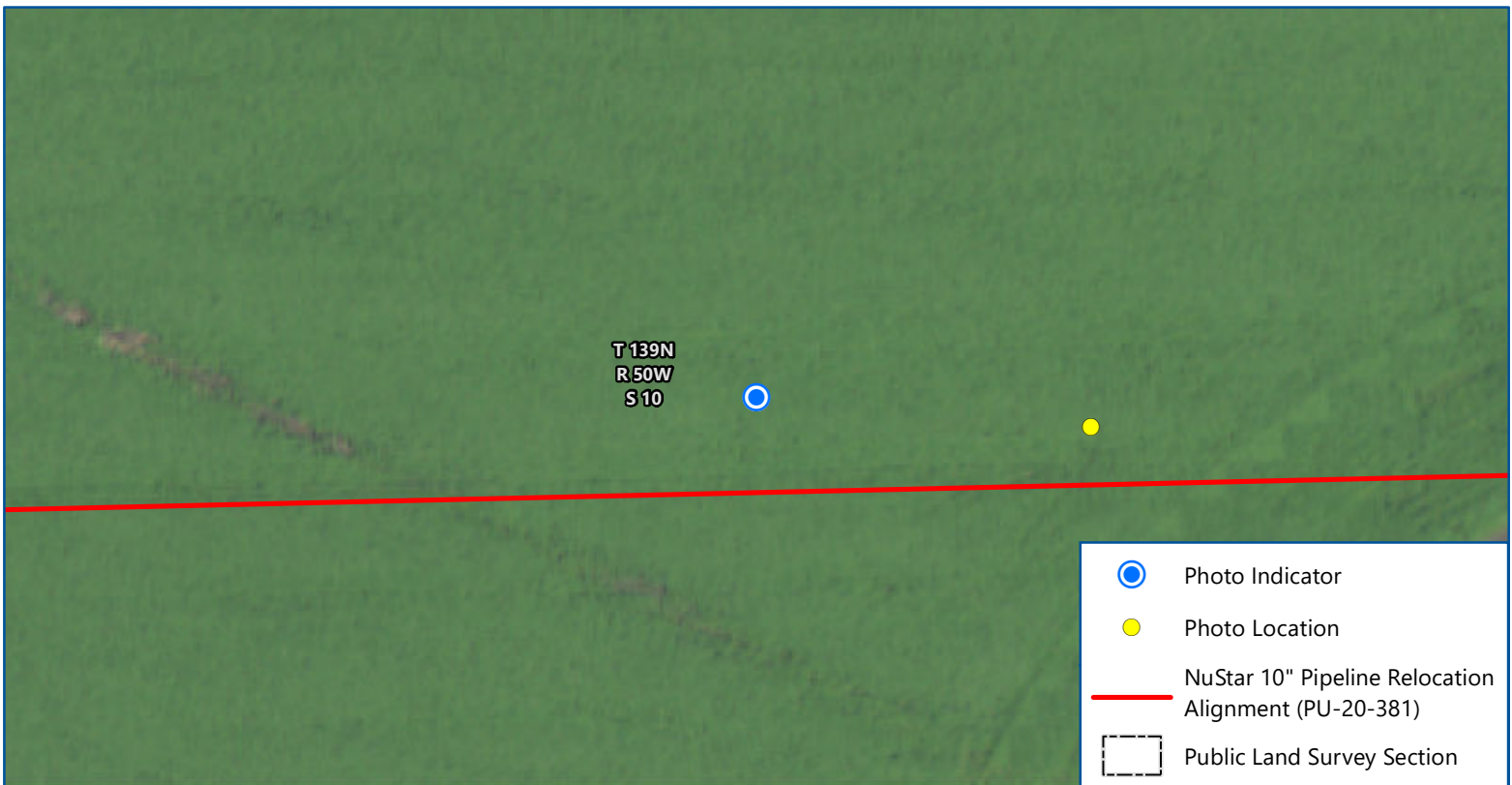
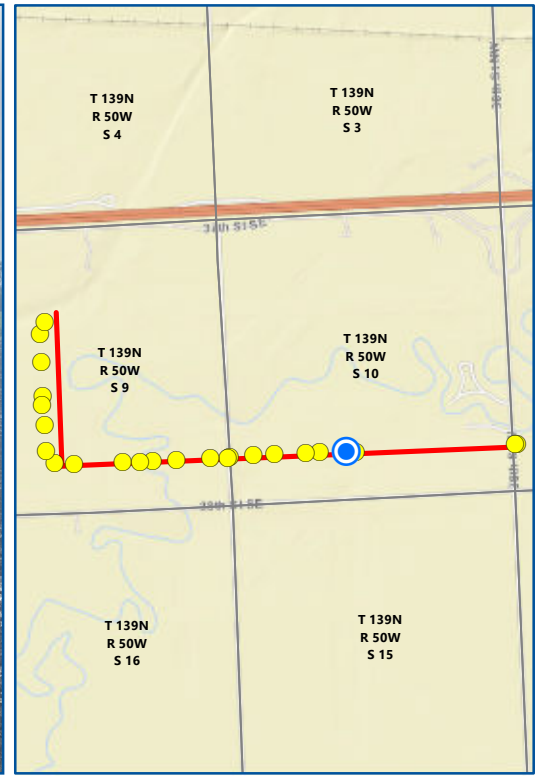


Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: No visible issues, corn planted over pipeline

Latitude: -96.980331
 Longitude: 46.864862
 Coordinates are in the WGS84 datum.





Map 4 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

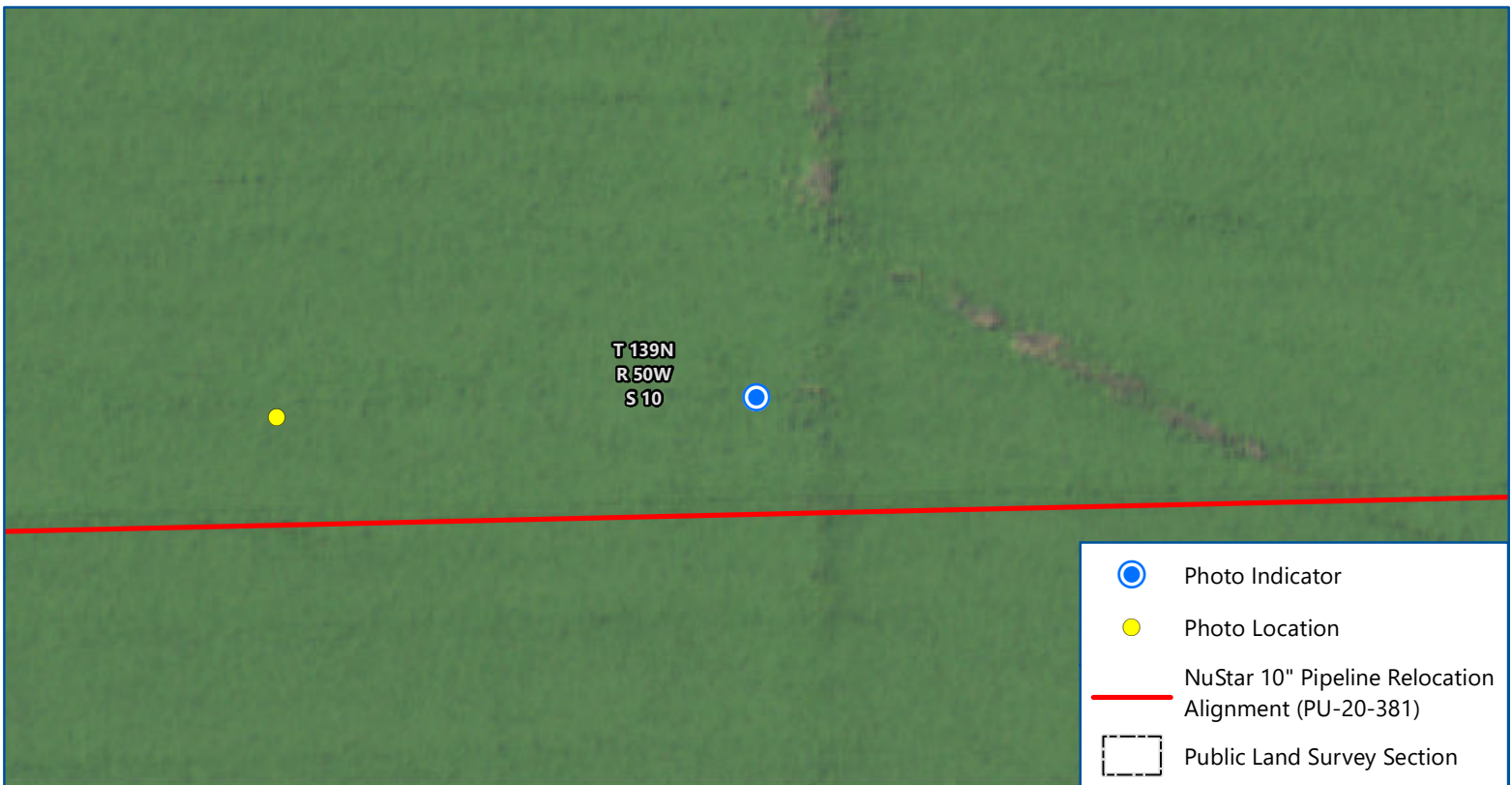
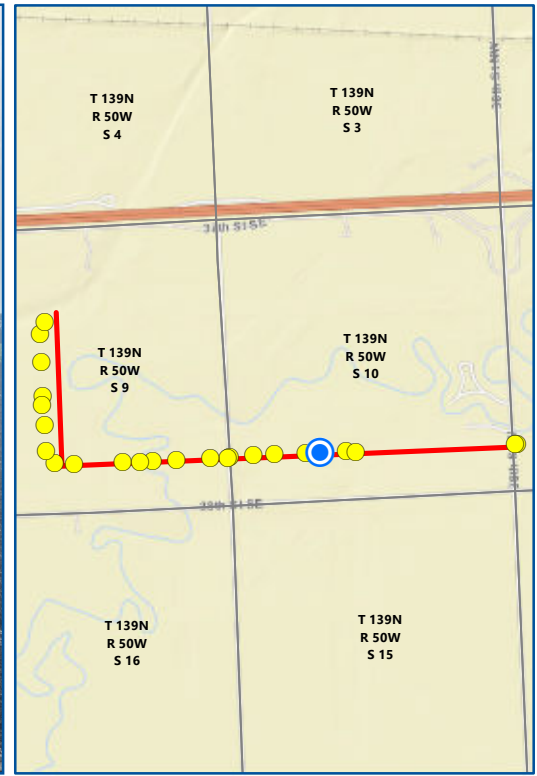
North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: No visible issues

Latitude: -96.981049
 Longitude: 46.864918
 Coordinates are in the WGS84 datum.





