

Hiland Crude Oil Pipeline Project Post-Construction Inspection Report PU-13-136



Prepared for:
**North Dakota Public Service
Commission**

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1.0 Executive Summary

The North Dakota Public Service Commission (PSC) retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Crude Oil Pipeline (Project) also known as the "Market Center Pipeline" in McKenzie, Williams and Mountrail Counties, North Dakota (ND), constructed by Hiland Crude, LLC (Hiland). Construction for the Project was built in six segments completed between 2011-2014. Wenck reviewed all Project documents to identify those aspects that required compliance, and visually inspected the Project area on 27-28 July 2016.

The Project was well-maintained and appeared to have been constructed as planned with numerous efforts to minimize impacts. However, there were several non-critical issues that may need to be resolved for the Project to be considered complete and in full compliance, including 1) written verification of some items, in particular, documentation of associated GIS files and as-builts 2) vegetation/trees and shrubs establishment throughout the project 3) written documentation of Hiland's weekly/monthly construction records and any extraordinary events. Follow-up actions taken by Hiland to address these issues can be corroborated in writing or photos and will not require a subsequent site visit. Wenck recommends the PSC take the following steps to resolve these issues.

Recommended Action Steps

→ Review Internally, Clarify, Then Request if Needed

- Several items may need written verification, but the PSC should review since some may not be needed or may be best verified in some other way (refer to list in Section 4.1).

→ Expect Later, Request if Needed

- Documentation of satisfactory establishment of vegetation throughout the project, along with tree and shrub survival rates. Soil amendments or re-seeding may be necessary if former land uses cannot be attained in the next couple years.
- Associated GIS files and as-built design specifications
- Documentation of North Dakota One-Call
- Documentation of weekly/monthly construction records, extraordinary events (injuries, T&E wildlife fatalities)

2.0 Background and Scope

2.1 INTRODUCTION

The Hiland Crude Oil Pipeline (Project), also known as the “Market Center Pipeline”, spans three counties in North Dakota: Williams, McKenzie, and Mountrail. The Project was constructed and operated by Hiland Crude, LLC. (Hiland), a Kinder Morgan, Inc. owned company. The Project includes an 8-inch diameter underground pipeline with a total length of approximately 197 miles. The project was built in six segments, with construction starting and ending as follows: Tioga segment (September 2010 - May 2011), Plains Delivery segment (July 2011 to January 2013, with a partial segment completed in February 2012), Dore segment (October 2011 to March 2012), Johnson Corner segment (August 2011 to October 2012), Epping to Tioga segment (July 2011 to April 2012), and the New Town segment (October 2012 to March 2013). There was an additional 10-mile loop, with approximately 6.5 miles being constructed in late 2013 and operational in 2014; this is located along the Tioga segment. On 27 March 2014 Hiland filed with the Commission applications for certificate of corridor compatibility and a route permit to authorize the conversion of a gathering pipeline system into a transmission system. The Project 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-13-136 on 8 October 2014, granting a Certificate of Corridor Compatibility No. 157 and Route Permit No. 169 for the Project.

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 Commission Findings of Fact, Conclusions of Law, and Order (Order). The North Dakota PSC retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Project.

2.3 METHODS AND SCOPE OF INSPECTION

2.3.1 Project Compliance Items Identified

Wenck identified a list of “Project Specifications”, which Hiland is obligated or responsible to follow and that can be verified either in written documentation or by an on-site inspection. These items were taken from 1) siting laws and rules, 2) Project activities or specifications proposed in the Application for a Certificate of Corridor Compatibility and Route Permit (Application), 3) Project plans described in the Findings of Fact, 4) Orders, and 5) recommendations by other agencies. These Project specifications are listed in Table 2.1 under 7 categories: Siting & Location; Project Design & Engineering; Pre-Construction; Cultural Resources; Natural Resources; Construction, Reclamation & Soils; and Operation.

2.3.2 Document Review

Wenck staff reviewed publicly-available Project documents in the PSC Online Case Search (ND PSC 2016) to find written verification of compliance for the Project specifications listed

in Table 2.1. If written verification was filed, the findings are described in Section 3 and the source and name of the documentation is listed in Table 2.1, Column 3 (Written Verification). Green shaded boxes in the table represent Project specifications that are potentially non-compliant because they have no written verification.

2.3.3 On-Site Inspection

Samantha Swanberg, Wenck environmental scientist, visited the Project site on 27-28 July 2015. A representative from Kinder Morgan, Myles Fisher (Land and ROW), accompanied Wenck staff during the site visits.

The site was inspected visually by driving to access points and walking within the Project area at those points. Digital photographs (Canon Power Shot SD1300 IS, 12 megapixels) were taken showing typical Project infrastructure and documenting problem areas (**Appendix A**). Geographic coordinates were recorded at observation points or potential problem areas using a handheld Global Positioning System (GPS) (Garmin GPSMAP 60CSx; <10m accuracy; NAD83 datum) (**Appendix B**).

If on-site inspection of a Project specification was completed, the findings are described in Section 3 and referenced in Table 2.1, Column 4 (Site Verification). Green Shaded boxes in the table represent Project specifications that are potentially non-compliant based on site verification.

Table 2-1: Project Specifications with Written or Site Verification Information

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
SITING & LOCATION			
Corridor and Route App. p. 2; Findings of Fact 3	Located in McKenzie, Mountrail, and Williams Counties the pipeline transports crude oil from Williams, McKenzie, and Mountrail Counties to major markets via (1) Enbridge's pipeline using a connection at Beaver Lodge; (2) COLT Rail Hub using a connection near Epping, North Dakota; (3) Plains' Bakken North Pipeline at Trenton Station, Savage Rail Station, and Enbridge Trenton Station using connections near Trenton, North Dakota; (4) Musket Rail using a loading station near Dore, North Dakota with a potential connection to Hiland's proposed Double H pipeline at this location; and (5) Bridger's Four Bears pipeline using a connection near Johnsons Corner.	Docket #6 Consolidated Application, Section A; Appendix 4.B, Maps	Section 3.1.1
ND Admin. Code Article 69-06-08; Corridor and Route App. pp. 12-15; Findings of Fact 11, 12, 13, 14	Siting Criteria analysis – exclusion, avoidance, selection, and policy. No exclusion or avoidance areas within study area. No impacts to Selection Criteria. Meets Policy Criteria.	Docket #1 Letter of Intent; Docket #6 Consolidated Application Appendix 4.B, Maps;	Section 3.1.2
Route App. p. 26	Construction of the Hiland Crude Oil Pipeline will impact approximately 1790 acres of land. About 55 acres (3 percent) are prime farmlands.	None	Section 3.1.3
Findings of Fact 7, 11, 13, 22	Areas within 500ft of inhabit rural residence must be designated avoidance areas.	Docket #6, Tab 3; Docket #31, Late-filed Exhibit 5	Section 3.1.4
NDGF (05-06-2013); NDPR (filed 05-02-2013)	No state parks or NDPR-managed lands.	Docket #6, Consolidated Application Tab 3, Docket #42, Exhibit 7	Section 3.1.5
PROJECT DESIGN & ENGINEERING			

