



PU-19-368
ONEOK Bakken Pipeline, L.L.C.
Tioga Lateral NGL Pipeline
Reclamation Inspection Report

File No. 227701547

August 2022

Prepared for:

North Dakota Public Service Commission
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1.0 EXECUTIVE SUMMARY

The North Dakota Public Service Commission (PSC) retained Stantec Consulting Services Inc (Stantec; Formerly Wenck Associates, Inc) to complete a reclamation and revegetation inspection following the completion of the 16" Tioga Lateral Natural Gas Liquids (NGL) Pipeline (Project) constructed by ONEOK Bakken Pipeline, L.L. (ONEKOK). The Project is approximately 75.0 miles, and is entirely within Williams County, ND. The purpose of the inspection was to ensure the project was constructed in compliance with the citing laws and rules and the applicable PSC Orders for the Project and includes the requirements for restoration and repair of infrastructure affected by Project construction, reclamation, and reseeding.

The Project construction commenced in April 2020 and concluded in November 2020. Reclamation restoration activities were also initiated in November 2020, as documented in the Final Construction Report (PU-19-368 Docket No. 125). The as-built construction inspection occurred April 19-23, 2021. Stantec conducted the on-site reclamation inspections on August 1-3, 2022. This report includes documentation from the most recent inspection and the status of reclamation and revegetation efforts to date.

Overall, the reclamation of the project was satisfactory. The right of way (ROW) was observed to be recontoured and reclaimed to the surrounding landscape and topography as near as possible. Revegetation inspections of the Project revealed some issue areas along the ROW, but these were relatively minor, isolated instances. Generally, cropland areas under cultivation were producing crops apparently comparable to portions of the fields outside of the disturbed ROW, with little-to-no occurrences of weedy species. Desirable species were observed throughout most hay land and rangeland areas, with some points containing noxious or annual weeds. The most common reclamation issues observed are related to subsidence and soil mixing, or compaction leading to inadequate crop growth and plant cover. Specifics on the issues observed are further outlined in this report, and Stantec's opinion is that adequate reclamation can be achieved in these areas with typical corrective measures.



2.0 BACKGROUND AND SCOPE

2.1 INTRODUCTION

The ONEOK 16" Tioga Lateral NGL Pipeline in Williams county, ND, is under the jurisdiction of the North Dakota Public Service Commission (PSC), which issued its Findings of Fact, Conclusions of Law, and Order in Case No. PU-19-368 on April 1, 2020, granting Certificates of Corridor Compatibility No. 214 and Route Permit No. 224 for the Project. The Route is approximately 75 miles in length, originating from the Hess Corporations Tioga Gas Processing Plant T157N, R95W, Section 26. It crosses Williams County westward and terminates at an interconnection with ONEOK's Stateline to Riverview NGL Pipeline in T155N, R103W, Section 21, northwest of Williston, ND. Approximately 58 percent of the Route is co-located with existing linear infrastructure.

2.2 PURPOSE

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Public Service Commission to determine 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. Post-construction inspections ensure that such projects are constructed 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 PSC Findings of Fact, Conclusions of Law, and Order (Order). The PSC retained Stantec to complete a reclamation and revegetation inspection of the Project following construction completion and as-built inspections.

2.3 METHODS AND SCOPE OF INSPECTION

2.3.1 Project Scope Identification

Stantec's scope of work was to perform and document a reclamation and revegetation inspection after one full growing season no less than one year from the anniversary date of completion of fertilization and seeding. The preceding As-Built Inspection (PU-19-368 Docket No. 134) observed non-cropland areas were seeded on April 19, 2021. Appropriately, the reclamation inspection was conducted no less than one year from that date. The reclamation and revegetation inspection includes a follow-up of areas of concern identified in the as-built construction inspection. The report includes, but is not limited to, documentation of site visit observations, and a summary of findings and issues that should be addressed for the Project to be considered complete and in compliance.

Stantec's intent was to ensure the Projects obligations of compliance with reclamation and restoration specifications found in the Findings of Fact, Conclusions of Law and Order, Certifications Relating to



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Order Provisions. These “Project Specifications” are listed in Table 1. Project Specifications originated mainly from the Certification Relating to Order Provisions.

Table 1 Project Specification Scope Table

Order Provisions 18	<i>Company understands and agrees that it shall, as soon as practicable upon the completion of the construction of the transmission facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.</i>
Order Provision 19	<i>Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the transmission facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.</i>
Order Provision 20	<i>Company understands and agrees that reclamation, fertilization, and reseeding is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.</i>
Order Provision 21	<i>Company will fulfill its obligation for reclamation and maintenance of the approved transmission facility right-of-way, transmission facility, and associated facilities continuing throughout the life of the transmission facility.</i>
Order Provision 22	<i>Company will repair all fences and gates removed or damaged during all phases of construction and operation of the transmission facility.</i>
Order Provision 23	<i>Company will repair or replace all drainage tile broken or damaged as a result of construction and operation of the transmission facility.</i>
Order Provision 24	<i>Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.</i>
Order Provision 25	<i>Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.</i>
Order Provision 26	<i>Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the transmission facility.</i>



2.3.2 On-Site Inspection

Zachary Bartsch, Stantec Soil Scientist, inspected the Project route on August 1-3, 2022. The site was inspected by driving to ROW access points and systematically inspecting ditches, fence lines, the encompassing ROW, and walking the ROW where accessible. Observation points containing geographic coordinates and describing potential issues and reclamation/revegetation status were recorded using ESRI ArcGIS Collector and Survey123 software applications on a tablet utilizing internal satellite triangulation software or paired with a Trimble Global Positioning System (GPS) (**Appendix A**). Digital photographs were taken with the tablet utilizing the Survey123 application to geotag photo locations and associate all collected data from each Observation Point (Figures 1-24). Photographs were taken showing representative portions of the route, aboveground Project infrastructure, and potential problem areas (**Appendix A**).



3.0 RESULTS OF SITE INSPECTION

The following subsections outline findings from the inspection pertaining to the land uses of the ROW.

3.1 CROPLAND

The Project ROW crosses numerous parcels of cropland, either bisecting or following the outer boundaries of the fields. Fields were under crop production including canola, lentils, field peas, flax, sunflower, and wheat. No visual grain yield estimate or stand height comparisons were made, however, the stand density and color of harvested grains within the ROW were observed. Overall, the physical characteristics of the crops in the reclaimed ROW were consistent to the surrounding, undisturbed land at **Observation Points 5, 6, 7, 8, 11, 12, 15, 26, 30, 34, 35, 36, 37, 43, 49, 51, 52, 54, 55, 56 (Appendix A)**. At **Observation Points 3, 11, 20, and 28**, crop growth was not consistent with the surrounding undisturbed areas, but may recover as time since reclamation increases. All cropland observations were trash and debris-free, except for **Observation Point 28**.

The soil in most cropland appeared to have been adequately replaced and was matching existing topography (**Appendix A; Observation Points 1, 9, 18**). However, one soil observations contained little-to-no topsoil mixed with subsoil (**Observation Point 4**). The reclaimed area was also compacted, which appeared to impact crop growth. Soil reclamation issues were also noted at **Observation Points 29, 35, 39, 45, 57**, where subsidence was negatively impacting crop growth, and erosion at **Observation Point 14 and 25**. Lastly, woody debris, possibly from pipeline installation activities, was present at **Observation Point 28**, and may need to be addressed. Populations of annual weeds, predominantly kochia (*Bassia scoparia*), were common in the portions of low crop vigor in the ROW, but were overall not a concern.

3.2 HAY LAND

The Project ROW crosses numerous parcels of idle land presumably used for hay production, covered by perennial and annual vegetation. It is presumed these hay lands are not normally subjected to livestock grazing or cultivation (**Appendix A; Observation Points 21, 22, 46, 48**). Stantec confirmed the presence of native grass western wheatgrass (*Pascopyrum smithii*), and may have been seeded, but Stantec did not confirm seeded species in the ROW. Other non-native species observed include green foxtail (*Setaria viridis*), wild sunflower (*Helianthus annuus*), field bindweed (*Convolvulus arvensis*), sweet clover (*Melilotus officinalis*), alfalfa (*Medicago sativa*), lambsquarter (*Chenopodium album*), foxtail barley (*Hordeum jubatum*), and smooth brome (*Bromus inermis*). Overall, vegetation cover was 70 to 100% in ROW areas, and similar to the adjacent undisturbed land dominated by smooth brome and alfalfa.

No soil mixing was observed by Stantec in hay land. However, a minimal area of subsidence was observed in hay land at **Observation Point 44 (Appendix A)**. **Observation Points 23 and 32**, were dominated by Kochia and prickly Russian thistle (*Salsola tragus*) while the surrounding area contained alfalfa, and was not being hayed by the producer unlike the surrounding area. Overall, areas from the as-



built containing Canada thistle (*Cirsium arvense*) were observed to be being properly controlled (**Observation Point 21**). However, one area with a prevalence of Canada thistle were noted (**Observation Point 57**).

3.3 RANGELAND

The Project ROW crosses grassland presumably used as rangeland for grazing or CRP, and displayed no evidence of haying (**Appendix A; Observation Points 2, 10, 16, 17, 24, 27, 31, 40, 42, 47, 59, 60, 61, and 62**). Though Stantec cannot confirm seeded species in the ROW, common native species observed include stiff goldenrod (*Solidago rigida*), wild sunflower, and various drill-seeded grass species. Rocky Mountain Bee Plant (*Cleome serrulata*) in a pasture (**Observation Point 19**). These native grasses are presumably drill-seeded.

On-site inspections confirmed the establishment and/or presence of numerous other species throughout the ROW that are not native. These species include kochia, lambsquarter, yellow and white sweetclover, alfalfa, and smooth brome. One potential issue area (**Appendix A; Observation Points 13**) contained poor revegetation likely due to inadequate topsoil replacement. Overall, the restoration of rangeland vegetative cover was comparable to undisturbed areas surrounding the ROW. Vegetation in the ROW is expected to become more dominated by desirable late-successional species as time goes on due to the continued establishment of seeded species if normal climatic conditions continue.

Canada thistle had been previously observed in rangeland, and some as-built inspection observations points were reinspected. At **Observation Point 10, 41, and 53 (Appendix A)**, Canada thistle was observed to be recently mowed, which demonstrates compliance with PSC Order Provision #21.

3.4 NOXIOUS AND ANNUAL WEEDS

Canada thistle and leafy spurge were the only noxious weeds observed during the inspection. Canada thistle was present at **Observation Points 2, 10, 41, 47, 50, 53, and 58 (Appendix A)**. All revisited observation points that contained Canada thistle had been controlled at least once, and only **Observation Points 15, 19 and 33** did not contain Canada thistle in 2022. However, **Observation Point 19** contained significant Leafy Spurge (*Euphorbia esula*) populations and control may be needed to be compliant. Canada thistle is a ubiquitous and prolific weed species in the region, and often requires multiple attempts to suppress.



Table 2 Species¹ Observed in Reclaimed ROW

Land Use	Vegetative Class					
	Grasses		Forbs		Weeds	
	Native	Non-Native	Native	Non-Native	Native	Non-Native
Cropland	NA	NA	NA	NA	NA	<i>Kochia</i>
Hay Land	Slender wheatgrass Western wheatgrass	Green foxtail Foxtail barley Smooth brome	Wild sunflower	Alfalfa Yellow sweet clover Lambsquarter	NA	Canada Thistle Prickly Russian thistle Field bindweed Kochia Lambsquarter
Rangeland	Seeded species	Smooth brome	Wild sunflower Stiff goldenrod Rocky Mountain Bee Plant	Yellow sweet clover White sweet clover	NA	Canada thistle Leafy Spurge Kochia Lambsquarter

¹Noxious weeds in bold red.



3.5 STREAM/WETLAND CROSSINGS

One stream/wetland crossing was observed where the HDD crossing method was used (**Appendix A; Observation Point 1 and 2**). The boring area was observed to be appropriately reclaimed and contained adequate topsoil replacement. No issues were noted at other stream or wetland areas.

3.6 ROADS AND MAINTENANCE

Gravel roads crossed by the ROW had been bored underneath to avoid cuts and were in good condition. Access points through roadside ditches and approaches contained minor annual weedy species and smooth brome grass. All fences and fenceposts appeared to have been fixed and/or replaced, and no access roads were found to remain. Overall, the ROW was maintained in good condition. Observed above ground infrastructure (i.e., valve sites) were fenced, secure, and well maintained.

3.7 AS-BUILT INSPECTION CONCERNS

Noxious weed concerns brought forth by the as-built inspection were observed to be managed and controlled in the 2022 growing season. Proposed re-seeding activities are presumed to have been conducted to NRCS recommendations, however, it is unknown if any deviations were made upon the request of landowners and Stantec is unaware of any PSC approvals to do so.



4.0 ISSUES, RESULTIONS, AND RECOMMENDATIONS

4.1 VEGETATION MONITORING

Seeded and desired grass species did not yet comprise a majority of absolute cover in some of the inspected hay and rangeland ROW areas. Native species can be slow to colonize recently disturbed land since competition for available nutrients in the reclaimed soil with annual weed species is high. Future monitoring could be conducted to ascertain if absolute cover of desired species increases over time, but present conditions suggest revegetation and reclamation for the majority of the ROW was successful.

4.2 WEED MANAGEMENT

Weedy species were present and recorded in the reclaimed ROW. The weed management plan may have to be implemented (PU-19-368 Docket #1, Exhibit H.8). Stantec recommends coordinating management with landowners for areas within cropland in the Spring of 2023. Kochia is recommended to be sprayed once in the spring when the plants emerge, and later in the summer when late-germinating plants begin emerging (NDSU Extension Service, 2016). Kochia and prickly Russian thistle have seed viability of ~1 year, so adequate control for one growing season may significantly reduce weed presence in following years. Other annual weeds should be monitored along the ROW in hay lands and rangelands per landowner preferences. Stantec recommends one or two years of mowing or herbicide application in June or July prior to seed ripening. This would reduce the annual weed seed bank within a year or two and allow the grass cover to better establish.