Map 5 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

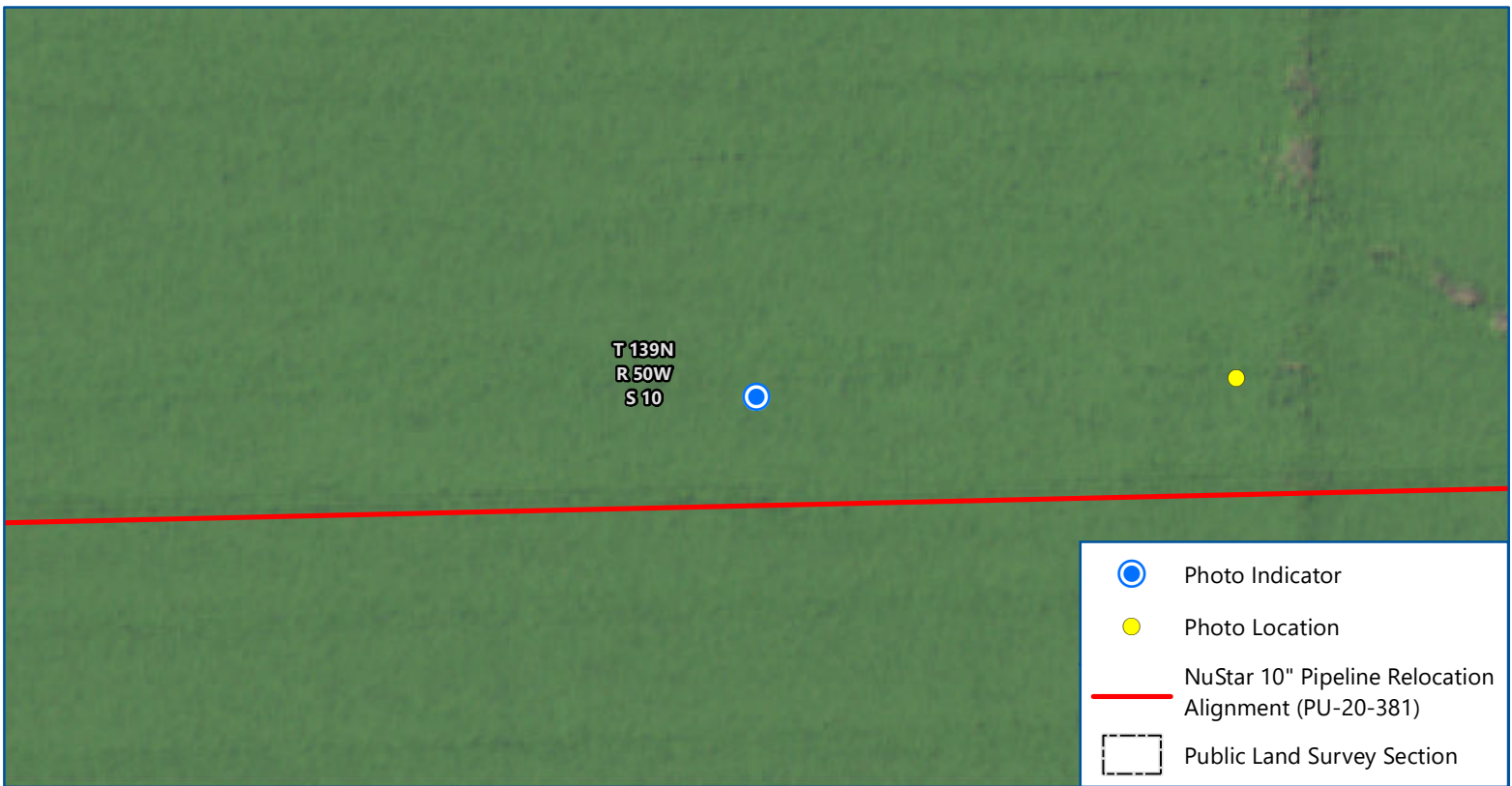
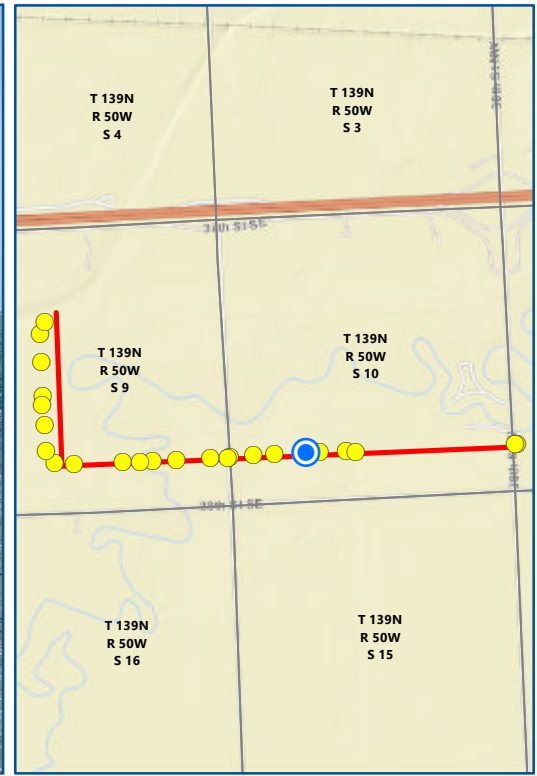
North Dakota Public Service Commission
Cass County, North Dakota





Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: No visible issues, cropland adjacent was flooded

Latitude: -96.983011
 Longitude: 46.864954
 Coordinates are in the WGS84 datum.







-  Photo Indicator
-  Photo Location
-  NuStar 10" Pipeline Relocation Alignment (PU-20-381)
-  Public Land Survey Section

Map 6 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

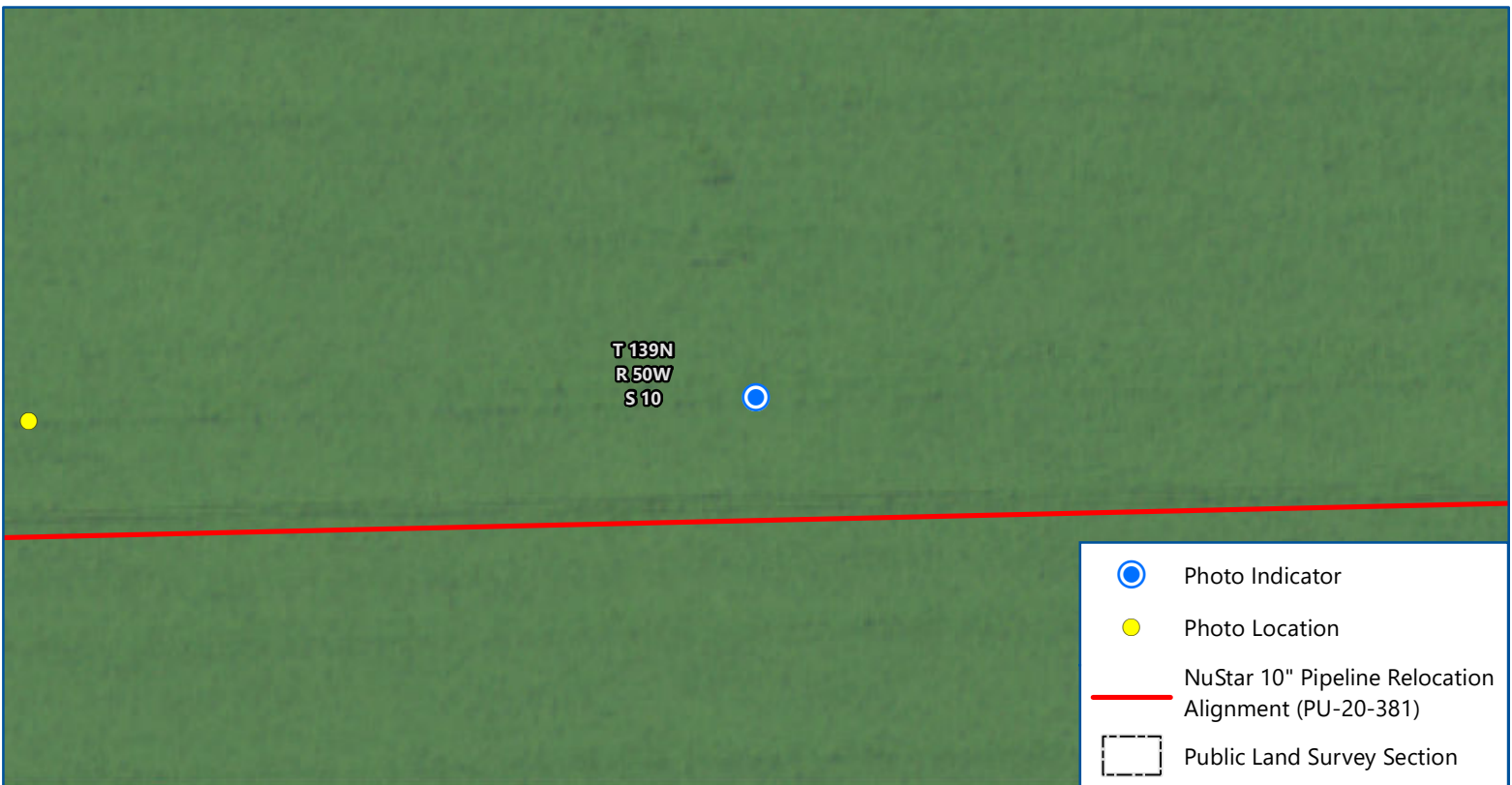
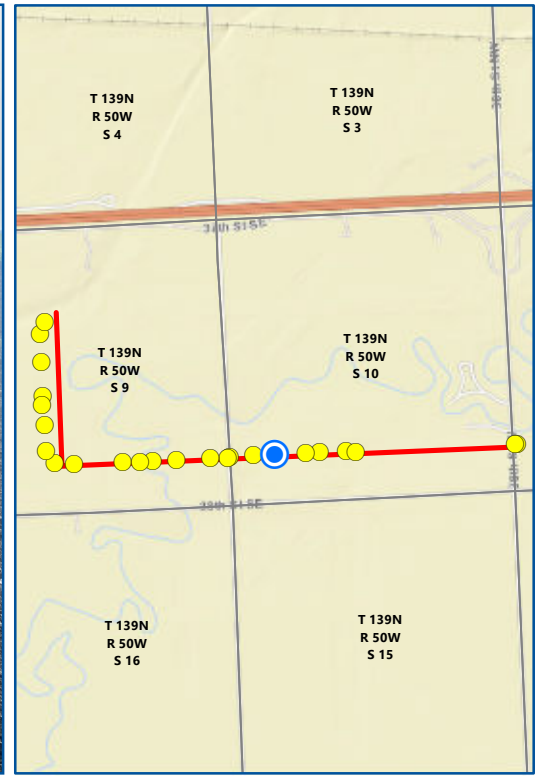
North Dakota Public Service Commission
Cass County, North Dakota



 Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.984045
 Longitude: 46.864944
Coordinates are in the WGS84 datum.





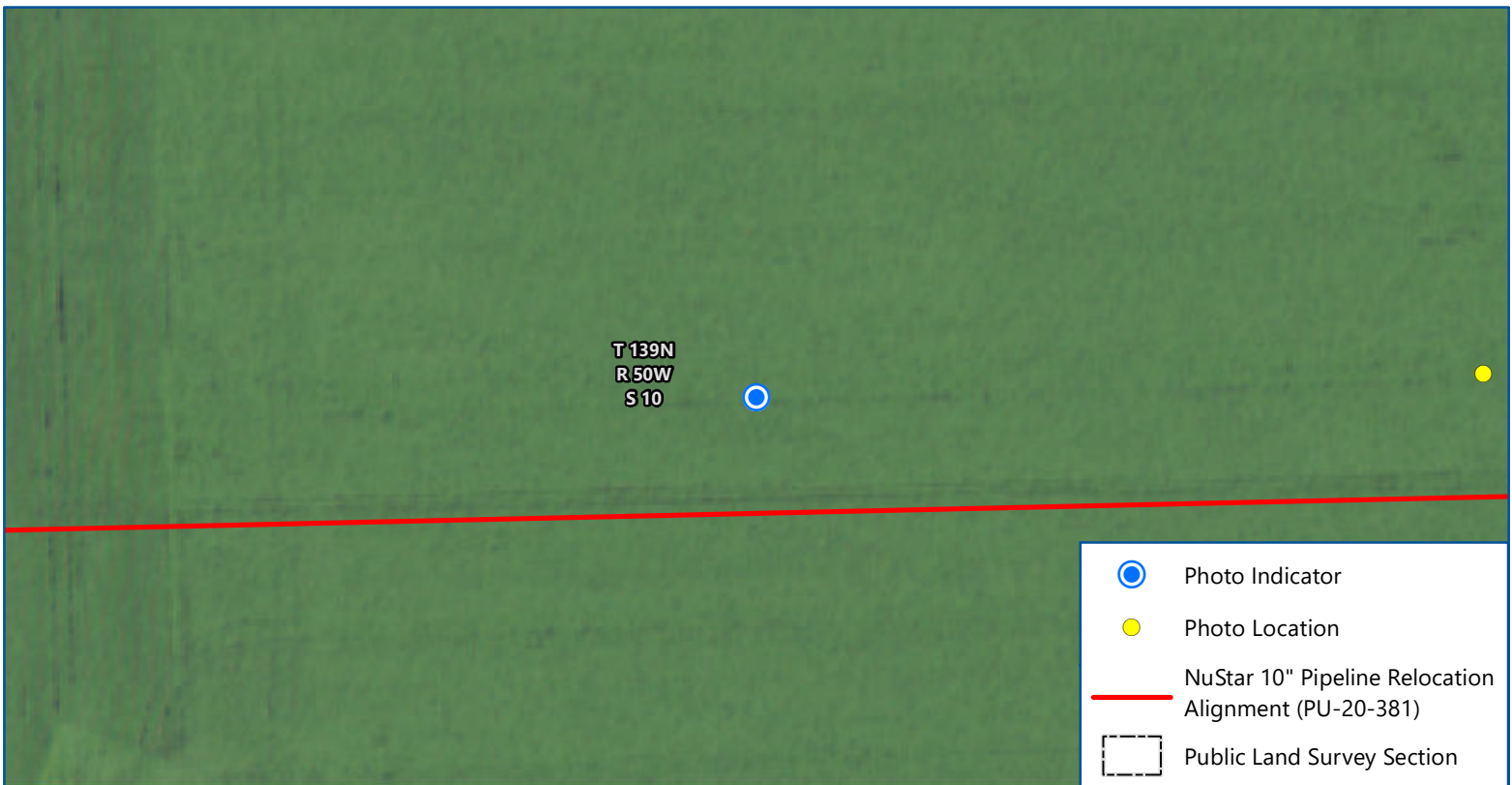
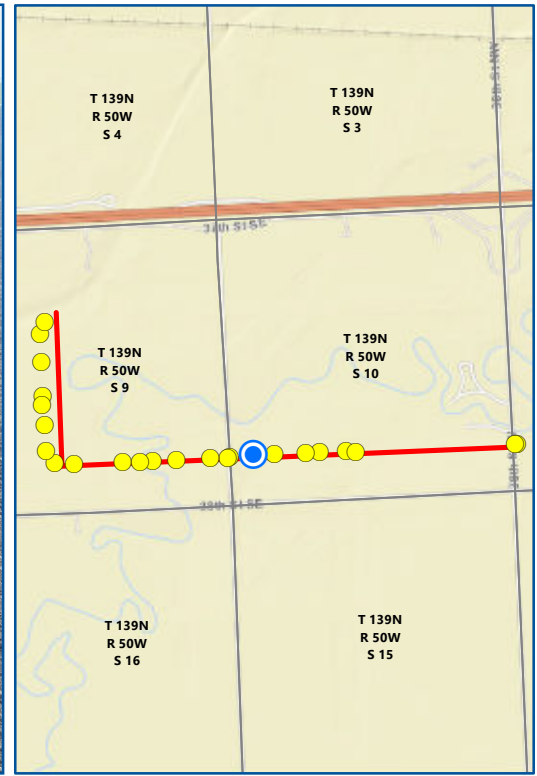
Map 7 of 24
**NUSTAR 10" PIPELINE RELOCATION
 AS-BUILT INSPECTION**
PU-20-381
 North Dakota Public Service Commission
 Cass County, North Dakota

