HoustonEngineering Inc.

Maple Grove, MN | HEI No. 6077-020
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LITTLE MUDDY CREEK PIPELINE (PU-14-769)

Reclamation and Final Report

North Dakota LEGENDARY
Public Service Commission

65 PU-14-769 Filed 09/19/2017 Pages: 13
Reclamation and Final Report
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1 EXECUTIVE SUMMARY

The North Dakota Public Service Commission (Commission) retained Houston Engineering, Inc. (HEI) to complete a construction inspection of the 10-inch Crude Oil Loop Pipeline project (Project) in Williams County, North Dakota (ND), owned and operated by Meadowlark Midstream Company, LLC (Meadowlark Midstream). Construction of the Project was completed in January 2016. HEI reviewed all project documents to identify aspects that required compliance and visually inspected the project area on June 20, 2017.

During the inspection, HEI observed that the project appeared to have generally been constructed according to the specifications outlined within the project application. Approximately 14 miles of new 10-inch pipeline has been constructed at the locations described in the application. The entire corridor site has been restored to its previous use. No significant issues were documented during the inspections.

2 INTRODUCTION AND BACKGROUND

2.1 PROJECT BACKGROUND

Meadowlark Midstream is proposing to construct a 10-Inch crude oil loop pipeline in Williams County, ND. The Project consists of a new 14-mile-long liquid crude pipeline that interconnects the Epping Station, extending 10 miles northwest and ending at the existing Little Muddy Creek Station. The Project is under the jurisdiction of the Commission, which issued its Order in Case No. PU-14-769.

On November 3, 2014, Meadowlark Midstream filed applications for a certificate of corridor compatibility and a route permit to authorize construction of the Project. Meadowlark Midstream also filed an application for waivers of procedures and time schedules established under North Dakota Century Code Sections 49-22-07.2, 49-22-13; and North Dakota Administrative Code 69-06-01-02 and Chapter 69-06-06. On January 21, 2015, the Commission deemed Belle Fourche's applications complete and issued a Notice of Filings and a Notice of Hearing.

The Commission issued its Findings of Fact, Conclusions of Law, and Order on May 13, 2015 for Case No. PU-14-769. The Order granted Meadowlark Midstream's request for a waiver of procedures and time schedules; a Certificate of Corridor Compatibility No. 165 designating a corridor for construction, operation, and maintenance of the Project; a Route Permit No. 177 granting authority to construct the pipeline along the designated route; and a Certification Relating to Order Provisions-Energy Conversion Facility Siting.

2.2 PURPOSE OF THIS REPORT

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code (NDCC) Chapter 49-22) authorizes the 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 welfare of citizens of North Dakota. Post-construction inspections ensure that such projects are constructed in compliance with the siting laws (NDCC, Chapter 49-22) and rules (North Dakota Administrative Code (NDAC) Article 69-06) and the applicable Commission Findings of Fact, Conclusions of Law, and Order (Order). The Commission retained HEI to complete a construction inspection of the Project and provide an opinion regarding compliance with the Order.

2.3 METHODS OF INSPECTION

2.3.1 PROJECT COMPLIANCE ITEMS IDENTIFIED

HEI identified project provisions as outlined within the Certification Relating to Order Provisions, which was included in the Order and is verified through written documentation by an on-site inspection. The project Findings of Fact, Conclusions of Law, and Order and the Certification Relating to Order Provisions (March 16, 2015) provide these project provisions.

2.3.2 REVIEW OF DOCUMENTATION

HEI staff reviewed publicly-available Project documents in the Commission's project records for Case # PU-14-769 to view written verification of compliance for the Project specifications listed within the Certification Relating to Order Provisions.

2.3.3 ON SITE INSPECTION

HEI conducted one compliance site visit on June 20, 2017 after construction was complete. The site was inspected visually by walking and driving the pipeline right-of-way and examining points of interest within the corridor. Points of interest included roadway crossings, wetlands, and intermittent streams.

Digital photographs were taken showing typical project infrastructure and to document permit provision activities. The project provisions verified during the site inspection are included with the Project Records and are described in the Findings section below.

3 FINDINGS

3.1 SUMMARY OF FINAL SITE VISIT

The final site inspection was completed on June 20, 2017 by Mr. Doug Dilliplane, Civil Engineer with HEI. The final site visit involved a full site tour of the Project corridor and observations of the reclamation areas. Photographs were taken and locations documented in **Appendix A, Site Photography**.