The only noxious weed species observed was Canada thistle (perennial) and leafy spurge. Both species being controlled, mechanically. Stantec did not observed any areas of weeds that were recently sprayed with herbicide. Stantec recommends PSC contact ONEOK about the additional areas where Canada thistle and leafy spurge were observed in the ROW. For control, Stantec recommends infested areas continue to be treated immediately throughout the 2022 and 2023 growing seasons. The locations observed with noxious weeds should be monitored for at least two years to allow for the lifecycle of weeds, and to ensure infestations do not spread.

4.3 SOIL MIXING, COMPACTION, AND SUBSIDENCE

Exposed subsoil and/or mixed topsoil was observed at several locations throughout the ROW. Minor, isolated areas of subsidence was observed in some inspected cropland tracts. Stantec recommends the PSC inquire about these areas with ONEOK. Adding topsoil or soil biological amendments could be possible methods to improve the organic matter content and improve vegetative restoration. Additional fill and re-grading, possibly coupled with temporary perennial vegetation, at locations of subsidence is likely to permanently stabilize these areas.

Soil decompaction at select areas could mitigate the adverse impacts to soil quality that resulted in reduced vegetation growth. Landowners producing crops in the compacted portions of the ROW soil may



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experience declined crop yields due to poor root penetration. Though these issues were isolated, ONEOK should coordinate with the landowner(s) on possible ways to address these areas noted through either tillage, cover crops, or other methods. Stantec recommends additional organic amendments and supplemental decompaction at Observation Point 4 in Section 23-T155N-R10W.




5.0 SIGNATURES

The conclusions in this Report are Stantec's professional opinion, as of the time of the inspection and subsequent Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the ND PSC and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the ND PSC in accordance with Stantec's contract with the ND PSC. While the Report may be provided to applicable authorities having jurisdiction and others for whom the ND PSC is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.



Matt Retka
Project Manager
Environmental Scientist

August 18, 2022
Date



Zachary Bartsch
Soil Scientist

August 18, 2022
Date



6.0 REFERENCES

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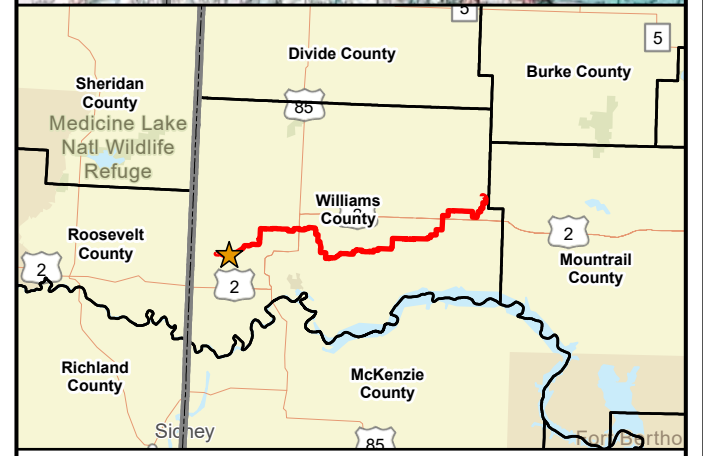
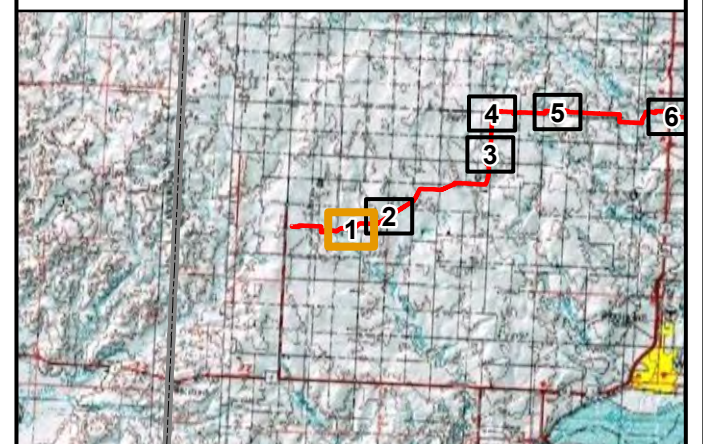
FIGURES

**Figure 1-24: Reclamation/Revegetation Observation
Locations Map**

**North Dakota
Public Service Commission**

**Tioga Lateral Pipeline
Figure 1**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

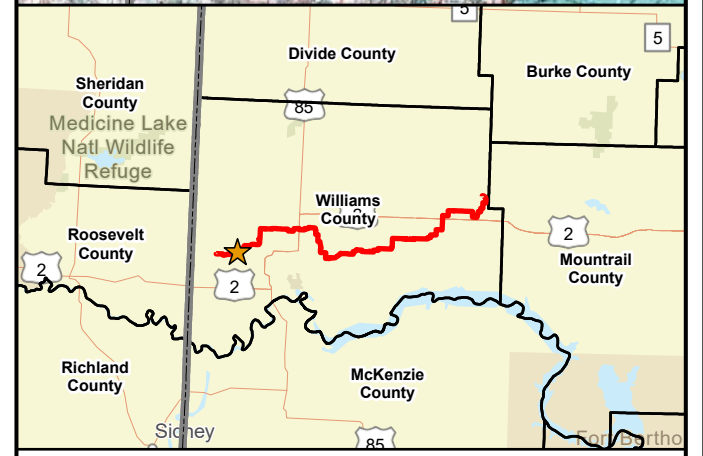
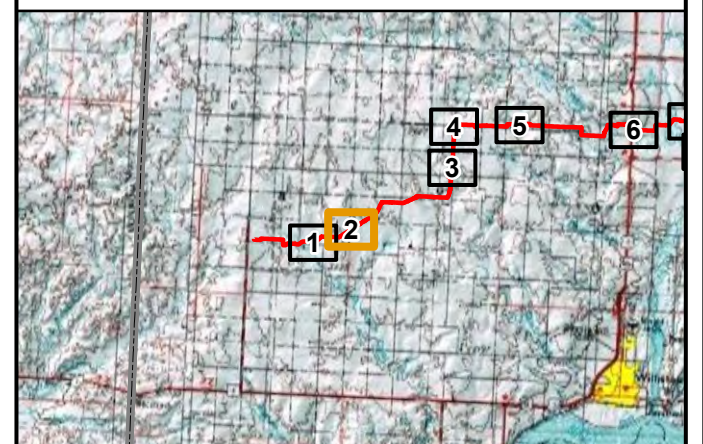


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Tioga Lateral Pipeline
Figure 2

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

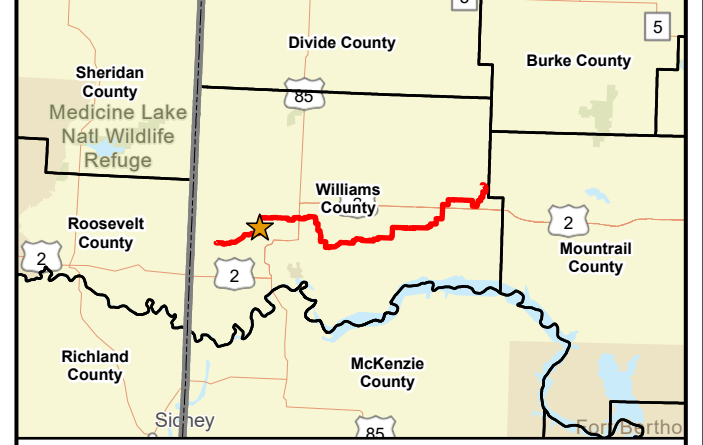
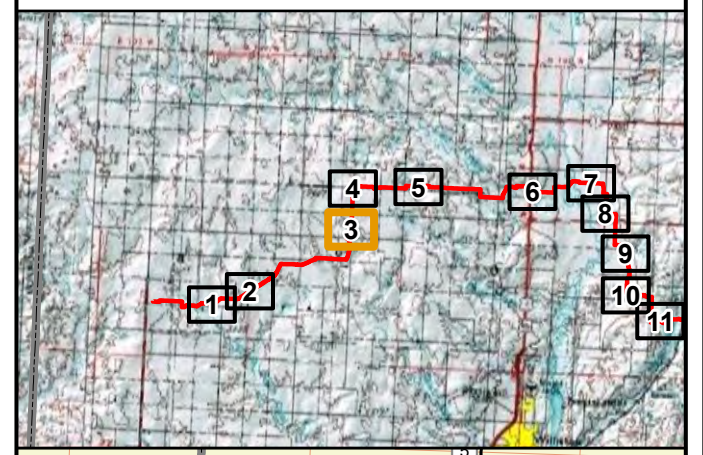


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Tioga Lateral Pipeline
Figure 3

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

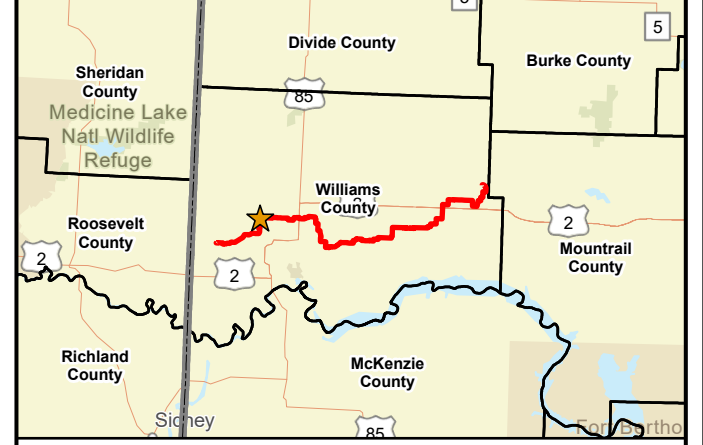
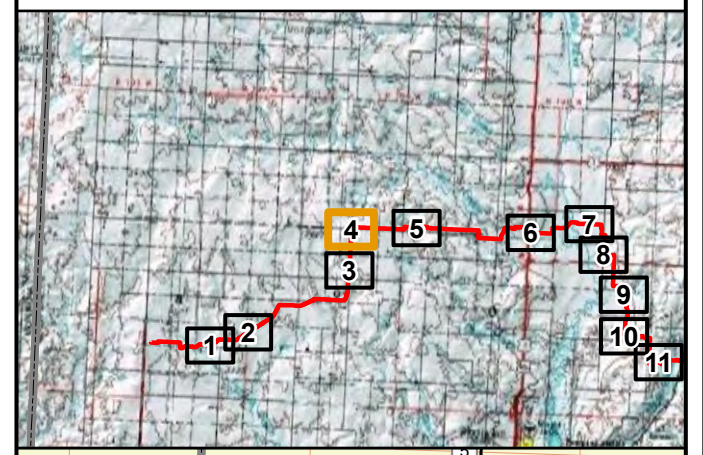


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Tioga Lateral Pipeline
Figure 4

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

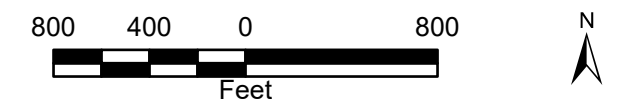
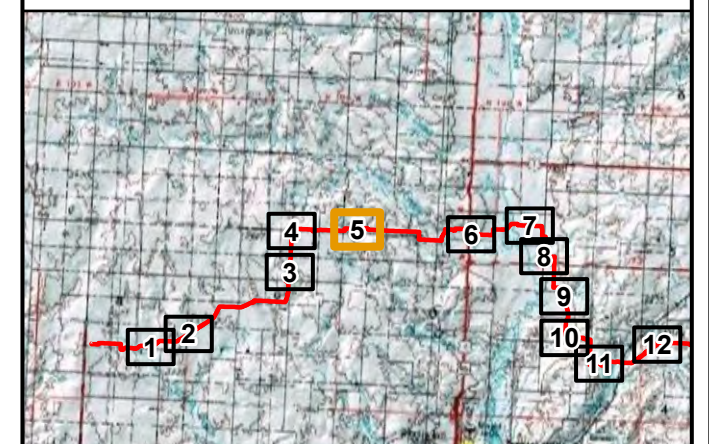


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Tioga Lateral Pipeline
Figure 5