0 ————— 100
 Feet
 Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: No visible issues

Latitude: -96.986409
 Longitude: 46.864969
Coordinates are in the WGS84 datum.





Map 8 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

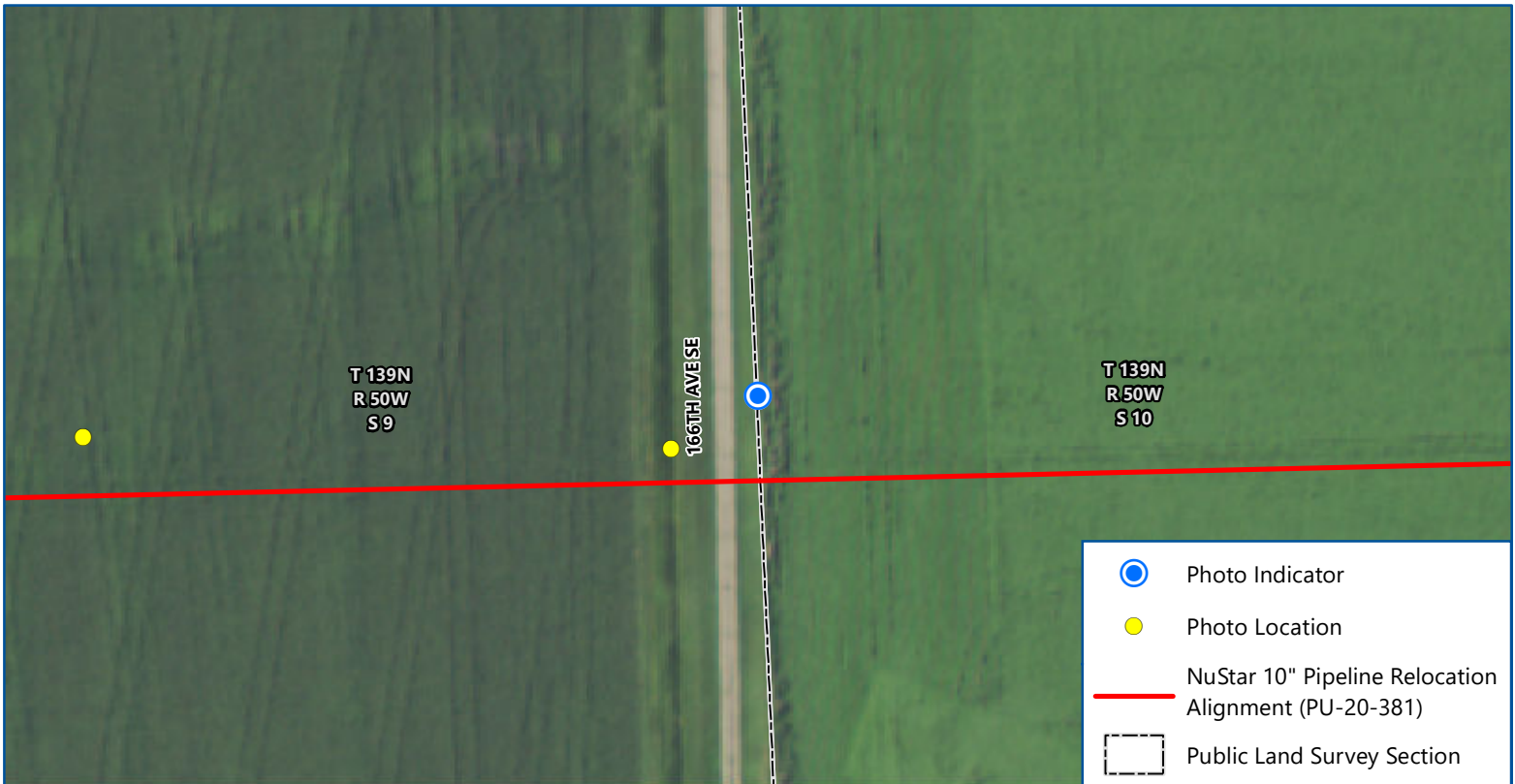
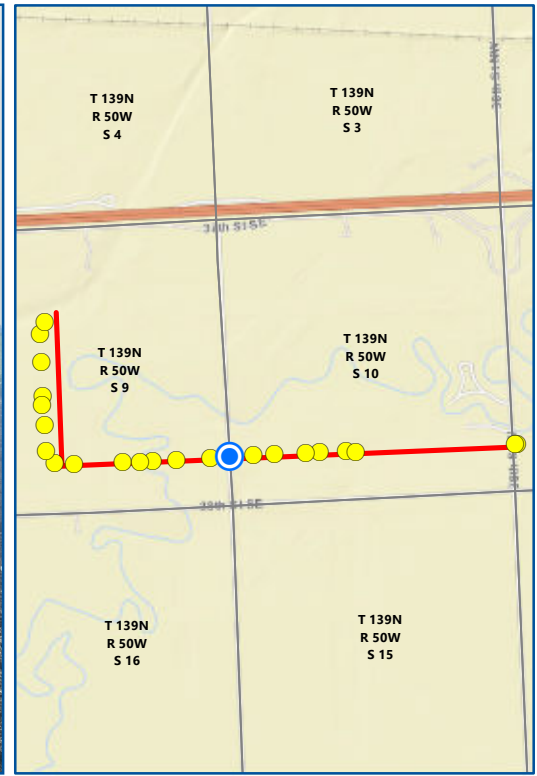
North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: No visible issues

Latitude: -96.987975
 Longitude: 46.864962
 Coordinates are in the WGS84 datum.





Map 9 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

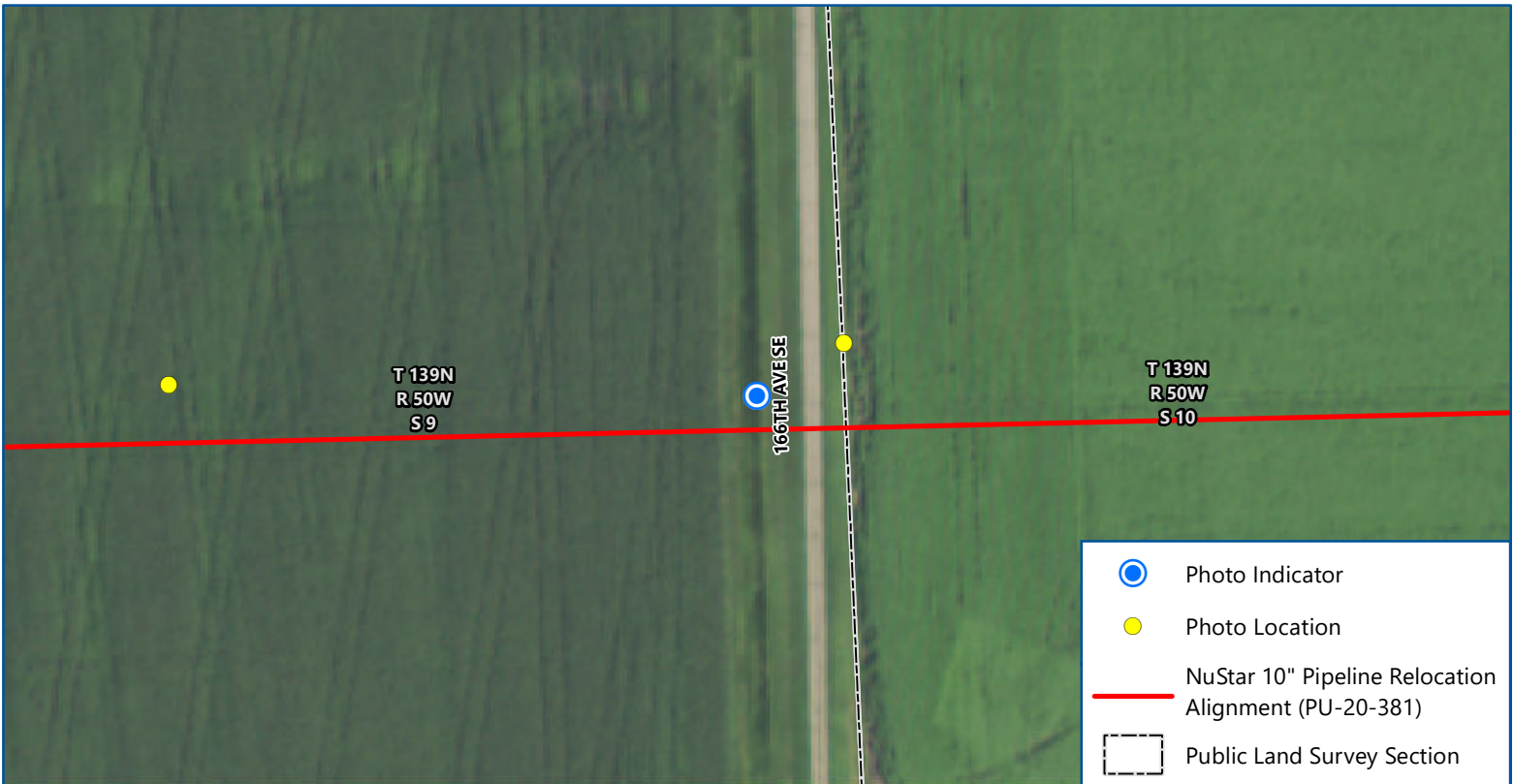
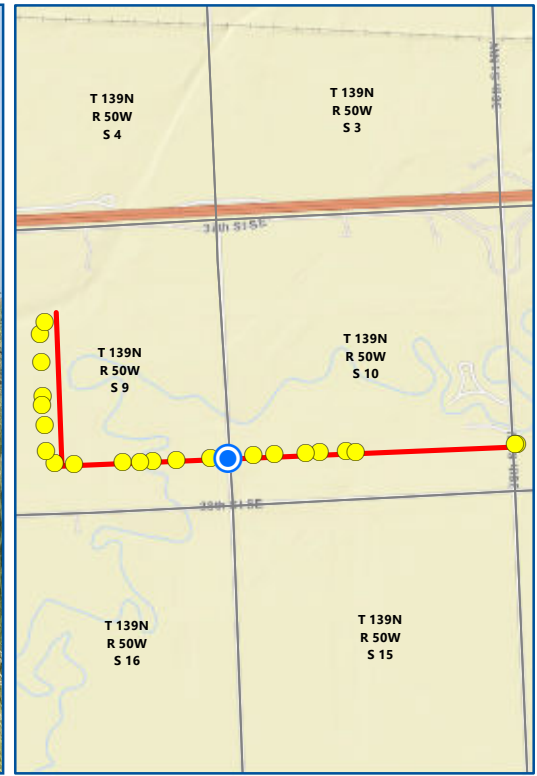
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Feet

Imagery: USDA FSA (2020)


Date: 8/26/2022
Photo Direction: East
Comment: No visible issues

Latitude: -96.989738
Longitude: 46.864919
Coordinates are in the WGS84 datum.





