

# Antelope Valley Station Natural Gas Pipeline Project Post-Construction Inspection Report PU-13-022



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

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- Appendix A: Maps of Project
- Appendix B: Photographs
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# 1.0 Executive Summary

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The North Dakota Public Service Commission (PSC) retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Antelope Valley Station Natural Gas Pipeline (Project) in Mercer County, North Dakota (ND), constructed by Basin Electric Power Cooperative, LLC (BEPC). Construction for the Project was completed in May 2014. Wenck reviewed all Project documents to identify those aspects that required compliance and visually inspected the Project area on 15 January 2015.

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 as-built drawings, specifications, and associated GIS files; 2) vegetation establishment at the south end of the project near the pig launcher. Follow-up actions taken by Dakota Gasification Company 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 establishment at the south end of the project near the pig launcher. Soil reclamation or re-seeding may be necessary if former land uses cannot be attained in the next couple years.
  - As-built drawings, specifications, and associated GIS files.

## 2.0 Background and Scope

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### 2.1 INTRODUCTION

The Antelope Valley Station Natural Gas Pipeline (Project) connects the Antelope Valley Station to the Dakota Gasification Company facility in Mercer County, North Dakota. The Project was constructed by Basin Electric Power Cooperative, LLC (BEPC). The Project includes a 10-inch diameter, underground pipeline with a total length of approximately 3.5 miles. 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-13-022 on 10 July 2013, granting a Certificate of Corridor Compatibility No. 142 and Route Permit No. 155 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 Basin Electric 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 2015) 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 are listed in Table 2.1, Column 3 (Written Verification). 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

Luke Nelson, Wenck project engineer, visited the Project site on 15 January 2015. A representative from (BEPC) accompanied Wenck staff during the site visit.

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 megapixel) were taken showing typical Project infrastructure and documenting problem areas (**Appendix B**). 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 C**).