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

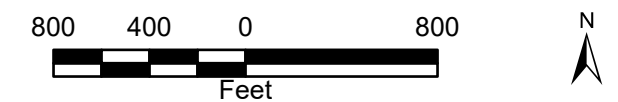
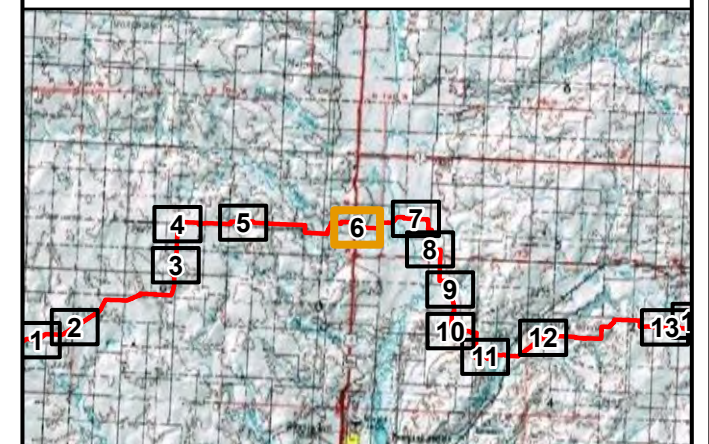
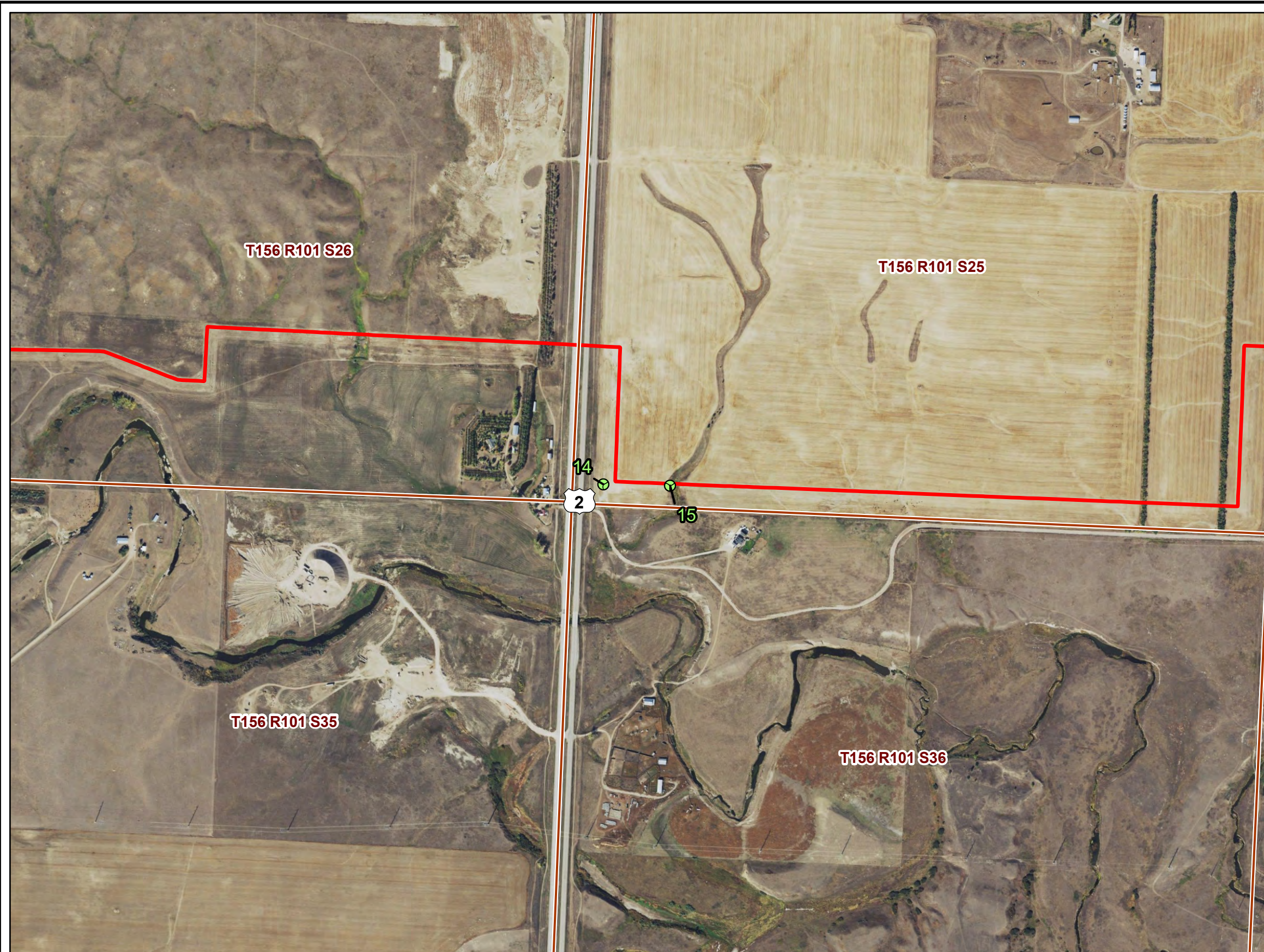


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Tioga Lateral Pipeline
Figure 6

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



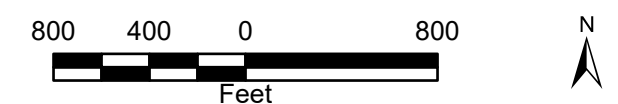
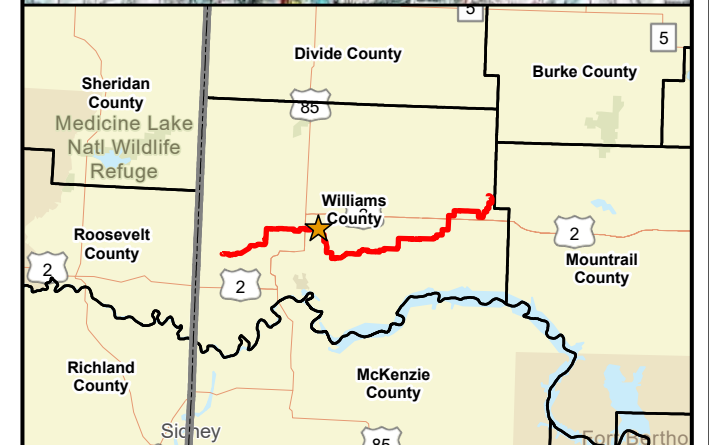
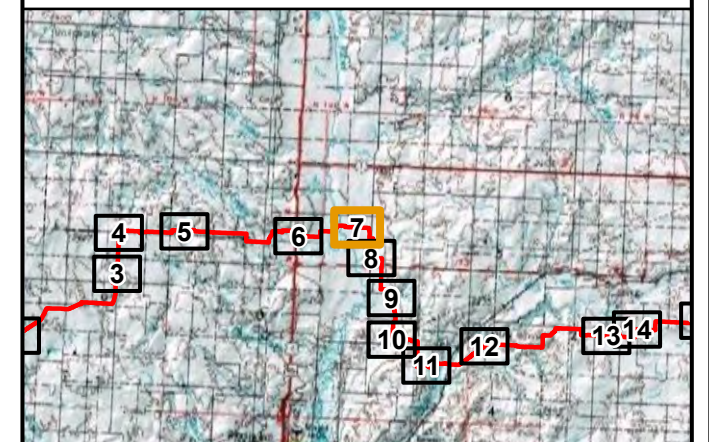
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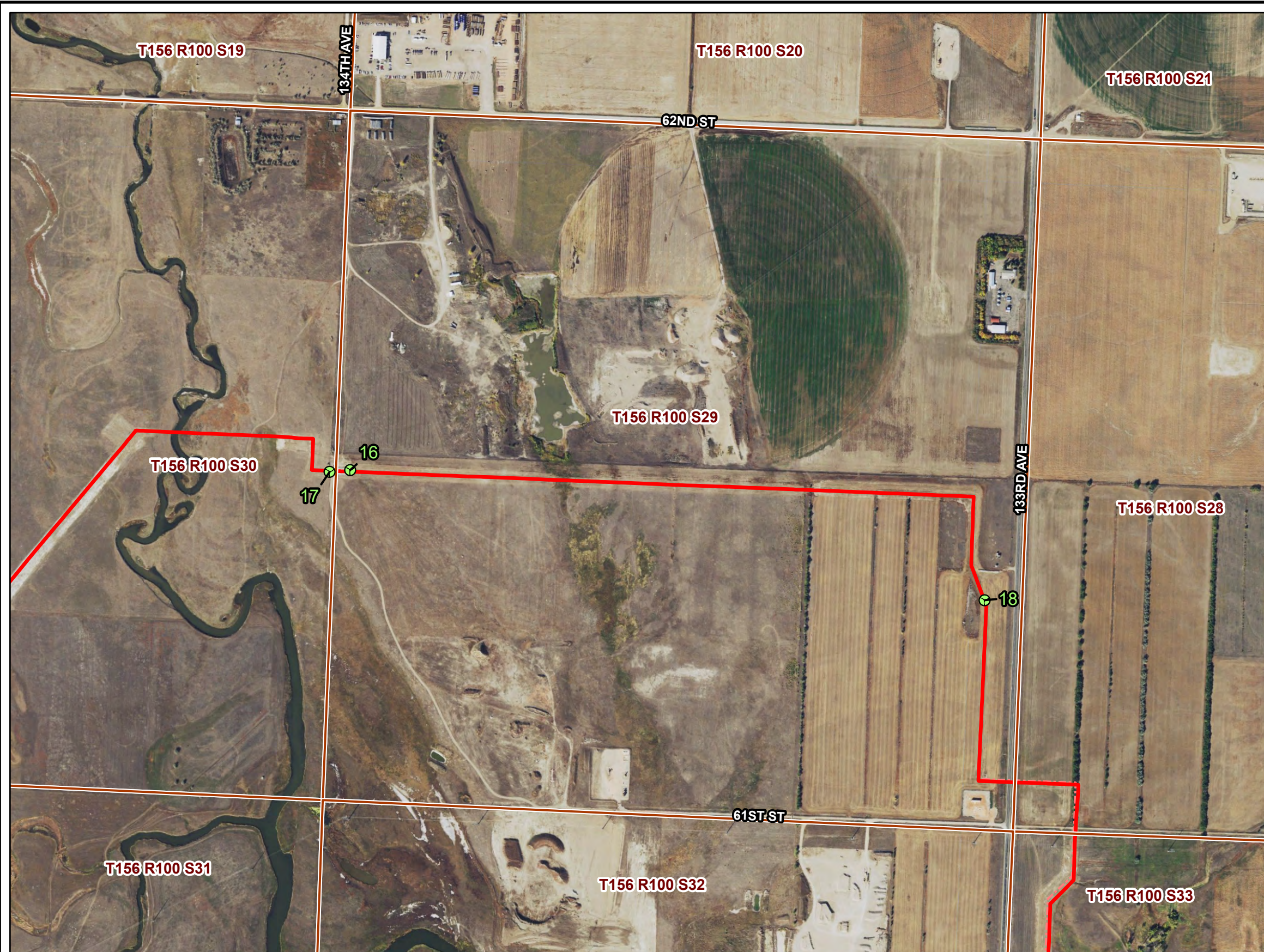
Tioga Lateral Pipeline
Figure 7

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations






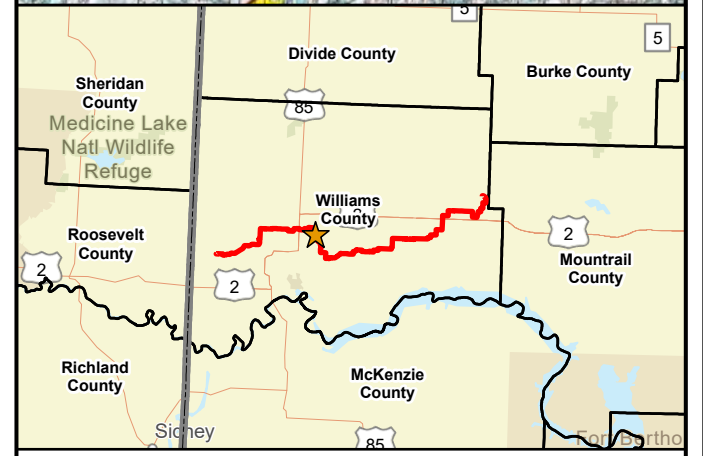
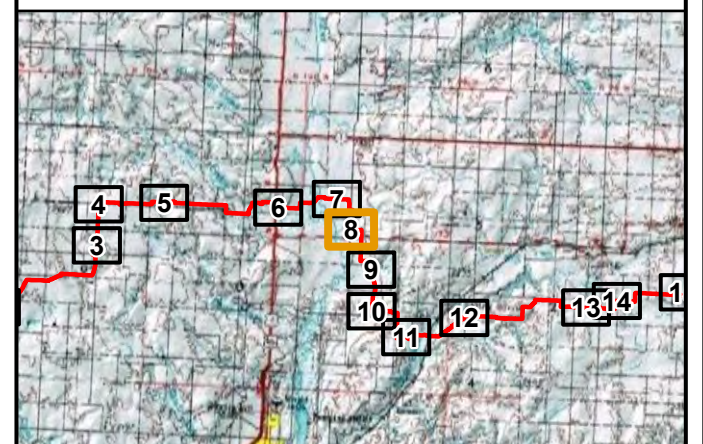
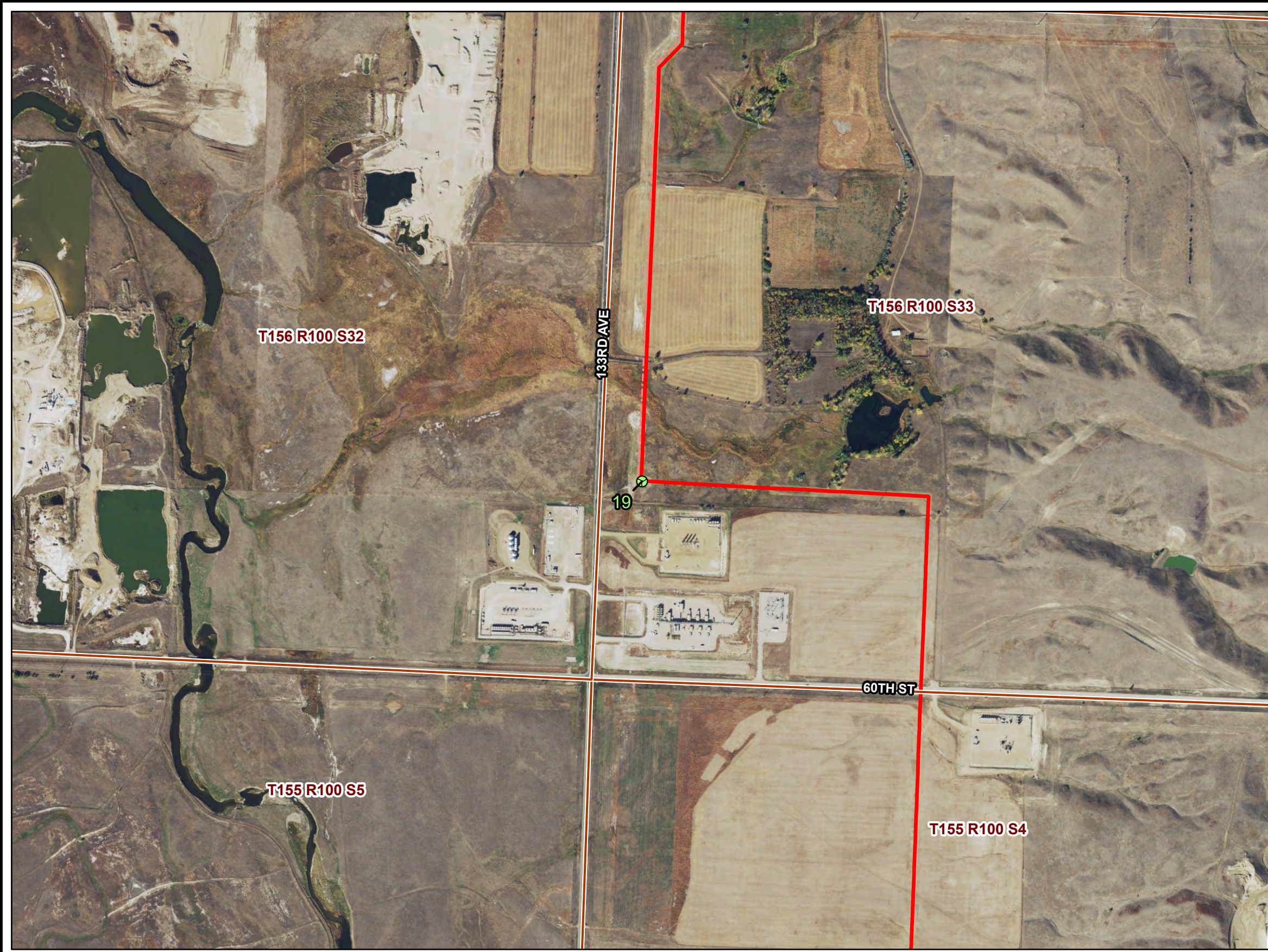
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**North Dakota
Public Service Commission**