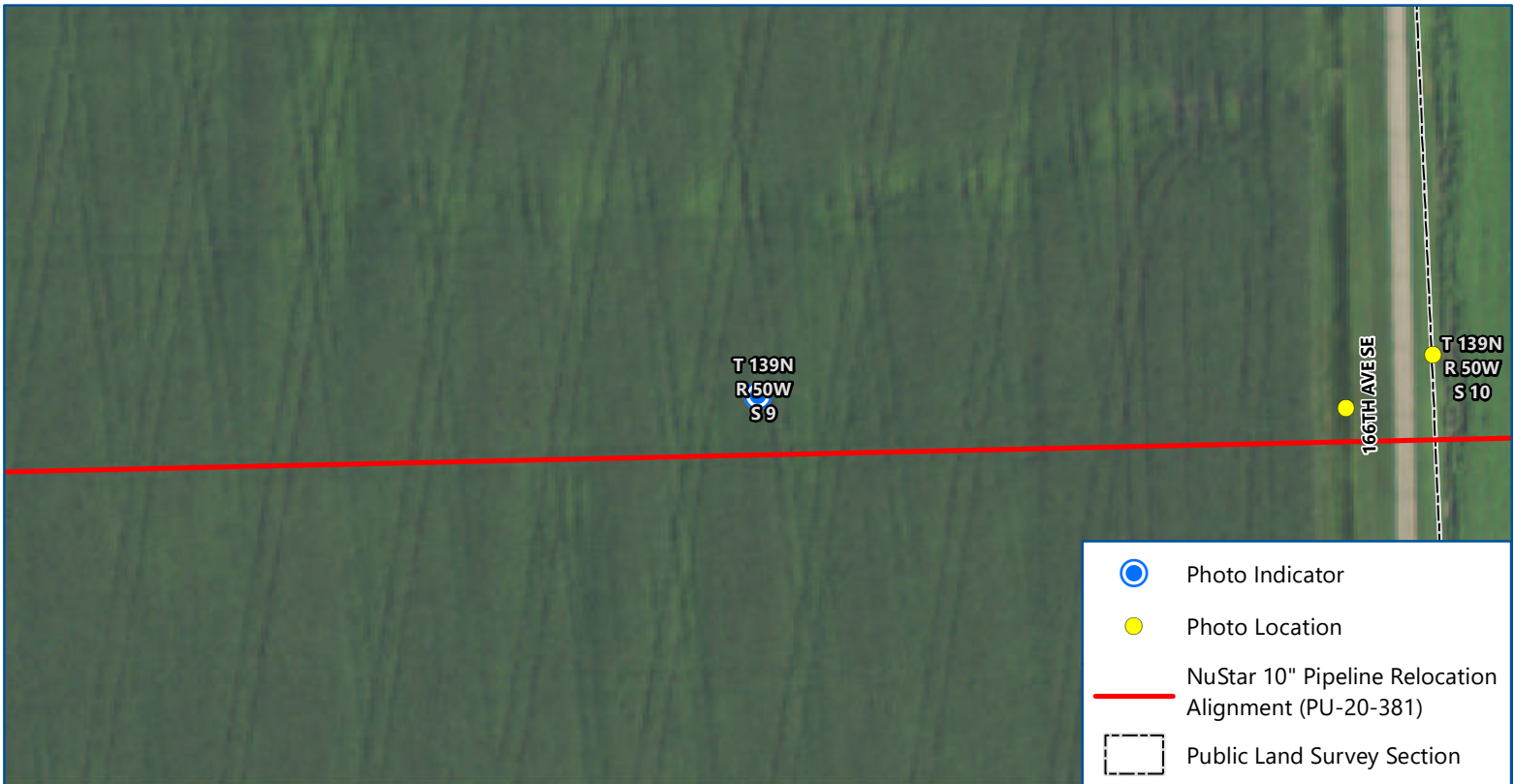
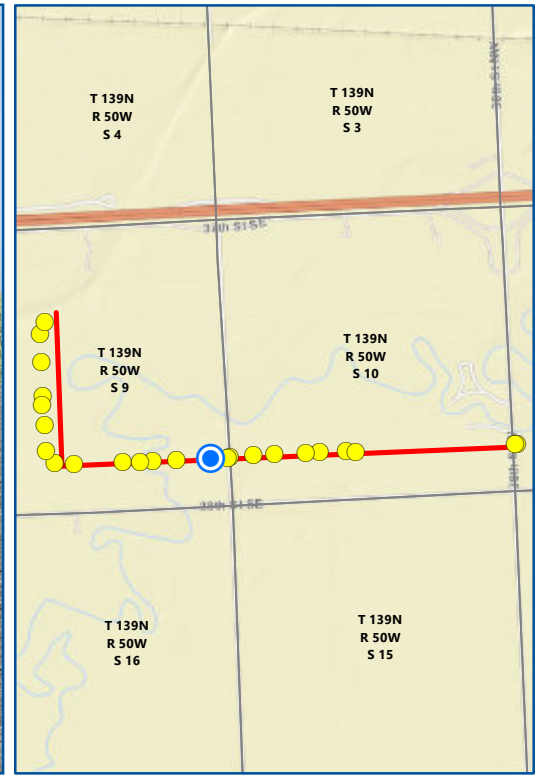
Map 10 of 24
**NUSTAR 10" PIPELINE RELOCATION
 AS-BUILT INSPECTION**
PU-20-381
 North Dakota Public Service Commission
 Cass County, North Dakota






 0 100
 Feet
 Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.989928
 Longitude: 46.864845
 Coordinates are in the WGS84 datum.



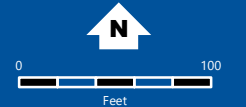


-  Photo Indicator
-  Photo Location
-  NuStar 10" Pipeline Relocation Alignment (PU-20-381)
-  Public Land Survey Section

Map 11 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

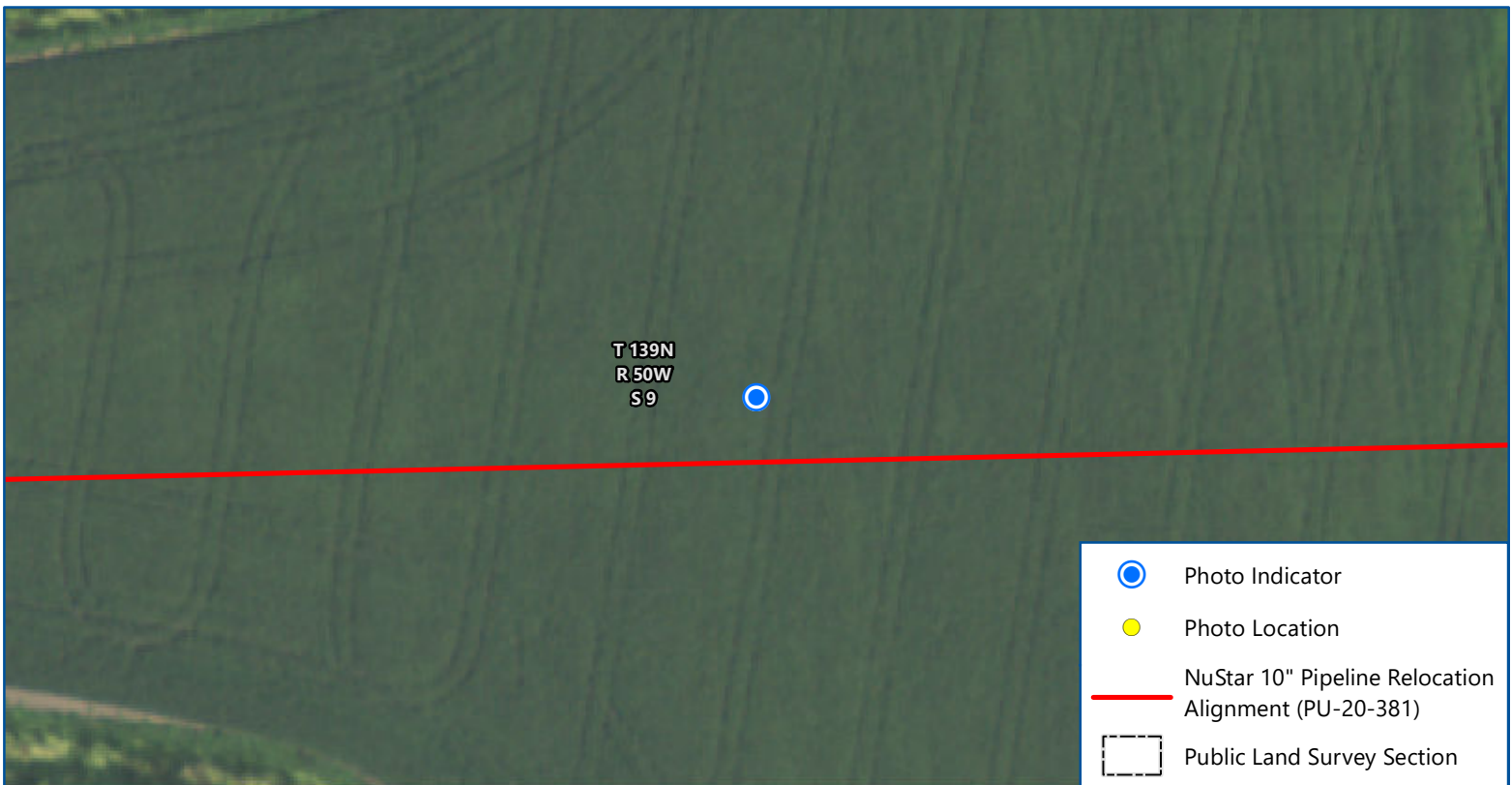
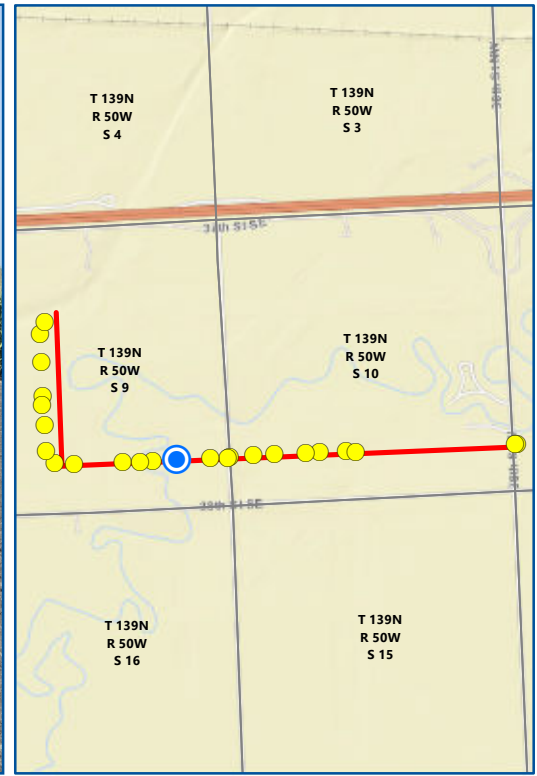


Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.99119
 Longitude: 46.864885
 Coordinates are in the WGS84 datum.





