



## JOHNSONS CORNER – ALEXANDER 8-INCH CRUDE OIL PIPELINE PROJECT (PU-16-695) Permit Compliance Inspection Report 2020



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# 1 EXECUTIVE SUMMARY

The North Dakota Public Service Commission (Commission) retained Houston Engineering, Inc. (HEI) to complete a compliance and restoration inspection of Targa Badlands, LLC's (Targa) 8-inch crude oil pipeline spanning 54.35 miles in McKenzie County, North Dakota (Case No. PU-16-695). The project is owned and operated by Targa and as proposed, converted an existing crude oil gathering line to a crude oil transmission pipeline. The project also includes two (2) tank facility locations and one (1) valve station, specifically the Johnsons Corner tank facility near Johnsons Corner, North Dakota, the Alexander tank facility near Alexander, North Dakota, and the Midway valve station.

The initial transmission pipeline project was constructed as a gathering facility and was acquired by Targa in 2012. The Johnsons Corner and Alexander tank facilities were not being utilized for storage with the gathering pipeline. Targa desired to convert the system from gathering to transmission to allow for utilization of the storage tanks at Johnsons Corner and Alexander to store crude oil before the oil is transported. Targa also desired to allow crude to flow in either direction, enabling delivery of crude oil to recipients at either the Alexander or Johnsons Corner Facilities.

Targa concluded there was a need to convert the Project to a transmission line to allow for ease of operation and to more safely operate the Project. Conversion of the current gathering line and utilization of the tanks would provide a reliable transportation method for up to 50,000 barrels per day. Utilization of the tanks would allow Targa to better manage operations and to safely shut down the flow of oil in the event of an unanticipated interruption of service or unavailability of the deliver point in Alexander. Finally, the use of the storage tanks would reduce overall pressure in the pipeline, further increasing safety of the Project.

As part of the designated use change for the Project, from a gathering to a transmission facility, HEI was retained to complete a permit compliance inspection for the Project. Because the project did not include any new construction of pipeline facilities, and no ground disturbance was proposed, the previously constructed pipeline corridor was inspected primarily from the road right-of-way, except visited directly if ground disturbance, bare ground, dominance of weed growth, soil compaction, debris, or other indications of remaining construction materials were observed. Permit compliance, most specifically the post-construction reclamation and restoration condition was the focus for this Project compliance assessment.

HEI reviewed all project documents, as posted to the docket, to identify the aspects of the project that required compliance. Field inspection of the project was conducted October 23<sup>rd</sup>, 2019 to assess the status of reclamation and restoration activities for the project site. The pipeline corridor was observed as revegetated, with minor above-ground pipeline identification marker maintenance issues (leaning markers), and one area of bare ground with minor rill erosion formation.

Overall, the Project appears to have been constructed as designed (see Permit Compliance Summary Table, **Appendix A**), with minimal impacts to the surrounding natural or human environment. Compliance investigations observed include:

- sustainable vegetation establishment was observed throughout the pipeline corridor with one (1) minor erosion and sedimentation issue in Section 33, T150N, R97W (**Appendix B, Photo 1**).
- tree and shrub mitigation is in process and additional documentation and planting is required (refer to Docket 47 and 48)
- pipeline identification markers maintenance: leaning pipeline identification markers were observed (refer to representative site photography in **Appendix B**):



- Section 5, T150N, R99W (photo 2)
- Section 34, T150N, R96W (photo 4)
- Section 34, T159N, R97W (photo 6)

In conclusion, the Project is currently in compliance with all the provisions set forth by the Commission with the exception of what appears to be one (1) minor erosion and sedimentation area; tree and shrub mitigation in process, whereby further documentation and plantings are required; and maintenance of several individual pipeline identification markers along the pipeline corridor. The Commission may elect to require Targa to correct the above minor issues in order to reduce the possibility of damage or interference of the underground pipeline and aboveground facilities. The Commission may elect to conduct subsequent field verifications to ensure that the coverage of the bare earth areas, the repair of the erosion areas, tree and shrub mitigation planting, and the pipeline identification marker maintenance has been completed.

## 2 INTRODUCTION AND BACKGROUND

### 2.1 PROJECT BACKGROUND

Targa Badlands, LLC (Targa) filed with the North Dakota Public Service Commission (Commission) on November 15, 2016 a consolidated application for a Certificate of Corridor Compatibility and Route Permit for the conversion to a transmission line of an approximate 54.35-mile, 8-inch existing crude oil gathering pipeline, and associated facilities, with origin near Johnsons Corner, North Dakota, and a terminus near Alexander, North Dakota in McKenzie County (Project).