**Tioga Lateral Pipeline
Figure 8**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
 Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
 Date: 2022-08-17 Time: 1:42 PM User: kjmueller

PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



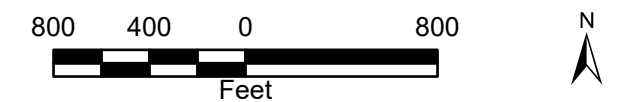
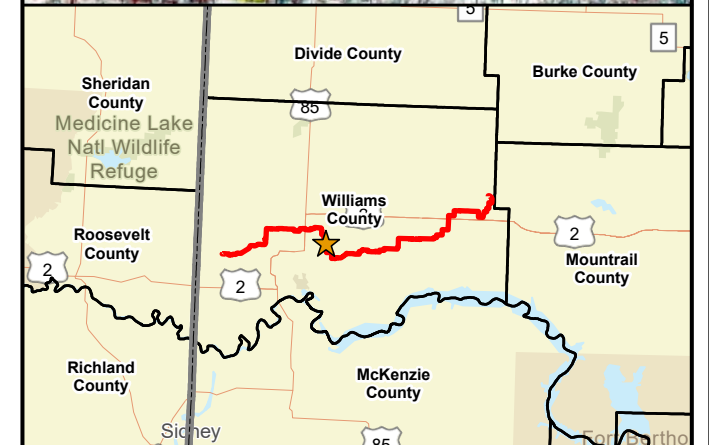
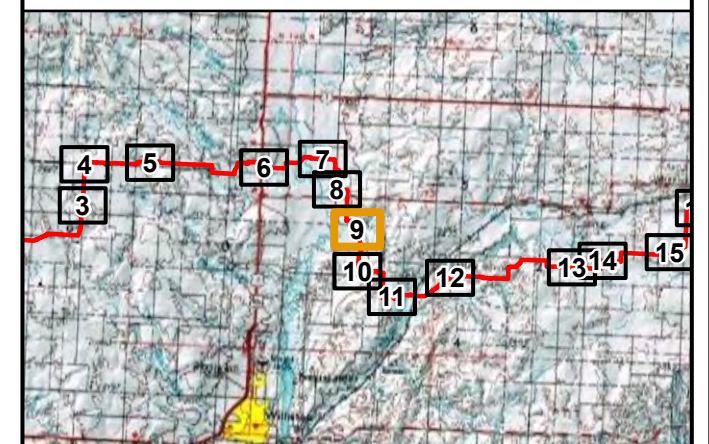
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Public Service Commission

Tioga Lateral Pipeline
Figure 9

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:43 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



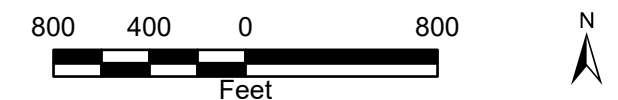
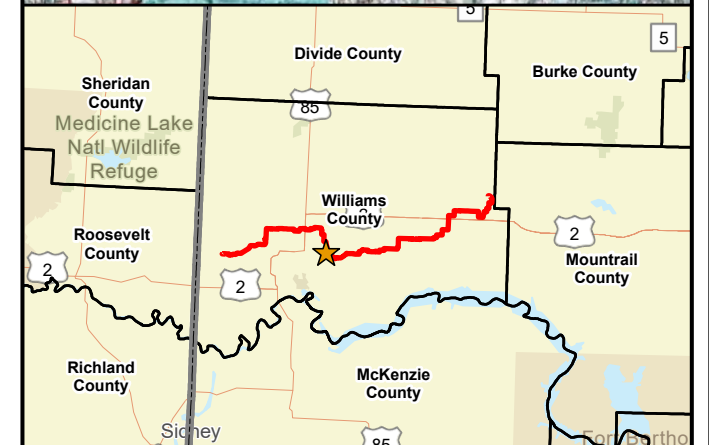
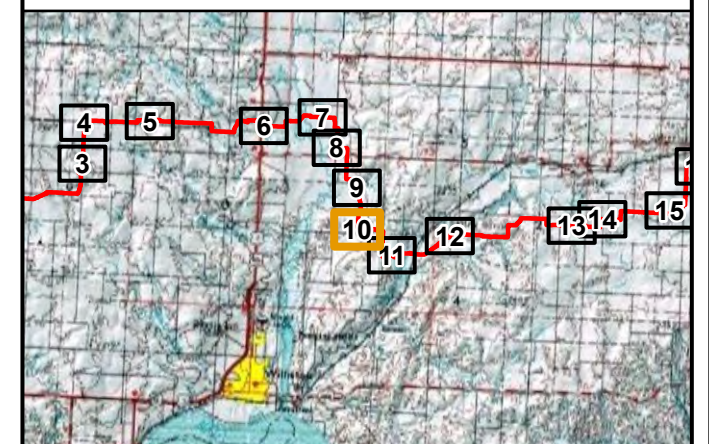
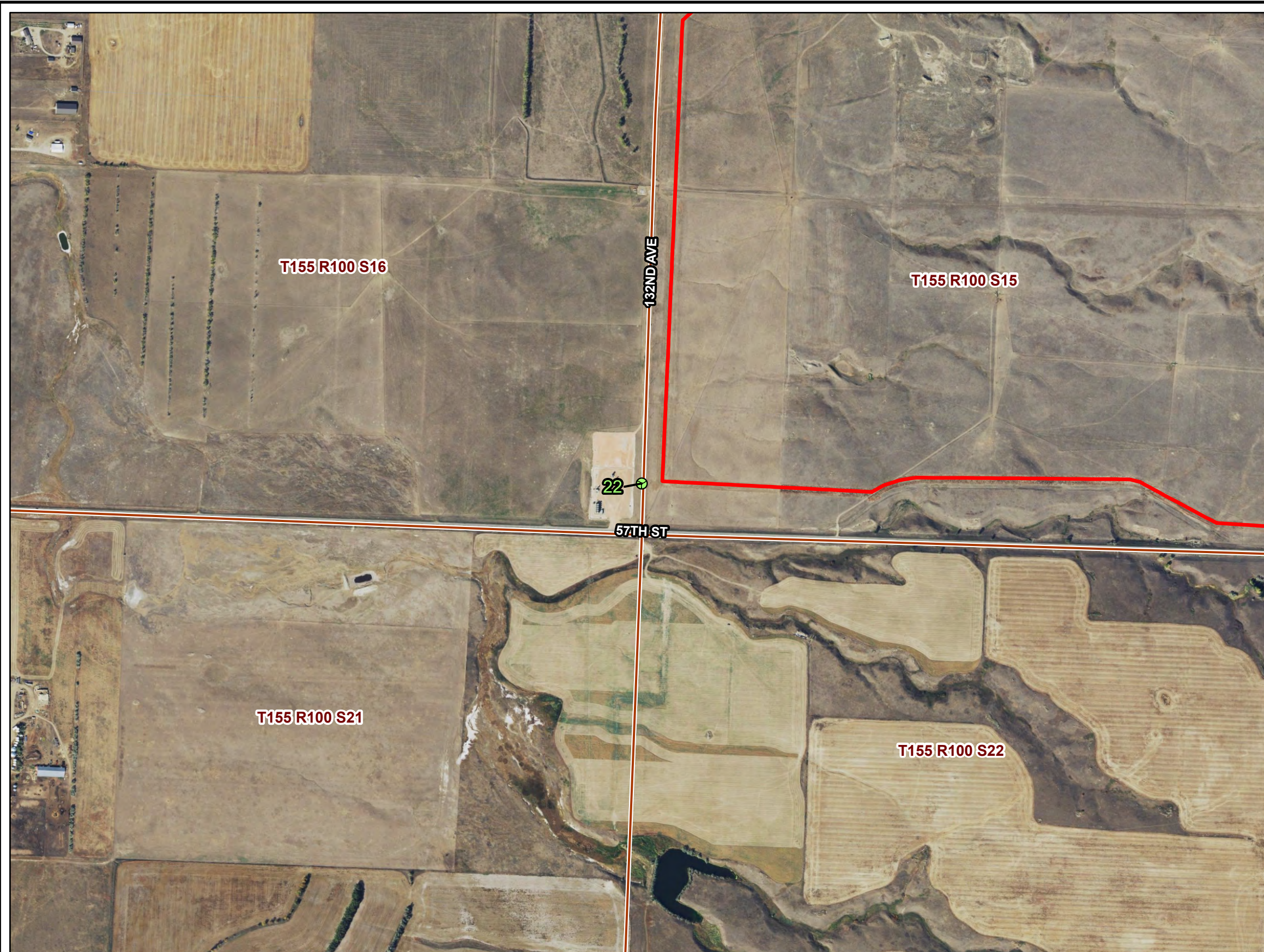
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North Dakota
Public Service Commission

Tioga Lateral Pipeline
Figure 10

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



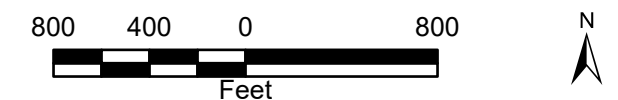
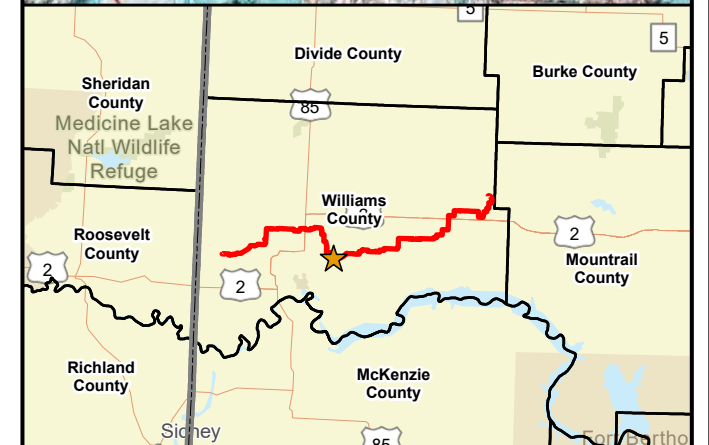
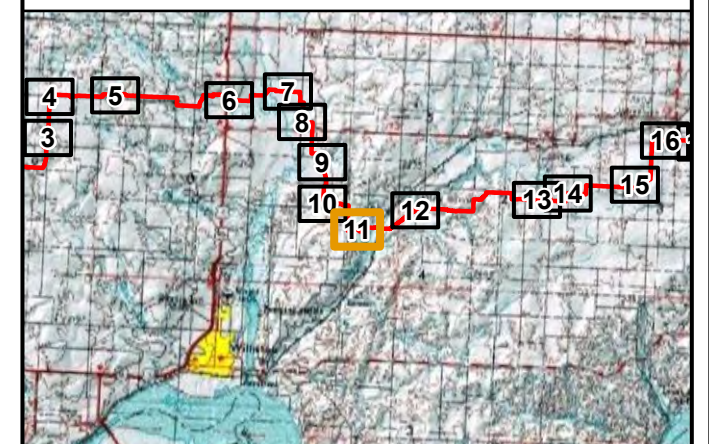
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North Dakota
Public Service Commission

Tioga Lateral Pipeline
Figure 11

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION




Reclamation Observation Locations

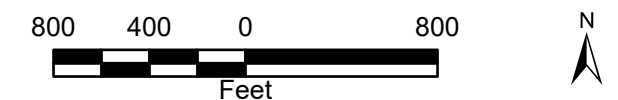
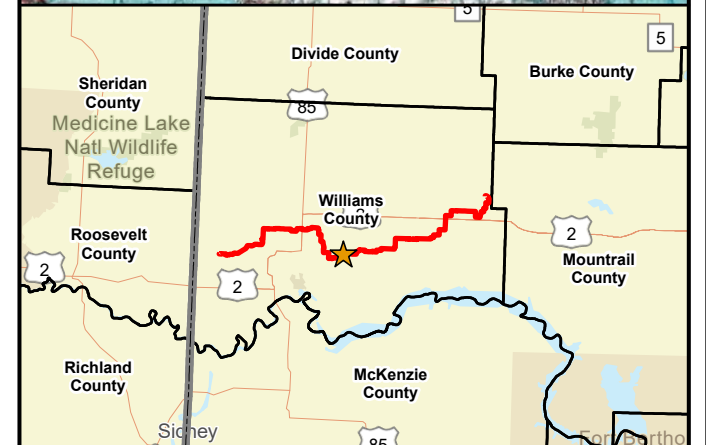
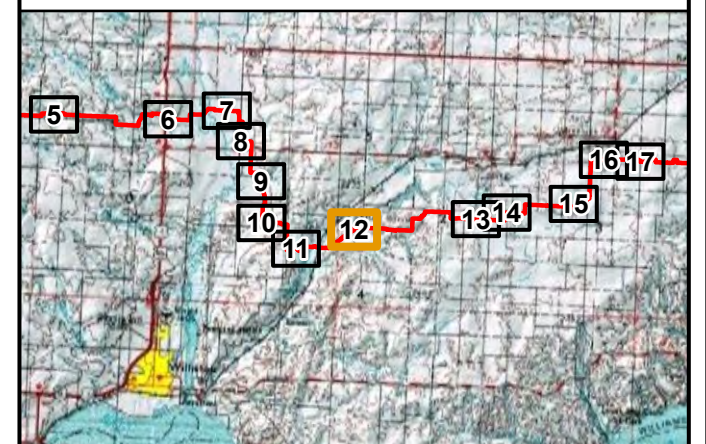


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**Tioga Lateral Pipeline
Figure 12**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:43 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION




