



# Southwest Oliver Transmission Line Project Post-Construction Inspection Report **PU-11-620**

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  
Mandan, ND 58554  
(701) 751-3370

---

# Table of Contents

---

<b>1.0</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1-1</b>
<b>2.0</b>	<b>BACKGROUND &amp; SCOPE.....</b>	<b>2-1</b>
2.1	Introduction .....	2-1
2.2	Purpose .....	2-1
2.3	Methods and Scope of Inspection .....	2-1
2.3.1	Project Specifications Identified.....	2-1
2.3.2	Document Review .....	2-1
2.3.3	On-Site Inspection.....	2-2
<b>3.0</b>	<b>FINDINGS .....</b>	<b>3-1</b>
3.1	Siting & Location of Facility.....	3-1
3.1.1	Designated Location.....	3-1
3.1.2	Siting Criteria.....	3-1
3.1.3	Setbacks .....	3-1
3.2	Project Design & Engineering .....	3-1
3.2.1	Structure Specifications .....	3-1
3.2.2	Codes and Specifications.....	3-1
3.2.3	As-built Drawings and GIS Files .....	3-1
3.3	Pre-Construction.....	3-1
3.3.1	PSC-Required Documents .....	3-1
3.3.2	Pre-Construction Conference/Notice of Intent to Start Construction	3-2
3.3.3	PSC Approval of Modifications.....	3-2
3.3.4	Permits and Approvals from Other Agencies.....	3-2
3.4	Cultural Resources .....	3-2
3.4.1	Reporting.....	3-2
3.5	Natural Resources.....	3-2
3.5.1	Avian Protection.....	3-2
3.5.2	Wetlands .....	3-3
3.5.3	Native Prairie.....	3-3
3.5.4	Reporting.....	3-3
3.5.5	Reclamation & Reseeding .....	3-3
3.5.6	Tree & Shrub Mitigation.....	3-3
3.6	Construction, Reclamation & Soils.....	3-4
3.6.1	Construction Management & Safety.....	3-4
3.6.2	Erosion & Sedimentation .....	3-4
3.6.3	Roads and Repairs .....	3-4
3.6.4	Reclamation .....	3-4
3.7	Operation.....	3-4
3.7.1	Safe Operation and Maintenance .....	3-4
3.7.2	Public Relations .....	3-4

---

## Table of Contents (Cont.)

---

<b>4.0</b>	<b>ISSUES TO RESOLVE AND RECOMMENDATIONS</b> .....	<b>4-1</b>
4.1	Project Specifications Needing Written Verification .....	4-1
4.2	Tree and Shrub Mitigation .....	4-1
<b>5.0</b>	<b>CONCLUSIONS</b> .....	<b>5-2</b>
<b>6.0</b>	<b>REFERENCES</b> .....	<b>6-1</b>
<b>7.0</b>	<b>SIGNATURES</b> .....	<b>7-1</b>

### **TABLES**

Table 2-1:	Project Specifications with Written or Site Verification Information .....	2-3
------------	--	-----

### **FIGURES**

Figure 1: Project Area Map

### **APPENDICES**

Appendix A: Photographs

---

# 1.0 Executive Summary

---

The North Dakota Public Service Commission (PSC) retained Wenck Associates, Inc. (Wenck) to complete a construction inspection of the Southwest Oliver Transmission line (Project) in Oliver County, North Dakota (ND), owned and operated by Minnesota Power, a subsidiary of Allete. Wenck reviewed all Project documents to identify those aspects which required compliance and visually inspected the Project area on 8 October 2014.

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 certain items and 2) compliance with Tree and Shrub Mitigation measures. Wenck expects that follow-up actions taken by Minnesota Power 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**

### **→Review Internally, Clarify, Then Request if Needed**

- Verification of compliance with the National Electric Safety Code
- Copies of Permits that are not currently on file with the PSC:
  - NPDES Permit: General Construction Storm Water
  - Emergency Planning and Community Right-to-Know Act Tier II Report
  - Oversize/Overweight Permit
  - Road Approach/Access Permit
  - Utility Permit/Risk Management Documents
  - Utility and Transportation Permits for all affected counties

### **→Expect Later, Request if Necessary**

- 2014 Tree and Shrub Mitigation Plan
- 2015, 2016, and 2017 Tree and Shrub Survival Reports

---

## 2.0 Background & Scope

---

### 2.1 INTRODUCTION

The Southwest Transmission Line (Project) is approximately 11 miles of 230kv electrical transmission line located in Oliver County, North Dakota (ND) (**Figure 1**). It was constructed during the 2013 and 2014 construction season and was completed in June of 2014. The Project is owned and operated by Minnesota Power, a subsidiary of Allete, Inc. 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-11-620 on May 30, 2012, granting Certificate of Site Compatibility for a Transmission Facility Corridor No. 136 and Route Permit No. 147.

