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FEBRUARY 2013

Luverne to Pillsbury Transmission Line Post-Construction Inspection Report PU-08-107

Prepared for:

NORTH DAKOTA PUBLIC SERVICE COMMISSION
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1.0 Executive Summary

The North Dakota Public Service Commission (PSC) retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Luverne to Pillsbury Transmission Line (Project) in Steele and Barnes County, North Dakota (ND), owned and operated by Otter Tail Power Company (Otter Tail). Wenck reviewed all Project documents to identify those aspects which required compliance and visually inspected the Project area on 19 November 2012.

The Project was well-maintained and appeared to have been constructed as planned with numerous efforts to minimize impacts. However, there were several 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 and 2) compliance with Tree and Shrub Mitigation measures. Wenck expects follow-up actions taken by Otter Tail to address these particular 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

→Request Now

- As-built engineering design drawings.
- Permit copies, or justification that they were not necessary for Project construction (permits were not on file with the PSC at the time of this report; Section 3.3.4).
- Weekly Construction Reports (none on file; Section 3.6.1).
- Tree and Shrub Mitigation Plan and annual Survival Reports (Section 3.5.6).

→Review Internally, Clarify, Then Request if Needed

- Verification of compliance with the National Electric Safety Code, the Rural Utilities Service, the Avian Power Line Interconnect Committee, and the Raptor-Safe Design Standards (Section 3.2.2).
- Verification that no new discoveries of cultural, archeological, or historic sites were found during construction (Section 3.4.2).
- Verification that no threatened or endangered species or bald and golden eagles were encountered during construction (Section 3.5.4).
- Verification that noxious weeds are controlled along the transmission line route (Section 3.5.7).

2.0 Background & Scope

2.1 INTRODUCTION

The Luverne to Pillsbury Transmission Line (Project) was constructed in Steele and Barnes Counties, North Dakota (ND) beginning about 2 miles northwest of Pillsbury (**Figure 1**). The Project is approximately 13 miles of 230kV electrical transmission line. The Project was originally owned and constructed by M-Power, LLC (M-Power). 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-08-107 on October 30, 2008, granting a Certificate of Site Compatibility for a Transmission Facility Corridor No. 106 and Route Permit No. 126 for the Project. On December 3, 2008 the ND Public Service Commission (PSC) issued a Certificate of Public Convenience and Necessity No. 5385 to transfer ownership from M-Power to Otter Tail Power Company (Otter Tail). The First Reissued Certificate of Site Compatibility No. 9, First Reissued Certificate of Corridor Compatibility No. 106 and First Reissued Route Permit No. 116 were transferred to Otter Tail on May 20, 2009.

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 Specifications Identified

Wenck identified a list of "Project Specifications", which the company was 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, 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 within 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

Luke Toso, Wenck botanist and natural resource scientist, visited the Project site on 19 November 2012. Todd Langston, Otter Tail Construction Manager for the Project, accompanied Wenck staff during the site visit and assisted with navigation, pointed out problem areas, and answered questions.

The site was inspected visually by walking the Project area. Digital photographs (Canon Power Shot SD1300 IS, 12 megapixel) were taken showing typical Project infrastructure and documenting problem areas (**Appendix A**). Geographic coordinates were recorded at observation points or potential problem areas using a handheld Global Positioning System (GPS) (Garmin GPSMAP 60CSx; <10m accuracy; NAD83 datum) (**Figure 1; Appendix B**).