Reclamation was observed and appeared successful as pipeline corridor was not obvious throughout the entire project corridor. Agricultural cultivation had resumed on the landscape and the corridor of disturbance is indistinguishable from the adjacent landscape. Reclamation in other areas throughout the pipeline corridor was equally indistinguishable from the adjacent landscape (see **Appendix A** photo series). Minimal impacts on cropland were observed.

Reclamation in wetland areas as observed was characterized by the established vegetation. No construction impacts to wetland areas were observed.

Reclamation activities on the remainder of the Little Muddy Creek pipeline corridor appeared successful as noted during our final site inspection.

3.2 SITE INFORMATION

3.2.1 DESIGNATED LOCATIONS

The Project was built as proposed in the designated location described in the Application and Order. Maps of the approved corridor and construction plans coincide with onsite observations during the site inspection.

3.2.2 SITING CRITERIA

Siting criteria were analyzed in detail in the Application. HEI has confirmed that there were no exclusion or avoidance areas within the pipeline corridor. Minor impacts to agricultural production were observed and are described below.

3.2.3 LAND USE AND AGRICULTURAL IMPACTS

No active farmland is being converted as a result of this Project. The pipeline is buried and all farmland has been returned to their pre-construction land uses. This was confirmed during the site inspections. In addition, all farmland taken out of production has returned to its previous agricultural use (see **Appendix A**).

3.3 PROJECT DESIGN AND ENGINEERING

3.3.1 STRUCTURE SPECIFICATIONS

A new 10-inch diameter pipeline has been installed and buried (see **Appendix A**). HEI reviewed the as-built documents to verify that the constructed pipeline conforms to the project depth specifications.

3.3.2 ENGINEERING DESIGN DRAWINGS

Engineering design drawings are included in the permitting documents in the Project Docket and are included here by reference.

3.3.3 AS-BUILT DRAWINGS

As-built alignment drawings, document #60 (As-Built Surveys), were filed on March 10, 2017. The as-built drawings were reviewed in relation to the on-the-ground infrastructure of the facility and appeared to coincide. Pipe burial depths were reviewed and found to be consistent with Order Provision #6.

3.4 PRE-CONSTRUCTION

3.4.1 PSC-REQUIRED DOCUMENTS

The Consolidated Application for Certificate of Corridor Compatibility and Route Permit was submitted on November 3, 2014. (Docket #1). The PSC issued Certificate of Corridor Compatibility No. 165 and Route Permit No. 177 on May 13, 2015.

3.4.2 PRE-CONSTRUCTION CONFERENCE/WEEKLY UPDATES

The pre-construction conference meeting (conference call) took place October 16, 2015. Meeting minutes from the pre-construction conference call were submitted on October 16, 2015 (Docket # 50). No monthly construction reports were submitted. Notice of construction start date was submitted on October 16, 2015 (Docket #51).

3.4.3 PERMITS AND APPROVALS FROM OTHER AGENCIES

Documentation in the Project Docket indicates that no other permits were required for the Little Muddy Creek Pipeline and no additional information regarding permitting details was submitted to the Commission.

3.4.4 COMMISSION APPROVAL OF MODIFICATIONS

There are no notifications to modify the pipeline route filed to date.

3.5 CULTURAL RESOURCES

3.5.1 CULTURAL SITE AVOIDANCE

The North Dakota State Historical Society reviewed the Class I and Class III Cultural Resources Survey and concurred with the "No Significant Sites" determination (Document #15), provided that the Project corridor remains as described as mapped within the Application. HEI observed that the Project was constructed as described within the Application resulting in no impacts to cultural resources.

3.5.2 REPORTING OF NEW DISCOVERIES

No new discoveries of cultural, archeological, or historical sites were reported to the Commission during construction. As such, no new sites were encountered during construction of the Project.

3.6 NATURAL RESOURCES

3.6.1 WETLANDS, SURFACE WATER, AND FLOODPLAIN

A wetland delineation report was completed and included in the Application. The Route Permit states that all wetlands and surface water features will be directionally bored to avoid temporary or permanent impacts. This was observed during our field visit.

3.6.2 RARE, THREATENED, AND ENDANGERED SPECIES REPORTING

There were no reports filed documenting the presence of threatened or endangered species. Also, no bald eagles, golden eagles, or whooping cranes were sited during construction.

3.6.3 TREE AND SHRUB MITIGATION

No tree or shrub mitigation plan was required by the Commission for the Project.