### 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 2014) 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 Nelson, Wenck project engineer, visited the Project site on 8 October 2014. The site was inspected visually by driving the Project area. Digital photographs (Canon Power Shot A2500 HD, 16 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*
<b>SITING &amp; LOCATION</b>			
App. p. 1-2; Findings of Fact 3	The Project would originate at the existing Bison substation in Section 4 of T140N, R86W and terminate at the proposed Tri-County substation in Section 36 of T141N, R88W and consist of approximately 11 miles of 230kv transmission line.	N/A	Section 3.1.1
ND Admin. Code Article 69-06-08; Findings of Fact 11, 12, 14-16	Siting Criteria analysis – exclusion, avoidance, selection, policy. Avoidance areas: historical resources, woodlands, wetlands.	Docket #5, Application	Section 3.1.2
App. p. 5-12, 5- 19	No occupied residences within 500ft of Project.	Docket #5, Application, Figure 3, Route Exclusion and Avoidance Areas	Section 3.1.3
<b>PROJECT DESIGN &amp; ENGINEERING</b>			
Findings of Fact 6; App. p. 4- 1	Constructed using H-frame wood structures and single steel pole structures. Transmission structures will be 70 to 110 feet high.	Docket #5 Application; Docket #55,57, 58, Approval for minor amendment to structure location	Section 3.2.1
Findings of Fact 5	Compliance with National Electric Safety Code.	None.	N/A
Order 34	As-built engineering design drawings submitted to PSC within 3 months post-construction.	Docket #69, Facility alignment plan and profile drawings	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	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 #5, Application	N/A
ND Century Code Ch. 49-22-07	Certificate of site compatibility or route permit.	Docket #40, 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).	Case No. PU-12-440, 2012 Ten Year Plan	N/A

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
Order 2	Conduct pre-construction conference. Provide notice of intent to start construction.	Docket #47, Notes from Pre-Construction Conference	N/A
Order 32	Inform PSC of plans to modify structures or change locations.	Docket #55,57, 58 Staff approval for minor amendment to structure location	N/A
Finding of Facts 10, Order 4	Obtain permits and approvals from other agencies and provide copies.	Docket #22, Conditional Use Permits	N/A
<b>CULTURAL RESOURCES</b>			
App. p. 5-13, 5-14; Order 12	Report discovery of cultural, archeological, historic, or grave sites. Construction stopped, SHPO consulted and clearance required, report to Commission filed.	Docket #23, Exhibits 4 and 5	N/A
<b>NATURAL RESOURCES</b>			
Findings of Fact 19; App. p. 5-27; USFWS (12-5-2011); NDGF (10-31-2011)	Bird safe designs used in accordance with Avian Power Line Interaction Committee recommendations. Flight diverters installed throughout transmission lines. USFWS: Above-ground power lines marked; avoid construction during migratory bird breeding season (Feb 1- July 15).	None	Section 3.5.1, 3.5.4
Findings of Fact 22; App. p. 5-24, 5-25	Wetlands avoided by spanning or pole placement. No impacts to surface drainage patterns or groundwater flow patterns. Setback of 0.25 miles from WPAs. No machine clearing of vegetation within 50 feet of any river or stream. No disturbance of ground cover vegetation near rivers or streams.	N/A	Section 3.5.2
Findings of Fact 28, 29; USFWS (12-5-2011); NRCS (10-1-2011); NDSWC (10-12-2011); NDGF (10-31-2011)	USFWS, NRCS, NDGF: Avoid disturbance to native prairie, wetland, floodplains, threatened and endangered species.	N/A	Section 3.5.2, 3.5.3, and 3.5.4
Order 10; USFWS (12-5-2011)	Report presence of T+E species, bald or golden eagles during construction and operation. A Wildlife Response Reporting System would be implemented.	None	N/A
Order 17; App. p.4-3; USFWS (2-7-2009); NRCS (10-7-	Reclamation, fertilization, and reseeding done in accordance with NRCS or USFWS unless specified by landowner and approved by Commission.	None.	Section 3.5.5