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). 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*
<b>SITING &amp; LOCATION</b>			
Corridor and Route App. p. 1; Order 3	Located in Mercer County running north to south from the Dakota Gasification Company facility to the Antelope Valley Station (AVS).	Docket #4, Application, Appendix B, Project Maps	Section 3.1.1
ND Admin. Code Article 69-06-08; Corridor and Route App. pp. 1, 7-10; Findings of Fact 10	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 #4, Application, Appendix B, Project Maps	Section 3.1.2
Corridor and Route App. p. 4	Construction of the AVS natural gas pipeline will impact approximately 35 acres of land. Post-construction, 7.92 acres will revert back to pre-construction conditions and uses.	None	Section 3.1.3
Findings of Fact 14	No residences or schools located within 500 feet of the proposed route.	Docket #4, Application, Appendix B, Project Maps	Section 3.1.4
ND State Land Dept. (04-06-11); NDGF (04-26-2011); NDPR (filed 10-24-2011)	No state trust surface or mineral ownership within study area. No PLOTS lands in or adjacent to corridor. No state parks or NDPR-managed lands.	Docket #4, Application, Appendix C, NDGF Correspondence and NDPR Correspondence	Section 3.1.5
<b>PROJECT DESIGN &amp; ENGINEERING</b>			
Corridor and Route App. 3; Order 3; Findings of Fact 4	Authorized 3.5 miles of steel 10-inch diameter underground pipeline and above ground markers. AVS-NGP includes double block valve, pig launcher, pig receiver, and three isolation valves	Docket #47, Plan and Profile Drawings	Section 3.2.1
Corridor and Route App. p. 5, 12, 13	Temporary ROW used during construction: 75-ft construction ROW, 10-ft in wetlands. Permanent ROW is 50 feet wide.	Docket #4, Application, Appendix A, Engineering Documents	Section 3.2.2
Corridor & Route App. p.3; Findings of Fact 6	Design, construction, and operation in compliance with US DOT 49 CFR Part 192.	None	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Order 22	Provide engineering design drawings prior to construction upon request.	Docket #47, Plan and Profile Drawings	Section 3.2.4
Order 22	Provide as-built design specifications and associated GIS files within 6 months after construction complete.	None	N/A
<b>PRE-CONSTRUCTION</b>			
ND Century Code Ch. 49-22-07.1; ND Admin. Code Article 69-06-03	Letter of Intent.	Docket #1, Letter of Intent; Docket #2, Acknowledgement of 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 #4, Application	N/A
ND Century Code Ch. 49-22-07	Certificate of Site Compatibility or Route Permit.	Docket #42, Findings of Fact, Conclusions of Law and Order	N/A
ND Century Code Ch. 49-22-04; ND Admin. Code Article 69-06-02	Ten-year Plan (submit before July 1).	Docket #4, Application Appendix E, 10-Year Plan	N/A
Order 7, 8	Conduct Pre-construction Conference. Provide notice of intent to start construction.	Docket #47, Pre-construction Meeting Minutes	N/A
Certification 1-10	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 #52, Request for approval of route adjustments	N/A
Order 6	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 #62, Permits; Docket #4, Application, Appendix C	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Findings of Fact 17	Participate in ND One-Call Excavation Notice System.	None	Section 3.3.5
<b>CULTURAL RESOURCES</b>			
Corridor and Route App. pp. 7, 8; Findings of Fact 22	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 #4, Application, Appendix C, Letter of Concurrence	Section 3.4.1
Findings of Fact 20; Order 15	Submit cultural resource mitigation plans to SHPO prior to construction for approval. Report discovery of cultural, archaeological, historical, etc. sites and stop construction, consult SHPO for clearance, and file report to PSC.	Docket #4, Application, Appendix C, Letter of Concurrence	N/A
<b>NATURAL RESOURCES</b>			
Route App. pp. 15-16; Findings of Fact 19, 24; USFWS (04-20-2011)	Expect temporary displacement of wildlife due to clearing and construction, but no significant impacts. No impacts expected to T+E or sensitive species. Project construction to occur outside migratory season for whooping cranes and outside the nesting season for bald and golden eagles and other migratory birds. Will comply with USFWS recommendations for minimizing wildlife impacts.	Docket #4, Application, Appedix C, USFWS and NDPR Letters of Correspondence	Section 3.5.1
Route App. pp. 11, 17-19; Findings of Fact 23; USFWS (04-20-2011); NDGF (04-26-2011)	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. USFWS recommends impacts to 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 #21, Wetland Waterbody Survey, Tree and Shrub Inventory Report; Docket #4, Application, Appedix C, USFWS and NDPR Letters of Correspondence	Section 3.5.2

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Order 13; USFWS (04-20-2011)	Report presence of T+E species, bald or golden eagles during construction and operation. USFWS: Project is within whooping crane migration corridor; stop work if one is sighted during construction and notify USFWS.	None reported to date.	N/A
Corridor App. pp. 18-19; Route App. p. 19, 49-50; Certification 18; USFWS (04-20-2011)	Reclamation, fertilization, and reseeding according to NRCS (or landowner if approved). Mulch and erosion control fabric will be applied according to desires of landowner. USFWS request: reseed with grass/forb mixture of native species from local seed sources.	Docket #89, Commission Approval of Request to use alternate seed mix	Section 3.5.4
Corridor and Route App. pp. 11, 13, 18; Findings of Fact 25; Order 20	Shrubland avoided to extent practicable. Tree and shrub removal and replacement will comply with "Tree and Shrub Mitigation Specifications".	Docket #62, Raptor and Wildlife Survey, Tree and Shrub Inventory Report; Docket #93, Tree and Shrub Mitigation Report	Section 3.5.5
<b>CONSTRUCTION, RECLAMATION &amp; SOILS</b>			
Route and Corridor App. pp. 11-14, 21; Order 7, 8, 9	Environmental monitors and inspectors utilized during construction. Construct and operate in accordance with Application and safety requirements. Construction suspended during adverse weather conditions. Provide weekly construction reports.	Docket #48-51, 53-61, 63-77, 79, 80, 84, 85, 86, 88, 91, Weekly Construction Reports	N/A
Order 10	Pipeline buried to 48 inches in rangeland and 48 inches at the bottom of ditch for road crossings.	None	Section 3.6.2
Route and Corridor App. pp. 10-13, 17, 20; Finding of Facts 23	Soil erosion minimized by use of BMPs during and after construction to protect surface water and soils/topsoils.	None	Section 3.6.3
Route and Corridor App. pp. 11-12; Order 16	Topsoil and subsoil must be segregated and replaced separately. No staging areas on land of other ownership. Rocks (> 3-in diameter) will be removed from cultivated lands post-construction.	None	Section 3.6.4
Route and Corridor App. pp. 4, 11, 20; Findings of Fact 18; Order 11, 18	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	None	Section 3.6.5