If on-site inspection of a Project specification was completed, the findings are described in Section 3 and referenced in Table 2.1, Column 4 (Site Verification). 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		
Findings of Fact 2	The Project is 13 miles in length interconnecting the Luverne Wind Farm collector substation in Steele County and the Pillsbury-Fargo transmission line at the Pillsbury substation in Barnes County.	N/A	Section 3.1.1
ND Admin. Code Article 69-06-08; App. p. 2	Siting Criteria analysis – exclusion, avoidance, selection, policy. Avoidance areas: historical resources, woodlands, wetlands.	Docket #6, Application	Section 3.1.2
Findings of Fact 12; App. p. 22, 23	Not located within 500ft of occupied residence. Nearest residence located 900ft away.	None.	Section 3.1.3
Findings of Fact 19; App. p. 24, 81	Project would be primarily in agricultural land, with minimal adverse effects to family farms. Total disturbance of approximately 0.6 acres.	None.	Section 3.1.4
Findings of Fact 20; App. p. 25	No adverse impacts to surrounding community. Visual impacts minimized by using section quarter lines and existing road corridors.	None.	Section 3.1.5
	PROJECT DESIGN & ENGINEERING		
Findings of Fact 4	Constructed using wood H-frame structures. Each structure 60ft in height with an average span of 750ft.	None.	Section 3.2.1
Findings of Fact 5	Designed and constructed to meet or surpass relevant state codes, as well as National Electric Safety Code, the Rural Utilities Service, the Avian Power Line Interconnect Committee, and the Raptor-Safe Design standards.	None.	N/A
Order 18	As-built engineering design drawings submitted to PSC within 3 months post-construction.	None.	N/A
	PRE-CONSTRUCTION		
ND Century Code Ch. 49-22-07.1; ND Admin. Code Article 69-06-03	Letter of intent.	Docket #1, Letter of Intent	N/A
ND Century Code Ch. 49-22-08; ND Admin. Code Article 69-06-04	Application for a certificate of site or corridor compatibility.	Docket #6, Application	N/A
ND Century Code Ch. 49-22-07	Certificate of site compatibility or route permit.	Docket #28, Certificate no. 106, Route Permit no. 116	N/A
ND Century Code Ch. 49-22-	Ten-year plan (submit before July 1).	Case No. PU-08-376, 2008 10 Year	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
04; ND Admin. Code Article 69-06-02		Plan	
Order 4, 6	Conduct pre-construction conference. Provide notice of intent to start construction.	Docket #38, Notice of Intent to Start Construction & Pre-Construction Conference Notes	N/A
Order 17	Inform PSC of plans to modify facility and obtain approval.	Docket #13 Letter with Replacement Pages Due to Route/Pole Modifications; Docket #17, Replacement Pages Due to Changes in Transmission Line Route; Docket #35, Email Staff Approval or Structure Location Changes [*sic*];	N/A
ND Century Code Ch 49-22-16(3); Findings of Fact 7, 8; Order 5; App. p. 86-88	Obtain permits and approvals from other agencies and provide copies.	None.	N/A
	CULTURAL RESOURCES		
Findings of Fact 13	Obtain SHPO concurrence. Provide copy to Commission.	Docket #29, SHPO Concurrence letter	N/A
Order 9	Report discovery of cultural, archeological, historic sites. Construction stopped, SHPO consulted and clearance required, report to Commission filed.	None reported to date.	N/A
	NATURAL RESOURCES		
Findings of Fact 15; App. p. 24, 26, 29, 82; NDPR (3-14-2008)	Wetlands avoided by spanning or pole placement. No impacts to surface drainage patterns or groundwater flow patterns.	None.	Section 3.5.1
USFWS (4-14-2008); NDPR (3-26-2008)	Avoid disturbance to native prairie. NDPR: Avoidance of Central mixed grass prairie. If impacts occur, revegetation with USFWS recommended seed mixes.	None.	Section 3.5.2
Findings of Fact 26; App. p. 77, 80; USFWS (4-14-2008); NDGF (3-14-2008)	Ball markers used to mark line in areas of concentrated wetlands and at stream crossings. Suspended insulation with a clearance of approximately 84in to prevent raptor electrocution. USFWS: modification of power lines near rivers or water bodies to prevent raptor mortality, mark aboveground	None.	Section 3.5.3

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
	power lines.		
Order 8	Report presence of T+E species, bald or golden eagles during construction and operation.	None reported to date.	Section 3.5.4
Order 13; App p. 78; USFWS (4-14-2008); NDPR (3-26-2009)	Reclamation, fertilization, and reseeding done in accordance with NRCS or USFWS recommendations for CRP, native prairie, and other non-cropped lands unless specified by landowner and approved by Commission.	None.	Section 3.5.5
Order 14; Findings of Fact 14	Compliance with "Tree and Shrub Mitigation Specifications". Cuts through woodlands limited to 125ft. Minimal disturbance to woodland areas.	None.	Section 3.5.6
App. p. 78	Noxious weeds controlled during and after construction.	None.	Section 3.5.7
	CONSTRUCTION, RECLAMATION & SOILS		
Order 6, 11	Provide weekly construction reports. Construction suspended during adverse weather conditions.	None.	N/A
NDDH (2-11-2010) App. p. 28, 78, 82;	The ND Department of Health (NDDH) requested that the Project minimize fugitive dust, degradation of waterways, manage stormwater, and noise.	None.	Section 3.6.2
Order 10	Pre-existing roads restored to satisfactory condition. Temporary roads removed and restored.	None.	Section 3.6.3
Order 12, 16	Reclamation must be continuous and coordinated with construction. Repair/replace all damaged fences and gates.	None.	Section 3.6.4
	OPERATION		
Order 7	Construct and operate in accordance with Application and safety requirements.	None.	Section 3.7.1
Order 15	Mitigation of TV and radio interference that results from the Project. Work with landowners to determine and implement appropriate damage mitigation measures.	None.	Section 3.7.2