Source of Project Specification	Description of Project Specification	Written Verification*	Site Verification*
2011)			
Order 20	Compliance with "Tree and Shrub Mitigation Specifications".	Docket #24; Tree and Shrub Mitigation Specifications	Section 3.5.6
	<b>CONSTRUCTION, RECLAMATION &amp; SOILS</b>		
Order 7, 15	Provide weekly construction reports. Construction suspended during adverse weather conditions.	Docket # 48-52, 54, 56, 59-68, 70-73, 230kV Transmission Line Construction Report	N/A
App. p.5-10, 5-23, 5-28	The ND Department of Health (NDDH) requested that the Project minimize fugitive dust, degradation of waterways, manage stormwater, and noise.	None.	Section 3.5.2 and 3.6.2
Order 14, 19, 22	Pre-existing roads restored to satisfactory condition. Temporary roads removed and restored. Repair, replace or compensate for fences and gates.	None.	Section 3.6.3
Order 18	Reclamation along right-of-way must be continuous and coordinated with construction.	None.	Section 3.6.4
	<b>OPERATION</b>		
Order 18	Construct and operate in accordance with Application and safety requirements. Obligations for reclamation and maintenance of the right-of-way continue throughout the life of the transmission system.	None.	Section 3.7.1
Order 21	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 route and corridor 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 adjustments to pole locations, but these were approved by the PSC (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 #5, Application). Wenck confirmed during the site inspection that exclusion and avoidance areas were avoided.

#### 3.1.3 Setbacks

The Project was located in a rural setting, with no occupied dwellings within 500ft. The Application showed that the closest occupied residence is approximately 1500ft from the transmission line (Docket # 5, Application, Pages 5-12, 5-19). Wenck confirmed that no residences were within 500ft of the Project.

### 3.2 PROJECT DESIGN & ENGINEERING

#### 3.2.1 Structure Specifications

Wood H-Frame and steel monopole structures were observed along the transmission line route (**Appendix A, Photos 1-6**). Span lengths and structure heights appeared to match those specified in the Application and amendments.

#### 3.2.2 Codes and Specifications

There was no written verification of compliance with the National Electric Safety Code. However, the Minnesota Power representative stated that construction of the project complied with this code.

#### 3.2.3 As-built Drawings and GIS Files

As-built engineering design drawings of the facility were submitted on 29 May 2014 (Docket #69).

### 3.3 PRE-CONSTRUCTION

#### 3.3.1 PSC-Required Documents

A letter of intent was received on 14 September 2011 (Docket #1). On 28 August 2009, 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, Letter Enclosing Commission Motion Acknowledging Letter of Intent). The Application for Certificate of Corridor Compatibility and Route Permit was submitted on 14 November 2011 (Docket #5). The PSC issued Certificate of Corridor Compatibility No. 136 and Route Permit No. 147

on 30 May 2012 (Docket #40). A 2012 Ten Year Plan was on file (PU-12-440, 2012 Ten Year Plan, Minnesota Power & Light).

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

A pre-construction meeting was held on 13 August 22 2013, during which the intent to start construction was announced (Docket #47, Notes from Pre-construction Conference and Notice of Construction Commencement).

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

Plans to modify the facility were filed as minor amendments to structure height and location (Docket #55, 57, and 58). Observations of on-the-ground infrastructure, the approved corridor, and the approved modifications appeared to correspond.

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

Permits were on file under the Project Docket 22 Conditional Use Permits and Docket 5 Application:

- Conditional Use Zoning Permit
- Certificate of Corridor Compatibility
- Route Permit
- Waiver of Procedures and Time Schedules

During the on-site inspection, Wenck discussed potential permits with the Minnesota Power representative, who stated that all permits were obtained prior to construction. However, the PSC may want to request copies of the following permits to be filed:

- NPDES Permit: General Construction Storm Water
- Emergency Planning and Community Right-to-Know Act Tier II Report
- Oversize/Overweight Permit
- Road Approach/Access Permit
- Utility Permit/Risk Management Documents
- Utility and Transportation Permits for all affected counties

## **3.4 CULTURAL RESOURCES**

### **3.4.1 During Construction**

No new discoveries of cultural, archeological, or historic sites have been reported to the PSC to date. No new sites were encountered during construction of the Project. The Minnesota Power representative verified that no new cultural resources were found during construction.