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
	be de-compacted per landowner request. Reclamation and maintenance throughout life of facility. All crossings of graded roads will be bored.		
Corridor and Route App. pp. 11-13	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 3.6.7
	<b>OPERATION</b>		
Corridor and Route App. pp. 9-10; Order 3, 9	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
Corridor and Route App. p. 13; Order 23	Reclamation and maintenance throughout life of facility. Waste removed and disposed regularly.	None	Section 3.7.2
Findings of Fact 26	Company's existing Emergency Action Plan will include the Project.	None	Section 3.7.3

**\*Note: Shaded boxes represent non-compliance or potential non-compliance issues.**

## 3.0 Findings

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### 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 Mercer County running approximately north to south from the Dakota Gasification Company facility to the Antelope Valley Station. This was confirmed during Wenck's inspection.

#### 3.1.2 Siting Criteria

Siting criteria were analyzed in detail in the Applications for the Project (Docket #4). 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 35 acres of land to industrial land use.

#### 3.1.4 Setbacks

The Project was in a rural setting, with no occupied dwellings or structures along the pipeline route or within the ROW corridor, complying with the 500-ft setback specified in the Application.

#### 3.1.5 ND State-Owned or Managed Lands

Consultation with the ND Game & Fish Department (NDGF) indicated no NDGF-managed lands were within or adjacent to the pipeline corridor (Docket #4, Appendix C, NDGF Correspondence). The ND Parks & Recreation Department (NDPR) indicated that no state parks or other lands they manage were in the vicinity of the Project (Docket #4, Appendix C, NDPR Correspondence). Therefore, no state-owned or managed lands were potentially impacted by the Project.

### 3.2 PROJECT DESIGN & ENGINEERING

#### 3.2.1 Length & Infrastructure

The Project was authorized as 3.5 miles of 10-in diameter, underground pipeline, as described in the Application and at the hearing (Docket #47, Plan and Profile Drawings). It also includes a double block valve, pig launcher, pig receiver, and three isolation valves. The site inspection observations coincide with these parameters (Appendix B, Photos 1, 17).

#### 3.2.2 Right-of-Way Corridor

The Order for the Project authorized construction within a 75-ft ROW and 10 feet at wetlands. The permanent ROW for the Project is 50 feet centered on the pipeline (Docket #4, Appendix A, Engineering Documents). The pipeline appeared to have been constructed according to these maximum widths (Appendix B, Photos 2-16).

### **3.2.3 Compliance with US DOT Regulations**

There was no written verification or certification of compliance with US DOT 49 CFR Part 192.

### **3.2.4 Engineering Design Drawings**

Engineering design drawings were provided in the Application materials (Docket #47, Plan and Profile Drawings; Docket #4, Appendix A, Engineering Documents).

### **3.2.5 As-built Drawings and GIS Files**

As-built alignment drawings and associated CAD files (acceptable alternative to GIS) have not yet been received. The PSC should pursue receipt of the drawings and their accuracy should be confirmed.

## **3.3 PRE-CONSTRUCTION**

### **3.3.1 PSC-Required Documents**

A Letter of Intent was received on 4 January 2013 (Docket #1). The PSC moved that the one-year waiting period between filing the Letter of Intent and the Application be shortened to thirty days (Docket #2, Commission Motion acknowledging Letter of Intent). An Application for a Certificate of Corridor Compatibility and Route Permit was subsequently submitted on 28 February 2013 (Docket #4, Application). A Certificate of Corridor Compatibility No. 142 and Route Permit No. 155 were issued on 10 July 2013, in accordance with the Order and Certification Relating to Order Provisions signed on 10 July 2013 (Docket #42, Findings of Fact, Conclusions of Law and Order). A Ten-Year Plan was filed on 13 June 2013 (Docket #4, Appendix E, 10-Year Plan).