***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

The Project was built as proposed in the designated Project area described in the Application and Order (**Figure 1**). Maps of the approved corridor and observations of on-the-ground infrastructure during the inspection appeared to coincide (**Appendix A**). There were a few minor changes to the facility, but these changes had been approved by the PSC prior to construction (See Section 3.3.3 for more details).

3.1.2 Siting Criteria

Siting criteria were analyzed in detail in the Application for the Project (Docket #6). Wenck confirmed during the site inspection that exclusion and avoidance areas were avoided. Historical/cultural resources and wetlands were avoided (see Section 3.4). Cuts were made to woodlands, but replacement trees had apparently been planted (See Section 3.5.6 for more details). Wenck also confirmed that impacts to selection and policy criteria were considered and kept at a minimum.

3.1.3 Setbacks

The Project was located in a rural setting, with occupied dwellings further than 500ft along the transmission line route, complying with the 500ft setback specified in the Application and Order. Based on GIS analysis, the closest residence was approximately 900ft away.

3.1.4 Agricultural Impacts

The Project was built as proposed within the estimated construction limits and right-of-ways. It appeared that the extent of construction and disturbance were within the maximum acreages estimated in the Application. Crop production did not appear to be reduced surrounding the structure bases (**Appendix A, Photos 6, 9, 11, 12**), indicated that topsoil replacement and soil compaction were satisfactory. Otter Tail staff noted that any issues or landowner concerns related to agricultural or cropland are addressed promptly to maintain good rapport with the community.

3.1.5 Surrounding Community

There were no indications during the site inspection that the surrounding community or public were being impacted negatively due to the operation and infrastructure of the transmission line. Most of the transmission line followed existing roadways in a rural setting. In other areas, visual impacts were minimized by siting the transmission line along shelterbelts, shielding it from view by distant occupied residences.

3.2 PROJECT DESIGN & ENGINEERING

3.2.1 Structure Specifications

The majority of the structures along the route were H-Frame structures within the average structure heights and spans specified in the Application (**Appendix A, Photo 3, 4, 5, 6, 9**). Several areas had angle structures rather than H-Frame structures to facilitate adjustments in transmission line direction

(**Appendix A, Photo 1, 2, 3, 8**). Some changes were made to the structure design following the Application, but these changes were minor and are discussed further in Section 3.3.3.

3.2.2 Codes and Specifications

There was no written verification of compliance with the National Electric Safety Code. There was also no written verification of compliance with the Rural Utilities Service, the Avian Power Line Interconnect Committee, and the Raptor-Safe Design Standards. The PSC may want to request documentation from Otter Tail to confirm compliance.

3.2.3 As-built Drawings and GIS Files

No as-built engineering design drawings were submitted for the Project. The Order stated that as-builts should be submitted within 3 months after construction is complete. Wenck recommends the PSC request as-builts from Otter Tail.

3.3 PRE-CONSTRUCTION

3.3.1 PSC-Required Documents

A letter of intent was received on 4 March 2008 (Docket #1). On 26 March 2008, the PSC moved that the one year waiting period between filing the letter of intent and the Application be shortened to one day (Docket #2, Motion Acknowledging Letter of Intent to Shorten One-Year Waiting Period). An Application for a Waiver of Procedures and Timelines and Consolidated Certificate of Corridor Compatibility and Route Permit was submitted on 21 May 2008 (Docket #6). A Certificate of Site Compatibility No. 106 and Route Permit No. 116 were issued on 30 October 2008 (Docket #28). M-Power had a Ten Year Plan submitted in 2008 (PU-08-376, 2008 Ten Year Plan). Otter Tail also had a Ten Year Plan submitted in 2009 (PU-09-430, Otter Tail Power Company Ten Year Plan, submitted 1 July 2009). A current Ten Year Plan by Otter Tail was submitted in 2012, also under a different case number (PU-12-451, Docket #1, Otter Tail Power Company Ten Year Plan, submitted 29 June 2012).