### **3.4.2 Reporting**

A Class III Cultural Resource Inventory was conducted by Beaver Creek Archaeology, during which no previously unrecorded cultural resources were identified. On January 17, 2012 concurrence from the NDSHPO was received stating that the project was cleared to proceed.

## **3.5 NATURAL RESOURCES**

### **3.5.1 Avian Protection**

In the Application, Minnesota Power stated that the transmission line would comply with recommendations of the Avian Power Line Interaction Committee. As-builts and discussions with the

Minnesota Power representative confirmed that these measures were implemented. Bird diverters were installed as planned, and at additional areas not in the original Application.

The US Fish and Wildlife Service (USFWS) recommended that construction be avoided during the migratory bird nesting season (Feb 1- July 15). Plans of the day indicate that construction did occur during this time. However, Minnesota Power stated that no impacts to migratory birds were reported in the Wildlife Incident Report System. Based on this evidence, it appears that Minnesota Power considered avian protection as a part of the Project.

### **3.5.2 Wetlands**

There were several areas along the transmission line route that crossed wetland areas (**Figure 1; Appendix A, Photos 2, 7, 8**). It did not appear that vegetation along wetland margins had been disturbed. There were no poles/structures within wetland vegetation. No copies of the U.S. Army Corps of Engineers permits were on file; however, no impacts were observed to surface drainage or groundwater flow patterns. It did not appear that any machine clearing or disturbance of vegetation occurred near rivers or streams. No Waterfowl Production Areas were located within the project corridor. It appeared that construction of the Project avoided impacts to wetland areas as specified in the Application.

### **3.5.3 Native Prairie**

Most of the transmission line was in cultivated lands. Some of the transmission line did cross native prairie currently used for grazing. Wenck observed that disturbance in these areas was kept to a minimum and revegetation appeared satisfactory (**Appendix A, Photos 2,9**).

### **3.5.4 Reporting**

Minnesota Power utilizes a Wildlife Incident Report System to monitor, report, and document any wildlife fatalities observed. These reports are documented on a monthly basis, and a yearly report summarizes these findings. A 2013 Wildlife Incident Report was on file; however nothing had been filed at the time of this report for 2014. There were no reports filed to date of the presence of threatened or endangered species or bald or golden eagles during construction or operation.

### **3.5.5 Reclamation & Reseeding**

Construction activities appeared to have had minimal disturbance; only minor reclamation would have been necessary around structure bases. It was not clear if reseeded had occurred following construction because most of the poles were in agricultural land. However, in non-agricultural areas, it appeared that vegetation surrounding poles matched that of the surrounding area (**Appendix A, Photos 2-5, 9**).

### **3.5.6 Tree & Shrub Mitigation**

Tree planting was scheduled for the week of 13 October 2014. At the time of this report the mitigation plan had not been recorded. Wenck was assured during the inspection that the mitigation plan would be posted soon. Survival reports are required for three years following planting.

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

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

Daily construction reports were submitted to the PSC by an Allete construction manager (Docket # 48-52, 54, 56, 59-68, 70-73). Construction was suspended during adverse weather, and precautions were taken on days after it rained to maintain a safe working environment.

### **3.6.2 Erosion & Sedimentation**

The ND Department of Health (NDDH) requested that Best Management Practices (BMPs) be used to manage stormwater, degradation of waterways, and minimize fugitive dust and noise. BMPs were used as part of the construction and maintenance of the Project to minimize erosion and control sediment, as evident from weekly construction reports. Culverts were installed where necessary to allow for the natural flow of drainage. No erosion problems were noted and infrastructure of the Project area was well-maintained. Fugitive dust and noise were presumably controlled during construction activities.

### **3.6.3 Roads and Repairs**

Preexisting roads appeared to have been restored and appeared in good condition (**Appendix A, Photos 2, 7**). There was no evidence of temporary roads used during construction, so presumably none were needed or they had been restored. Fences and gates removed during construction had been replaced or repaired.

### **3.6.4 Reclamation**

The Project area appeared during the inspection to have been successfully restored to previous conditions. Weekly construction reports indicate that restoration occurred concurrently with construction.

## **3.7 OPERATION**

### **3.7.1 Safe Operation and Maintenance**

Wenck observed that Minnesota Power has in place an on-going maintenance schedule. Wenck did not observe any areas of exposed soil remaining from construction activity or the on-going operation of the Project that were in need of reclamation. There was no waste, debris, or abandoned equipment observed during the inspection. The site appeared to be regularly maintained.