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

Dakota Gasification Company and Basin Electric Power Cooperative conducted a pre-construction conference on 15 August 2013. Meeting minutes were taken, as well as a list of attendees (Docket #47, Pre-construction Meeting Minutes).

### **3.3.3 PSC Approval of Modifications**

On 3 October 2013 Dakota Gasification Company filed a request to modify the designated corridor (Docket #52, Request for approval of route adjustments). The adjustments were on the order of 15-20 feet and were meant to minimize the number of crossings of existing utilities. No letter of approval or as-built drawings were on file to confirm written approval of the request; however, during the site visit, it was mentioned by Kurt Dutchuk (DGC) that modifications were made to avoid existing utilities.

### **3.3.4 Permits and Approvals from Other Agencies**

It was indicated in the Application 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:

- NDDH NDPDES General Permit for Temporary Dewatering/Hydrostatic Testing and discharge of potable water
- 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 Water Commission (NDSWC)
- North Dakota State Historical Preservation Office (SHPO)
- North Dakota Department of Health (NDDH)
- U.S. Army Corps of Engineers (COE)

- Federal Aviation Administration (FAA)
- Natural Resources Conservation Service (NRCS)
- Mercer County

These permits were filed with the PSC as required (Docket #62, Permits). All consultations with the above-mentioned agencies and their approval have been documented with the PSC (Docket #4, Application, Appendix C)

### **3.3.5 North Dakota One-Call Participation**

There was no written documentation that Dakota Gasification Company participated in North Dakota One-Call.

## **3.4 CULTURAL RESOURCES**

### **3.4.1 Cultural Site Avoidance**

No historic properties were affected by pipeline construction. The ND State Historic Preservation Office (SHPO) concurred with this conclusion (Docket #4, Application, Appendix C, ND SHPO Concurrence Letter). Therefore, no mitigation plans were deemed necessary. No discoveries of cultural or historic materials were reported during construction.

## **3.5 NATURAL RESOURCES**

### **3.5.1 Wildlife**

In general, it appeared Dakota Gasification Company attempted to minimize impacts to wildlife and habitat. A natural resources survey was completed prior to construction, which included a wetland and waterbody survey and a tree and shrub inventory (Wetland Waterbody Survey, Tree and Shrub Inventory Report). Disturbance from pipeline construction was temporary in nature for most species.

The US Fish and Wildlife Service (USFWS) stated that the project would have no significant impact on fish and wildlife resources. The project area was not occupied by any endangered or threatened species (Docket#4, Appendix C, USFWS Letter of Correspondence).

### **3.5.2 Wetlands**

A wetland determination during the natural resource survey indicated the presence of potential wetlands along the Project ROW (Docket #21, Wetland Waterbody Survey). Three wetlands were mapped and a total of three waterbodies were mapped - all located on the north end of the project. During the inspection it was apparent that neither the wetlands nor the waterbodies had been impacted during construction.

### **3.5.3 Reporting**

Weekly construction reports indicated that no environmental incidents or issues occurred during construction (Docket #48-51, 53-61, 63-77, 79, 80, 84, 85, 86, 88, 91, Weekly Construction Reports). There were no reports filed documenting the presence of threatened or endangered species or bald or golden eagles during construction or operation to date.

### **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 grassland areas (Appendix A, Photo 2-5, 7-14). Vegetation was fully established along most of the reseeded portion of the route, except for the area near the pig launcher on the south end of the project (Appendix B, Photo 1). The Dakota Gasification Company requested to change the seed mixture used,

which was documented and approved by the PSC (Docket #89, Commission Approval of Request to use Alternate Seed Mix). Wenck recommends the PSC request documentation from Dakota Gasification Company 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 B, Photos 2-26). As required, a count of trees and shrubs was done within the area expected to be impacted by construction (Docket #21, Wetland Waterbody Survey, Tree and Shrub Inventory Report). Mitigation for the trees and shrubs removed was done by Western EcoSystems Technology, Inc. (Docket #21, Wetland Waterbody Survey, Tree and Shrub Inventory Report). It is recommended that the PSC follow up with Dakota Gasification Company to ensure that tree mitigation efforts continue to be successful.