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

Record of the pre-construction meeting and notice to start construction was on file (Docket #38, Notice of Intent to Start Construction & Pre-Construction Conference Notes).

3.3.3 PSC Approval of Modifications

On 19 June 2008 and again on 21 July 2008, M-Power submitted changes to the original Application as a result of route or pole modification (Docket # 13, Letter with Replacement Pages Due to Route/Pole Modifications; Docket #17 Replacement Pages – Due to Changes in Transmission Line Route). This was prior to the Order for the Project.

After the Order, on 5 February 2009, M-Power submitted changes to the facility to the PSC (Docket #35, Email Staff Approval or Structure Location Changes [*sic*]). Three (3) structures were changed from H-Frame structures to angle structures and one (1) structure was removed. These changes were made to facilitate a request from Minnkota Power Cooperative, Inc. to adjust the approach to the Pillsbury substation from the north, as was permitted by the PSC, to the west parallel with an existing transmission line. The Commission moved to approve these changes on 11 February 2009 (Docket #36, Motion Acknowledging Staff Approval for Change in Location).

3.3.4 Permits and Approvals from Other Agencies

In the Application (Docket #6, Application), a number of permits were identified as potentially required for the Project, including:

- US Army Corps of Engineers (ACOE): Section 404 Permit
- Environmental Protection Agency (EPA): Spill Prevention and Countermeasure Plan
- BNSF Railroad: Temporary Occupancy Permit and Wire Line Crossing or Longitudinal Communication and Electric Permit
- ND Department of Health (NDDH): 401 Water Quality Certification and NPDES Permit: General Construction Storm Water
- ND Division of Emergency Management: Emergency Planning and Community Right-to-Know Act Tier II report
- State Historical Society (SHPO): Permit to Investigate Effects on Cultural Resources and Section 106 Compliance Approval
- ND Highway Patrol: Overheight/Overweight Permit
- ND Department of Transportation: Road Approach/Access Permit and Utility Permit/Risk Management Documents
- Barnes County and Steele County Townships: Conditional Use Permit, Building Permit, Haul Road Agreement, and Utility Permit

Presumably, permits were received and approved, but none were on file with the PSC for the Project (except SHPO concurrences, which are discussed in Section 3.4.1). In order to confirm that the necessary permits were filed, Wenck recommends the PSC request copies of all the permits that were required for the Project from Otter Tail.

3.4 CULTURAL RESOURCES

3.4.1 SHPO Concurrence

The State Historical Society (SHPO) concurrence was provided to the PSC (Docket #29, Letter Concurring with Determination of No Significant Sites or Historic Properties Affected).

3.4.2 Reporting

No new discoveries of cultural, archeological, or historic sites have been reported to the PSC to date. Presumably no new sites were encountered during construction of the Project, but the PSC may want to confirm this from Otter Tail.

3.5 NATURAL RESOURCES

3.5.1 Wetlands

There were several areas along the transmission line route that crossed wetland areas (**Figure 1; Appendix A, Photos 4, 8**). The Otter Tail representative stated that during construction, BMPs were placed adjacent to wetland areas to prevent erosion or sedimentation to these areas and construction traffic avoided wetland margins to minimize disturbance. It did not appear that the vegetation along these wetland margins had been disturbed. Wenck also observed that no Project infrastructure disturbed wetlands on land under USFWS easements, of which two parcels were identified in the Application near the Project route. It appeared that construction of the Project avoided wetland areas as specified in the Application.

3.5.2 Native Prairie

Most of the transmission line was located in cultivated lands. However, it appeared that one area was identified in the Application as undisturbed native prairie near the Steele/Barnes County line along a stream (Docket #6, Application, Figure 7, Existing Land Use)(**Figure 1**). One structure was located within this area, but it appeared disturbance had been minimized and no long term disturbance to vegetation was observed (no photo available). Bird diverters were also installed in this area, and are discussed further in Section 3.5.3 Avian Protection.