### **3.7.2 Public Relations**

No complaints of increased TV or radio interference were reported to the PSC to date. The Minnesota Power representative stated that no TV or radio interference has been reported to date.

---

## 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 have the potential to be verified in writing; Table 2-1 summarizes these items. Items in Table 2-1 that are shaded in the “Written Verification” column indicate no written verification was filed with the PSC where applicable and necessary. Some of these items may be necessary to consider the Project in full compliance. The PSC may want to request from Minnesota Power the following “Potential Item(s)”:

#### Potential Items

- Verification of compliance with the National Electric Safety Code.
- Copies of Permits that are not currently on file with the PSC:
  - NPDES Permit: General Construction Storm Water
  - Emergency Planning and Community Right-to-Know Act Tier II Report
  - Oversize/Overweight Permit
  - Road Approach/Access Permit
  - Utility Permit/Risk Management Documents
  - Utility and Transportation Permits for all affected counties

### 4.2 TREE AND SHRUB MITIGATION

Tree planting was scheduled to be completed the week of 13 October 2014. At the time of this report a Tree and Shrub Mitigation Plan had not been filed. Wenck recommends the PSC follow up to ensure that mitigation plan is completed and filed. In addition, it is recommended that the PSC proceed with its requirement for the full three years of survival monitoring to ensure 75% survival of the replacement planting.

---

## 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 minor issues that may need to be resolved before the Project is considered complete and in full compliance. These included: 1) written documentation of compliance with the National Electric Safety Code and submission of permits that are not currently on file; 2) written documentation of tree and shrub mitigation plan and continued monitoring of tree and shrub survival. These issues could be necessary for Project compliance, as determined by the PSC. Once the PSC determines any required actions, they should notify the company.

---

## 6.0 References

---

North Dakota Public Service Commission (ND PSC). 2014. 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 October 2014.

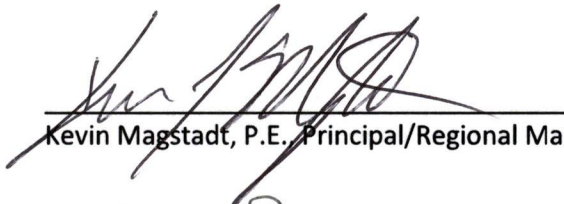
---

## 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.

Project Manager, Kevin Magstadt and Lucas Nelson, Project Engineer prepared this report.

