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Engineers • Scientists
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April 22, 2014

Mr. Patrick Fahn
ND Public Service Commission
600 E. Boulevard Ave.
Bismarck, ND 58501

RE: Construction Inspection Report for the Little Muddy Station Connection, Williams County, ND, PU-10147

Dear Mr. Fahn,

Enclosed are four (4) signed copies of the construction inspection report for the Little Muddy Station Connection, PSC case number PU-11-606. Also provided is one (1) electronic copy of the report on CD for the project. The CD also includes original site inspection photos.

You can reach me at the office at 701-751-6141 or via email at lnelson@wenck.com if you have any questions.

Sincerely,

WENCK ASSOCIATES, INC.

Luke Nelson
Junior Engineer

enc: Little Muddy Station Connection Post-Construction Inspection Report, 4 signed copies, CD

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Wenck File #2579-03 Phase 6

APRIL 2014

Little Muddy Station Connection Project
Post-Construction Inspection Report
PU-11-606

Prepared for:

NORTH DAKOTA
PUBLIC SERVICE COMMISSION
600 E. Boulevard Avenue
Bismarck, ND 58505-0480

Prepared by:

WENCK ASSOCIATES, INC.
301 1st Street NE, Suite 202
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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 Little Muddy Station Connection Project (Project) in Williams County, North Dakota (ND), constructed by Enbridge Pipelines North Dakota, LLC (EPND). Construction for the Project was completed in May 2013. Wenck reviewed all Project documents to identify those aspects that required compliance, and visually inspected the Project area on 27 September 2012 (pipeline) and 14 May 2013 (new pump station).

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, record of the pre-construction conference 2) vegetation establishment in all seeded areas and crop production in agricultural land. Follow-up actions taken by Enbridge 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 in grassland and other seeded areas and satisfactory crop production in the cropland. Soil amendments or re-seeding may be necessary if former land uses cannot be attained in the next couple years.

2.0 Background & Scope

2.1 INTRODUCTION

The Little Muddy Station Connection Project (Project) connects a pipeline from a new station (Little Muddy Station) to the existing East Fork Station in Williams County, North Dakota. The Project was constructed by Enbridge Pipelines North Dakota, LLC (EPND). The Project includes a 10-inch diameter underground pipeline with a total length of approximately 6 miles and a new pump station. 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-11-606 on 21 March 2012, granting a Certificate of Corridor Compatibility No. 130 and Route Permit No. 139 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 EPND 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 2013) 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). 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

Sara Simmers, Wenck botanist and natural resource scientist, and Kevin Magstadt visited the pipeline route of the Project site on 27 September 2012. Sara Simmers visited the pump station Project site on 14 May 2013. A representative from Enbridge accompanied Wenck staff during both 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 megapixel) were taken showing typical Project infrastructure and documenting problem areas (**Appendix A**).