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Corridor and Route App. p. 2; Findings of Fact 3, 4, 5	Authorized ~197 miles of steel 8-inch diameter underground pipeline, pipeline markers, rectifiers, pig launching and receiving stations, main line valves and block valves. The maximum daily output will be 65,000 barrels per day with a maximum operating pressure of 1,440 pounds per square inch. The project was built in six segments.	Docket #6, Consolidated Application Tab 3	Section 3.2.1
Route App. p. 6; Findings of Fact 24	Permanent ROW is 50ft wide. During construction, an additional 25 feet of temporary workspace was utilized for material staging and temporary access roads. Hiland used existing public roads to access the 75-foot-wide construction ROW, and did not modify roads or create new permanent access roads.	Docket #6, Consolidated Application Tab 3	Section 3.2.2
Route App. p.5; Findings of Fact 25	Design, construction, and operation in compliance with US DOT 49 CFR Part 195.	None	N/A
Certification Order 29	Provide engineering design drawings prior to construction upon request.	None	Section 3.2.4
Certification Order 31	Provide electronic and paper as-built design specifications and associated GIS files within 3 months after construction complete.	None; Docket #28, Late-filed Exhibit 2, Docket #46, high resolution maps	N/A
PRE-CONSTRUCTION			
ND Century Code Ch. 49-22-07.1; ND Admin. Code Article 69-06-03	Letter of Intent.	Docket #1, Letter of Intent	N/A
ND Century Code Ch. 49-22-08; ND Admin. Code Article 69-06-04	Application for a Certificate of Site or Corridor Compatibility and Route Permit.	Docket #6, Consolidated Application, Tab 1	N/A
ND Century Code Ch. 49-22-07	Certificate of Site Compatibility or Route Permit.	Docket #53, Findings of Fact, Conclusions of Law and Order; Docket #62,	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
		Amended; Docket # 82, Second Amended Findings; Docket #107, Third Amended Findings of Fact, Conclusion of Law and Order	
ND Century Code Ch. 49-22-04; ND Admin. Code Article 69-06-02	Ten-year Plan.	PU-16-482; PU-14-530	N/A
Certification Order 2	Conduct Pre-Construction Conference. Provide notice of intent to start construction.	Docket #91, Preconstruction Meeting Minutes; Docket #92 Notice of intent to start construction	N/A
Certification Order 30	Inform Commission of plans to modify facility and obtain approval. Any facilities not included in current Application must be applied for in a separate Route or Site Permit.	Docket #93, Certification and documentation for route adjustments under NDCC	N/A
Certification Order 3, 4	Compliance with rules and regulations of other jurisdictional agencies. Obtain permits and approvals from other agencies and provide copies prior to applicable permitted activity.	Docket #5, Docket #20, Docket #42	N/A
Findings of Fact 26, Certification Order 34, 35	Participate in ND One-Call Excavation Notice System.	None recorded	Section 3.3.5
	CULTURAL RESOURCES		
Route App. pp. 8, 17; Findings of Fact 7, 8, 17	Cultural resource sites determined ineligible for National Register of Historic Places. Complete Class III cultural resources survey of corridor. SHPO concurrence provided with Application. No avoidance or mitigation necessary.	Docket #5, Letter enclosing SHPO Report, Docket #40, Exhibit 5	Section 3.4.1
Findings of Fact 10, 17; Certification Order 11, 12	Submit cultural resource mitigation plans to SHPO prior to construction for approval. Report discovery of cultural, archeological, historic, etc. sites and stop construction, consult SHPO for clearance, and file report to PSC.	Docket #5, Letter enclosing SHPO Report	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
	NATURAL RESOURCES		
Findings of Fact 19;	Expect temporary displacement of wildlife due to clearing and construction, but no significant impacts. No impacts expected to T+E or sensitive species.	Docket #6, Consolidated Application Tab 3; No USFWS Letters of Correspondence; Docket # 42, Exhibit 7	Section 3.5.1
Findings of Fact 7, 18; NDGF (05-06-2013)	No permanent impacts to wetlands or waterbodies are anticipated. Spill control, erosion and sediment controls, and other specific construction measures will be used through wetlands, according to permit. NDGF recommends impacts to woody vegetation, wetlands and streams be minimized by workspace modification, narrowing ROW, horizontal drilling, and/or use of Best Management Practices (BMPs). NDGF recommends erosion control, no drainage alteration.	Docket #42, Exhibit 7	Section 3.5.2
Certification Order 10;	Report presence of T+E species, bald or golden eagles during construction and operation.	None	N/A
Certification Order 17;	Reclamation, fertilization, and reseeded according to NRCS (or landowner if approved). Mulch and erosion control fabric will be applied according to desires of landowner.	None	Section 3.5.4
Route App. p. 33; Findings of Fact 18, 23; Certification Order 20	Shrubland avoided to extent practicable. Tree and shrub removal and replacement will comply with "Tree and Shrub Mitigation Specifications".	None	Section 3.5.5
Route App. p. 25	Contractors required to clean equipment and materials prior to entrance to ROW to minimize spread of noxious weeds.	None	Section 3.5.6
	CONSTRUCTION, RECLAMATION & SOILS		
Route App. pp. 6, 38; Certification Order 5,	Environmental monitors and inspectors utilized during construction. Construct and operate in accordance with	None	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
15	Application and safety requirements. Construction suspended during adverse weather conditions. Provide weekly construction reports.		
Certification Order 6	Pipeline buried to a minimum depth from the ground surface to the top of the pipe of 48 inches in range land, 48 inches for cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines.	None; Docket #28, Late-filed Exhibit 2, Docket #46, CD containing high resolution maps	Section 3.6.2
Route App. p. 63; Environmental Mitigation Plan p. 2	Soil erosion minimized by use of BMPs during and after construction to protect surface water and soils/topsoils.	None	Section 3.6.3
Certification Order 16	Topsoil and subsoil must be segregated and replaced separately. Topsoil will be removed and replaced to maximum depth of 12 inches.	None	Section 3.6.4
Route App. p. 54; Certification Order 13, 14, 18, 25	Temporarily disturbed areas and roads will be restored. Pre-existing roads restored to satisfactory condition. Restoration of area to pre-construction contours as soon as practicable upon completion of construction. ROW will be de-compacted/tilled per landowner request. Reclamation and maintenance throughout life of facility. All crossings of graded roads will be bored.	None	Section 3.6.5
Corridor and Route App. pp. 26, 64; Certification Order 21, 22, 24	Temporary fences and gates will be installed as necessary. Repair/replace all damaged fences and gates. Repair/replace damaged drainage tile. Waste removed and disposed regularly. Disturbed areas are to be fenced in until seeding is completed.	None	Section 3.6.6
OPERATION			
Certification Order 9, 27	Construct and operate in accordance with Application and safety requirements. Maintain records of compliance with Order and Certificate of Site Compatibility. Extraordinary events (e.g. injuries, T+E wildlife fatalities) reported within 5 business days.	None reported to date.	Section 3.7.1

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Certification Order 18, 24	Reclamation and maintenance throughout life of facility. Waste removed & disposed regularly.	None	Section 3.7.2
Findings of Fact 27	Company's existing Emergency Action Plan will include the Project.	Docket #30, Late-filed Exhibit 4	Section 3.7.3

***Note: Green shaded boxes represent non-compliance or potential non-compliance issues.**

3.0 Findings

3.1 SITING & LOCATION OF FACILITY

3.1.1 Designated Location & Maps of Corridor

The Project was built as proposed in the designated location described in the Application and Order in McKenzie, Williams, and Mountrail Counties, North Dakota. Hiland constructed the project entirely within the corridor previously approved for Hiland's Market Center Pipeline in Case Number PU-13-136.

3.1.2 Siting Criteria

Siting criteria were analyzed in detail in the Applications for the Project (Docket #1, Letter of Intent; Docket #6, Consolidated Application). Siting was not required for the initial construction and operation of this pipeline because the pipeline currently constitutes a gathering line. However, due to the increased volume of crude oil, it is necessary for Hiland Crude to install storage tanks along the pipeline, converting it into a transmission line that must be sited through the PSC (Docket #1, Letter of Intent). No Exclusion Areas or Avoidance Areas were impacted by the addition of the mid-route stations (Docket #6, Consolidated Application). Wenck confirmed during the site inspection that there were no exclusion or avoidance areas within the Project area. Wenck also confirmed that impacts to selection and policy criteria were considered and kept at a minimum.

3.1.3 Land & Agricultural Impacts

The Project was built as proposed within the estimated construction ROW, resulting in the conversion of approximately 1,790 acres of land to industrial land use. The original use of the land was agricultural with approximately 50% cropland or pasture, 34% native rangeland, 7% developed and 3% forest, shrub or wetland (Docket #6, Consolidated Application).

3.1.4 Setbacks

The Project was in a rural setting. Twenty residences and/or farmhouses are within 500 feet of the pipeline. Hiland stated waivers were obtained for all but five residences, none of which were located in the Project ROW (Docket #6, Consolidated Application, Tab 3). An amended order was issued on 20 November, 2014 (Docket #62, Amended Findings of Fact) requiring Hiland to obtain waivers for the additional five residences. Four waivers were obtained by Hiland and an application for an amendment to the Certificate of Corridor Compatibility and Route Permit was filed on 20 February, 2015 to allow a route adjustment for the residence where a waiver could not be obtained (Docket #80, Waivers of Vance, Smith, Moline, and Kuester). The route adjustment was granted on May 5, 2016 (Docket #106, Commission Motion adopting Findings of Fact).