Reclamation Observation Locations

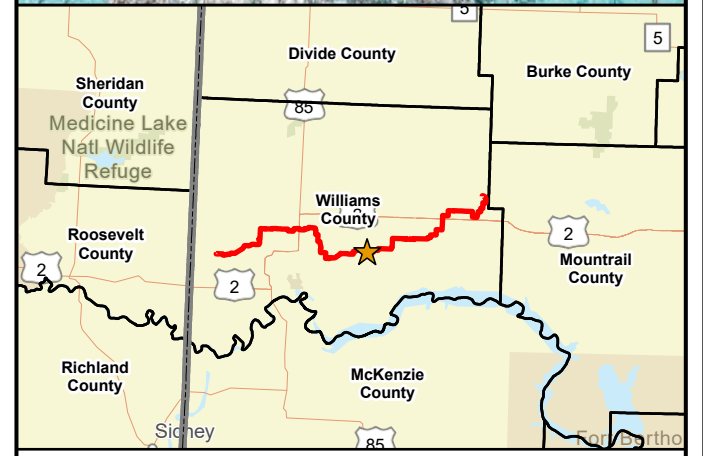
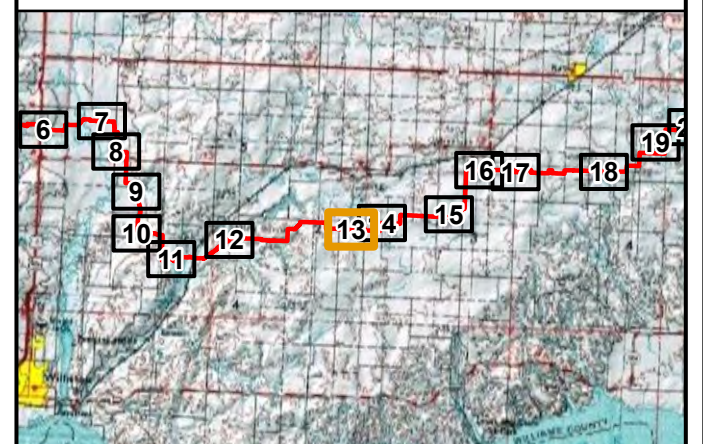


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**Tioga Lateral Pipeline
Figure 13**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
 Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
 Date: 2022-08-17 Time: 1:44 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

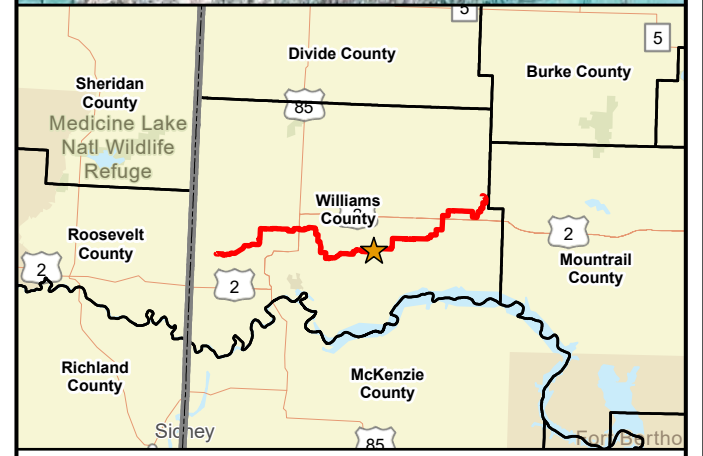
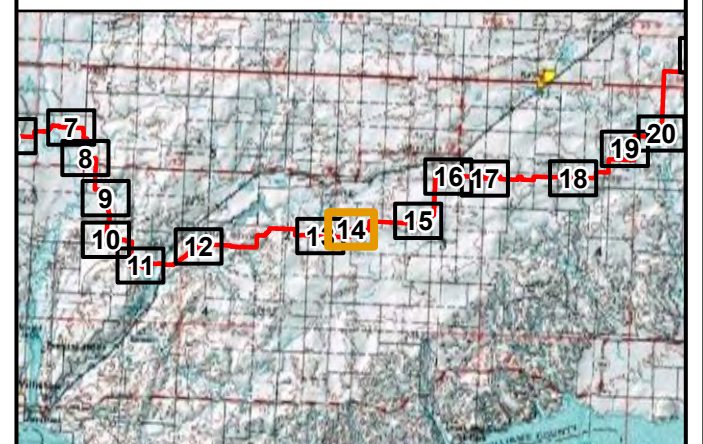


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Tioga Lateral Pipeline
Figure 14

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations






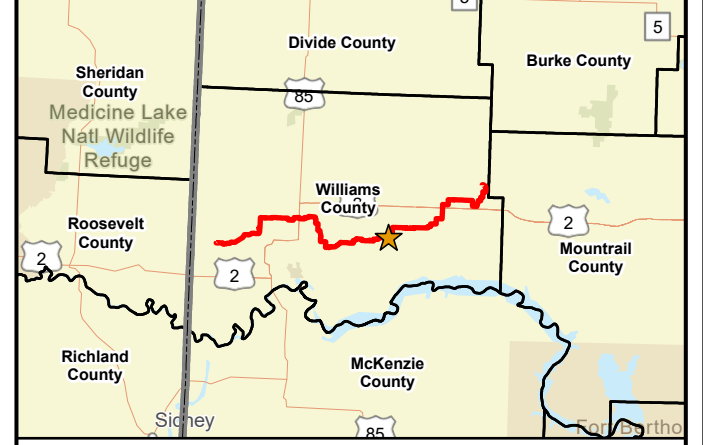
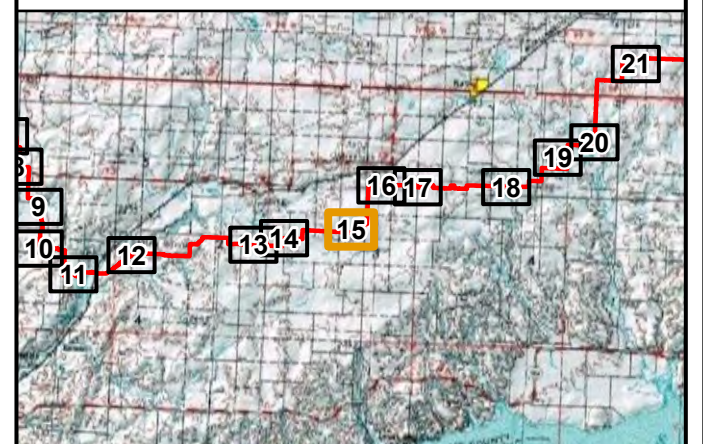
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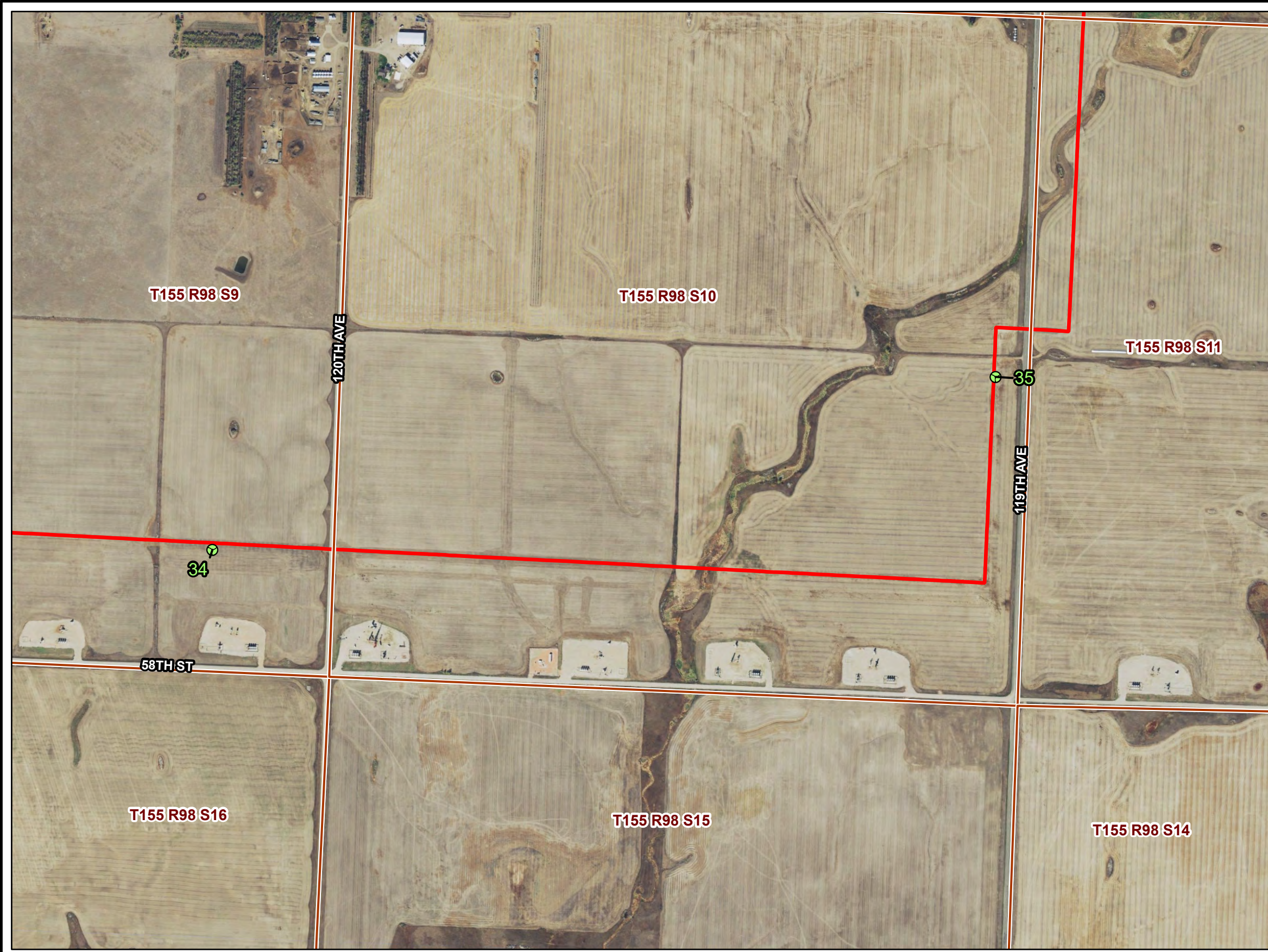
**North Dakota
Public Service Commission**

**Tioga Lateral Pipeline
Figure 15**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
 Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

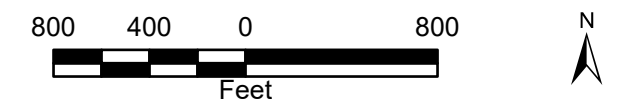
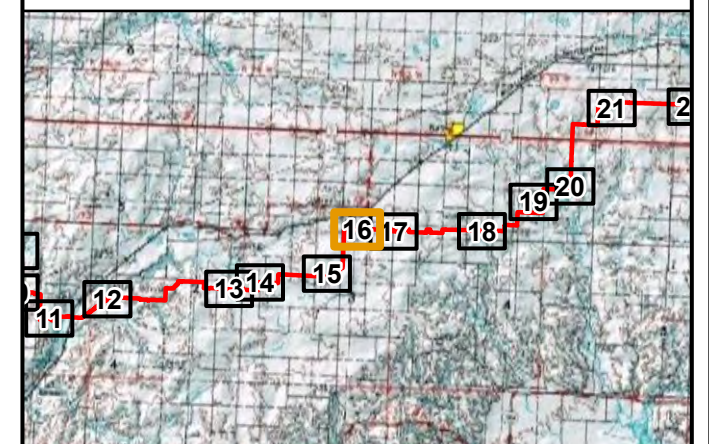


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Tioga Lateral Pipeline
Figure 16

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:44 PM User: kjmueller

PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations






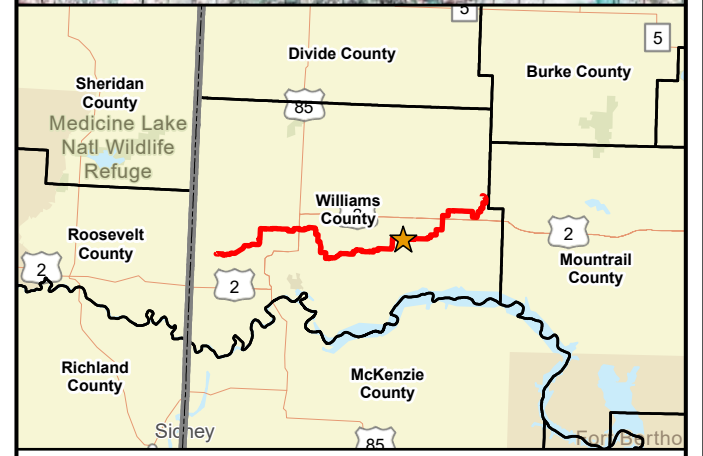
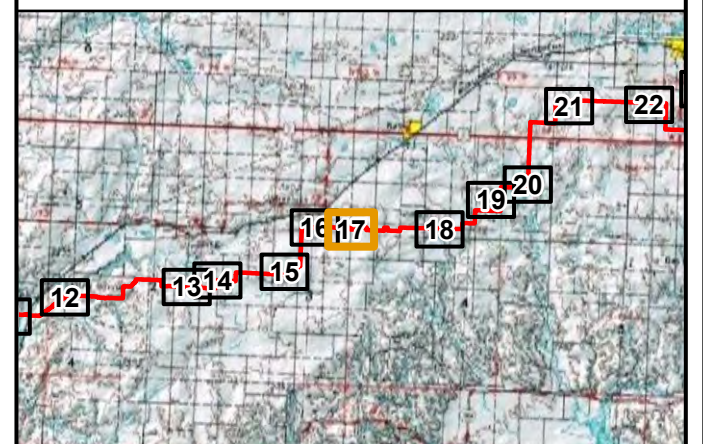
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**North Dakota
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**Tioga Lateral Pipeline
Figure 17**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
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PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