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*
	SITING & LOCATION		
Corridor App. p.1, 2; Route App. p. 2; Findings of Fact 2; Order 2, 3	Located in Williams County running northwest to southeast from Enbridge's new Little Muddy Station to existing East Fork Booster Station.	None.	Section 3.1.1
ND Admin. Code Article 69-06-08; Corridor App. p. 13; Route App. p. 13-14; Findings of Fact 11-14	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 #5, Application	Section 3.1.2
Route App. p. 2, 7, 8	Construction of Little Muddy will result in the conversion of 18 acres of agricultural land to industrial land use.	None.	Section 3.1.3
Route App. p. 15	Setback of 500ft from occupied structures. No structures were within 500ft of route.	Docket #5, Exhibit H.2, Project Maps Selection Criteria	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.	None.	Section 3.1.5
	PROJECT DESIGN & ENGINEERING		
Corridor App. p. 4; Route App. p. 2, 4; Findings of Fact 2, 3	Authorized 6 miles of 10-inch diameter underground pipeline and above ground markers. Little Muddy Station includes two 30,000 barrel tanks, 2 mainline pumps, 2 booster pumps, metering facility, sump pump and tank, pig launcher, 12-inch tank suction header, 10-inch tank fill manifold, and control building and cable and wiring to power.	Docket #114, 115 As-built Drawings	Section 3.2.1
Route App. p. 35; Findings of Fact 19	Temporary ROW used during construction: 60ft in upland areas, 35ft. in wetlands and at road and railroad crossings 75ft in width and up to 300ft in length. Permanent ROW is 50ft wide.	N/A	Section 3.2.2
Route App. p. 56, 57; Findings of Fact 21	Design, construction, and operation in compliance with US DOT 49 CFR Parts 194 and 195.	None.	N/A
Certification 30	Provide engineering design drawings prior to construction upon request.	Docket #114, 115	N/A
Certification 32, 33	Provide as-built design specifications and associated GIS files within 3 months after construction complete.	Docket #114, 115 As-built alignment sheets	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; Docket #3, Acknowledgement of Letter of Intent	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
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 #5, Application	N/A
ND Century Code Ch. 49-22-07	Certificate of Site Compatibility or Route Permit.	Docket #33, 34, Affidavit of Service-Order with Certificate 130 and Route Permit 139	N/A
ND Century Code Ch. 49-22-04; ND Admin. Code Article 69-06-02	Ten-year Plan (submit before July 1).	None	N/A
Certification 2	Conduct Pre-construction Conference. Provide notice of intent to start construction.	None	N/A
Certification 31, 35	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.	None filed to date.	N/A
Certification 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 #71 NDPDES Temporary Dewatering and Hydrostatic Testing Permit	N/A
Route App. p. 55; Certification 37	Participate in ND One-Call Excavation Notice System.	None.	Section 3.3.5
	CULTURAL RESOURCES		
Corridor App. p. 13-15; Route App. p. 9, 44, 49; Findings of Fact 8	Cultural resource sites determined ineligible for National Register of Historic Places. SHPO concurrence provided with Application. No avoidance or mitigation necessary.	Docket #4, Letter of Concurrence	Section 3.4.1
Certification 12, 13	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 #4, Letter of Concurrence	N/A
	NATURAL RESOURCES		
Route App. p. 9-12; Findings of Fact 16; 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 #62 Raptor and Wildlife Survey, Tree and Shrub Inventory Report	*Section 3.5.1*
Route App. p. 7, 24-27; Findings of Fact 15; USFWS	No permanent impacts to wetlands or waterbodies are anticipated. Spill control, erosion and sediment controls, and other specific construction	Docket #62 Raptor and Wildlife Survey, Tree and Shrub Inventory	*Section 3.5.2*

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
(04-20-2011); NDGF (04-26-2011)	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.	Report	
USFWS (04-20-2011)	USFWS recommended minimal disturbance and narrowing of ROW within native prairie.	None.	*Section 3.5.3*
Certification 11; 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. p. 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.	None.	Section 3.5.5
Route App. p. 26-27, 31, 51; Findings of Fact 15, 18; Certification 21; Order 4	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 3.5.6*
Route App. p. 17	Contractors required to clean equipment and materials prior to entrance to ROW to minimize spread of noxious weeds.	Docket #62 Raptor and Wildlife Survey, Tree and Shrub Inventory Report	Section 3.5.7
	CONSTRUCTION, RECLAMATION & SOILS		
Route App. p. 2, 34 Findings of Fact 23; Certification 16	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 #37, 38, 40, 43, 48, 58, 63, 70, 72-81, 85-92, 94-102, 109-113, Weekly Construction Reports	N/A
Route App. p. 23, 47; Certification 6	Pipeline buried to 48in in range land, 48in in cultivated land, 48in at the bottom of ditch for road crossings, and 72in in undeveloped section lines. Route App. specifies minimum 4ft soil cover on cultivated lands.	Docket #114, 115, As-built alignment sheets	Section 3.6.2
Corridor App. p.19; Route App. p. 2, 17	Soil erosion minimized by use of BMPs during and after construction to protect surface water and soils/topsoils.	None.	Section 3.6.3
Route App. p. 46; Certification 17	Topsoil and subsoil must be segregated and replaced separately. No staging areas on land of other ownership. Rocks (> 3in diameter) will be removed from cultivated lands post-construction.	None.	Section 3.6.4