Map 12 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

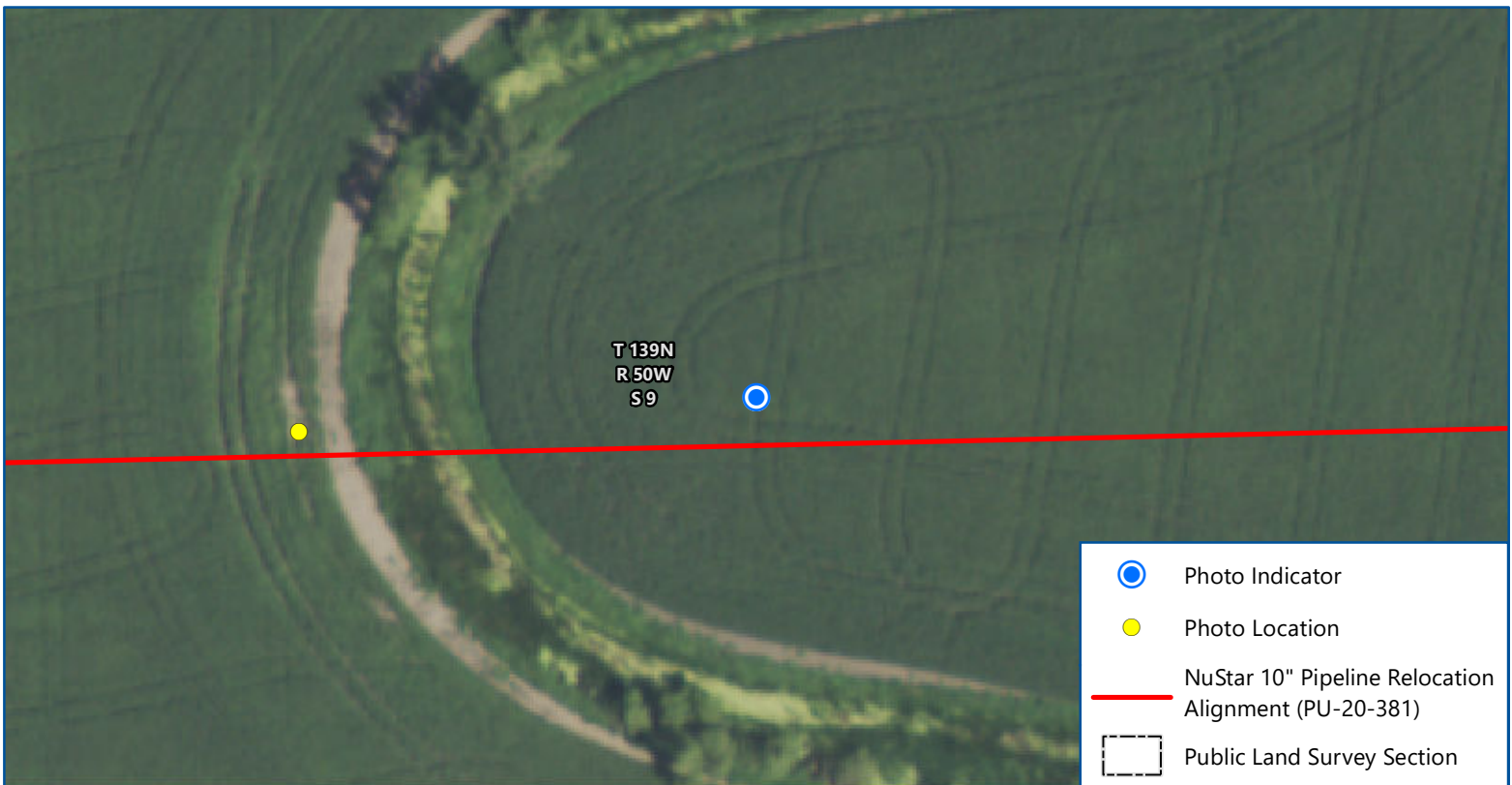
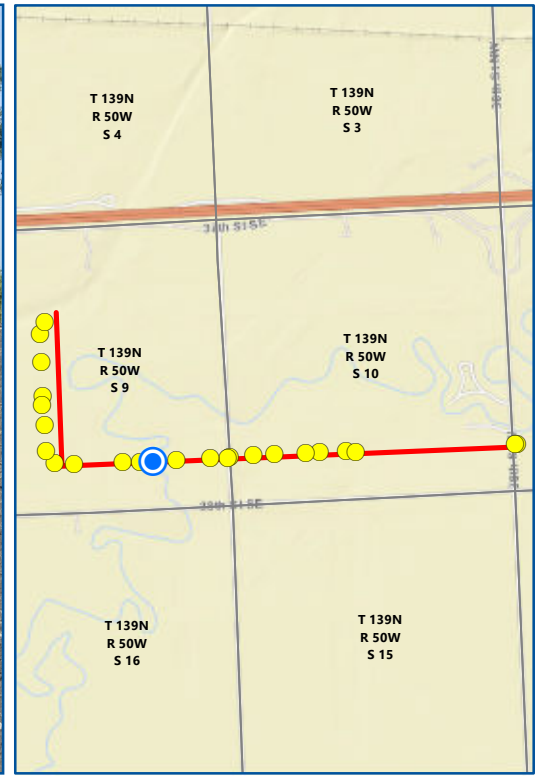
North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.993738
 Longitude: 46.864898
 Coordinates are in the WGS84 datum.





Map 13 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

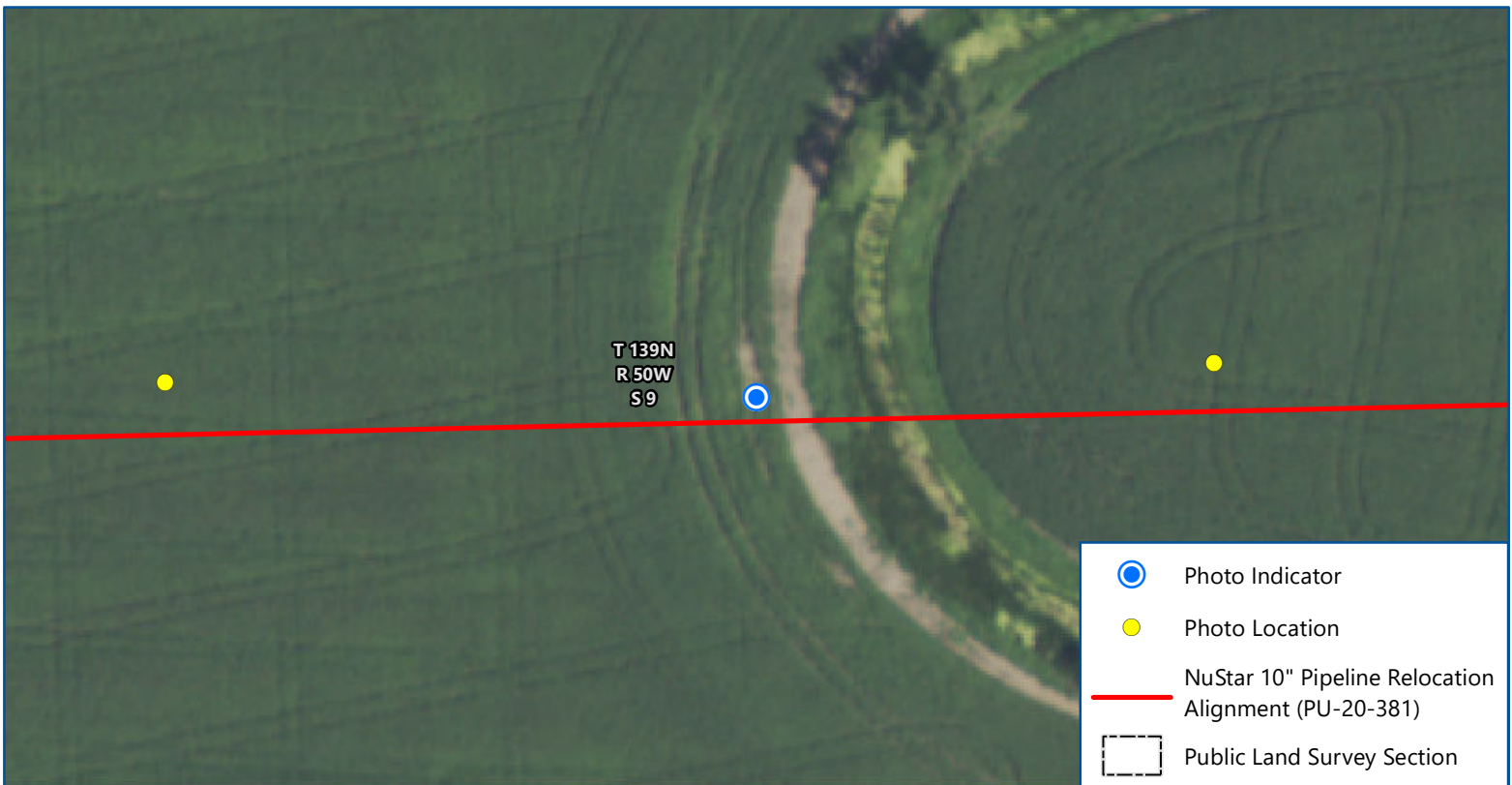
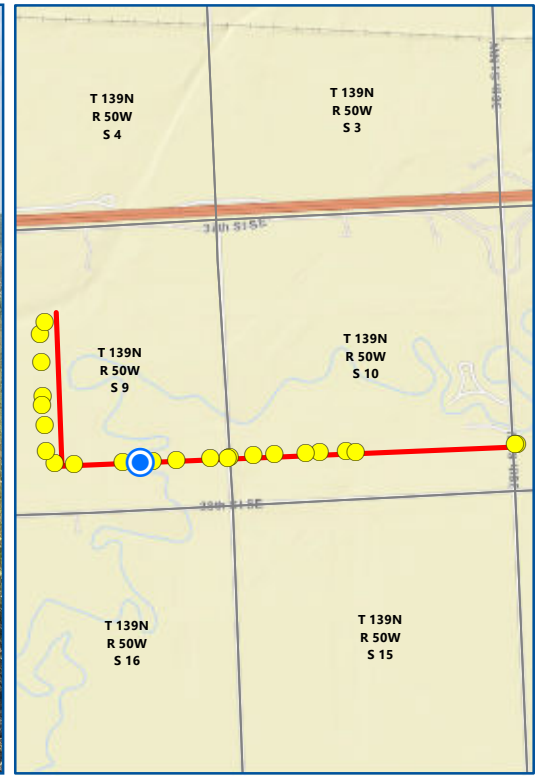
North Dakota Public Service Commission
Cass County, North Dakota

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.995497
 Longitude: 46.864877
 Coordinates are in the WGS84 datum.





Map 14 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

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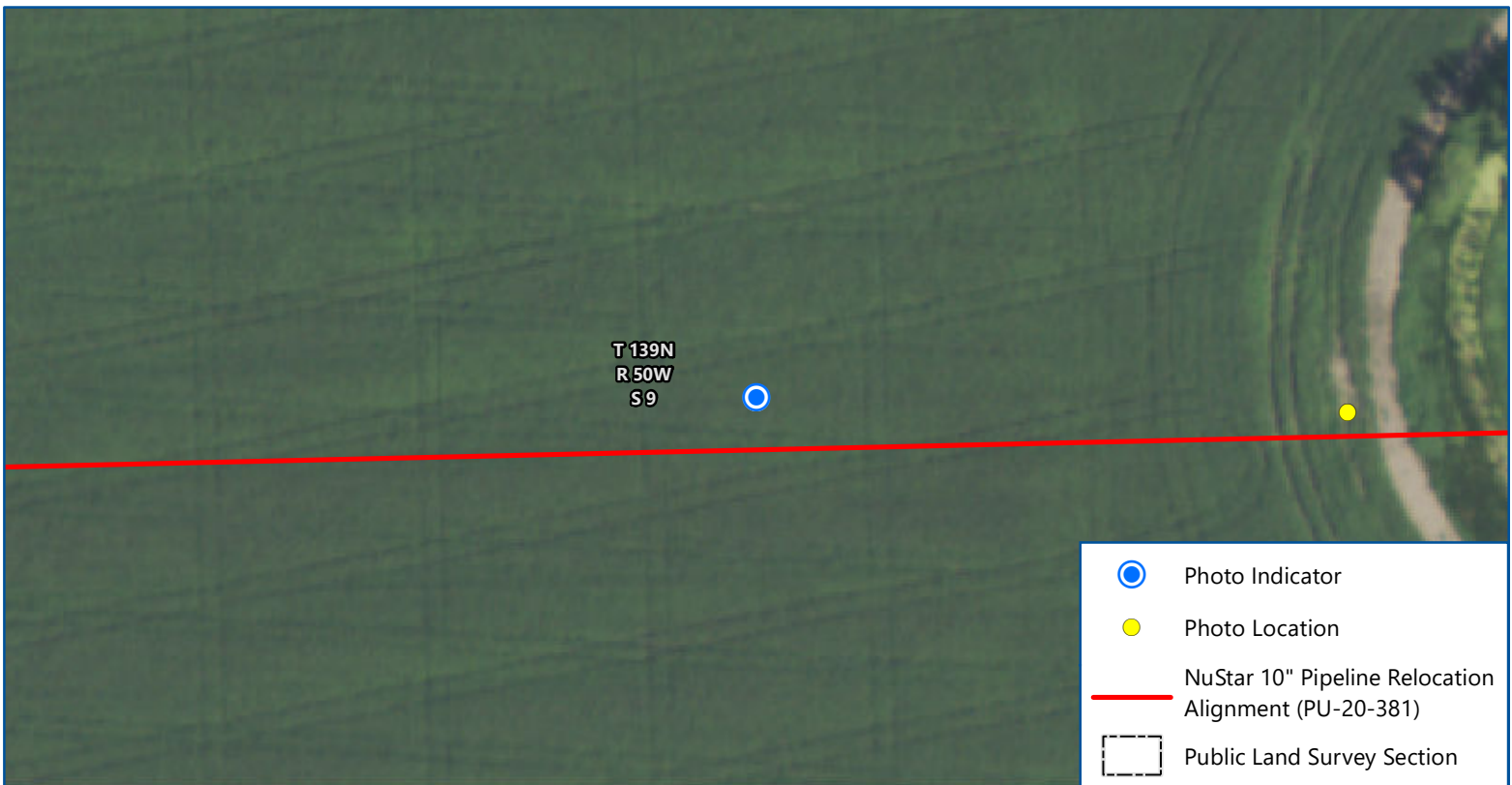
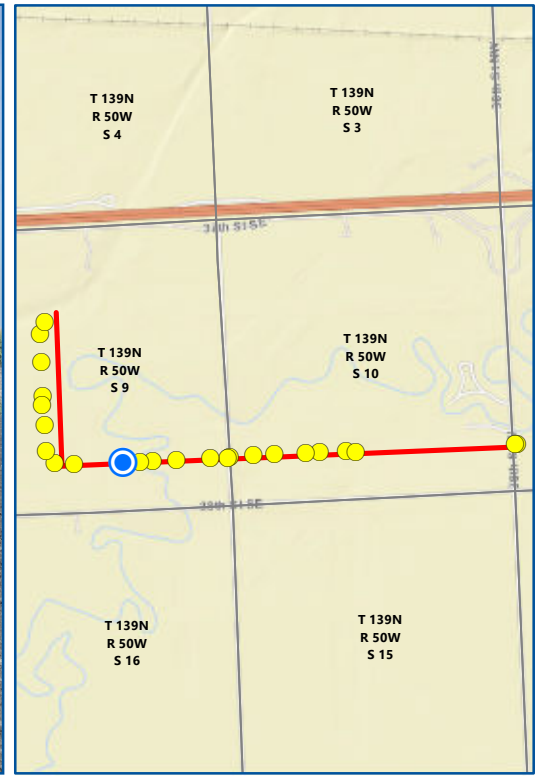
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Feet