3.7 CONSTRUCTION, RECLAMATION & SOILS

3.7.1 EROSION AND SEDIMENTATION CONTROL

The Project Application states that best management practices (BMPs) will be utilized during construction to minimize the potential for sedimentation and erosion issues in the Project Corridor. No erosion problems were observed during the final site visit. Revegetation efforts were observed to be successful as noted in the vegetation section and as shown in the site photography in **Appendix A**.

3.7.2 RECLAMATION AND ROADS

The Project require bypass of several existing roadways. The areas where the pipeline crossed roadways were directionally bored and returned to their pre-construction condition. Roads accessing the site appeared to be in a condition typical for the area and did not appear impacted during construction (see **Appendix A**).

3.7.3 RESEEDING

The Order Provisions stated that disturbed areas will be restored to their original condition to the maximum extent practicable according to the Natural Resources Conservation Service recommendations. Much of the right-of-way is cultivated agriculture land, therefore landowners designated that the area be returned to the pre-construction condition. The disturbed areas that were not cultivated were seeded with native vegetation and restored to their original condition. No significant bare areas were observed in the Project Corridor, and seeding activities were visible within these areas. HEI's experience indicates that after several more growing seasons, these areas will be completely indistinguishable from the surrounding lands.

3.7.4 REPAIRS

No damages to property were observed during the site inspections.

3.7.5 WASTE

The Project Corridor and adjacent areas were free of construction debris and equipment.

3.8 OPERATION

3.8.1 OPERATION AND MAINTENANCE

The site appeared to be operated and maintained as described in the Application.

3.8.2 SAFETY AND RECORD-KEEPING

No concerns were identified during the final site inspection that would indicate that Project construction or operation were out of compliance with the Application or safety regulations. No injuries or extraordinary events were reported through project completion.

3.8.3 PUBLIC COMPLAINTS

No records of complaints regarding the Project have been filed to date. Company contact information for landowner complaints was submitted on March 1, 2016 (Docket #56).

3.8.4 PUBLIC SAFETY

There are no public safety concerns associated with the Project. The Project corridor is not easily recognizable as it is a buried pipeline and the Project Corridor is located on agricultural land in production. As such, safety concerns with the public are minimal.

4 CONCLUSIONS

4.1 FINAL CONCLUSIONS

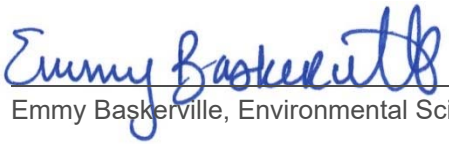
In conclusion, the Project appears to have been constructed as designed and in accordance with the Route Permit. There are no distinguishable impacts to the surrounding natural or human environment. Much of the pipeline corridor is on agriculture land, and the area has been returned to agricultural production. Evidence of this is that the pipeline corridor is virtually indistinguishable from the adjacent landscape. The Project Corridor was well-maintained and is in good condition. Erosion or sedimentation problems were not observed along the Project Corridor.

As such, it is HEI's opinion that the Little Muddy Creek 10-Inch Crude Oil Pipeline was constructed in accordance with the provisions of the Order issued by the North Dakota Public Service Commission.

5 SIGNATURES

The services provided by HEI scientists and engineers 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 judgement and are based upon available information and technically accepted practices and standards. Beyond this, no warranty is implied or expressed.

Barton Schultz, Project Manager — 9/15/2017 Date



Emmy Baskerville, Environmental Scientist — 9/15/2017 Date

6 REFERENCES

North Dakota Public Service Commission (NDPSC) 2016. Online Case Search. Available from: http://psc.nd.gov/public/casesearch/. Accessed August 4, 2016.

Appendix

APPENDIX A: SITE PHOTOGRAPHY

Photo 1: Pipeline corridor, west side of County Highway 9, near the Little Muddy Creek Station, facing south.

Photo 2: Pipeline corridor, near the intersection of County Highway 9 and County Highway 8b, facing northwest.

	**Photo 3:** Pipeline corridor parallel to County Highway 8b, facing east near Little Muddy Creek Station.
	**Photo 4:** Pipeline corridor at 62nd Street NW, facing west. Corridor is on north (right) side of road.

	**Photo 8:** Pipeline corridor at intersection of County Highway 11 and Co and County Road 8, facing west. Corridor is on the north (right) side of the road.
	**Photo 9:** Pipeline corridor at intersection of County Highway 11 and Co and County Road 8, facing north. Corridor is on the east (right) side of the road.