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Route App. p.46-51; Certification 15, 19, 20, 26;	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 per landowner request. Reclamation and maintenance throughout life of facility.	None	Section 3.6.5
Route App. p. 19; Certification 22, 23, 25	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.	None.	Section 3.6.7
Route App. p. 17-18; Certification 36	Underground irrigation or water lines and wells will be avoided or shutoff coordinated. Damage to underground facilities reported to PSC. Construction suspended until clearance to proceed.	None reported.	N/A
	OPERATION		
Route App. p. 28-30; Certification 8, 9, 28	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*
Certification 18, 19, 25	Reclamation and maintenance throughout life of facility. Waste removed & disposed regularly.	None.	*Section 3.7.2*
Findings of Fact 22; Certification 21, 27, 29	Cooperation with landowners/residents to mitigate adverse effects. Company's existing Emergency Action Plan will include the Project. Safety measures for traffic control or to restrict public access. Procedure for handling complaints.	None.	Section 3.7.3

***Note: 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 Williams County running northwest to southeast from the new Little Muddy Station to the existing East Fork Booster Station, confirmed during Wenck's inspection. The new pump station was built where proposed.

3.1.2 Siting Criteria

Siting criteria were analyzed in detail in the Applications for the Project (Docket #5). 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 18 acres of agricultural land to industrial land use. This acreage was for the new Little Muddy Pump Station (Appendix A, Photos 1, 2, 10, 11).

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 500ft 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 #5 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. 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 6 miles of 10in diameter underground pipeline, as described in the Application and at the hearing. The Little Muddy Station was authorized two 30,000bbl tanks and various infrastructure components. The site inspection observations and as-built drawing information coincide with these parameters (Docket #114, 115, As-builts) (Appendix B, Photos 1, 3, 17-26.

3.2.2 Right-of-Way Corridor

The Order for the Project authorized construction within a ROW centered on the pipeline route, 35ft at wetlands and 60ft in upland areas. At railroad and road crossings ROW was authorized for construction

at 75ft in width and 300ft in length. The pipeline appeared to have been constructed according to these maximum widths (Appendix A, Photos 19, 22, 23).

3.2.3 Compliance with US DOT Regulations

There was no written verification or certification of compliance with US DOT 49 CFR Parts 194 and 195.

3.2.4 Engineering Design Drawings

Engineering design drawings were provided in the Application materials (Docket #114, 115).

3.2.5 As-built Drawings and GIS Files

As-built alignment drawings and associated CAD files (acceptable alternative to GIS) were received on 16 December 2013 (Docket #115), within three months after construction was completed. The as-built drawings were inspected in relation to the on-the-ground infrastructure of the facility and appeared to coincide. The accuracy of the as-built drawings should be confirmed.

3.3 PRE-CONSTRUCTION

3.3.1 PSC-Required Documents

A Letter of Intent was received on 2 September 2011 (Docket #1). The PSC moved that the one year waiting period between filing the Letter of Intent and the Application be shortened to three weeks (Docket #2, Commission Motion acknowledging Letter of Intent). An Application for a Certificate of Corridor Compatibility and Route Permit was subsequently submitted on 14 November 2011 (Docket #5, Application). A Certificate of Corridor Compatibility No. 130 and Route Permit No. 139 were issued on 21 March 2012, in accordance with the Order and Certification Relating to Order Provisions signed on 26 March 2012 (Docket #33, 34, Order). A Ten-Year Plan has yet to have been filed, Wenck recommends that the Public Service Commission pursue Enbridge to produce one.

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

There is no record of the pre-construction conference on file.

3.3.3 PSC Approval of Modifications

There were no notifications to modify the facility filed to date. Observations of on-the-ground infrastructure coincided with maps of the approved corridor and as-built drawings.

3.3.4 Permits and Approvals from Other Agencies

There were no indications in the Applications that federal or local permits would be required for the Project. State agency permits identified as required for the Project included:

- NDDH NDPDES General Permit for Temporary Dewatering/Hydrostatic Testing (Docket #71), for discharge of potable water

These permits were filed with the PSC as required.

3.3.5 North Dakota One-Call Participation

There was no written documentation that Enbridge 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, 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 Enbridge attempted to minimize impacts to wildlife and habitat. A natural resources survey was completed prior to construction which included a wetland determination; a cursory assessment of wildlife, threatened and endangered species, and potential habitat; an inventory of woody vegetation; and a noxious weed survey (Docket #62, Raptor and Wildlife Survey, Tree and Shrub Inventory Report). Disturbance from pipeline construction was temporary in nature for most species.

The US Fish and Wildlife Service (USFWS) gave several recommendations to minimize wildlife impacts; Enbridge stated they would comply with those recommendations. Below, each recommendation is discussed along with measures taken.