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: No visible issues, drainage

Latitude: -96.996484
 Longitude: 46.864844
 Coordinates are in the WGS84 datum.







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**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota



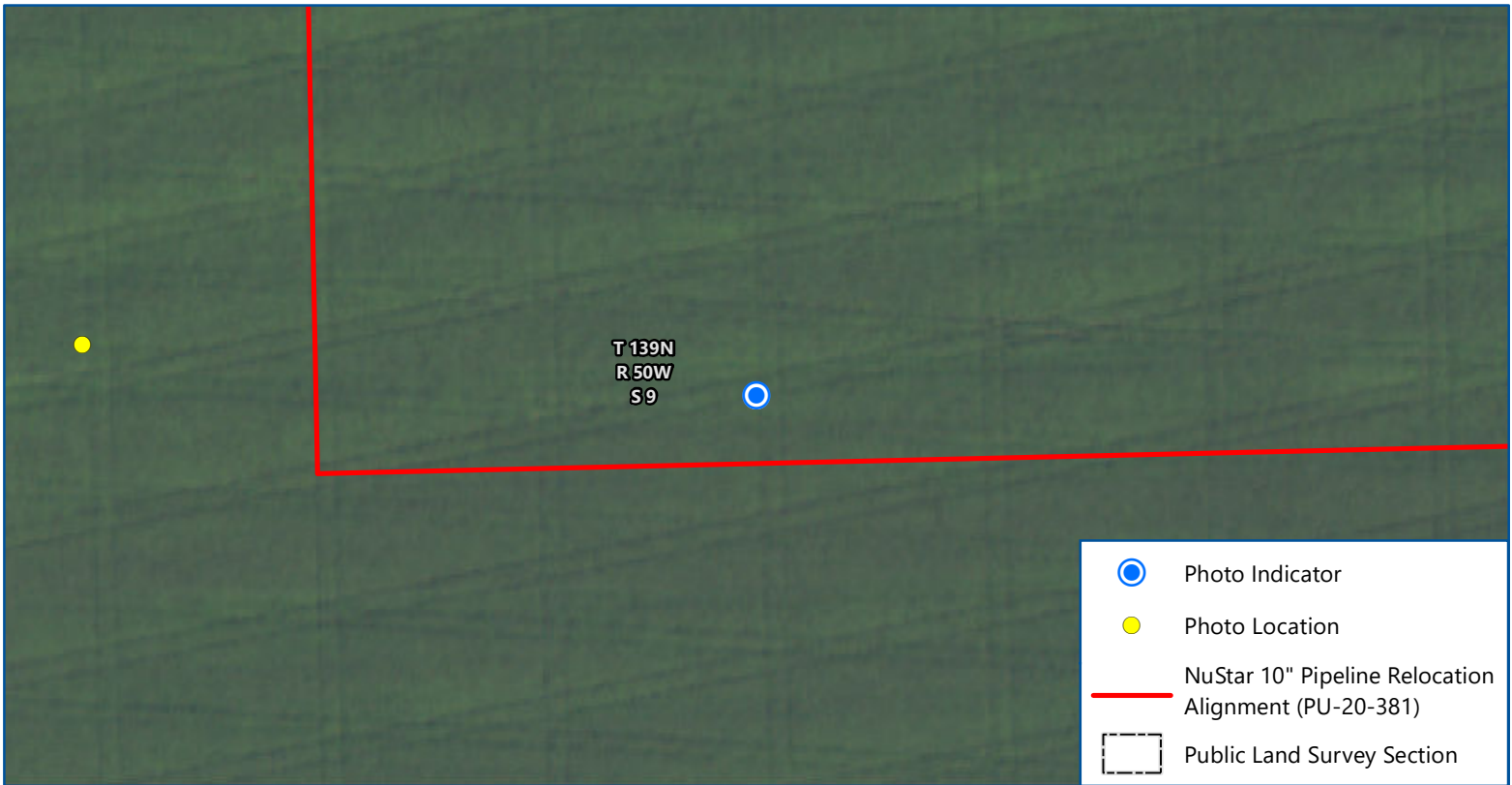
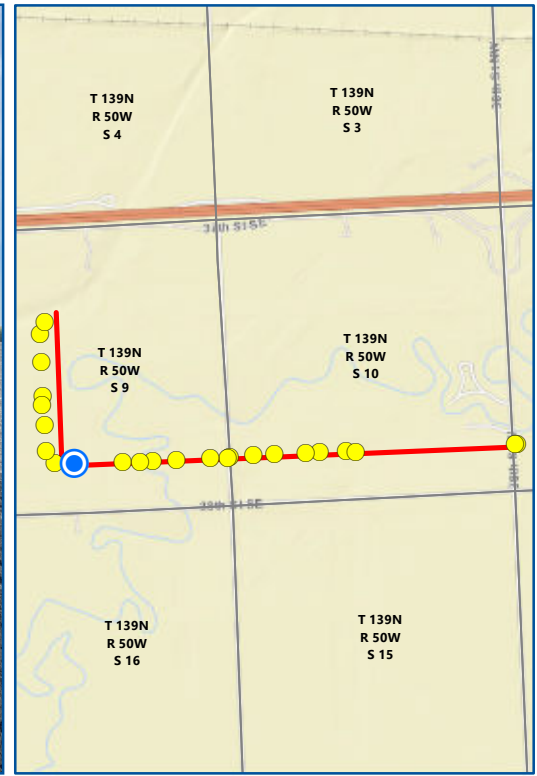


Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: West
 Comment: No visible issues

Latitude: -96.997755
 Longitude: 46.864888
 Coordinates are in the WGS84 datum.





Map 16 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

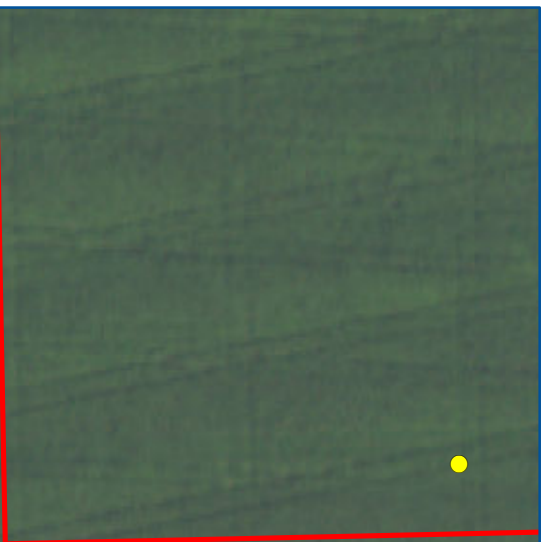
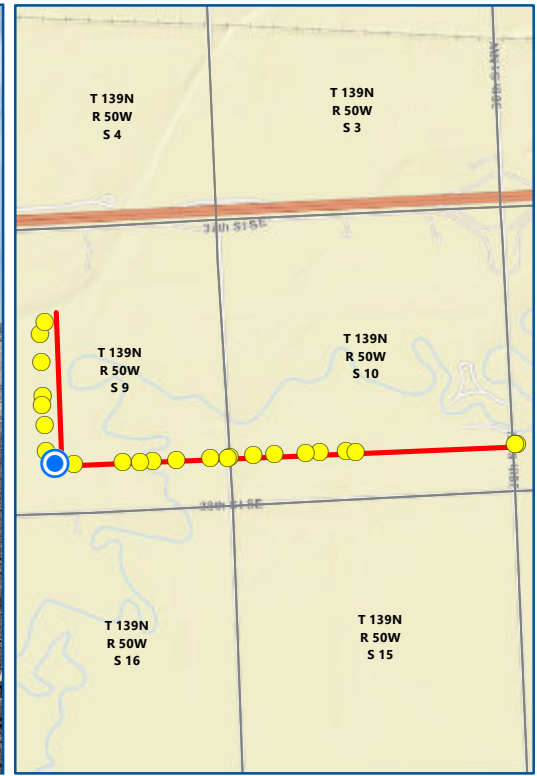
North Dakota Public Service Commission
Cass County, North Dakota





Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: North
 Comment: Cropland flooded out due to project construction

Latitude: -97.001367
 Longitude: 46.864917
 Coordinates are in the WGS84 datum.



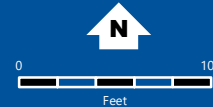


-  Photo Indicator
-  Photo Location
-  NuStar 10" Pipeline Relocation Alignment (PU-20-381)
-  Public Land Survey Section

Map 17 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

North Dakota Public Service Commission
Cass County, North Dakota

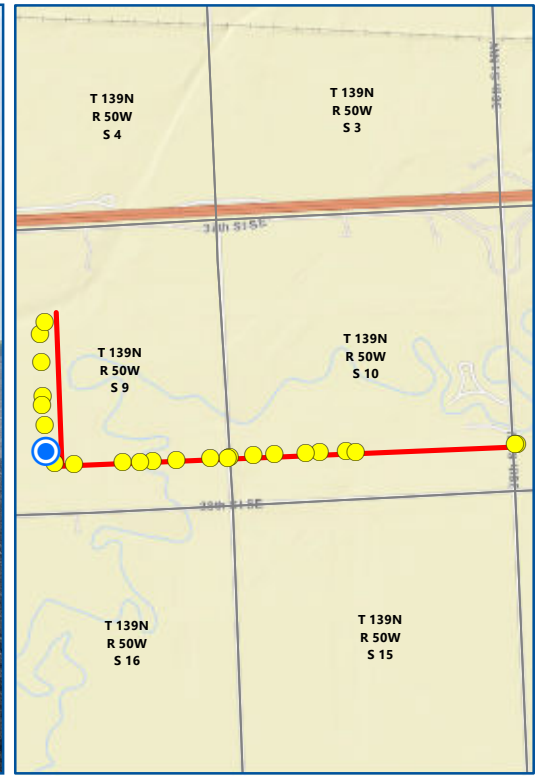


Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: North
 Comment: No visible issues

Latitude: -97.002815
 Longitude: 46.865018
 Coordinates are in the WGS84 datum.







Map 18 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota





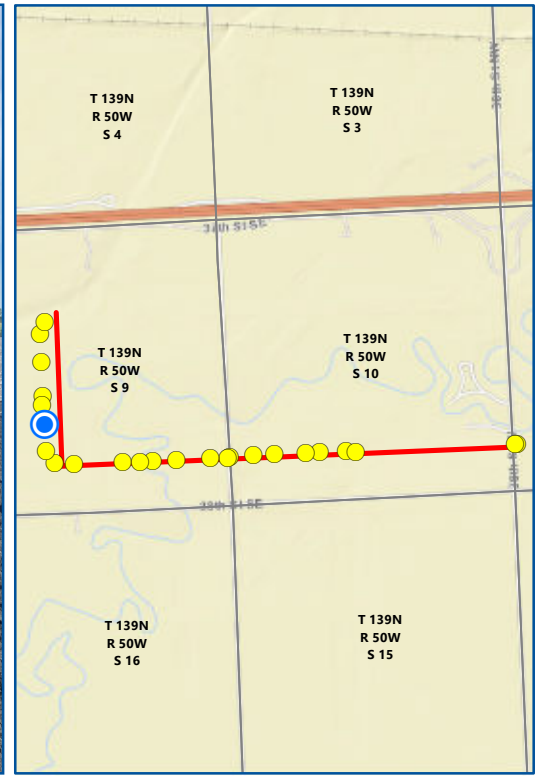
Feet

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: East
 Comment: 20 acres farmland flooded out due to project

Latitude: -97.003459
 Longitude: 46.865607
 Coordinates are in the WGS84 datum.