The Project consists of approximately 54.35 miles of existing gathering pipeline located in McKenzie County. The Project includes two (2) tank facility locations and one (1) valve station, specifically the Johnsons Corner tank facility near Johnsons Corner, North Dakota, the Alexander tank facility near Alexander, North Dakota, and the Midway valve station. The Project was constructed as a gathering facility and was acquired by Targa in 2012.

Construction of the Alexander tank facility was completed in February 2012 and the Johnson Corner tank facility was completed in December 2012. Further details of these facilities are documented in the Findings of Fact and Conclusions of Law in the online case file for PU-16-695<sup>1</sup>. The Johnsons Corner and Alexander tank facilities were not being utilized for storage with the gathering pipeline. Targa desired to convert the system from gathering to transmission to allow for utilization of the storage tanks at Johnsons Corner and Alexander to store crude oil before the oil is transported. Targa desired to flow crude oil in either direction, enabling delivery of crude oil to recipients at either the Alexander or Johnsons Corner Facilities.

Certificate of Corridor Compatibility No. 198 was issued to Targa Badlands, LLC designating a corridor for the conversion, operation, and maintenance of an approximately 54.35-mile, 9-inch crude oil pipeline and associated tanks and facilities in McKenzie County, North Dakota on May 31, 2017. For purposes of the Certificate, the Corridor will consist of a 200-foot-wide corridor centered on the pipeline route, along with the Johnsons Corner, Alexander, and Midway Facility sites as surveyed.

<sup>1</sup> North Dakota Public Service Commission, Online Case Search for PU-16-695: [https://psc.nd.gov/database/docket\\_view\\_list.php?s\\_dept=PU&s\\_year\\_case=16&s\\_seq\\_num=695&s\\_company\\_name=Targa+Badlands+LLC](https://psc.nd.gov/database/docket_view_list.php?s_dept=PU&s_year_case=16&s_seq_num=695&s_company_name=Targa+Badlands+LLC)



Route Permit No. 209 was issued to Targa Badlands, LLC granting authority to convert and operate an approximate 54.35-mile, 8-inch crude oil pipeline and associated tanks and facilities in McKenzie County, North Dakota on May 31, 2017. The designated route is shown in **Exhibit A**.

## 2.2 PURPOSE OF THIS REPORT

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code (NDCC) Chapter 49-22) authorizes the Commission to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. Post-construction inspections ensure that such projects are constructed in compliance with the siting laws (NDCC, Chapter 49-22) and rules (North Dakota Administrative Code (NDAC) Article 69-06) and the applicable Commission Findings of Fact, Conclusions of Law, and Order (Order). The Commission retained HEI to complete a permit compliance inspection of the Project.

## 2.3 METHODS OF INSPECTION

### 2.3.1 PROJECT COMPLIANCE ITEMS IDENTIFIED & REVIEW OF DOCUMENTATION

HEI identified project provisions in the order, and verified compliance through observations recorded during on-site inspections, and from a desktop review of the online case file no. PU-15-232. The Project *Findings of Fact, Conclusions of Law and Order and the Certification Relating to Order Provisions for Transmission Facility Siting* (May 31, 2019) provides these project provisions (Docket No. 38).

### 2.3.2 ON SITE INSPECTION

HEI conducted a compliance site visit on October 23<sup>rd</sup>, 2019 to investigate the long-term success and existing status of restoration and reclamation along the existing project corridor. The current Project is for the approval of use change of an existing pipeline and supporting infrastructure, from a gathering to a transmission line. Therefore, no construction activities were proposed, and the assumption of no ground-breaking activity was presumed. The pipeline corridor was observed primarily from the road right-of-way, except visited directly if ground disturbance, bare ground, soil compaction, debris, or other indications of remaining construction materials were observed. Permit conditions, most specifically restoration activities were the focus for this project compliance assessment.

## 3 FINDINGS

The purpose of the final compliance inspection was to assess the restoration activities and success of reclamation of the originally constructed gathering line. A compliance review based on provisions set forth in the project *Certification Relating to Order Provisions* is summarized in the Compliance Review Table located in **Appendix A**.