3.1.5 ND State-Owned or Managed Lands

Consultation with the ND Game & Fish Department (NDGFD) indicated no NDGFD-managed lands were within or adjacent to the pipeline corridor (Docket #6, Consolidated Application Tab 3). The ND Parks & Recreation Department (NDPR) indicated that no state parks or other lands they manage were in the vicinity of the Project. Therefore no state owned or managed lands were potentially impacted by the Project.

The NDPRD was sent an overview of the Project and recommends that the Project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats are not disturbed (Docket #6, Consolidated Application Tab 3).

3.2 PROJECT DESIGN & ENGINEERING

3.2.1 Length & Infrastructure

The Project was authorized as 197 miles of 8in diameter underground pipeline, as described in the Application and at the notice of opportunity for hearing. It also includes block valve, mainline valves, pig launching and receiving stations, rectifiers, and pipeline markers. The site inspection observations coincide with these parameters (Docket #6, Consolidated Application) (**Appendix A**, Photos 1, 2, 4, 5, 6, 10, 12, 19, 22).

3.2.2 Right-of-Way Corridor

The Order for the Project authorized construction within a 75ft ROW. The permanent ROW for the Project is 50ft wide. The pipeline appeared to have been constructed according to these maximum widths (Docket #6, Consolidated Application) (**Appendix A**, Photos 5, 7, 8).

3.2.3 Compliance with US DOT Regulations

There was no written verification or certification of compliance with US DOT 49 CFR Parts 195. In the application it stated the project meets United States Department of Transportation (US DOT) regulations, specifically the design criteria outlined in 49 CFR Subpart 195(C). The Project was constructed per 49 CFR Subpart 195(D), and will be operated and maintained per 49 CFR Subpart 195(F) (Docket #6, Consolidated Application).

3.2.4 Engineering Design Drawings

No engineering design drawings were provided in the Application materials, except a late filed map showing valve locations and some locations of pipe depth (Docket#28, Late-filed Exhibit 2, Docket #46, CD containing high resolution maps). There was no documentation of a request from the PSC for the company to provide design drawings.

3.2.5 As-built Drawings and GIS Files

No as-built alignment drawings were submitted to the PSC. No associated CAD files (acceptable alternative to GIS) have been received. The PSC should pursue receipt of the drawings and their accuracy should be confirmed. The docket included maps depicting pipe depth at various locations and all value locations (Docket#28, Late-filed Exhibit 2, Docket #46, CD containing high resolution maps).

3.3 PRE-CONSTRUCTION

3.3.1 PSC-Required Documents

A Certificate of Corridor Compatibility No. 157 and Route Permit No. 169 were issued on 8 October 2014 (Docket #53, Findings of Fact, Conclusions of Law and Order) in accordance with the Order and Certification Relating to Order Provisions; an amended Corridor Compatibility and Route Permit was issued on 20 November 2014 (Docket #62, Amended Findings of Fact, Conclusions of Law and Order); a second amended Corridor Compatibility and Route Permit was issued on 25 February 2015 (Docket #82, Second Findings of Fact, Conclusions of Law and Order); and a third amended Corridor Compatibility and Route Permit was issued on 5 May, 2016 (Docket #107, Third Findings of Fact, Conclusions of Law and Order).

A Ten-Year Plan was not filed in this docket, but was found in PU-16-482 and PU-14-530.

3.3.2 Pre-Construction Conference/Notice of Intent to Start Construction

The project conducted a pre-construction conference on 8 April 2015 in conjunction with the Dore Pipeline Loop (PU-14-840). Meeting minutes were taken, as well as a list of attendees (Docket #91, Preconstruction Meeting Minutes). Notice of intent was sent out March 26, 2013 (Docket #1, Letter of Intent). Notice of intent to start construction was sent on 8 April 2015 for the construction on the McGinnity area (Docket #92, Notice of intent to start construction). No other notices of intent to start construction were in the docket.

3.3.3 PSC Approval of Modifications

On 28 April 2015 Hiland Crude, LLC filed a notification of project route adjustments (Docket #93, Certification and documentation for route adjustments under NDCC). The route adjustments are necessary under N.D.C.C. 49-22-16.3(1), which requires no action by the Commission. Route adjustments for the Project were all located inside the designated corridor in Williams County.

3.3.4 Permits and Approvals from Other Agencies

It was indicated in the Applications that consultation with federal, state, and local agencies would be required to obtain permits for the Project. Agencies consulted with and permits identified as required for the Project included:

- U.S. Fish and Wildlife Service (USFWS)
- North Dakota Game and Fish Department (NDGFD)
- North Dakota Parks and Recreation-Natural Heritage Program (NDPRD)
- North Dakota State Historical Preservation Office (SHPO)
- North Dakota Department of Health (NDDH)
- U.S. Army Corps of Engineers (USACE)

Associated permits were filed with the PSC as required (Docket #20, Comments, Docket #42, Exhibit 7, Docket #5, SHPO). All consultations with the above-mentioned agencies and their approval have been documented with the PSC. Not all agencies responded or commented back (Docket #6, Consolidated Application).

3.3.5 North Dakota One-Call Participation

There was no written documentation that Hiland participated in North Dakota One-Call. Hiland does state that they participate in and supports the North Dakota One-Call system in the Route Application (Docket #6, Route Application). No reports of damage to underground facilities were reported to the PSC. It appeared no damage to facilities occurred during construction.

3.4 CULTURAL RESOURCES

3.4.1 Cultural Site Avoidance

No historic properties were affected by pipeline construction. The North Dakota State Historical Society reviewed the Class III Cultural Resources Survey and concurred with the "No Historic Properties Affected" and "No Significant Sites" determination (Docket #5, Letter enclosing SHPO Report). Therefore, no mitigation plans were deemed necessary. No discoveries of cultural or archeological sites were reported during construction.

3.5 NATURAL RESOURCES

3.5.1 Wildlife

The North Dakota Game and Fish Department (NDGFD) was contacted to assist in identifying species and ecologically significant habitats within the Project Corridor. They responded that they did not believe that the Project will have any significant adverse effects on wildlife or wildlife habitat, provided any wetland areas impacted by construction activities are mitigated and disturbed areas are reclaimed to pre-project conditions. They recommend that White Earth and Little Knife Rivers were crossed using directional boring (Docket #6, Consolidated Application, Tab 3, B-2(j), Docket # 42, Exhibit 7).

The US Fish and Wildlife Service (USFWS) was provided with an overview map of the route to review. They responded that the agency does not provide comments on projects already complete (Docket #6, Consolidated Application, Tab 3, B-2(j)).

3.5.2 Wetlands

The Crosby Wetland Management District was sent an overview of the project and no comments were received (Docket #6, Consolidated Application, Tab 3, B-2(j)).

Wetland determinations were conducted by a desktop survey using aerial photo-based alignment sheets and USGS topographic maps identifying USACE waters of concern within North Dakota to identify wetlands along the Project route. All wetland crossings identified along the route were bored, which eliminated the risk of wetland impact during construction and also eliminated the need for mitigation. No impacts occurred during pipeline construction. Future construction of above-ground facilities will not impact wetlands (Docket #6, Consolidated Application Tab 3). During the inspection it was apparent that neither the wetlands nor the waterbodies had been impacted during construction.

3.5.3 Reporting

No weekly construction reports were submitted and there were no other reports submitted indicating disturbance or presence of T+E species or eagles during construction or operation.

3.5.4 Reclamation & Reseeding

At the time of the site inspection, the pipeline trench had been backfilled, soils had been recontoured, and reseeded had been completed in cropland and non-cropland areas, grasses appeared to be growing fairly well in most areas (**Appendix A**, Photo 8, 9). Weeds and some noxious weeds were observed in a few areas. Wenck recommends the PSC request documentation from Hiland once vegetation has fully established in all reseeded areas of the project.