- The USFWS recommended that if any overhead power lines were planned for the project, that they be installed underground instead. No overhead powerlines were associated with the Project and this was confirmed during the site visit.
- The USFWS requested construction be avoided during the migratory bird nesting season. Weekly construction reports indicate that construction of the pipeline and pump station spanned from April 18, 2012 to August 23, 2013. Some of this time period overlapped with the migratory bird nesting season, however the majority of the pipeline was within cropland that did not provide migratory bird nesting habitat. Therefore, this would not appear to be a concern based on the site-specific conditions of the Project.
- The USFWS recommended that a Conservation Plan be developed to identify potential impacts to migratory birds as a result of the Project. They also recommended that Enbridge document the steps taken to minimize disturbance and reclaim habitat. Other than the mitigation measures discussed in the Applications, a Conservation Plan was not developed for the Project.

3.5.2 Wetlands

A wetland determination during the natural resource survey indicated the presence of potential wetlands along the Project ROW (Docket #62, Raptor and Wildlife Survey, Tree and Shrub Inventory Report). Several wetlands were avoided by the pipeline route or bored underneath (Photo 18). Some drainages were open cut but had effective erosion and sediment control structures in place and the ROW width had been reduced (Appendix A, Photo 23). Wetlands near the pump station had been protected by sediment control on-site (Photos 5 and 15). It appeared during the site visit that all wetland protection measures had been followed.

3.5.3 Native Prairie

It was noted during the inspection that the width of the pipeline disturbance through grassland areas had been minimized, thus maintaining the temporary and permanent ROW requirements, fulfilling the USFWS request (Appendix A, Photo 22).

3.5.4 Reporting

Weekly construction reports indicated that no environmental incidents or issues occurred during construction (Docket #37, 38, 40, 43, 48, 58, 63, 70, 72-81, 85-92, 94-102, 109-113, 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.

3.5.5 Reclamation & Reseeding

At the time of the site inspection, the pipeline trench had been backfilled, soils had been recontoured, and reseeding had been completed in grassland areas (Appendix A, Photo 22 and 23). Vegetation was beginning to emerge along most of the reseeded portion of the route as well as on the berms of the new pump station (Photo 6), though it was not fully established. The timing of the site inspection was too early to identify the species composition of the emerging vegetation. Wenck recommends the PSC request documentation from Enbridge once vegetation has fully established in the grassland area.

3.5.6 Tree & Shrub Mitigation

It appeared that in general, major woody areas were avoided through Project siting (Appendix A, Photo 22). As required, a count of trees and shrubs was done within the area expected to be impacted by construction (Docket #62, Tree and Shrub Inventory Report. Mitigation for the trees and shrubs removed was done by provided the North Dakota Forest Service funds for tree and shrub conservation or planting (Docket #93 Tree and Shrub Mitigation Report). Therefore the tree mitigation is fulfilled and no survival reports need be filed.

3.5.7 Noxious Weeds

A survey for noxious weeds was part of the natural resource survey prior to Project construction; no noxious weed populations were found (Docket #7-10, Natural Resource Report). Mitigation measures were identified in the Application to prevent the spread of noxious weeds during construction. No documentation was available to verify these measures were taken. No noxious weed populations were observed incidentally during the site inspection.

3.6 CONSTRUCTION, RECLAMATION & SOILS

3.6.1 Construction Management & Safety

Weekly construction reports were submitted for the duration of construction (Docket #37, 38, 40, 43, 48, 58, 63, 70, 72-81, 85-92, 94-102, 109-113, 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 #37, 38, 40, 43, 48, 58, 63, 70, 72-81, 85-92, 94-102, 109-113, Weekly Construction Reports).

3.6.2 Pipeline Depth

The pipeline must be buried to 48in in range land, 48in in cultivated land, 48in at the bottom of ditch for road crossings, and 72in in undeveloped section lines. The Route Application specifies minimum 4ft soil

cover on cultivated lands. Wenck did not visually confirm the depth of the pipeline, but Enbridge 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 A, Photos 5, 6-10, 14-16, 21-24).