Map 19 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

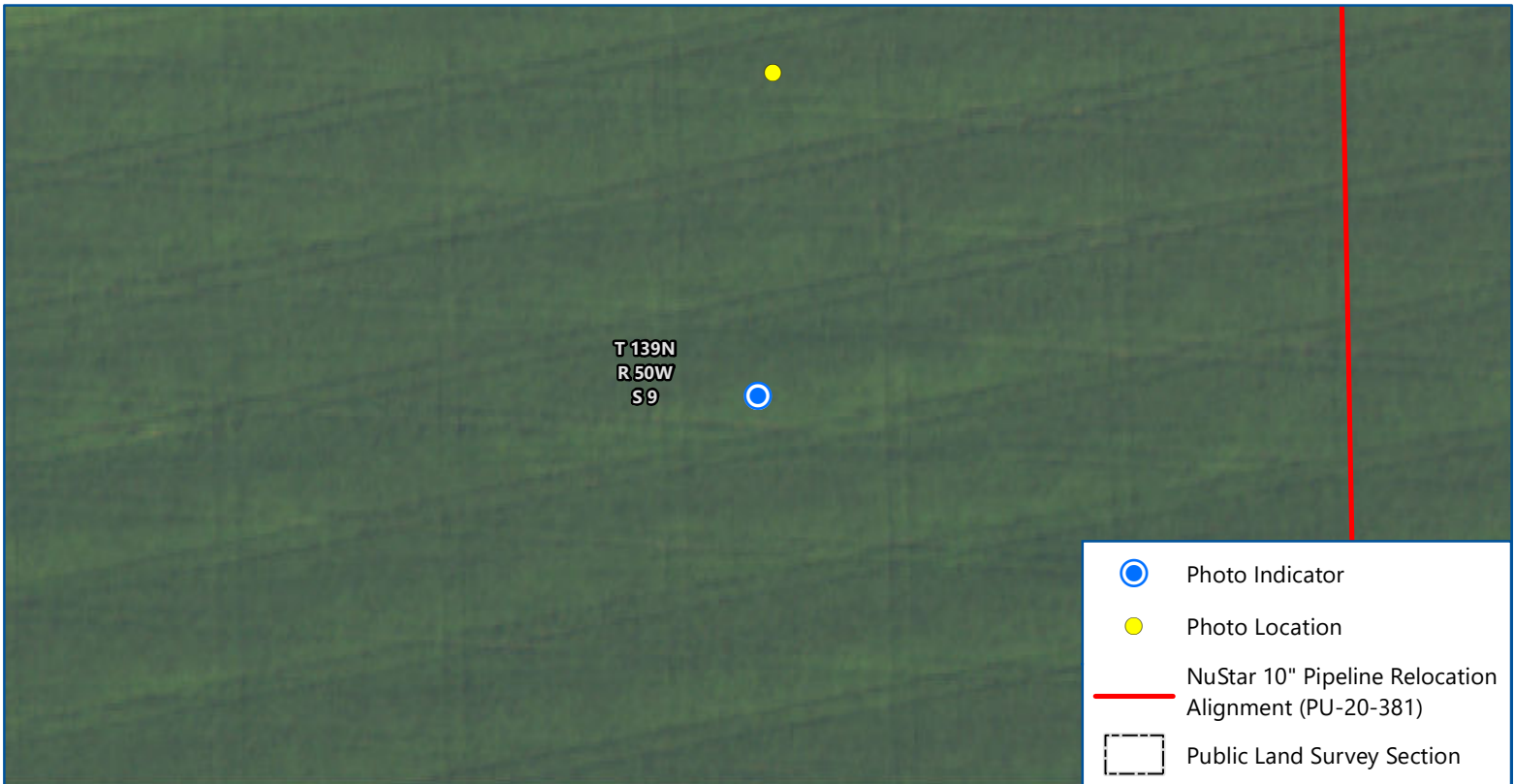
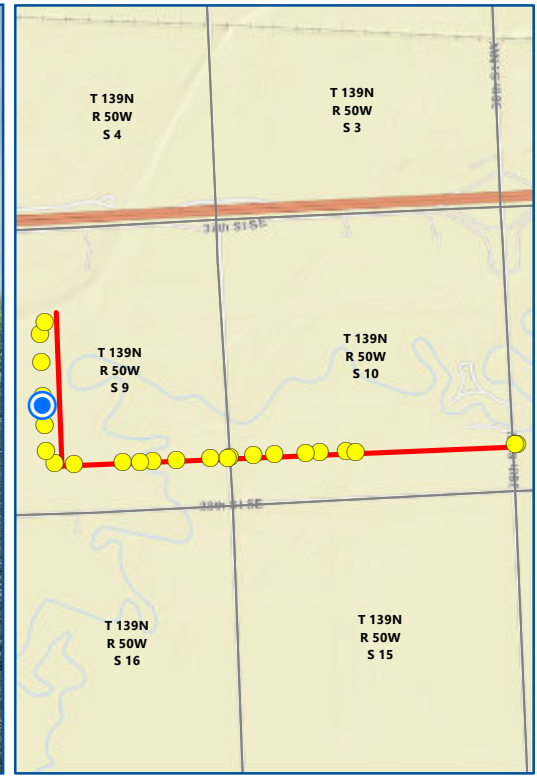
North Dakota Public Service Commission
Cass County, North Dakota





Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: North
 Comment: No visible issues

Latitude: -97.003436
 Longitude: 46.866996
 Coordinates are in the WGS84 datum.



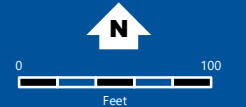


-  Photo Indicator
-  Photo Location
-  NuStar 10" Pipeline Relocation Alignment (PU-20-381)
-  Public Land Survey Section

Map 20 of 24

NUSTAR 10" PIPELINE RELOCATION AS-BUILT INSPECTION PU-20-381

North Dakota Public Service Commission
Cass County, North Dakota

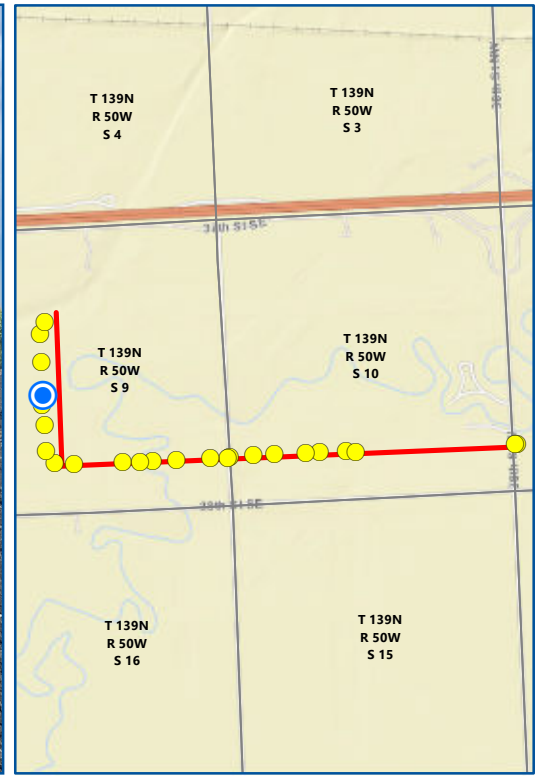






Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: South
 Comment: No visible issues

Latitude: -97.003557
 Longitude: 46.867989
 Coordinates are in the WGS84 datum.



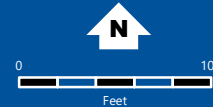


-  Photo Indicator
-  Photo Location
-  NuStar 10" Pipeline Relocation Alignment (PU-20-381)
-  Public Land Survey Section

Map 21 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

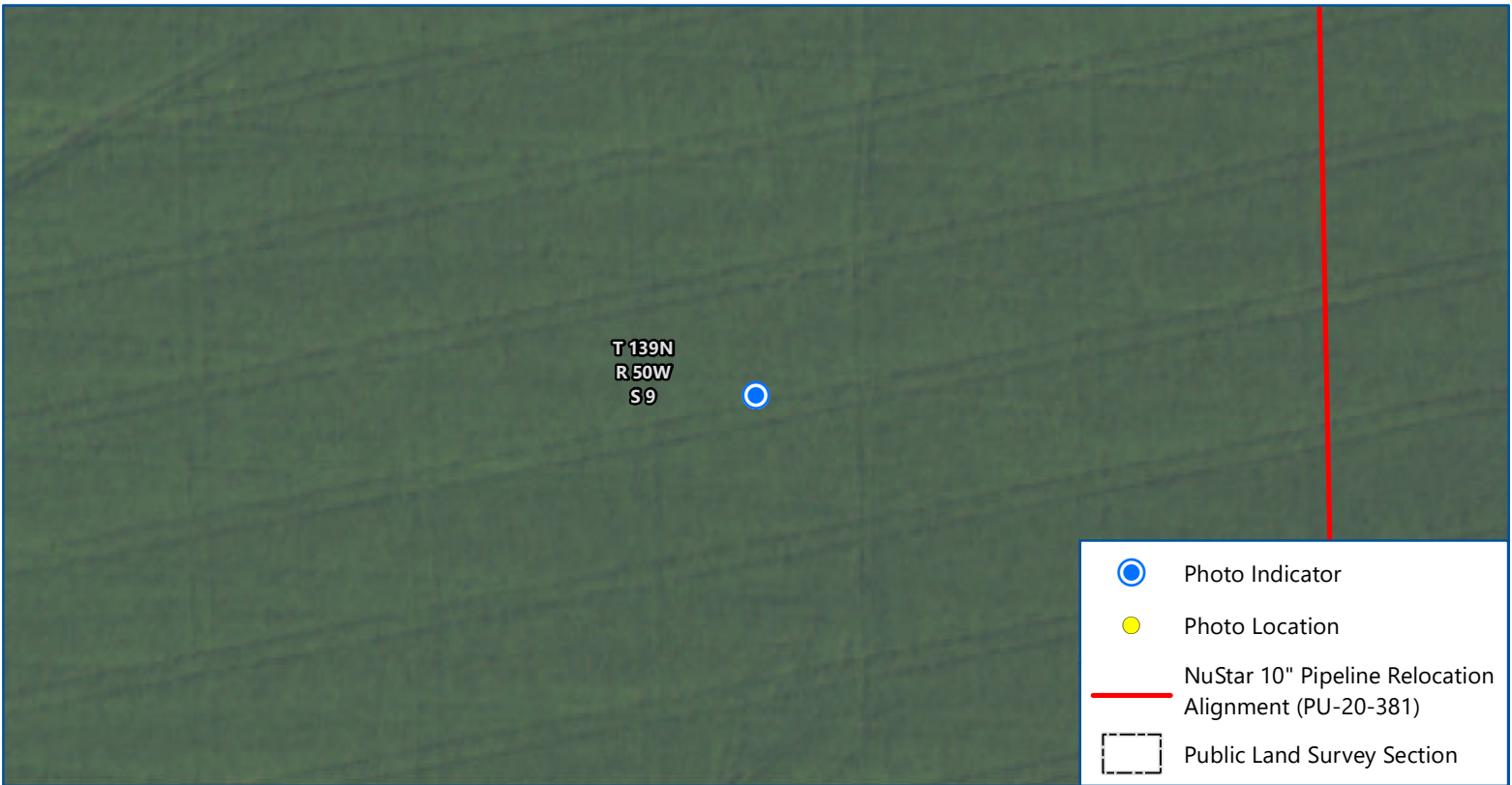
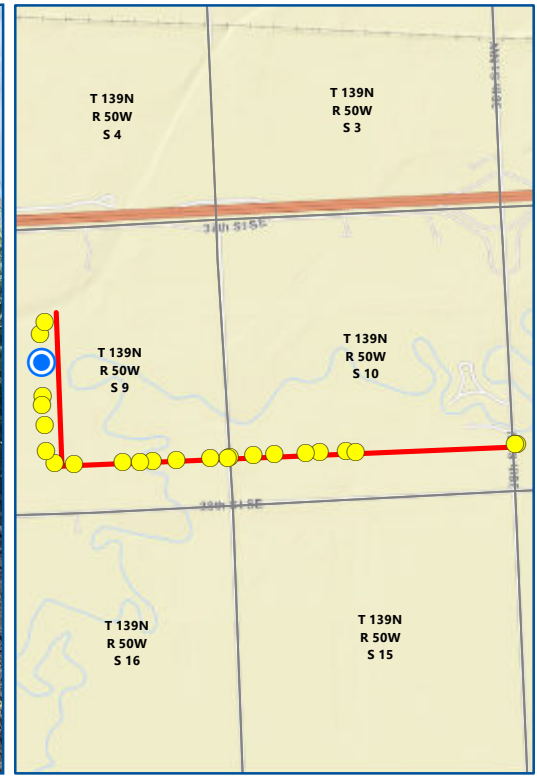


Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: North
 Comment: No visible issues

Latitude: -97.003507
 Longitude: 46.868465
 Coordinates are in the WGS84 datum.