3.5.5 Tree & Shrub Mitigation

It appeared that in general, major woody areas were avoided through Project siting (**Appendix A**, Photo 8, 9, 12, 13). The Tree and Shrub Inventory report was not found in the documentation. The application stated a pre-construction tree count was not conducted. Instead, a North Dakota-based environmental consulting firm was engaged to estimate the number of trees likely impacted by the Project. In accordance with the Commission's Specifications, a desktop review of and field visits to the Project area were conducted in July, August and September 2013, to determine the number and species of tree in each potential area that was impacted. Only trees 1 inch in diameter at breast height or greater were inventoried. A replacement plan or follow-up tree and shrub survival report was not found in the documentation either.

3.5.6 Noxious Weeds

Contractors were required to clean equipment and materials prior to entrance to ROW to minimize spread of noxious weeds (Docket #6, Consolidated Application). Weeds were observed on site, which can be expected. Kochia, an annual weed but not considered noxious, was observed in a few areas along the ROW (**Appendix A**, Photos 15, 20, 29). Patches of Canada thistle, which is considered noxious, were observed in a few places along the ROW (**Appendix A**, Photo 9). Other than that, little to no other noxious weeds were seen on or near the ROW.

3.6 CONSTRUCTION, RECLAMATION & SOILS

3.6.1 Construction Management & Safety

No weekly construction reports were submitted, so there was no indication of conditions or safety issues during construction.

3.6.2 Pipeline Depth

The pipeline must be buried to 48 inches in range land and 48 inches at the bottom of ditch for road crossings. The Route Application specifies that Hiland uses a minimum 48 inches of soil cover (Docket #6, Consolidated Application). There is also a map on file depicting location of digs to determine pipeline depth (Docket #28, Late-Filed Exhibit 2, Docket #46, CD containing high resolution maps). Wenck did not visually confirm the depth of the pipeline, but the map is presumed to be a good indication that the pipeline was buried to appropriate depth.

3.6.3 Erosion & Sedimentation

The Project Applications state BMPs would be used during and after construction to minimize soil erosion and protect surface water. During the site inspection it seemed likely that BMPs had been used to minimize erosion and maintain drainage because there were minimal to no erosion or drainage problems observed.

3.6.4 Soil Segregation & Staging

In general, it appeared that measures were taken to minimize the overall impact of the Project and the extent of land and soil disturbance. Wenck observed that topsoil appeared to be replaced to the required depth and separately from subsoils. The Kinder Morgan representative did state that some of the project area could have been double ditched. It is recommended that the PSC follow up with Hiland or Kinder Morgan to ensure that all topsoil has been replaced where needed.

3.6.5 Reclamation & Roads

There were no weekly construction reports to indicate that cleanup and reclamation had occurred concurrently with construction activities. At the time of the inspection, construction and the re-seeding was completed. Wenck recommends that the PSC request documentation from Hiland or Kinder Morgan. All roads within the Project area that were bored under appeared to be in good condition and properly maintained.

3.6.6 Fencing, Repairs & Waste

Existing fences or gates that were impacted by pipeline construction appeared to be replaced or repaired as needed.

3.7 OPERATION

3.7.1 Safety & Record-keeping

No concerns were identified during the site review that would indicate that Project operation was out of compliance with the Application or safety regulations. Examples of operational safety measures observed at the site include: use of personal protective equipment and warning signs marking the pipeline route (**Appendix A**, Photos 1, 4, 12, 13, 17, 22). No reports of extraordinary events were filed to date with the PSC.

3.7.2 Maintenance

Hiland indicated that the pipeline is regularly inspected and maintained (Docket #6, Consolidated Application). There was no waste, debris, or abandoned equipment observed during the inspection. The site appeared to be regularly maintained.

3.7.3 Public Contact & Safety

Warning signs marking the location of the pipeline had been installed and were in place at fence lines and road crossings (**Appendix A**, Photos 19, 21, 27, 29, 31). There were a few locations that had broken signs. Kinder Morgan indicated that resident/landowner concerns and issues are handled promptly and makes every reasonable attempt to alleviate problems caused by the Project. Ryan Dahl (Kinder Morgan- Senior ROW Agent) is the company representative responsible to receive and resolve any landowner issues (Docket #91, Preconstruction meeting minutes). Hiland Crude, LLC's emergency response plan was filed in this docket on 15 July 2014 (Docket #30. Late-filed exhibit 4).

4.0 Issues to Resolve and Recommendations

4.1 PROJECT SPECIFICATIONS NEEDING WRITTEN VERIFICATION

Several components of the Project were asserted in the Application or proposed construction and could be verified in writing, but have not been filed with the PSC. Table 2-1 summarizes these items, which are indicated as those green shaded in the "Written Verification" column, indicating no written verification was provided where applicable and necessary. Wenck does not consider any of these items to be critical for Project compliance. However, Wenck suggests they be on file with the PSC to confirm compliance and recommends the PSC request from Hiland the following list of "Necessary" items, and if the PSC deems appropriate, the list of "Potential" items could also be requested.

Necessary Items

- Provide as-built maps and associated GIS files

Potential Items

- Written documentation that Hiland participated in North Dakota One-Call
 - Written documentation of Hiland's weekly/monthly construction records and any extraordinary events (injuries, T&E wildlife fatalities)
 - Written documentation of satisfactory vegetation establishment throughout the project
 - Written documentation of Tree and Shrub Mitigation
-

5.0 Conclusions

Overall, the Project appeared to have been constructed as designed with minimal impacts to the surrounding natural or human environment. The Project site was well-maintained and in good condition. There were a few minor issues that may need to be resolved before the Project is considered complete and in full compliance. This includes: documentation of satisfactory vegetation establishment throughout the project, provide written documentation of Tree and Shrub Mitigation, provide written verification of participation in North Dakota One-Call, provide written documentation of weekly/monthly construction reports/records and any extraordinary events, and provide associated GIS files for as-built design drawings. None of these are critical issues, but the PSC should determine which are necessary for the company to comply with and then notify the company what actions are required on their part.

6.0 References

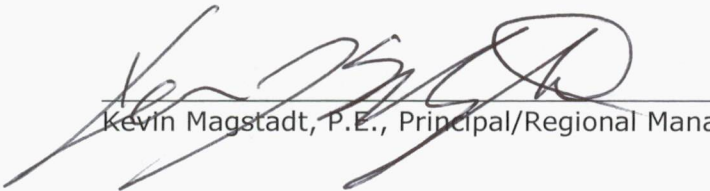
North Dakota Public Service Commission (ND PSC). 2016. Online Case Search. Available from: http://www.psc.nd.gov/database/company_case_list.php. Accessed July-September 2016.

Fisher, Myles. 2016. Land and ROW agent. Personal Communication: discussion during site visit 27-28 July 2016.

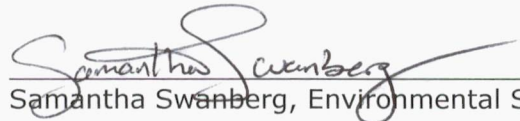
7.0 Signatures


The services performed by Wenck staff for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.

Lead Project Manager, Kevin Magstadt, and Environmental Scientist, Samantha Swanberg, prepared the report.


Kevin Magstadt, P.E., Principal/Regional Manager


Date


Samantha Swanberg, Environmental Scientist


Date

Photographs



Photo 1. (GPS Point #10) – Dore Junction. Area has signs and is fenced in.



Photo 2. (GPS Point #10) – Dore Junction area. Berm (to the right of photo) was put up to stop stormwater runoff to the adjacent farmer's field.



Photo 3. (GPS Point #13) Pipeline ROW through field. Pipeline marker/sign is missing the placard, with only the metal pole standing (in center of photo). Yellow and blue pipeline marker to the right of photo. Good vegetative growth in crop field comparable to adjacent part of field. Direction: East.



Photo 4. (GPS Point #14) – West Camp Creek Injection Station. Area is fenced and has signs. Direction: West.



Photo 5. (GPS Point #16) – Cattle grazing in pasture. Pipeline ROW goes through pasture. Area has markers. Direction: Southeast.



Photo 6. (GPS Point #17) – East Camp Creek Injection Station. Area is fenced and has signs. Direction: East.



Photo 7. (GPS Point #17) – Area across from East Camp Creek Injection Station. Pipeline markers and flags in the ROW, flags due to nearby construction (seen to the right of photo). Direction: West.



Photo 8. (GPS Point #21) – ROW through pasture that is being grazed. Cows on hill top. Hillslope area was reclaimed. Topsoil was brought in to the area (hillslope) in 2014 and re-seeding in spring of 2015. Contouring appears to match slopes well. Direction: North.