3.5.3 Avian Protection

In the Application, several mitigation efforts to protect avian species from colliding with the transmission line were noted. Mitigation measures related to design specifications included using H-Frame structures, marking the transmission line in areas of potential aerial hazard of whooping crane movement (e.g. wetlands and stream crossings), and designing suspension insulators with a clearance of 84in. These measures coincided with requests made by the US Fish and Wildlife Service (USFWS) to mark the line near wetlands and at stream crossings and to space the electrical lines (60in or greater) to prevent raptor electrocution. Structure design is discussed in Section 3.2.1. Wenck observed several areas along the transmission line route that had been marked to prevent avian collisions (**Appendix A, Photos 4, 7, 9**). These areas were typically near wetlands or USFWS wetland easements and appeared to correspond with plan drawings specifying the location of marking devices. The suspended insulators appeared to be spaced as specified with a span greater than 60 inches. It appeared the mitigation measures in the Application and those requested by the USFWS were installed as specified.

3.5.4 Reporting

There were no reports filed to date of the presence of threatened or endangered species and bald or golden eagles present during construction. Presumably none were encountered during construction of the Project, but the PSC may want to confirm this from Otter Tail.

3.5.5 Reclamation & Reseeding

Construction activities appeared to have had minimal disturbance; minor reclamation would have been necessary around structure bases. It was not clear if reseeding had occurred following construction because most of the structures were in agricultural land. However, in non-agricultural areas, it appeared that vegetation surrounding structures matched that of the surrounding area (**Appendix A, Photos 1, 8, 9**).

3.5.6 Tree & Shrub Mitigation

It appeared that no natural woodlands within the Project area were impacted by construction of the Project. There were several locations where trees or shrubs were removed from planted shelterbelts (**Appendix A, Photos 3, 9**). It appeared that disturbances to these areas were minimized to the width required for a safe buffer around the transmission line, yet within the 125ft maximum cut specified in the Order. The Otter Tail representative confirmed that trees and shrubs had been replaced at a 4:1 ratio, greater than what was specified in the Order. However, the representative stated that because the mitigation sites were on private land, inspecting these areas was not possible during the inspection. No Tree and Shrub Mitigation Plan or Survival Report was on file with the PSC. Wenck recommends the PSC request the Mitigation Plan from Otter Tail to confirm that trees and shrubs were replaced. If trees and shrubs have been planted, the PSC should request subsequent survival monitoring documentation.

3.5.7 Noxious Weeds

No noxious weeds were observed along the transmission line. Presumably, noxious weeds were controlled during construction activities. The PSC may want to request from Otter Tail a noxious weed management plan or other evidence that noxious weeds are controlled along the Project route.

3.6 CONSTRUCTION, RECLAMATION & SOILS

3.6.1 Construction Management & Safety

No weekly construction reports were submitted to the PSC. Construction may have been suspended during construction, but this could not be confirmed without weekly construction reports. Wenck recommends the PSC request weekly construction reports or a summary of construction activities for the Project from Otter Tail.

3.6.2 Erosion & Sedimentation

Best Management Practices (BMPs) were used as part of the construction and maintenance of the Project to control erosion, sedimentation, and manage stormwater, as requested by NDDH. Erosion control structures were removed following completion of the Project, and were not observed during the inspection. No erosion problems were observed along the transmission line. Fugitive dust and noise were presumably controlled during construction activities.

3.6.3 Reclamation & Roads

Preexisting roads appeared to have been restored and appeared in good condition (**Appendix A, Photos 2, 5, 7**). Temporary roads used during construction appeared to have been restored or retained by landowner request (**Appendix A, Photos 11, 12**).

3.6.4 Restoration and Repairs

The Project area appeared to have been successfully restored to previous conditions; presumably, restoration occurred continuously with construction. All fences had been repaired and were functional. No gates had been damaged during construction.

3.7 OPERATION

3.7.1 Safe Operation and Maintenance

Although minimal maintenance is necessary on transmission lines, the Otter Tail representative stated that transmission facilities have an ongoing monitoring and maintenance schedule in place. During the inspection, the Project appeared well maintained and in proper order, even after several years post-construction.

3.7.2 Public Relations

No reports of increased TV or radio interference were reported to the PSC to date. The Otter Tail representative stated no landowners have reported interference as a result of the Project. If any interference occurred as a result of the Project, it would be handled promptly because Otter Tail makes every effort to maintain a good rapport with the community.