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

\_\_\_\_\_  
11/4/2014  
Date

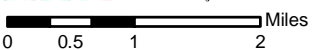
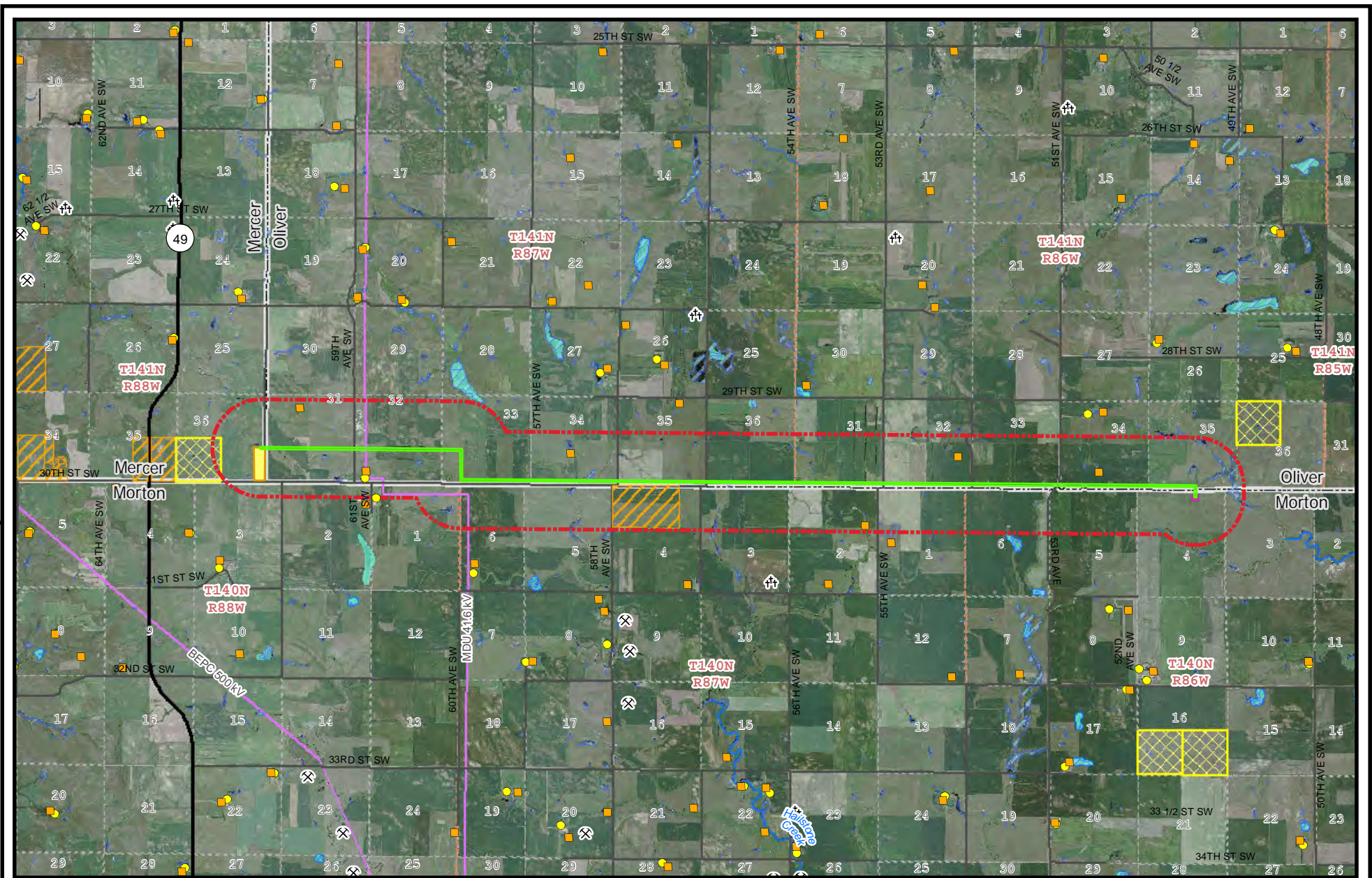
  
\_\_\_\_\_  
Lucas Nelson, Project Engineer

\_\_\_\_\_  
11/4/2014  
Date

---

## Figures

---



- |                             |   |                               |                   |
|-----------------------------|---|-------------------------------|-------------------|
| Transmission Route (130 ft) | ND Surface Tracts                       | Occupied Residence (Verified) | Section Boundary  |
| Corridor (1.1 miles)        | Private Lands Open To Sportsmen (PLOTS) | Streams                       | Township Boundary |
| Bison Substation            | Farm Unit (Not Verified)                | Lakes                         | County Boundary   |
| Tri-County Substation       | Gravel Pit (Not Verified)               | NWI Wetland                   |                   |
| Existing Transmission Line  | Cemetery and/or Churches (Not Verified) | Roads                         |                   |
|                             | †                                       | Highways                      |                   |

Figure 3: Route Exclusion & Avoidance Areas  
 Southwest Oliver 230 kV  
 Transmission Line Project  
 Minnesota Power  
 Morton, Mercer & Oliver Counties, ND

---

## **Appendix A**

---

### **Photographs**



**Photo 1.** Direction: South/Southeast. View of the transmission line (H-frame structures) on the east end of the route at the Bison substation.



**Photo 2.** Direction: West. View of the transmission line with bird diverters installed on the transmission line around the wetland. Section line road is also visible.



**Photo 3.** Direction: Northwest. View of base of transmission H-frame structure where reclamation is complete and re-vegetation has occurred.



**Photo 4.** Direction: West. View of the transmission line as it spanned an agricultural area. No construction-related disturbance to the agricultural area was noted.



**Photo 5.** Direction: Northwest. View of a single steel pole structure that changes direction of the transmission line to the north.



**Photo 6.** Direction: West. View of a single steel pole structure that changes direction of transmission line to the west.



**Photo 7.** Direction: Southwest. View of the Tri-County substation and wetland that experienced no construction-related disturbance.



**Photo 8.** Direction: South/Southwest. View of stormwater straw waddles being utilized to prevent sediment from leaving construction area.



**Photo 9.** Direction: East. View of native prairie that was not impacted by construction-related disturbance.