Photo 9. (GPS Point #22) - Patches of Canada thistle in low area center of photo. Unknown if trees were removed from this area; and unknown if removed, whether they were replaced somewhere else. Direction: South.



Photo 10. (GPS Point #23) – ROW bored under canal. Area is just west of river crossing. Valve station is fenced in the background. Direction: West.



Photo 11. (GPS Point #27) – Pipeline marker off of road. ROW going through agricultural field. Direction: East.



Photo 12. (GPS Point #28) – Pipeline ROW is flagged through field; there are also signs just off the road. Notice the color change in vegetation at the pipeline centerline. Direction: East.



Photo 13. (GPS Point #30) – Pipeline ROW in crop land. Construction of a different pipeline is to the left of photo, paralleling part of Hiland’s Market Center pipeline. Direction: East.



Photo 14. (GPS Point #33) – Pipeline ROW in Crop land. Pin flags and signs are marking the line. Direction: North.



Photo 15. (GPS Point #34) – Pipeline ROW goes through crop field (center of photo, then turns left), can still see pipeline scar in background. Some annual weeds throughout ROW. This area was a re-route. Direction: Northwest.



Photo 16. (GPS Point #36) – Pipeline ROW, goes through a crop field. Direction: South.



Photo 17. (GPS Point #36) – Pipeline ROW going though field. Direction: North.



Photo 18. (GPS Point #31) – Pipeline ROW going through crop field. Area looks good.



Photo 19. (GPS Point #37) – White Earth Booster Station. Direction: West.



Photo 20. (GPS Point #32) – Pipeline ROW through a crop field. Crop field vegetation looks good. Some thistle was observed in the road ditch and up to the field edge.



Photo 21. (GPS Point #13) – ROW through grassland. Can still see scar (vertical). Unsure what horizontal bare spot near barbed wire fence is from, possibly from other pipeline or water line. Direction: East.



Photo 22. (GPS Point #16) – Pipeline ROW through pasture land. Cattle near block valve. Direction: West



Photo 23. (GPS Point #29) – ROW through field. Some weeds observed throughout the field. Direction: West.

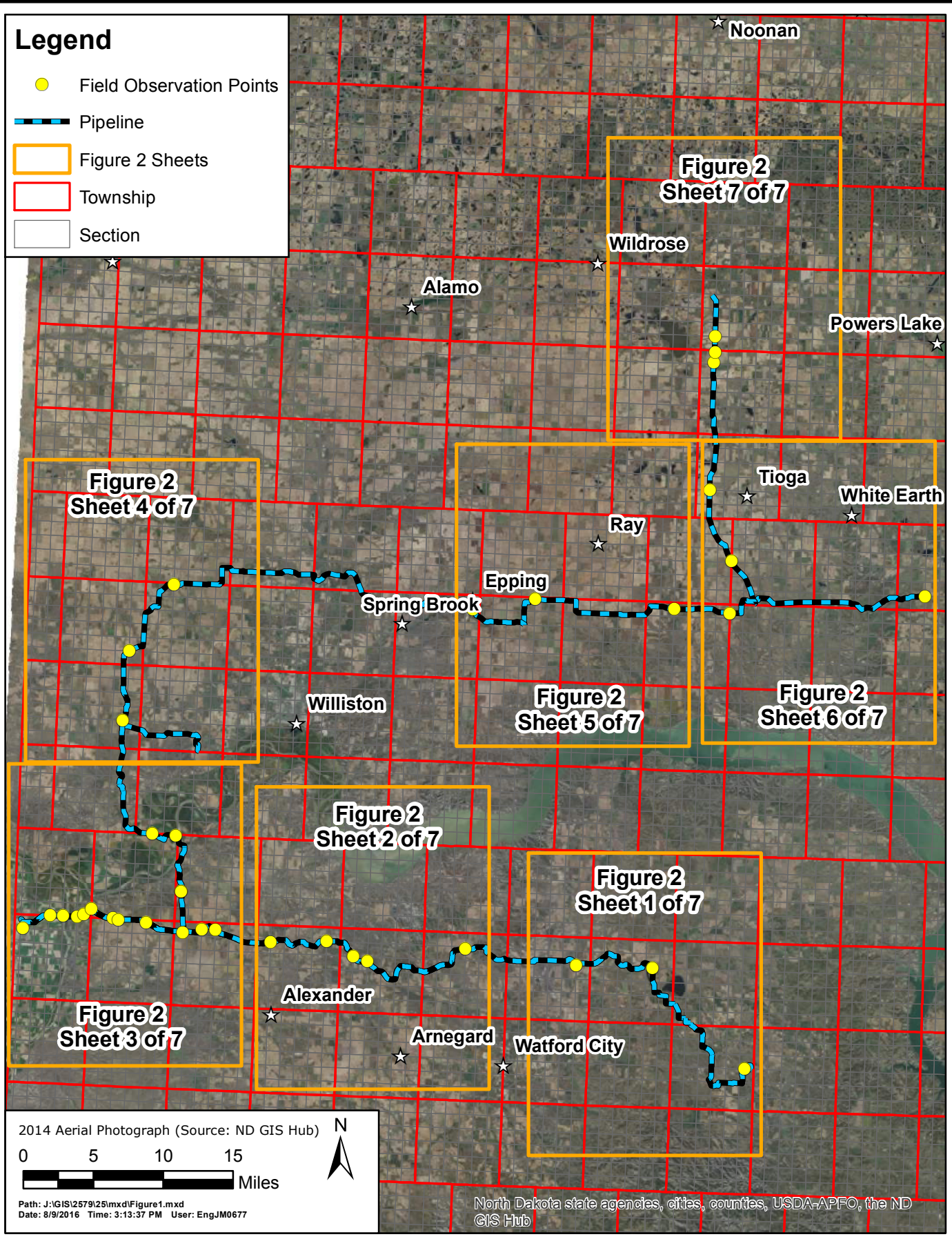


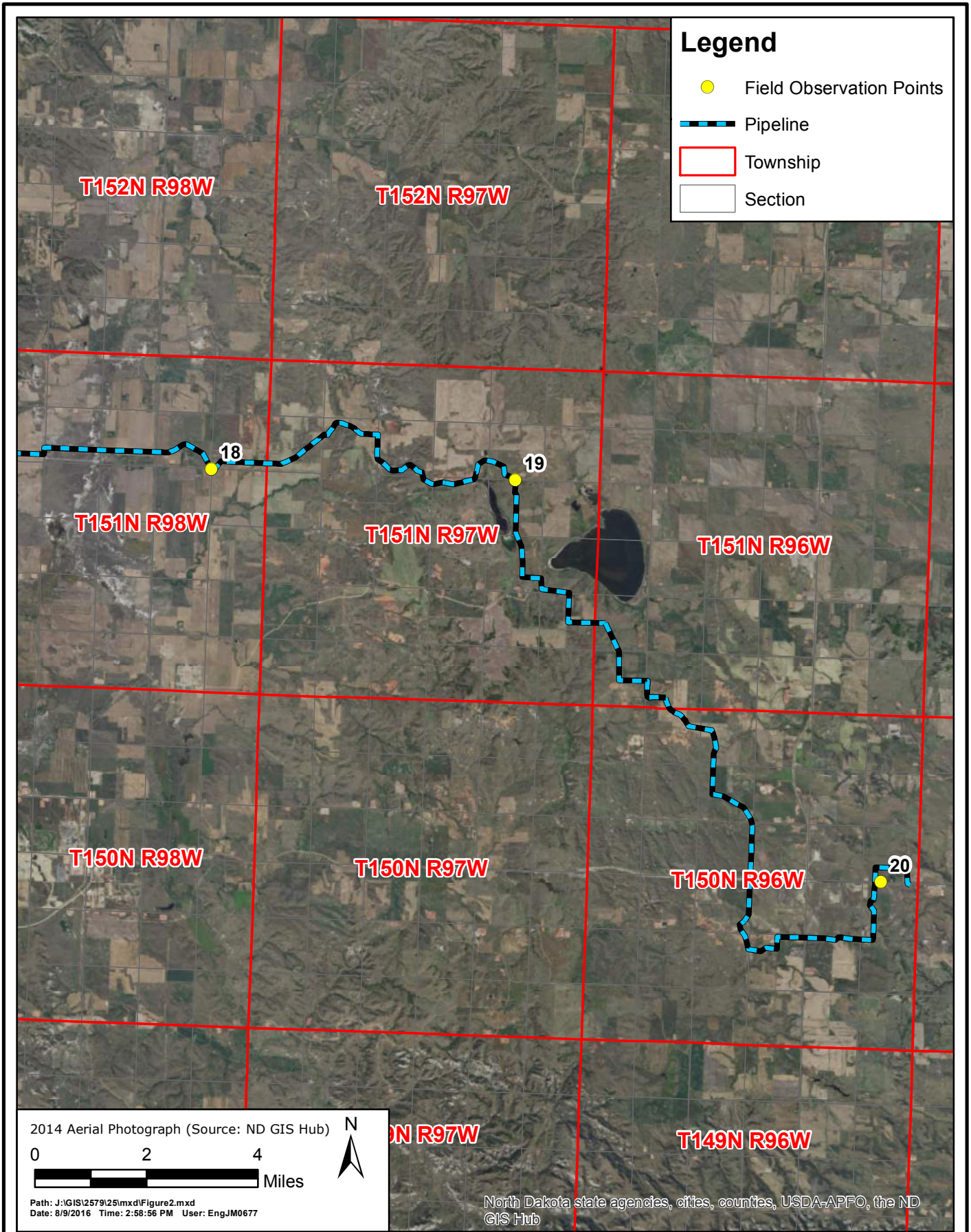
Photo 24. (GPS Point #20) – Pipeline ROW through grassland, can still see scar. Some weeds throughout ROW. Direction: West