## **3.6 CONSTRUCTION, RECLAMATION & SOILS**

### **3.6.1 Construction Management & Safety**

Weekly construction reports were submitted for the duration of construction (Docket #48-51, 53-61, 63-77, 79, 80, 84, 85, 86, 88, 91, Weekly Construction Reports). Each report indicated whether any safety or environmental incidents had occurred and documented that construction of the Project proceeded in accordance with the Application and safety requirements. No major adverse weather occurred during construction, so no delay of construction was necessary (Docket #48-51, 53-61, 63-77, 79, 80, 84, 85, 86, 88, 91, Weekly Construction Reports).

### **3.6.2 Pipeline Depth**

The pipeline must be buried to 48 inches in rangeland and 48 inches at the bottom of ditch for road crossings. Wenck did not visually confirm the depth of the pipeline, but Dakota Gasification Company stated that the pipeline was buried to at least the specified depth and deeper where it bored under roads.

### **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 was apparent that BMPs had been used to minimize erosion and maintain drainage (Appendix B, Photos 4, 11, 12).

### **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.

### **3.6.5 Reclamation & Roads**

Weekly construction reports indicated that cleanup and reclamation had occurred concurrently with construction activities (Docket #48-51, 53-61, 63-77, 79, 80, 84, 85, 86, 88, 91, Weekly Construction Reports). At the time of the inspection, the pipeline trench had been backfilled, soils had been recontoured, and reseeded had been completed, with mulch and erosion control in place (Appendix B, Photos 2, 6, 15). Wenck recommends that the PSC request documentation from Dakota Gasification Company when vegetation has fully established. No temporary roads had been used during construction. 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**

There were no existing fences or gates that were impacted by pipeline construction; therefore, no replacement or repair was needed.

### **3.6.7 Underground Facilities**

No reports of damage to underground facilities were reported to the PSC. Wenck confirmed with Dakota Gasification Company that no damage to facilities occurred during construction.

## **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 B, Photos 2, 4, 6-10, 13-17). No reports of extraordinary events were filed to date with the PSC.

### **3.7.2 Maintenance**

Dakota Gasification Company indicated that the pipeline is regularly inspected and maintained. 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 all fence lines and road crossings (Appendix B, Photos 2, 4, 6-10, 13-17). Dakota Gasification Company indicated that resident/landowner concerns and issues are handled promptly and every reasonable attempt to alleviate problems caused by the Project.

## 4.0 Issues to Resolve and Recommendations

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### 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 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 Dakota Gasification Company 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 design drawings, specifications, and associated GIS files

#### **Potential Items**

- Written documentation that Dakota Gasification Company participated in North Dakota One-Call
- Follow-up with Dakota Gasification Company to ensure continued success of tree mitigation

### 4.2 REVEGETATION & CROP PRODUCTION

There was an outstanding issue at the Project site related to reclamation. There is one area on the south end of the Project near the pig launcher where vegetation has not been fully established. Wenck recommends the PSC request monitoring and documentation of this issue to ensure the vegetation is established throughout the Project.

## 5.0 Conclusions

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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 at the south end of the project; provide written verification of participation in North Dakota One-Call; and provide as-built design drawings, specifications and associated GIS files. 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

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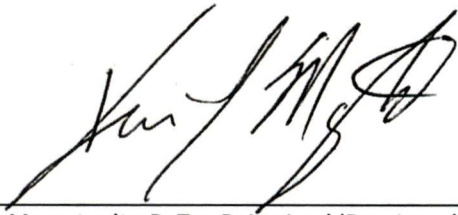
North Dakota Public Service Commission (ND PSC). 2015. Online Case Search. Available from: [http://www.psc.nd.gov/database/company\\_case\\_list.php](http://www.psc.nd.gov/database/company_case_list.php). Accessed February - July 2015.