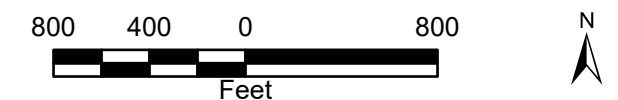
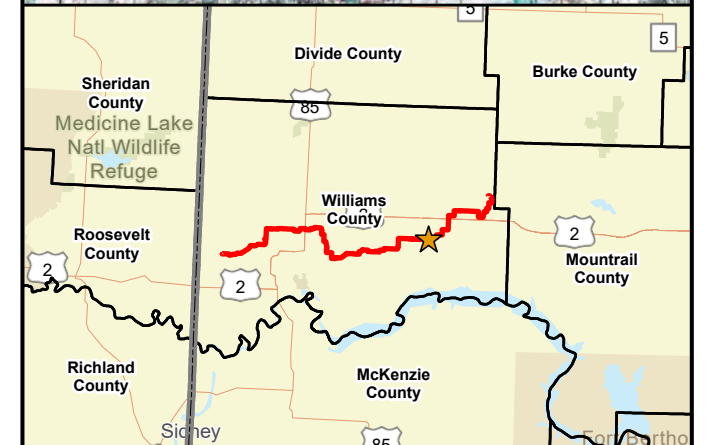
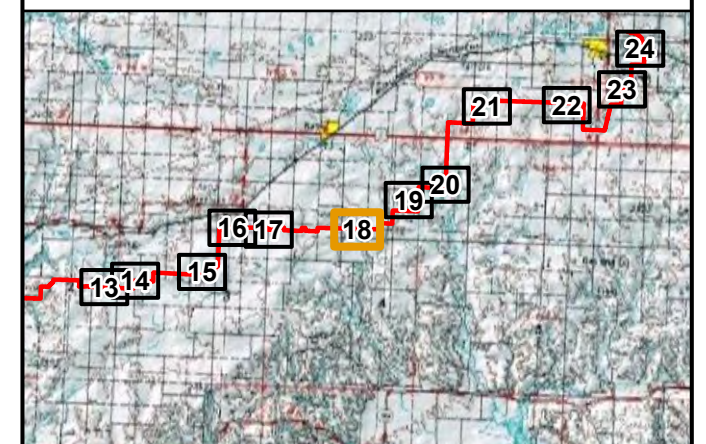


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Tioga Lateral Pipeline Figure 18

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:45 PM User: kjmueller

PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION




Reclamation Observation Locations

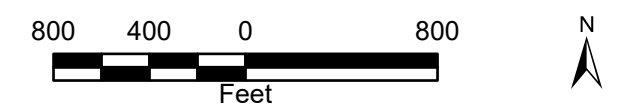
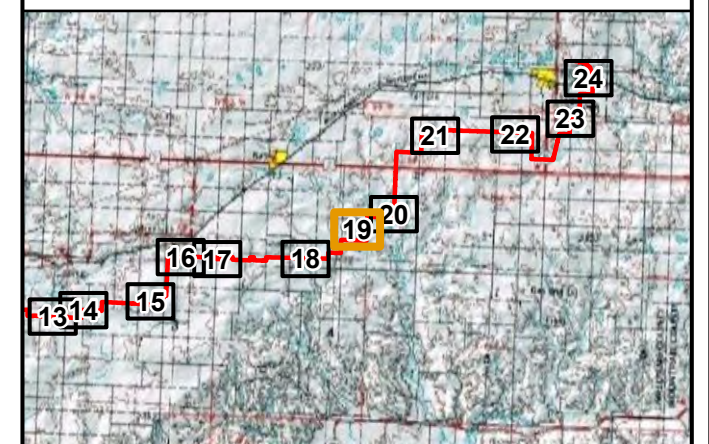


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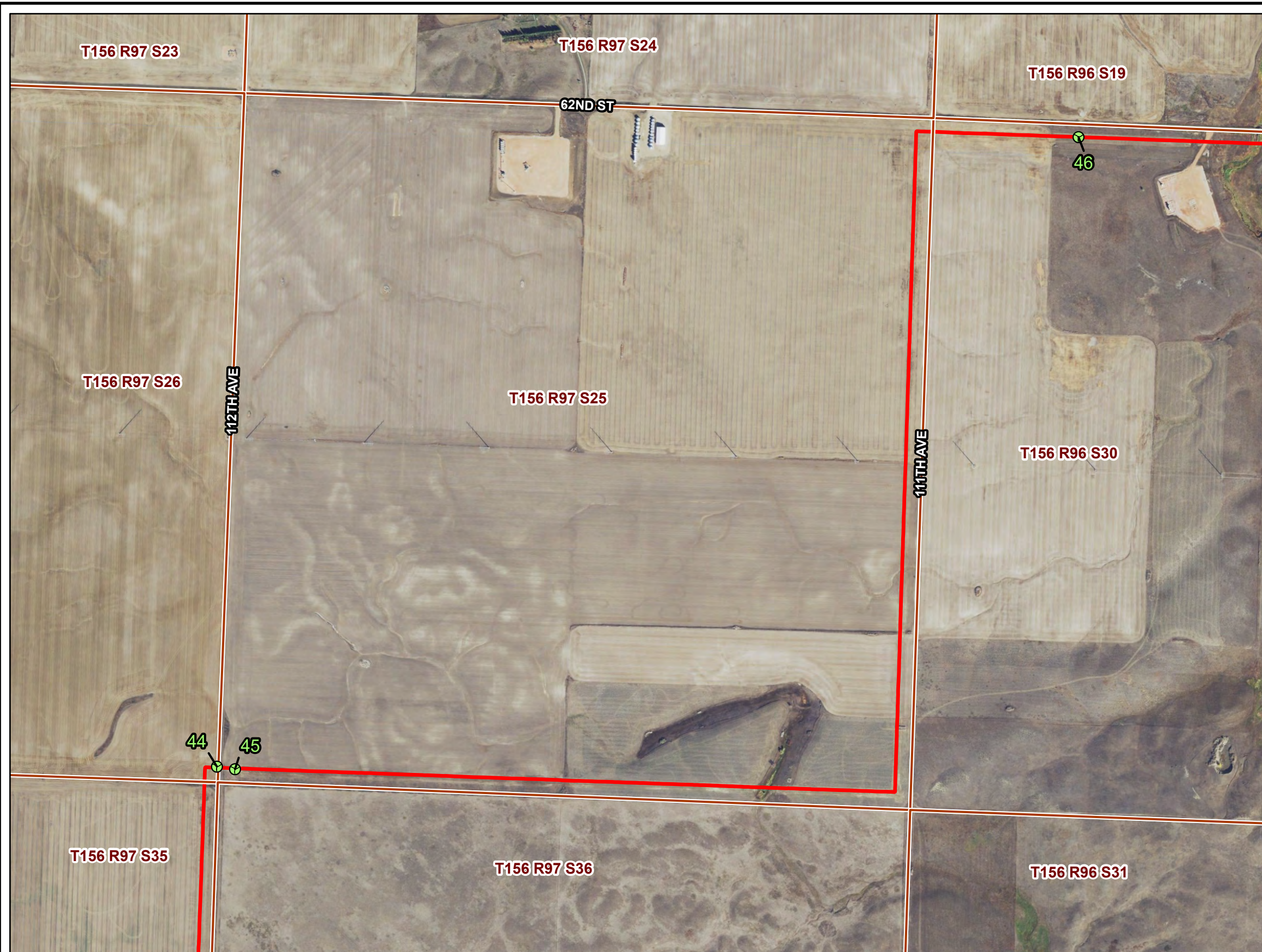
**Tioga Lateral Pipeline
Figure 19**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:45 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations






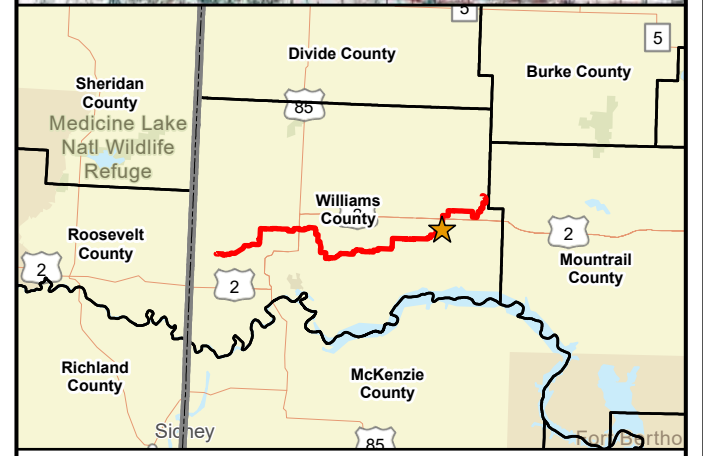
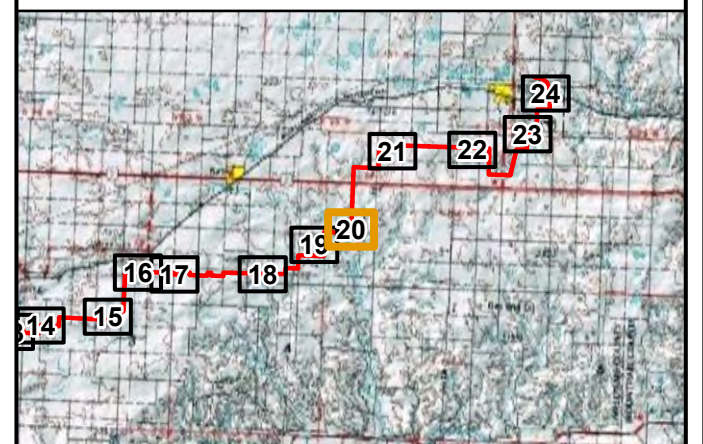
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**North Dakota
Public Service Commission**

**Tioga Lateral Pipeline
Figure 20**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
 Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
 Date: 2022-08-17 Time: 1:45 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations

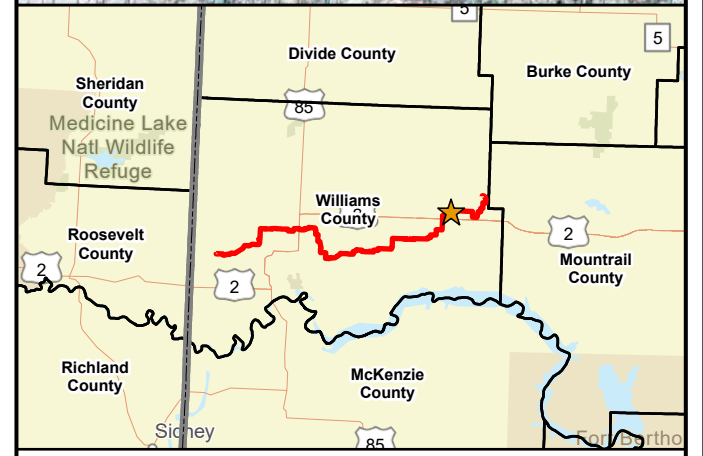
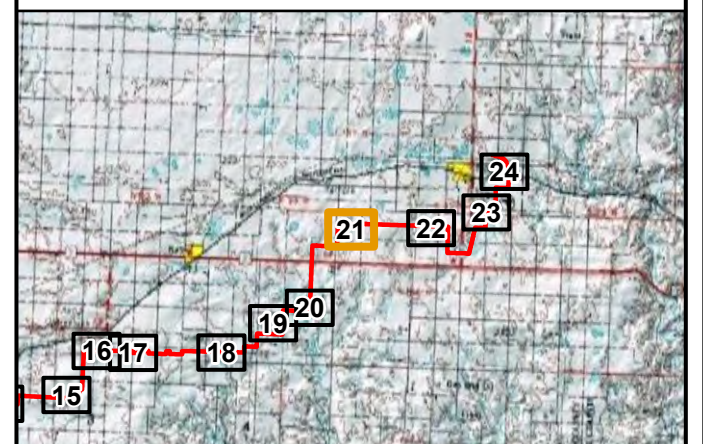


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Tioga Lateral Pipeline Figure 21

- Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)
Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:45 PM User: kjmueller

PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations






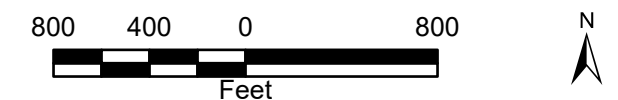
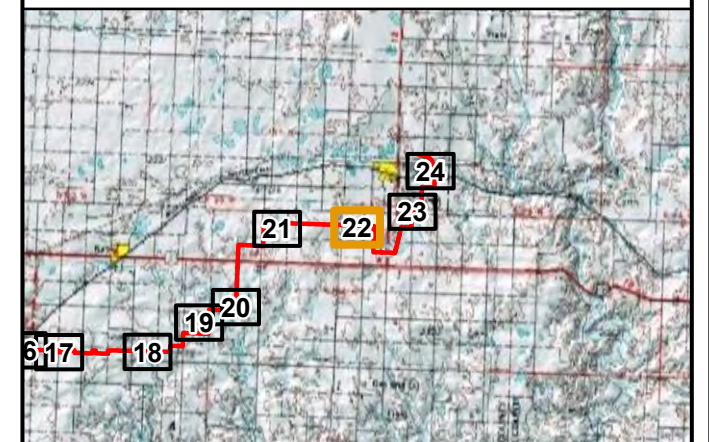
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Public Service Commission**

**Tioga Lateral Pipeline
Figure 22**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:46 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations