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 #59, 61, 63-71, Weekly Construction Reports). At the time of the inspection, the pipeline trench had been backfilled, soils had been recontoured, and reseeding had been completed, with mulch and erosion control in place (Appendix A, Photos 22, 23). Seeding of the berms around the pump station had been seeded while reclamation of the pipeline connection area was in progress (Photos 1-7). Wenck recommends that the PSC request documentation from Enbridge when vegetation has fully established. No temporary roads had been used during construction. Enbridge paved 133rd Ave NW, the road leading up to the pump station and added a turning lane to accommodate truck traffic (Photo 16). Several section line roads crossed by the pipeline route had been open cut and repaired and reclaimed in good condition (Photos 20, 24). All roads within the Project area appeared to be in good condition and properly maintained.

3.6.6 Fencing, Repairs & Waste

Fences had been repaired where the Project crossed fence lines and a new fence line was installed at the approach to LACT lots and surrounding the new pump station (Appendix A, Photos 1, 9, 24). Enbridge reported there had not been any agricultural fields with drainage tile impacted by construction of the Project. There was no waste or debris observed at the site.

3.6.7 Underground Facilities

No reports of damage to underground facilities were reported to the PSC. Wenck confirmed with Enbridge 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 surrounding the pump station and marking the pipeline route (Appendix A, Photos 18, 19). No reports of extraordinary events were filed to date with the PSC.

3.7.2 Maintenance

Enbridge 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 A, Photos 18, 19).Enbridge indicated that resident/landowner concerns and issues are handled promptly and Enbridge makes every reasonable attempt to alleviate problems caused by the Project.

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 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 Enbridge the following list of "Necessary" items, and if the PSC deems appropriate, the list of "Potential" items could also be requested.

Necessary Items

- Record of pre-construction conference.

Potential Items

- Written verification of compliance with US DOT 49 CFR Parts 194 and 195.

4.2 REVEGETATION & CROP PRODUCTION

There were a couple outstanding issues at the Project site related to reclamation. 1) Establishment of vegetation was ongoing within grassland areas, along the berm surrounding the new pump station, and in the road ditches near the pump station. 2) It also appeared crop production may have been suspended due to pipeline construction activities. Presumably crop losses were being monetarily mitigated, however former land uses will need to be achieved within the next couple years. Wenck recommends the PSC request monitoring and documentation of these issues. Soil amendments or re-seeding may be necessary.

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 in grassland and other seeded areas, crop production in the agricultural land. 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

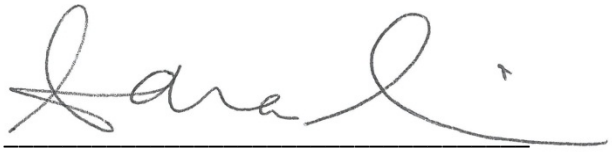
North Dakota Public Service Commission (ND PSC). 2013, 2014. Online Case Search. Available from: http://www.psc.nd.gov/database/company_case_list.php. Accessed December 2013, April 2014.

7.0 Signatures

The services performed by Wenck scientists 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, ager, Sara Simmers, and Junior Engineer Luke Nelson prepared the report.

Kevin Magstadt, P.E., Principal/Regional Manager — Date: 4/22/2014



Sara Simmers, Botanist/Natural Resource Scientist — Date: 4/22/2014

Luke Nelson, Junior Engineer — Date: 4/22/2014

Appendix A

Photographs

Photo 1. Direction: West. South side of tanks at Little Muddy Pump Station showing spill-containment berm still being put in at the time of field visit. Tanks were to be painted summer 2013. Tanks are 30,000 bbl (oil barrel) capacity; only one will be used at first; the other will be reserved for future use.

Photo 2. Direction: West. North end of tanks showing berm.

Photo 3. Direction: West. Pipeline tie-in area to the north of the two tanks. At time of visit trenches were being backfilled and electricians were finishing up work. After that, they would be putting clay lining in the area and testing for compaction. In foreground is header to East Fork (pipeline associated with the pump station).

Photo 4. Direction: West. Another view of the tie-in area on north side.