Dutchuk, Kurt. 2015. Dakota Gasification Company. Personal Communication: discussion during site visit.

## 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 Secondary Project Manager, Luke Nelson, prepared the report.



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

07/29/15

Date



Luke Nelson, Project Engineer






07/29/15

Date

## **Maps of Project**



### Map Features

-  Preferred Pipeline
-  Preferred Corridor
-  Federal Land
-  State Lands
-  NWI Wetlands

## Figure 2 AVS-NGP Project Project Overview Map

0 0.25 0.5 1 Miles

B-2



# Photographs



**Photo 1.** Direction: East. Pig launcher located on the south end of the project. The pipeline then proceeds west underneath County Road 26. Some reseeding is still required; it is expected to be completed this spring. This was the only area within the project limits where vegetation had not been established.



**Photo 2.** Direction: Southeast. Pictured above is a view of the pipeline corridor that pictures the area where County Road 26 was bored under. Two above ground yellow markers can be seen on either side of the road. In the fore front of the picture is the area of the corridor where the pipeline bends and begins its run northwest parallel to County Road 26.



**Photo 3.** Direction: Southeast. View of the pipeline corridor running parallel to County Road 26. Approaching bend where pipeline direction changes and starts running north, parallel to County Road 15. Area has vegetation completely established.



**Photo 4.** Direction: Northwest. Best Management Practices (BMP's) and above ground yellow pipeline marker are pictured above around the bend as the pipeline starts to head north parallel to County Road 15. The straw waddles will be removed in the spring; they were left in place to prevent erosion while vegetation was fully established.



**Photo 5.** Direction: North. Pipeline is still bending towards north bound route in this photo and it is approaching the second boring of the job underneath 4<sup>th</sup> St SW (County Road 26).



**Photo 6.** Direction: South. 4<sup>th</sup> St SW (County Road 26) bore. Yellow marker indicates location of the start of the bore. No impacts to the road were observed during the inspection.



**Photo 7.** Direction: East. Pictured above is the pipeline corridor running north and south, parallel to and west of County Road 15. Vegetation is fully established and above ground yellow pipeline markers can be seen.



**Photo 8.** Direction: North. Pictured above is the pipeline corridor running north and south, parallel to and west of County Road 15. Vegetation is fully established and above ground yellow pipeline markers can be seen. (Similar to previous photo, but further north along route).



**Photo 9.** Direction: East. Pictured above is the pipeline corridor running north and south, parallel to and west of County Road 15. Vegetation is fully established and above ground yellow pipeline markers can be seen. (Similar to previous photo, but further north along route).



**Photo 10.** Direction: North. Pictured above is the pipeline corridor running north and south, parallel to and west of County Road 15. Vegetation is fully established and above ground yellow pipeline markers can be seen. (Similar to previous photo, but further north along route).



**Photo 11.** Direction: South. Silt fence encompassing one of the wetlands along the pipeline corridor. The silt fence has remained installed to continue to protect the wetland. During the inspection no impacts to the wetland were observed.



**Photo 12.** Direction: Northwest. BMP's are still in place along pipeline corridor to prevent against erosion during this downhill portion of the corridor, where a channel has been created.



**Photo 13.** Direction: Northeast. Pictured above is the pipeline corridor running north and south, parallel to and west of County Road 15. Vegetation is fully established and above ground yellow pipeline markers can be seen.



**Photo 14.** Direction: East. At this point in the route the pipeline bends east back towards the Dakota Gasification Plant. Shown here is the corridor approaching the third bore of the project underneath County Road 15. Pictured is the bore exit on the east side of County Road 15.



**Photo 15.** Direction: Northeast. This is the entry point for the third bore of the project underneath County Road 15. An above ground pipeline yellow marker shows the entrance point of the bore. During the inspection no impacts to the road were observed.