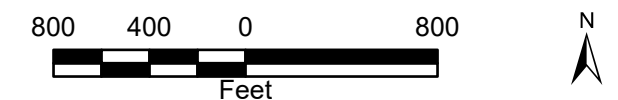
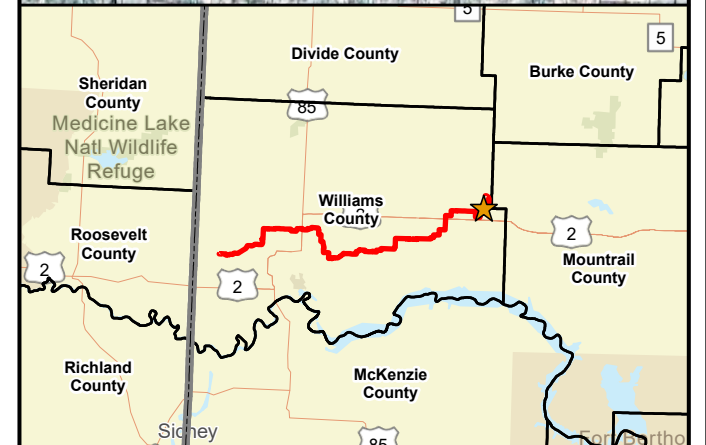
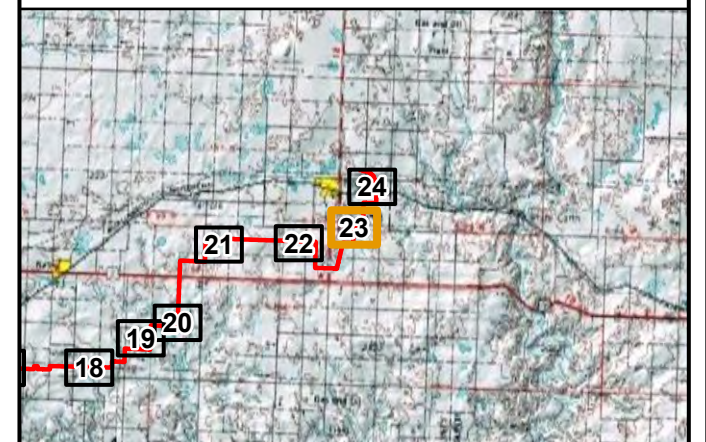
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**North Dakota
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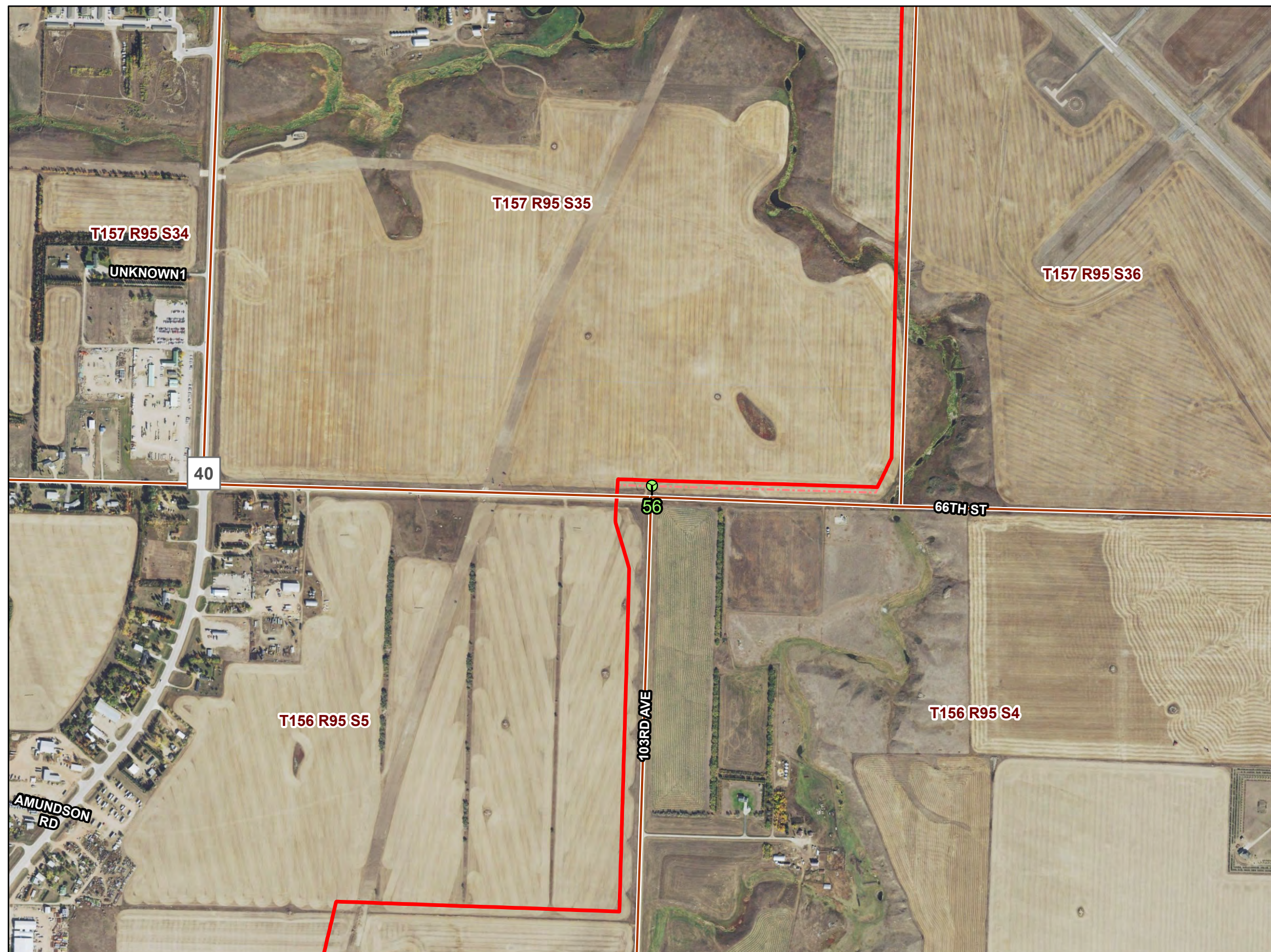
**Tioga Lateral Pipeline
Figure 23**

-  Reclamation Observation Point Location
-  Tioga Lateral As-Built Centerline (PU-19-368)
-  Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:46 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



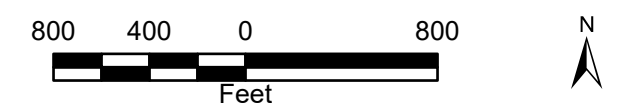
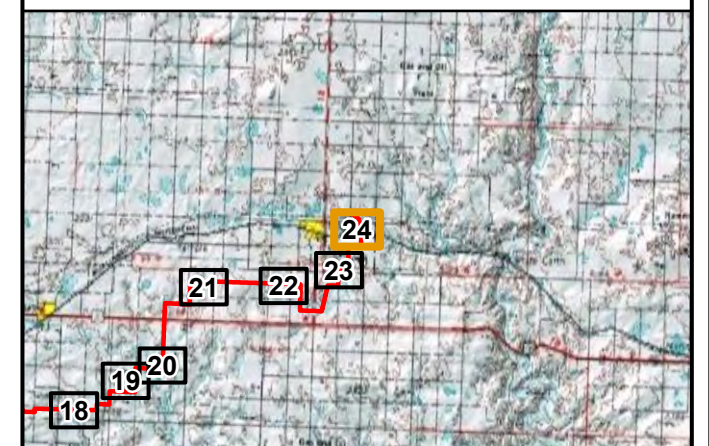
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Tioga Lateral Pipeline
Figure 24

- 📍 Reclamation Observation Point Location
- Tioga Lateral As-Built Centerline (PU-19-368)
- - - Tioga Lateral Original Proposed Centerline (PU-19-368)



2021 Aerial Photograph (Source: NAIP)

Path: V:\2277\active\227701547\gis\pro\Tioga_Lateral\Tioga_Lateral.aprx
Date: 2022-08-17 Time: 1:46 PM User: kjmueller



PU-19-368 TIOGA LATERAL PIPELINE CONSTRUCTION INSPECTION

Reclamation Observation Locations



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APPENDIX A

Field Observation Coordinates and Photolog

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 1

Date Taken: August 1, 2022 3:52 PM

Direction Photo is Taken: Northwest

Land Use: Cropland

Photo Description: 8-in of topsoil replaced over subsoil. Area is well graded and minimal stone cover. Matches existing land

Latitude: 48.22535692

Longitude: -103.90799849



Observation Point: 2

Date Taken: August 1, 2022 3:56 PM

Direction Photo is Taken: Northeast

Land Use: Rangeland

Photo Description: Minimal Canada thistle, but still visible. Smooth brome, minimal to moderate kochia.

Latitude: 48.22588509

Longitude: -103.90740713



Observation Point: 3

Date Taken: August 1, 2022 4:06 PM

Direction Photo is Taken: East

Land Use: Cropland

Photo Description: Commonly stressed and stunted wheat compared to non-disturbed area. The right of way is relatively thin but is compacted. Erosion and bare soil is observed to the east. Minimal weed cover.

Latitude: 48.22750512

Longitude: -103.90417722

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 4

Date Taken: August 1, 2022 4:12 PM

Direction Photo is Taken:

Land Use: Cropland

Photo Description: Canola did not emerge or was unplanted. Kochia cover. No seeded vegetation observed. Subsoil common at surface. Soil is less compacted to the east but was either unplanted.

Latitude: 48.22730815

Longitude: -103.89567291



Observation Point: 5

Date Taken: August 1, 2022 4:20 PM

Direction Photo is Taken:

Land Use: Cropland

Photo Description: Wheat is slightly more stressed than surrounding plants but does not contain invasive weeds. Soil in appropriate condition. Overall reclamation is satisfactory.

Latitude: 48.2307656

Longitude: -103.88498488

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 6
Date Taken: August 1, 2022 4:28 PM
Direction Photo is Taken:
Land Use: Cropland

Photo Description: Comparable wheat stand compared to undisturbed cropland.

Latitude: 48.23546764
Longitude: -103.86323424



Observation Point: 7
Date Taken: August 1, 2022 6:05 PM
Direction Photo is Taken: East
Land Use: Cropland

Photo Description: Excellent field pea growth. Stand density and height appears consistent with undisturbed areas in the reclaimed right of way.

Latitude: 48.27089408
Longitude: -103.780971



Observation Point: 8
Date Taken: August 1, 2022 6:15 PM
Direction Photo is Taken: West
Land Use: Cropland

Photo Description: Pea field that is reclaimed has 90% cover and is comparable in height and density to undisturbed cropland.

Latitude: 48.27744443
Longitude: -103.77740759

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 9

Date Taken: August 1, 2022 6:20 PM

Direction Photo is Taken:

Land Use: Cropland

Photo Description: Adequate topsoil. Recently plowed.

Latitude: 48.29491941

Longitude: -103.77791822



Observation Point: 10

Date Taken: August 1, 2022 6:24 PM

Direction Photo is Taken: Northeast

Land Use: Rangeland

Photo Description: Canada Thistle is being controlled since last inspection. Additional chemical or mechanical treatment recommended to remove population from the right of way. More desirable vegetation is establishing and trending toward successful reclamation.

Latitude: 48.29870361

Longitude: -103.77737543



Observation Point: 11

Date Taken: August 1, 2022 6:29 PM

Direction Photo is Taken: Northeast

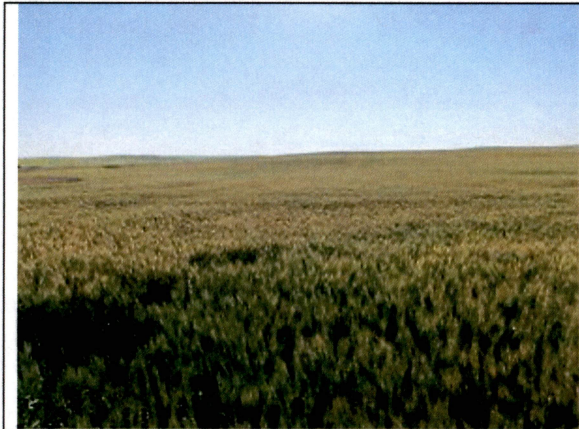
Land Use: Cropland


Photo Description: Unknown why cropland remains unvegetated. Unable to access field, but kochia is visible within unplanted ROW.


Latitude: 48.29926071

Longitude: -103.73297495


PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog


	<p>Observation Point: 12 Date Taken: August 1, 2022 6:32 PM Direction Photo is Taken: Land Use: Cropland</p> <p>Photo Description: Very good wheat growth. Successful reclamation achieved.</p> <p>Latitude: 48.30055909 Longitude: -103.7133518</p>
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	<p>Observation Point: 13 Date Taken: August 1, 2022 6:33 PM Direction Photo is Taken: Southeast Land Use: Rangeland</p> <p>Photo Description: Lack of vegetation in right of way. Stantec recommends reseeding efforts.</p> <p>Latitude: 48.30021004 Longitude: -103.71327055</p>
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	<p>Observation Point: 14 Date Taken: August 2, 2022 8:00 AM Direction Photo is Taken: Land Use: Cropland</p> <p>Photo Description: Erosional feature or subsidence on reclaimed right of way negatively affecting crops.</p> <p>Latitude: 48.29953506 Longitude: -103.62482077</p>
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PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog

	<p>Observation Point: 15 Date Taken: August 2, 2022 8:05 AM Direction Photo is Taken: North Land Use: Cropland</p> <p>Photo Description: Overall wheat growth is comparable to undisturbed area. Adequate reclamation. Topsoil is replaced. No Canada thistle visible.</p> <p>Latitude: 48.29956371 Longitude: -103.62272747</p>
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	<p>Observation Point: 16 Date Taken: August 2, 2022 8:19 AM Direction Photo is Taken: Land Use: Rangeland</p> <p>Photo Description: Valve area well reclaimed. Pipeline corridor contains pasture vegetation with minor kochia cover.</p> <p>Latitude: 48.30591546 Longitude: -103.58254045</p>
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	<p>Observation Point: 17 Date Taken: August 2, 2022 8:20 AM Direction Photo is Taken: West Land Use: Rangeland</p> <p>Photo Description: Desirable seeded grasses common. Meets PSC order for successful reclamation.</p> <p>Latitude: 48.30586267 Longitude: -103.58318542</p>
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PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 18

Date Taken: August 2, 2022 8:30 AM

Direction Photo is Taken: Southeast

Land Use: Cropland

Photo Description: Topsoil replaced well and harvested grain is consistent with surrounding area. No debris observed in right of way from last inspection.

Latitude: 48.30372027

Longitude: -103.56246633



Observation Point: 19

Date Taken: August 2, 2022 8:38 AM

Direction Photo is Taken: East

Land Use: Rangeland

Photo Description: Mixed subsoil and topsoil frequent with weeds. Rocky Mountain Bee Plant (*Cleome serrulata*) common. No Canada thistle. Other plants include Kochia, Lambsquarter, foxtail barley, and spurge. Surrounding veg crested wheatgrass, smooth brome, and Kentucky bluegrass.

Latitude: 48.28870126

Longitude: -103.56003966

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 20

Date Taken: August 2, 2022 9:01 AM

Direction Photo is Taken: South

Land Use: Cropland

Photo Description: Thin field Pea growth in ROW.