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. Some of these items could be critical and may be necessary to consider the Project in full compliance. Wenck recommends the PSC request from Otter Tail the following "Necessary Items" and/or "Potential Items":

Necessary Items

- As-built engineering design drawings, signed by a registered Engineer.
- Permits, or justification that they were not necessary for the Project. These include:
    - ACOE: Section 404 Permit
    - EPA: Spill Prevention and Countermeasure Plan
    - BNSF Railroad: Temporary Occupancy Permit and Wire Line Crossing or Longitudinal Communication and Electric Permit
    - NDDH: 401 Water Quality Certification and NPDES Permit: General Construction Storm Water
    - ND Division of Emergency Management: Emergency Planning and Community Right-to-Know Act Tier II report
    - ND Highway Patrol: Overheight/Overweight Permit
    - ND Department of Transportation: Road Approach/Access Permit and Utility Permit/Risk Management Documents
    - Barnes County and Steele County Townships: Conditional Use Permit, Building Permit, Haul Road Agreement, and Utility Permit.
- Weekly Construction Reports or a summary of construction activities.

Potential Items

- Verification of compliance with the National Electric Safety Code, the Rural Utilities Service, the Avian Power Line Interconnect Committee, and the Raptor-Safe Design Standards.
- Verification that no new discoveries of cultural, archeological, or historic sites were found during construction.
- Verification that no threatened or endangered species or bald and golden eagles were encountered during construction.
- Verification that noxious weeds are controlled along the transmission line route.

4.2 TREE AND SHRUB MITIGATION

Trees and shrubs were removed during Project construction, and the Otter Tail representative stated that trees and shrubs had been replaced. However, no Tree and Shrub Mitigation Plan was on file with the PSC, and no Survival Monitoring Reports have been filed to date. Wenck recommends the PSC request documentation from Otter Tail to confirm that trees and shrubs have been replaced.

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. However, Wenck noted several issues that may need to be resolved before the Project is considered complete and in full compliance. These included: 1) written documentation of what were considered necessary items, which included as-built engineered drawings, permits, and construction reports, as well as written documentation of several items which the PSC needs to determine whether they are necessary; and 2) Tree and Shrub Mitigation Plan and subsequent Survival Reports. These issues could be critical for Project compliance, 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. Online Case Search. Available from: http://www.psc.nd.gov/database/company_case_list.php. Accessed February 2013.

Langston, Todd. 2012. Construction Manager, Otter Tail Power Company. Personal Communication: discussion during site visit.

7.0 Signatures

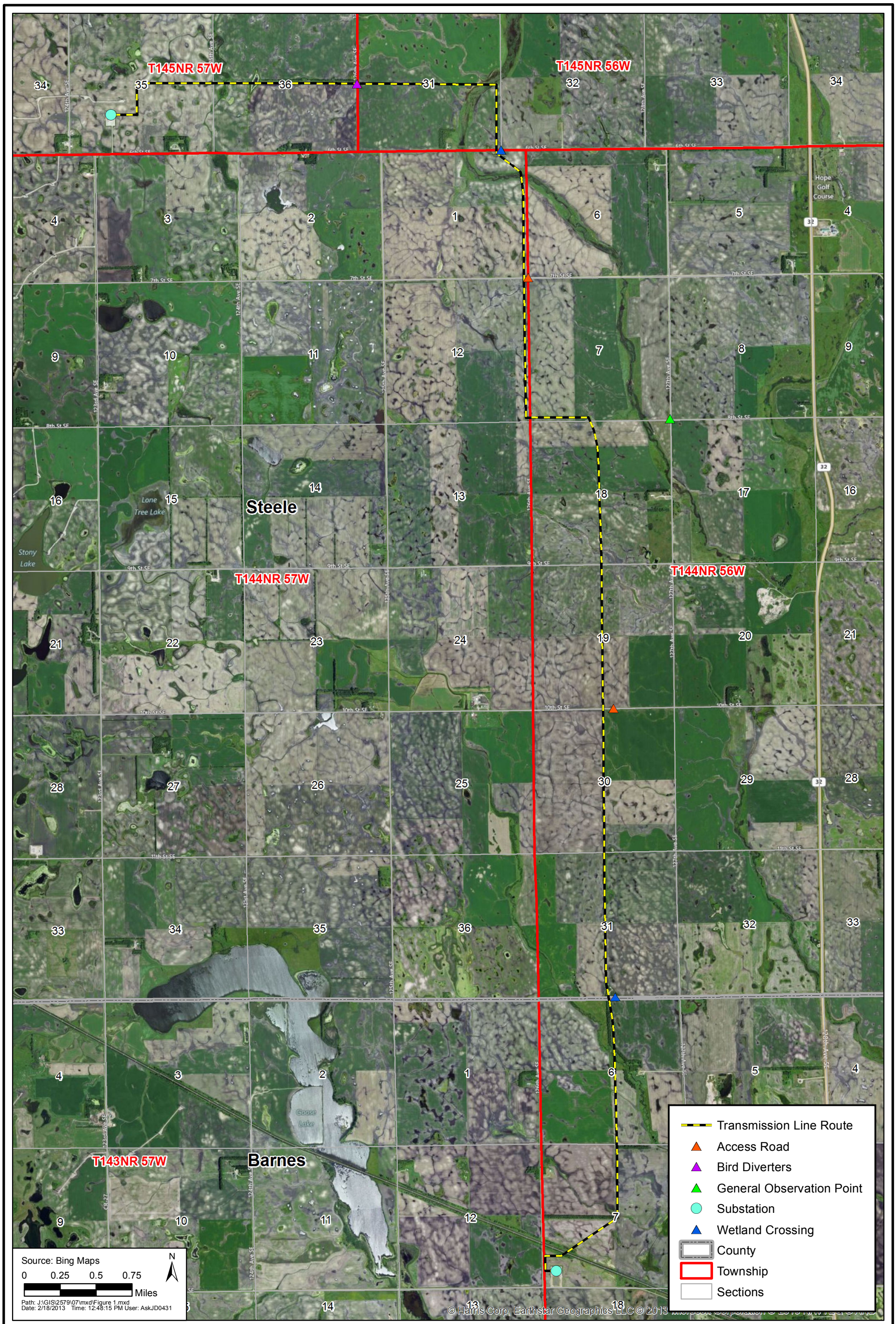
The services performed by Wenck scientists for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained 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.