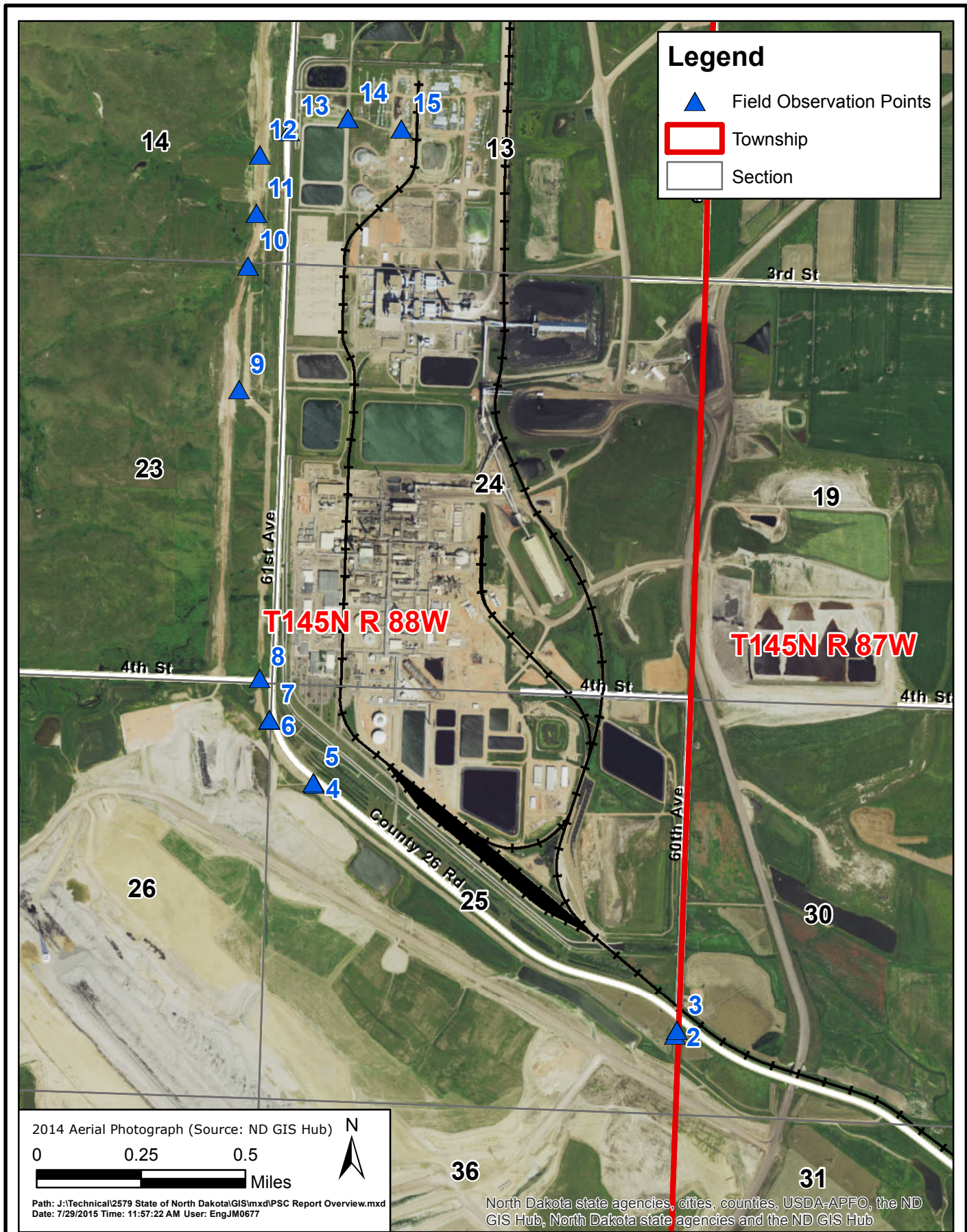


**Photo 16.** Direction: West. Pictured above is the pipeline running west and east towards the end of the project on the north side of the Dakota Gasification Plant. There is no vegetation in this section because it is location on the Dakota Gasification Company's property. The pipeline also bends south towards the pig receiver.



**Photo 17.** Direction: South. Shown above is the pig receiver on the north end of the project, where the pipeline terminates. There is no vegetation in this section because it is location on the Dakota Gasification Company's property.

## **Field Observation Points**





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