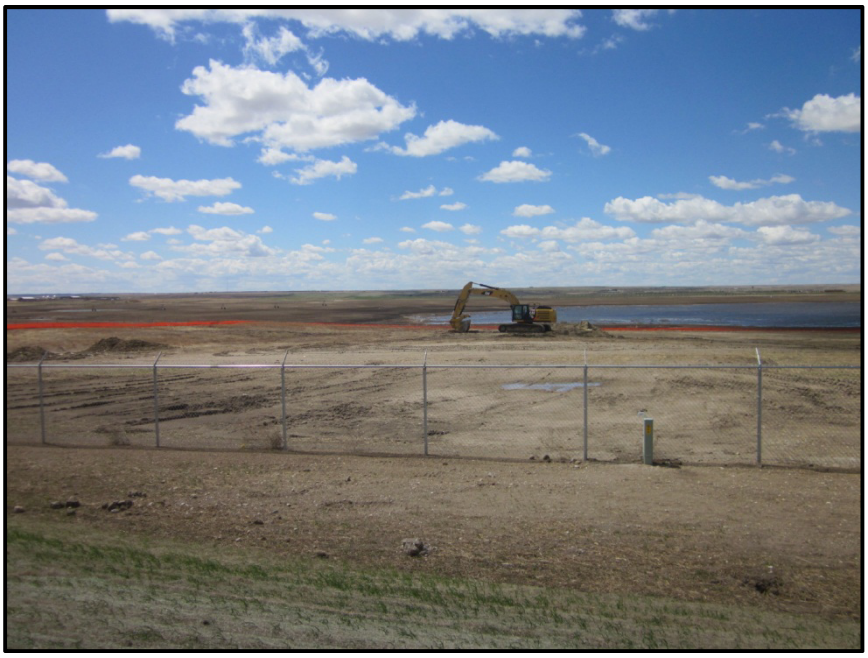


Photo 5. Direction: West. Off west side of pumping station where hydrostatic test waters had been released during pipeline testing. There was still some cleaning up to be done. A silt fence was visible in the distance.

Photo 6. Direction: South. West side of berm around tanks. Grasses had been seeded into erosion control blanket and were coming up well.

Photo 7. Direction: East. View across site from west to east. Drain valves in foreground release rain water collected within containment berm, which are closed except when drainage is needed.

Photo 8. Direction: South. Drain valves within tank berm.

Photo 9. Direction: Southwest. Rip-rap on outside of berm showing where water will exit site when the drain valves are used.

Photo 10. Direction: South. Area to south of pumping station used as a staging and lay down. Bales and silt fence used for erosion control and other various equipment are shown.

Photo 11. Direction: Southeast. Another view of staging area, which may be kept for potential future staging. If it is determined future staging is not needed, it will be reclaimed to cropland.

Photo 12. Direction: East. Photo shows one of the leased "LACT" lots. Eight of these lots were built north of the pump station for use by companies to lease and move their oil in Enbridge's pipelines. Each lot has a hook-up with transfer units and meters which measure the oil.

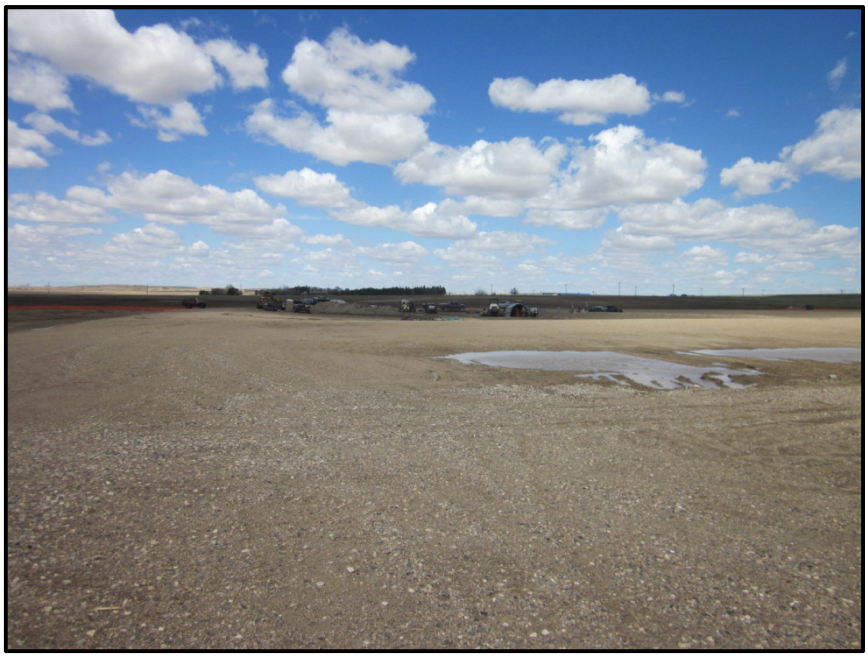


Photo 13. Direction: North. Showing other empty lots and one being built. On the lots, companies can set up buildings, tanks, and anything else they need.