Project Manager, Kevin Magstadt and Luke Toso, Botanist/Natural Resources Specialist, prepared this report.

Kevin Magstadt, P.E., Associate/Regional Manager — Date: 2/25/2013

Luke Toso, Botanist/Natural Resource Scientist — Date: 2/25/2013

Figures



North Dakota Public Service Commission

Project Area and Field Observations Map

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FEB 2013

Figure 1

Appendix A

Photographs

Photo 1. Direction: East. View of the beginning of the transmission line (wooden poles) at the Pillsbury substation.

Photo 2. Direction: North/Northeast. View shows the transmission line just north of the substation as it runs parallel to 126th Ave SE in Barnes County, ND.

Photo 3. Direction: South. View shows the transmission going through a shelterbelt in the distance. Cuts appeared to be minimized in these areas to only the width required for a safe buffer around the transmission line.

Photo 4. Direction: North/Northwest. View of the transmission line spanning a wetland area; no sedimentation or disturbance to the wetland was noted. Bird diverters were evident, although only faintly visible in this photo (shown by black arrows).

Photo 5. Direction: Southwest. View of the transmission line (H-frame structure on left) crossing Minnkota's Keystone line (single pole structure).

Photo 6. Direction: Northwest. View shows typical span and structure design of the transmission line. No impacts to agricultural land or crop production were noted.

Photo 7. Direction: Northwest. View shows typical bird diverters installed at several areas along the transmission line (indicated by black arrow).

Photo 8. Direction: Southwest. View of a transmission pole structure adjacent to a wetland basin. No impacts to the basin were noted, and bird diverters were in place (not visible).

Photo 9. Direction: West. The tree row to the right had been cut to accommodate the transmission line and it appeared impacts to the area had been minimized. Note the flight diverters that were installed in this area.

Photo 10. Direction: North. View of the transmission line as it interconnects with the Luverne substation.

Photo 11. Direction: Northeast. View of a typical reclaimed access road used for the Project. Vegetation had established along the road ditch. No disturbance was noted in the agricultural field.

Photo 12. Direction: Southeast. This access road had been retained by the landowner for access to the agricultural field. No disturbance from access road construction was noted in the agricultural field.

Appendix B

Field Observation Points

Appendix B. Field Observation Points

Point	Latitude*	Longitude*	Feature Label
1	47.21277	-97.83136	Substation
2	47.24025	-97.82203	Wetland Crossing
3	47.26930	-97.82163	Access Road
4	47.29834	-97.81263	General Observation Point
5	47.31278	-97.83328	Access Road
6	47.32566	-97.83702	Wetland Crossing
7	47.33255	-97.85819	Bird Diverters
8	47.32977	-97.89468	Substation

*NAD 1983 Datum