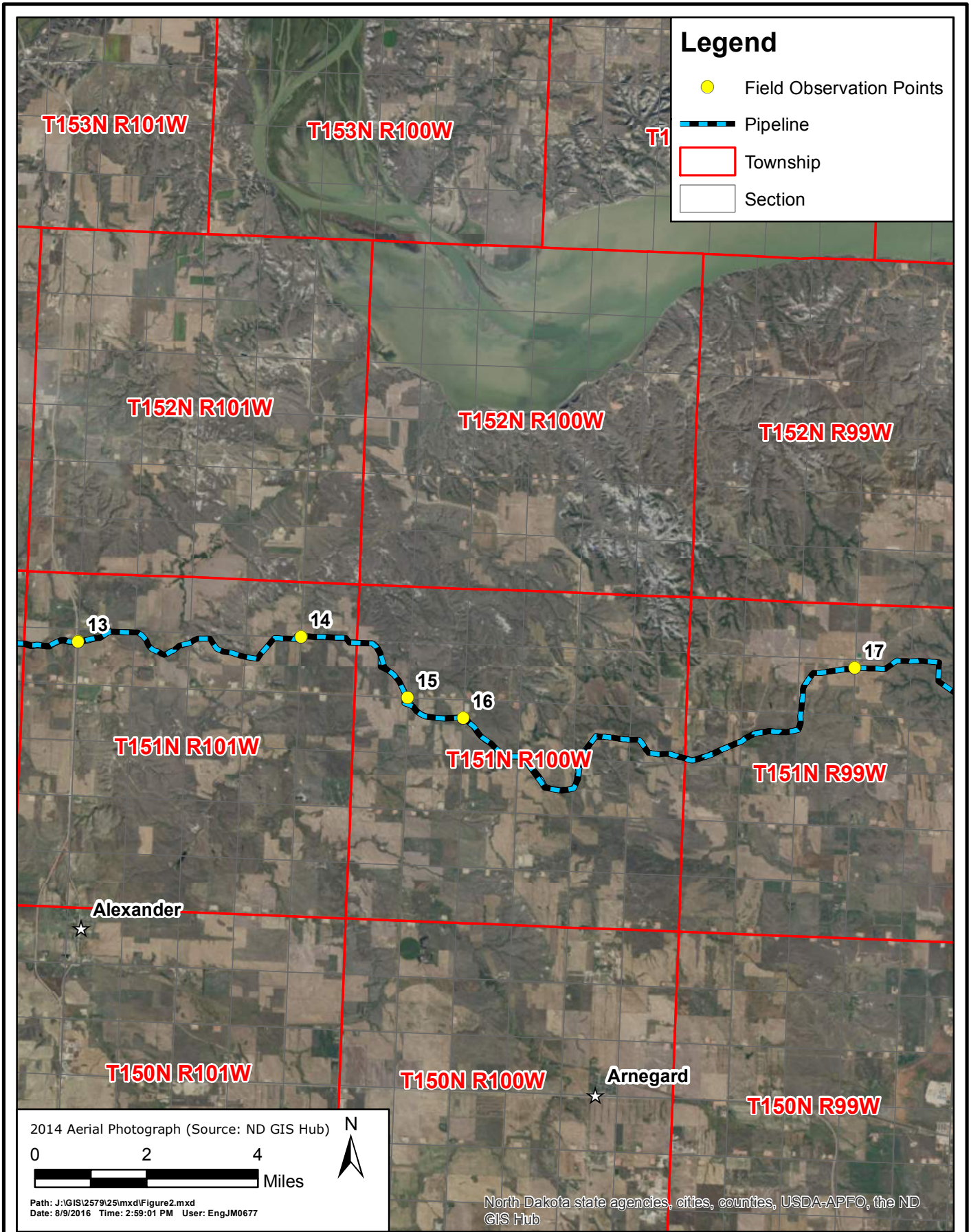
Field Observation Points

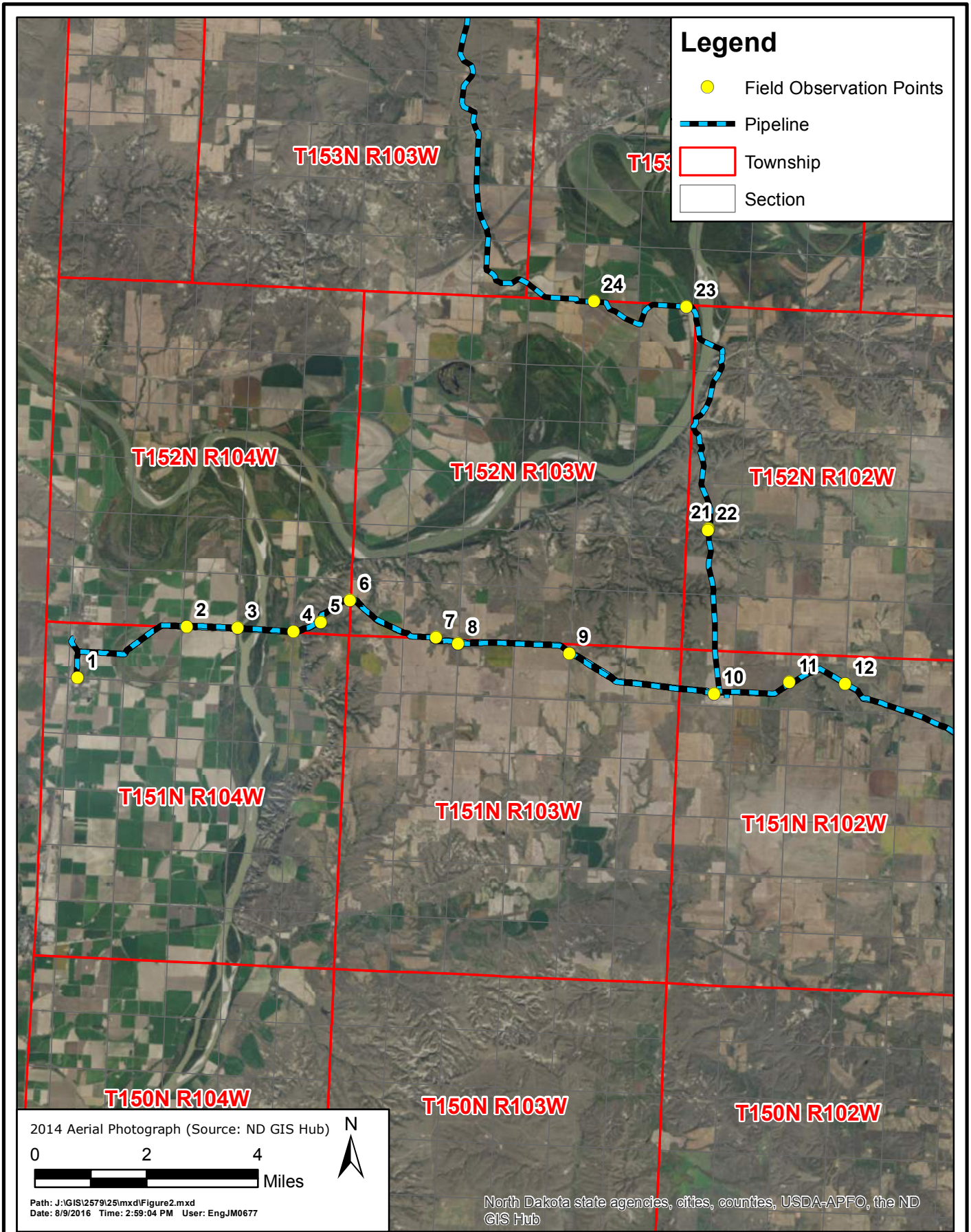
Legend

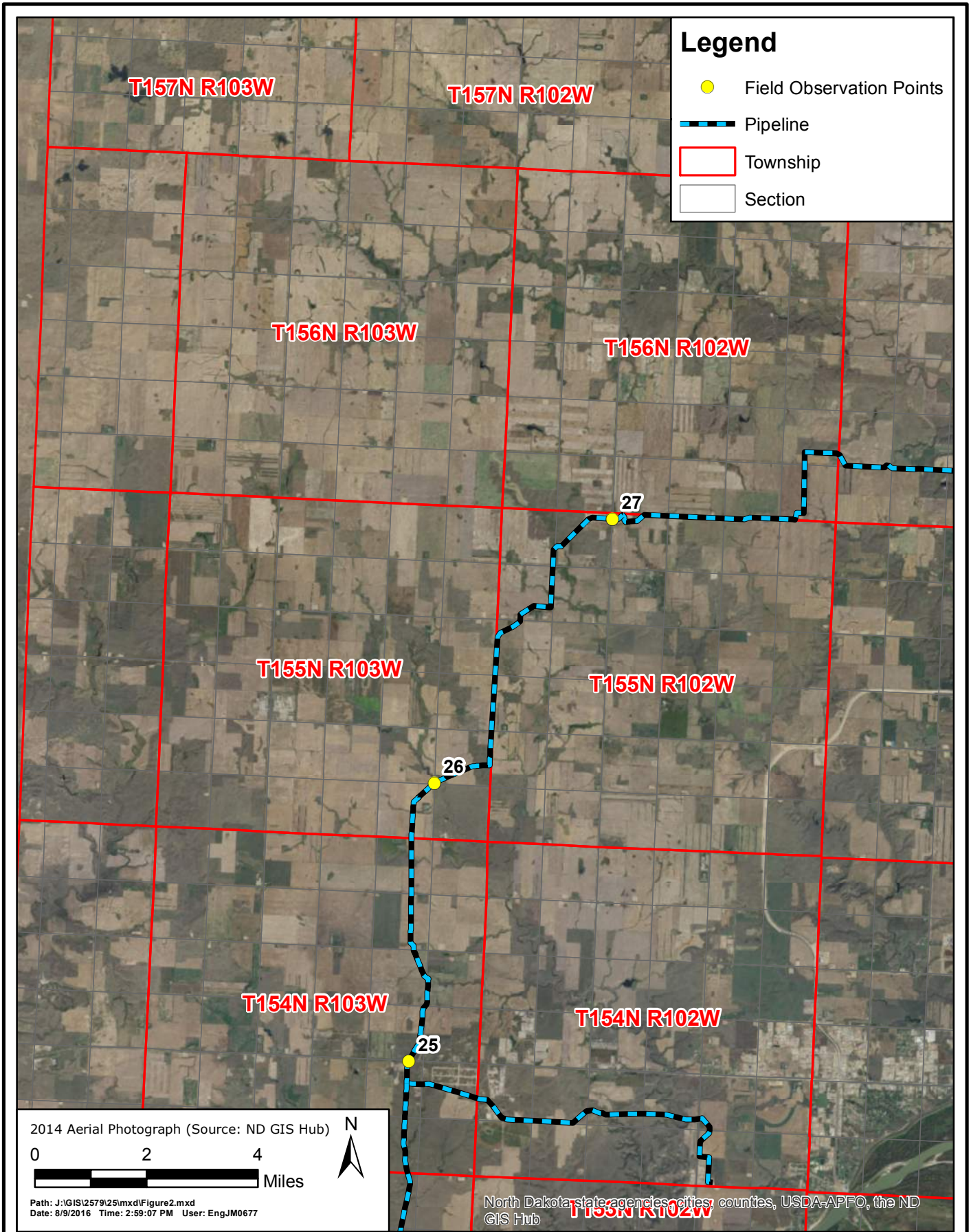
- Field Observation Points
- Pipeline
- Figure 2 Sheets
- Township
- Section