Photo 14. Direction: North. East edge of LACT lots showing erosion control measures in place and drainage set up along adjacent roadway.

Photo 15. Direction: West. Silt fence in distance to west of LACT lots prevent sedimentation to wetland in the distance. Soil was stabilized and reclaimed with no problems apparent.

Photo 16. Direction: South. As part of the project Enbridge paved the road leading up to the pump station (133rd Ave NW). Ditches were reclaimed with erosion control and drainage in place with everything in good condition. A turning lane was added at the approach to the LACT lots to accommodate truck traffic.

Photo 17. Direction: South. ROW obtained by Enbridge at north end of Little Muddy pipeline where it connected to the pump station. Follows 133rd Ave NW.

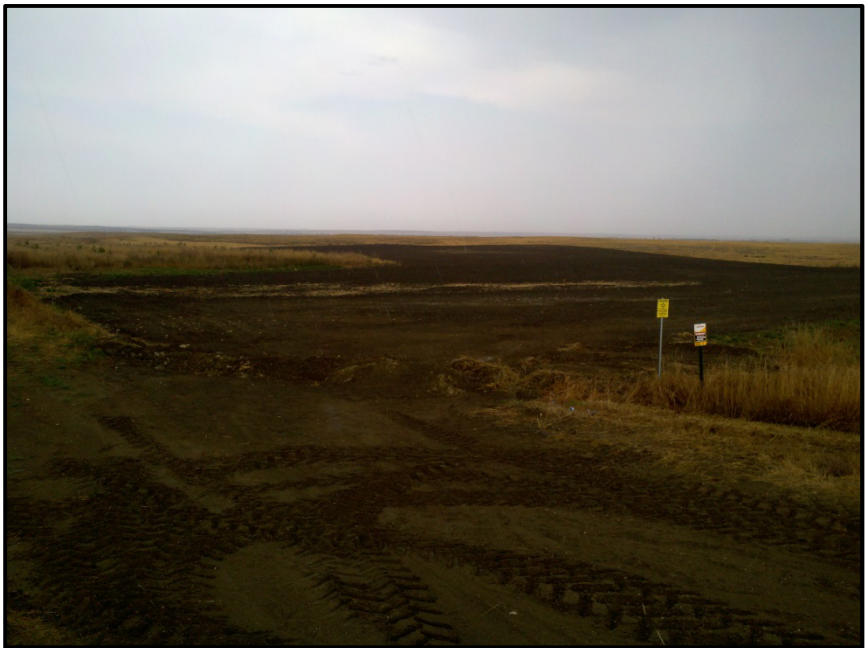


Photo 18. Direction: West. As part of the project Enbridge limited the amount of disturbance to wetlands. Enbridge bored underneath this wetland which is parallel to 63rd Ave/CR 8B on the south side. The wetland was farmed through.

Photo 19. Direction: Northwest. Pipeline continued through cropland. Enbridge placed markers to show location of pipeline after backfilling, topsoil restoration, and general clean-up had been completed.

Photo 20. Direction: South. Intersection of pipeline with section line road. Road had been open cut. Everything had been repaired and was in good condition.

Photo 21. Dry upland field drain with erosion control silt fence in place. The fence is in need of minor repair.

Photo 22. Direction: South. Pipeline route crossed several steep hills with dry drainages at base. In these instances, erosion control blankets were used, the hills were double seeded with local native seed using local NRCS guidelines. Extra straw mulch was used as well as a cover crop of winter wheat. On the distant hill the ROW was reduced to miss the row of trees to the south.

Photo 23. Direction: Northwest. Another steep hill crossing, this one with a wetland drainage at its base. The ROW width had been reduced, but open cut through the wetland. Proper erosion and sediment control and seeding had been done and was effective. Note the water bar in the foreground.

Photo 24. Direction: South. An open cut crossing of a section line road. The road, adjacent ditches and fields, and fences had been repaired properly. No problems were noted.

Photo 25. Direction: South. Pipeline was installed across fields and topsoil was replaced to necessary standards.

Photo 26. Direction: Northwest. Pipeline route northwest of East Fork Station.

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