- Photo Indicator
- Photo Location
- NuStar 10" Pipeline Relocation Alignment (PU-20-381)
- Public Land Survey Section

Map 22 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

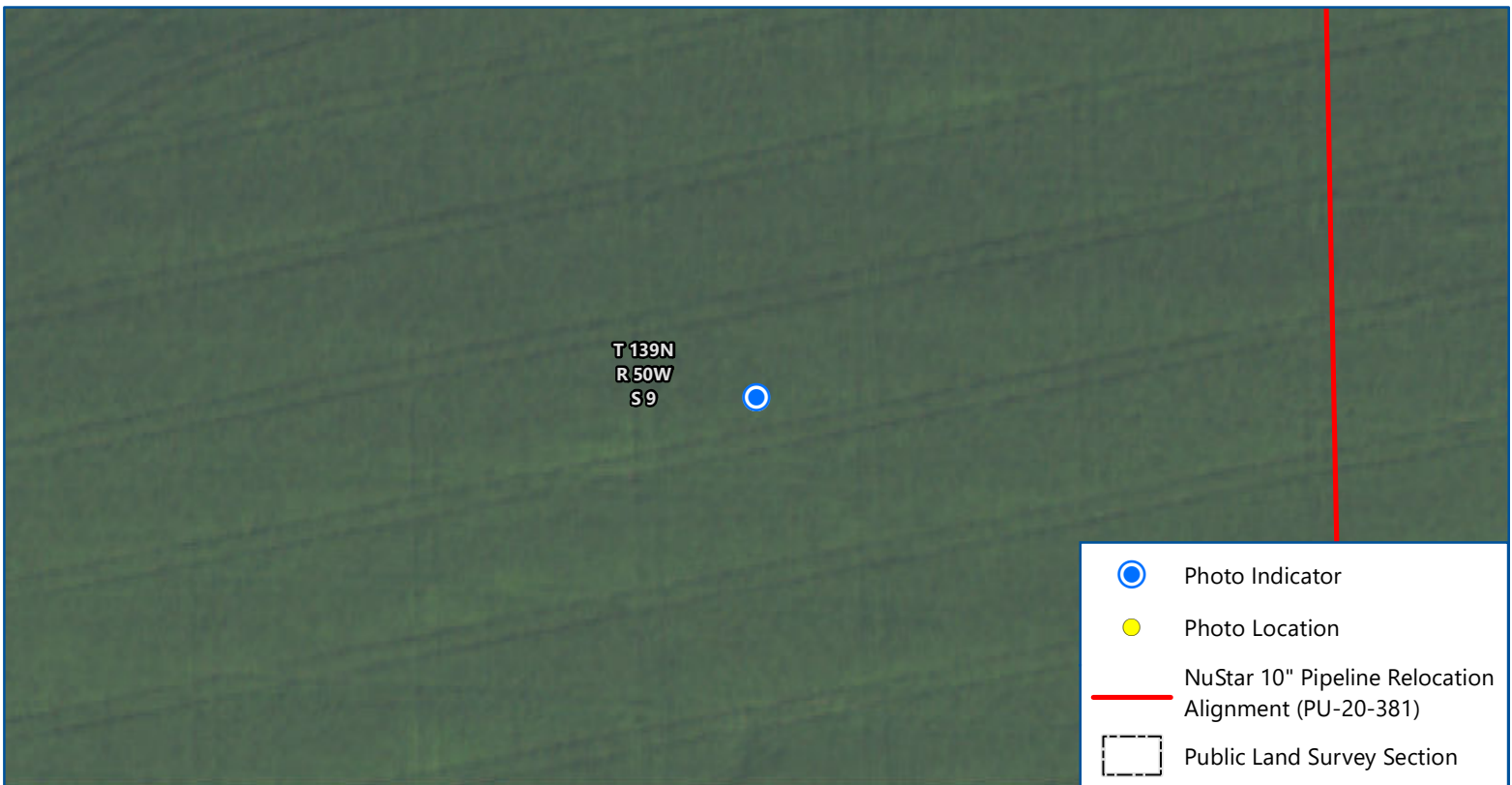
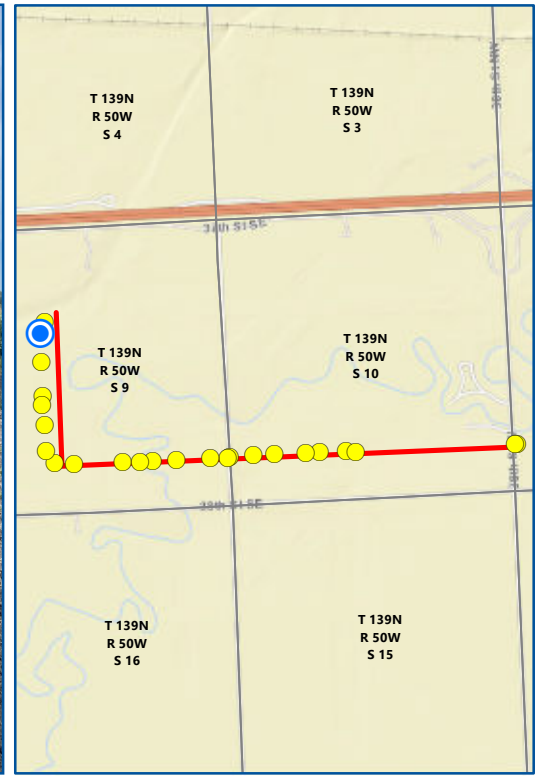
North Dakota Public Service Commission
Cass County, North Dakota





Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: North
 Comment: No visible issues, narrower pipeline ROW

Latitude: -97.003494
 Longitude: 46.870185
 Coordinates are in the WGS84 datum.



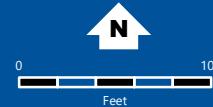


-  Photo Indicator
-  Photo Location
-  NuStar 10" Pipeline Relocation Alignment (PU-20-381)
-  Public Land Survey Section

Map 23 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

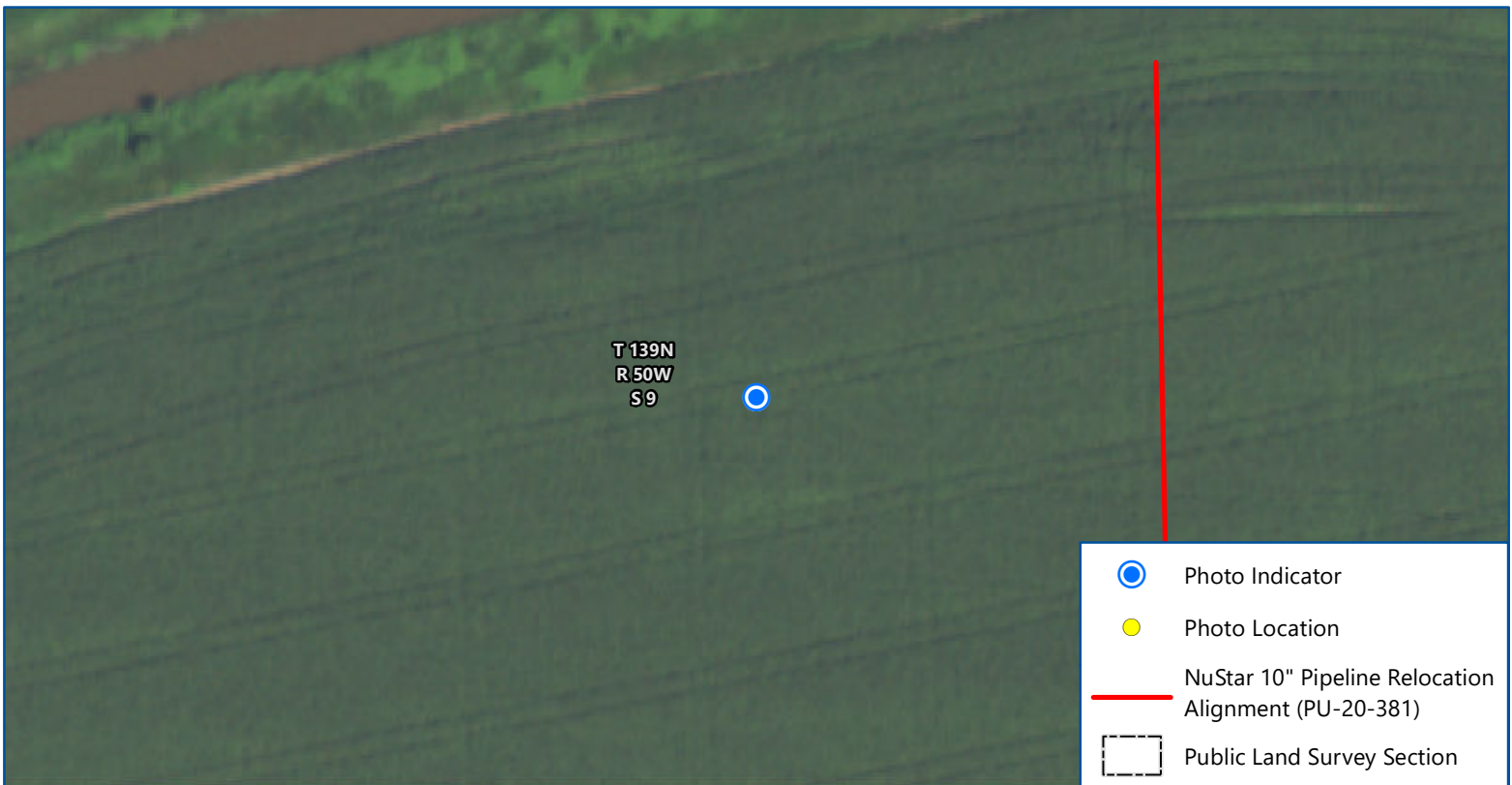
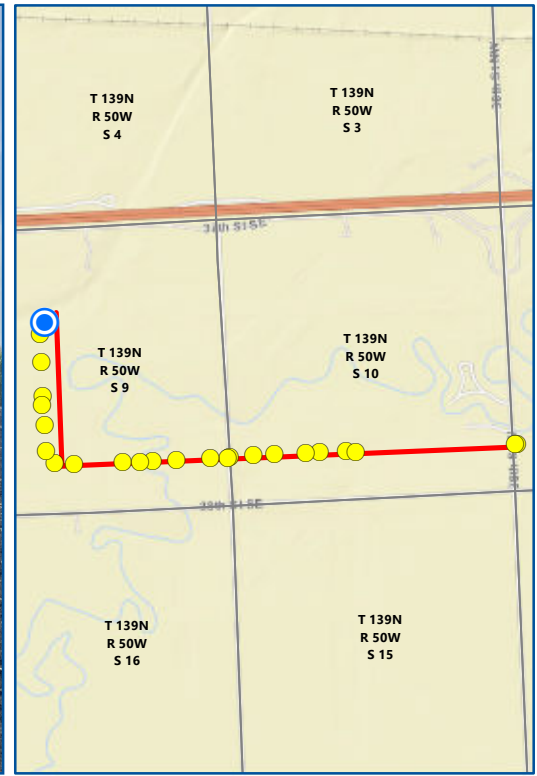


Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: North
 Comment: No visible issues, tie in point

Latitude: -97.003496
 Longitude: 46.871642
 Coordinates are in the WGS84 datum.





Map 24 of 24

**NUSTAR 10" PIPELINE RELOCATION
AS-BUILT INSPECTION
PU-20-381**

North Dakota Public Service Commission
Cass County, North Dakota

0 100
Feet

Imagery: USDA FSA (2020)

Date: 8/26/2022
 Photo Direction: South
 Comment: No visible issues

Latitude: -97.003121
 Longitude: 46.872225
 Coordinates are in the WGS84 datum.