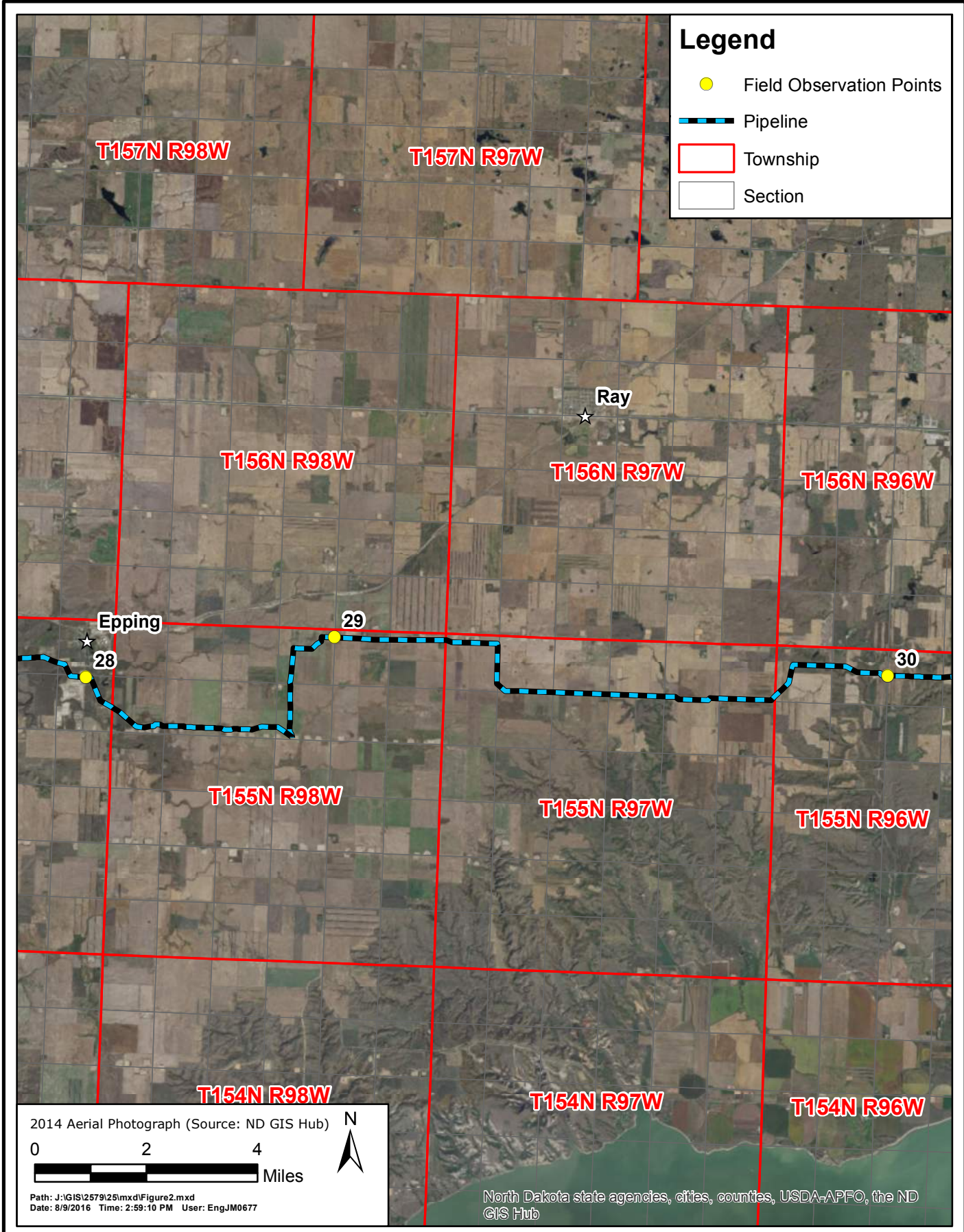


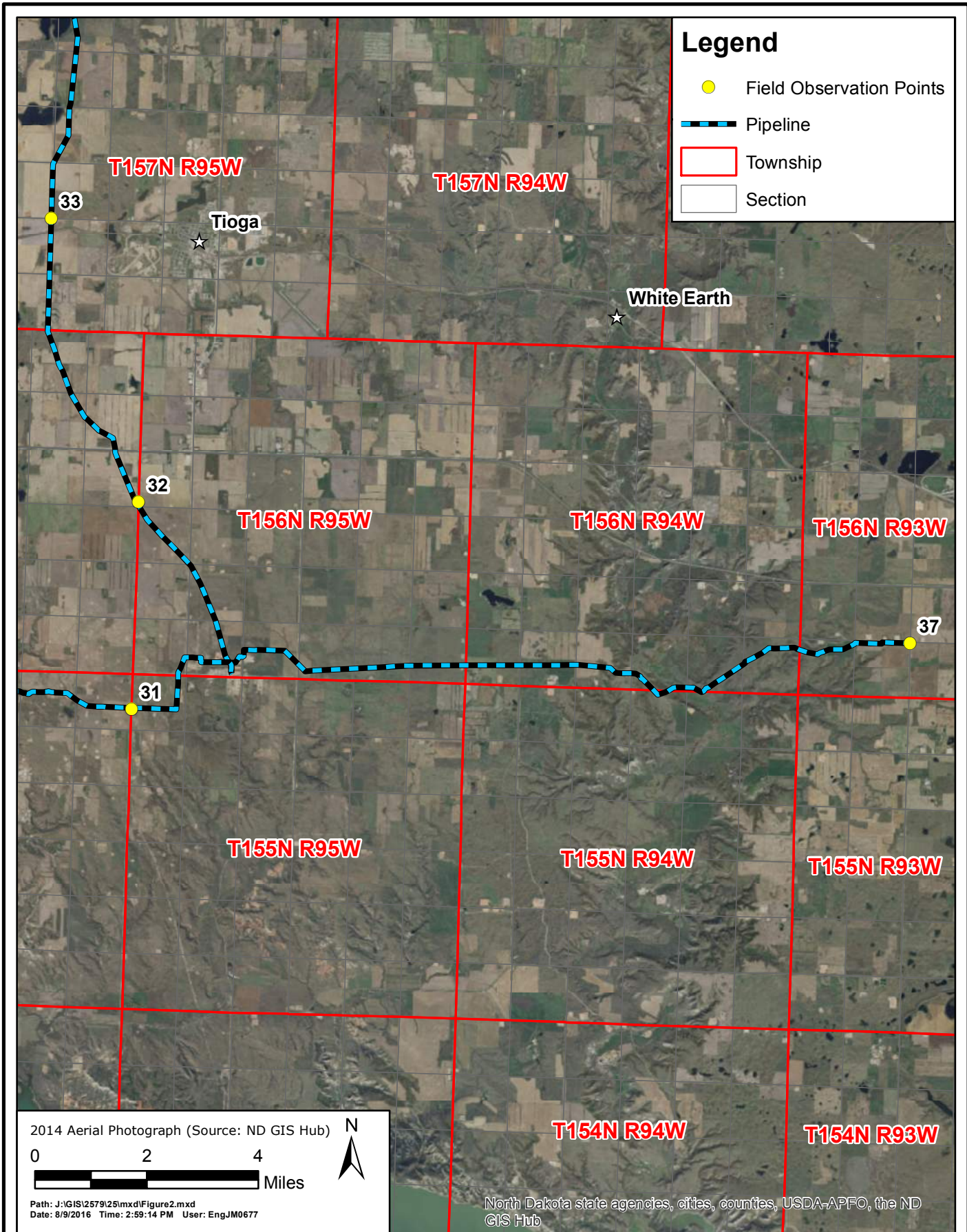


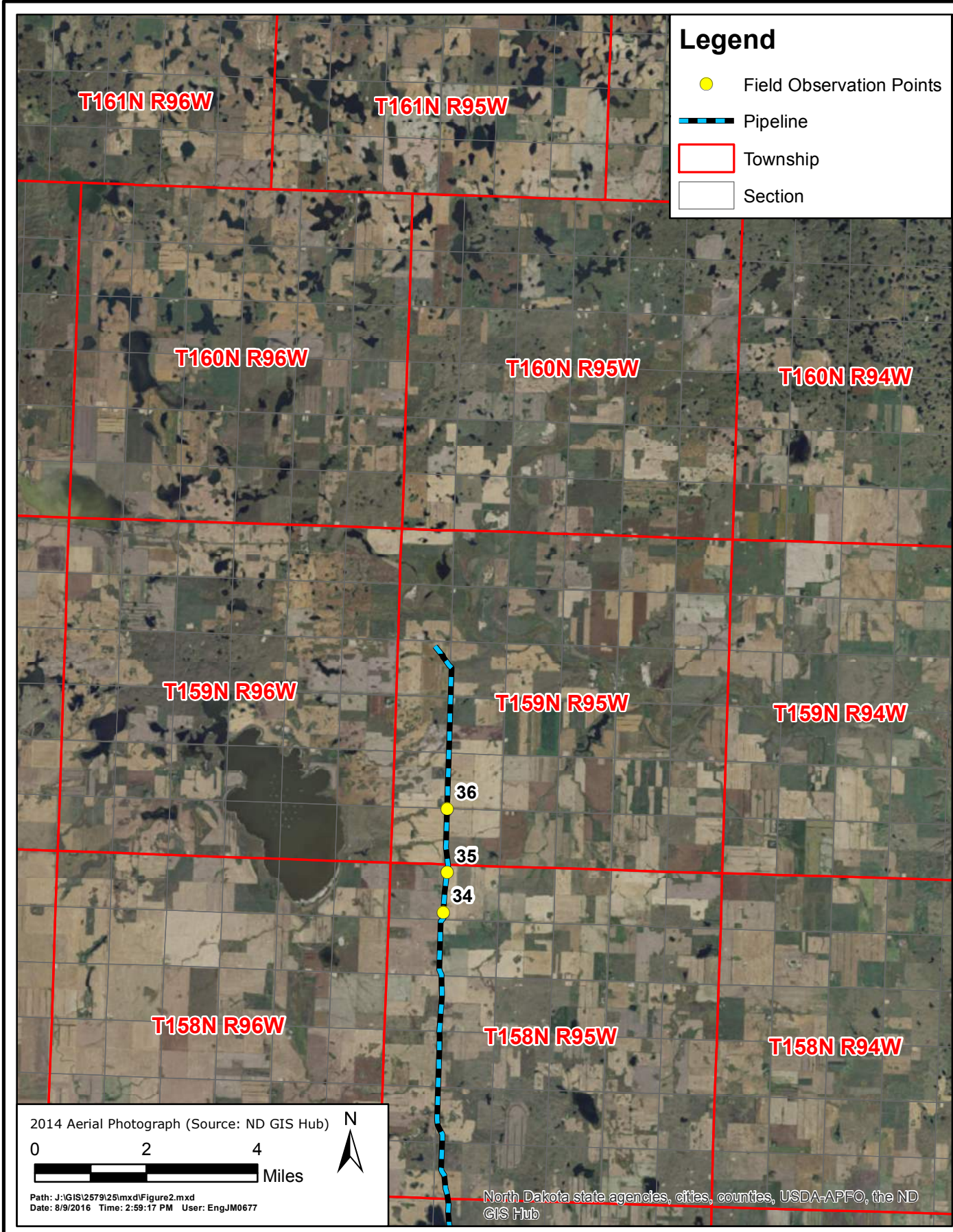












Legend

- Field Observation Points
- Pipeline
- Township
- Section

2014 Aerial Photograph (Source: ND GIS Hub) N

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