Latitude: 48.27015125

Longitude: -103.5420447



Observation Point: 21

Date Taken: August 2, 2022 9:05 AM

Direction Photo is Taken: Northwest

Land Use: Hay Land

Photo Description: Sunflower, Field bindweed, sweet clover, alfalfa, western wheat grass, lambsquarter, brome. Adequate reclamation and revegetation. Residual Canada thistle present in margins of ROW in hay land.

Latitude: 48.26221835

Longitude: -103.5400321



Observation Point: 22

Date Taken: August 2, 2022 9:14 AM

Direction Photo is Taken: East

Land Use: Hay Land

Photo Description: Acceptable vegetative cover on ROW.

Latitude: 48.24223964

Longitude: -103.53975034

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 23
Date Taken: August 2, 2022 9:23 AM
Direction Photo is Taken: South
Land Use: Hay Land

Photo Description: Landowner not haying ROW. Soil reclaimed moderately well, regrading is appropriate. Kochia and Prickly Russian thistle throughout hayfield. Alfalfa and western wheatgrass present.

Latitude: 48.22776351
Longitude: -103.51717148



Observation Point: 24
Date Taken: August 2, 2022 9:37 AM
Direction Photo is Taken:
Land Use: Rangeland

Photo Description: Treatment of leafy spurge evident. Right of way is being mowed and contains BMPs. Overall nearing reclamation goals.

Latitude: 48.22924979
Longitude: -103.50001821



Observation Point: 25
Date Taken: August 2, 2022 10:17 AM
Direction Photo is Taken: South
Land Use: Cropland

Photo Description: Flax field stressed in the reclaimed right of Way. Moderate erosion but kochia cover is minimal. Otherwise reclaimed to a practicable level.

Latitude: 48.24091712
Longitude: -103.4597012

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 26
Date Taken: August 2, 2022 10:20 AM
Direction Photo is Taken: Southwest
Land Use: Cropland

Photo Description: Satisfactory flax growth. No Canada thistle observed from As-Built inspection.

Latitude: 48.24031026
Longitude: -103.45975675



Observation Point: 27
Date Taken: August 2, 2022 10:26 AM
Direction Photo is Taken: East
Land Use: Rangeland

Photo Description: Successful revegetation with perennial grass. Contains some kochia but vegetative cover is adequate. ROW recently mowed.

Latitude: 48.24168189
Longitude: -103.45725325



Observation Point: 28
Date Taken: August 2, 2022 10:44 AM
Direction Photo is Taken:
Land Use: Cropland

Photo Description: Woody debris common through reclaimed canola field. Land is well-graded, but canola growth is inhibited.

Latitude: 48.24915549
Longitude: -103.36646174

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 29
Date Taken: August 2, 2022 10:49 AM
Direction Photo is Taken:
Land Use: Cropland

Photo Description: Severely compacted area poorly reclaimed area.

Latitude: 48.24891389
Longitude: -103.36642999



Observation Point: 30
Date Taken: August 2, 2022 10:52 AM
Direction Photo is Taken: East
Land Use: Cropland

Photo Description: Good canola growth.

Latitude: 48.24911204
Longitude: -103.36582398




Observation Point: 31
Date Taken: August 2, 2022 11:00 AM
Direction Photo is Taken: Northeast
Land Use: Rangeland


Photo Description: Pipeline bored under Road. Reclaimed ditch and pasture contains some desirable species with good plant cover compared to undisturbed land and meets PSC provisions.

Latitude: 48.25048789
Longitude: -103.34616184


PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog


	<p>Observation Point: 32 Date Taken: August 2, 2022 11:07 AM Direction Photo is Taken: East Land Use: Hay land</p> <p>Photo Description: Entire ROW well vegetated. Remains unharvested while other areas are. Kochia, foxtail barley, western wheatgrass present.</p> <p>Latitude: 48.25355943 Longitude: -103.33021784</p>
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	<p>Observation Point: 33 Date Taken: August 2, 2022 11:10 AM Direction Photo is Taken: Land Use: Hay land</p> <p>Photo Description: No Canada thistle as noted during As-Built inspection. Photo missing.</p> <p>Latitude: 48.25348466 Longitude: -103.32803829</p>
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	<p>Observation Point: 34 Date Taken: August 2, 2022 11:17 AM Direction Photo is Taken: West Land Use: Cropland</p> <p>Photo Description: Excellent crop stand in reclaimed ROW.</p> <p>Latitude: 48.25813722 Longitude: -103.28519812</p>
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PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog

	<p>Observation Point: 35 Date Taken: August 2, 2022 11:26 AM Direction Photo is Taken: South Land Use: Cropland</p> <p>Photo Description: Satisfactory wheat growth in reclaimed soil. Moderate signs of subsidence to south of photo point.</p> <p>Latitude: 48.26236571 Longitude: -103.26073829</p>
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	<p>Observation Point: 36 Date Taken: August 2, 2022 11:40 AM Direction Photo is Taken: North Land Use: Cropland</p> <p>Photo Description: Acceptable lentil coverage. Density is slightly less than the undisturbed areas, but overall healthy and suggest reclamation to a practicable level.</p> <p>Latitude: 48.28552535 Longitude: -103.25807076</p>
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	<p>Observation Point: 37 Date Taken: August 2, 2022 11:52 AM Direction Photo is Taken: West Land Use: Cropland</p> <p>Photo Description: Consistent lentil growth in reclaimed land.</p> <p>Latitude: 48.28627836 Longitude: -103.23815081</p>
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PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 38
Date Taken: August 2, 2022 11:54 AM
Direction Photo is Taken: North
Land Use: Tree Row

Photo Description: Tree row where it is unclear if any tree replacements occurred.

Latitude: 48.28626158
Longitude: -103.23795969



Observation Point: 39
Date Taken: August 2, 2022 11:58 AM
Direction Photo is Taken: East
Land Use: Cropland

Photo Description: Wheat growth in reclaimed ROW consistent. Slight depressions along the row suggest minor potential subsidence.

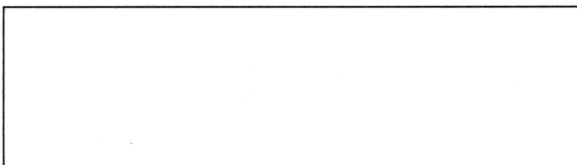
Latitude: 48.2855385
Longitude: -103.21615083



Observation Point: 40
Date Taken: August 2, 2022 12:09 PM
Direction Photo is Taken: East
Land Use: Rangeland

Photo Description: Seeded grass is emerging and growing. Annual weeds comprise minimal plant cover. Recently mowed.


Latitude: 48.28777823
Longitude: -103.15209103





Observation Point: 41
Date Taken: August 2, 2022 12:09 PM
Direction Photo is Taken:
Land Use: Rangeland

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog

	<p>Photo Description: Residual Canada thistle. No photo.</p> <p>Latitude: 48.28797834 Longitude: -103.15256308</p>
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	<p>Observation Point: 42 Date Taken: August 2, 2022 12:23 PM Direction Photo is Taken: West Land Use: Rangeland</p> <p>Photo Description: Well vegetated and reclaimed ROW.</p> <p>Latitude: 48.28782453 Longitude: -103.13080549</p>
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	<p>Observation Point: 43 Date Taken: August 2, 2022 12:23 PM Direction Photo is Taken: East Land Use: Cropland</p> <p>Photo Description: Wheat growth in reclaimed ROW consistent with surrounding land.</p> <p>Latitude: 48.28786246 Longitude: -103.13056409</p>
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	<p>Observation Point: 44 Date Taken: August 2, 2022 12:37 PM Direction Photo is Taken: Land Use: Hay Land</p> <p>Photo Description: Small area of subsidence.</p> <p>Latitude: 48.29909831 Longitude: -103.10911697</p>
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PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 45

Date Taken: August 2, 2022 12:38 PM

Direction Photo is Taken: West

Land Use: Cropland

Photo Description: Some subsidence present affecting crop growth. Majority of reclaimed ROW is in good condition. Recommend OneOK coordinating with landowner on addressing need for further reclamation measures.

Latitude: 48.2990575

Longitude: -103.10854583



Observation Point: 46

Date Taken: August 2, 2022 12:51 PM

Direction Photo is Taken: West

Land Use: Hay land

Photo Description: Reclaimed hayfield dominated by planted alfalfa.

Latitude: 48.31291067

Longitude: -103.08269478



Observation Point: 47

Date Taken: August 2, 2022 1:11 PM

Direction Photo is Taken: East

Land Use: Rangeland

Photo Description: Seeded vegetation throughout reclaimed ROW. Canada thistle to south of picture location and has gone to seed. Stantec recommends treatment of noxious weeds.

Latitude: 48.31284701

Longitude: -103.06617773

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 48

Date Taken: August 2, 2022 1:16 PM

Direction Photo is Taken: North

Land Use: Hay Land

Photo Description: Lambsquarter, mustard, and foxtail. ROW seems to be under different vegetation or unseeded as surrounding land is alfalfa.

Latitude: 48.3166945

Longitude: -103.06436246



Observation Point: 49

Date Taken: August 2, 2022 1:26 PM

Direction Photo is Taken: East

Land Use: Cropland

Photo Description: Foxtail barley, cattails, curly dock, barnyard grass. HDD pad is reclaimed. Half is planted to wheat and half is covered with hydrophytic vegetation. Farmer planted around wetter area.

Latitude: 48.35630306

Longitude: -103.04307414



Observation Point: 50

Date Taken: August 2, 2022 1:45 PM

Direction Photo is Taken: Northeast

Land Use: Rangeland

Photo Description: Significant Canada thistle population.

Latitude: 48.36376304

Longitude: -103.02235261

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 51
Date Taken: August 2, 2022 1:46 PM
Direction Photo is Taken: West
Land Use: Cropland

Photo Description: Canola field consistent through reclaimed and undisturbed areas.

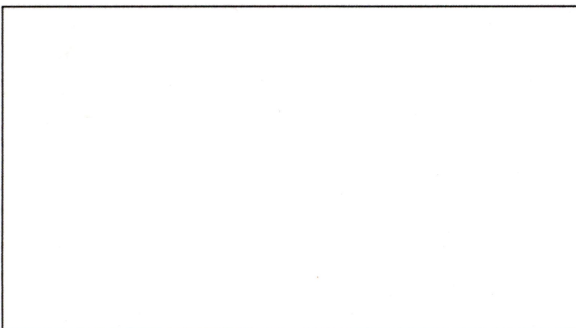
Latitude: 48.36354998
Longitude: -103.02234827



Observation Point: 52
Date Taken: August 2, 2022 2:00 PM
Direction Photo is Taken: East
Land Use: Cropland

Photo Description: Grain growth is satisfactory. Replaced topsoil observed and appropriate.

Latitude: 48.36408431
Longitude: -102.97870928





Observation Point: 53
Date Taken: August 2, 2022 2:02 PM
Direction Photo is Taken:
Land Use: Rangeland


Photo Description: Canada thistle in ROW. Photo is missing.

Latitude: 48.3639996
Longitude: -102.97898321

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog

 A photograph showing a wide, flat field of green sunflowers under a clear blue sky. In the foreground, there is a gravel or paved area. A utility pole is visible on the right side of the field.	<p>Observation Point: 54 Date Taken: August 2, 2022 2:09 PM Direction Photo is Taken: East Land Use: Cropland</p> <p>Photo Description: Sunflower stand is adequately growing in reclaimed HDD pad.</p> <p>Latitude: 48.36411511 Longitude: -102.9572682</p>
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 A photograph of a sunflower field with a yellow metal frame in the foreground. The sunflowers are in various stages of growth, and the sky is clear and blue.	<p>Observation Point: 55 Date Taken: August 2, 2022 2:21 PM Direction Photo is Taken: North Land Use: Cropland</p> <p>Photo Description: Healthy sunflowers in cropland ROW.</p> <p>Latitude: 48.35648304 Longitude: -102.94797911</p>
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 A photograph of a large, flat field of green canola plants. The sky is blue with some light clouds. A utility pole is visible in the distance on the right.	<p>Observation Point: 56 Date Taken: August 2, 2022 2:31 PM Direction Photo is Taken: East Land Use: Cropland</p> <p>Photo Description: Healthy canola stand with full pods in reclaimed ROW.</p> <p>Latitude: 48.37285138 Longitude: -102.91515848</p>
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PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 57

Date Taken: August 2, 2022 2:40 PM

Direction Photo is Taken: North

Land Use: Cropland

Photo Description: Symptoms of subsidence resulting in no crops growing. Topsoil visible, but no crops emerged.

Latitude: 48.38831266

Longitude: -102.89724028



Observation Point: 58

Date Taken: August 2, 2022 2:44 PM

Direction Photo is Taken: West

Land Use: Cropland

Photo Description: Canada thistle cover. Stantec recommends

Latitude: 48.39158652

Longitude: -102.89673082



Observation Point: 59

Date Taken: August 2, 2022 2:47 PM

Direction Photo is Taken: North

Land Use: Rangeland

Photo Description: Adequate vegetation appears to be protecting soils near geologically unstable areas.

Latitude: 48.39414908

Longitude: -102.8967749

PU-19-368 (ONEOK Tioga Lateral): Observation Point Photolog



Observation Point: 60

Date Taken: August 2, 2022 3:00 PM

Direction Photo is Taken: Southeast

Land Use: Rangeland

Photo Description: Well vegetated ROW. Yellow and white sweet clover, alfalfa, showy/stiff goldenrod.

Latitude: 48.4006838

Longitude: -102.89929323



Observation Point: 61

Date Taken: August 2, 2022 3:03 PM

Direction Photo is Taken: Northeast

Land Use: Rangeland

Photo Description: Seeded perennial grass is coming in. Other plants include kochia, alfalfa, Lambsquarter, and wild sunflower. The reclaimed HDD and pipeline ROW is well graded with adequate topsoil replacement observed.

Latitude: 48.398258

Longitude: -102.8976167



Observation Point: 62

Date Taken: August 2, 2022 3:09 PM

Direction Photo is Taken: East

Land Use: Rangeland

Photo Description: Well vegetated ROW with sweet clover.

Latitude: 48.4055435

Longitude: -102.90738225