### 3.1 SUMMARY OF FINAL SITE VISIT

The final site inspection was completed on October 23<sup>rd</sup>, 2019 by Emma McFall, Civil Engineer, Houston Engineering, Inc. (HEI). Utilizing field maps, HEI traveled along the corridor of the project, observing previous restoration areas and areas of disturbance that may not be in compliance with permit



requirements for the Project. Areas of exposed soils, erosion and sedimentation issues, road crossings, and restored grading topography were focus areas for the final site visit.

Photographs were taken through out the entire corridor. Photo locations are mapped in **Exhibit A** and representative photographs are included within **Appendix B**.

## **3.2 SITE INFORMATION**

### **3.2.1 DESIGNATED LOCATIONS**

The crude oil pipeline and associated facilities were built in 2011 and 2012, prior to Targa's current application and associated permit. Construction of the gathering pipeline was commenced and completed on August 15, 2011-December 15, 2011. Construction of the Johnsons Corner and Alexander tank facilities were from August 15, 2011-December 13, 2012, and December 9, 2011-February 5, 2012, respectively.

### **3.2.2 SITING CRITERIA**

Siting criteria were analyzed in detail in the Application for the project. As noted in the Application and in accordance with NDAC 69-06-08-02, the project construction, operation, and maintenance did not impact any Exclusion Areas and no Avoidance Areas were impacted by the project.

### **3.2.3 LAND USE AND AGRICULTURAL IMPACTS**

Agricultural land use is the predominant land use adjacent to the pipeline. Also, a considerable number of oil wells and other pipeline systems are located along the corridor. Petroleum production development and transport along the route is anticipated along the Project corridor.

The Johnsons Corner tank facility is surrounded by several natural resource development projects including a StatOil terminal located approximately 2 miles east along Highway 73. Several petroleum production sites in the immediate vicinity of the Johnsons Corner facility. However, the lands in the area are largely used for agricultural production.

The land use along the pipeline corridor is still largely for agricultural production, but a significant number of oil wells and other pipeline systems are encountered along the corridor.

The surrounding area of the Alexander tank facility has experienced industrial development. Nearby crude oil terminals are operated by Brigham, Enbridge, and StatOil.

Impacts to agricultural lands associated with construction and operation of the Project have been restored and appear to be kept within the pipeline and facility right-of-way, therefore impacts were primarily temporary and minimal.

## **3.3 PROJECT DESIGN AND ENGINEERING**

### **3.3.1 ENGINEERING DESIGN DRAWINGS**

Engineering documents were provided to the Commission as appendices to the Application for Certificate of Corridor Compatibility (Docket No. 1).



## 3.4 COMMISSION-REQUIRED DOCUMENTS

The Consolidated Application for a Certificate of Corridor Compatibility and Route Permit was submitted on November 2016. (Docket No. 1). The Commission issued Findings of Fact, Conclusions of Law, and Order (Order) granting Certificate of Corridor Compatibility No. 198 and Route Permit No. 209 to Targa on May 31, 2019 (Docket No. 38).

## 3.5 PERMITS AND APPROVALS FROM OTHER AGENCIES

No documentation is found within the project file that indicates additional permits were required as part of this Project, and no additional information regarding permitting details was submitted to the Commission.

## 3.6 CULTURAL RESOURCES

### 3.6.1 CULTURAL SITE AVOIDANCE

Targa conducted a Class I cultural resource literature review on a one-mile-wide study area centered on the route. A Class III pedestrian cultural resource survey was conducted on the 200-foot-wide corridor, both tank facility sites, and the Midway valve station. Two previously recorded cultural sites fall within the Project area. The two previously recorded sites are not eligible for the National Register of Historic Places. Twenty-one new resources were also identified within the area. Of these twenty-one cultural resources, ten were recommended not eligible for the National Register of Historic Places, and two remain unevaluated for eligibility for the National Register of Historic Places. No avoidance was recommended for the newly discovered sites or for the previously recorded sites.

The State Historic Preservation Office concurred with the determination that no historic properties or significant sites will be affected by the Project so long as the Project remains of the nature and in the location described in the Class III Cultural Resource Inventory Report and the addendum, and Targa follows designated site avoidance measures.

### 3.6.2 REPORTING OF NEW DISCOVERIES

No new discoveries of cultural, archeological, or historical sites were reported to the Commission during construction, and no discoveries were noted on the weekly construction reports for the Project. Based on this information, it is concluded that no new sites were encountered during construction of the Project.

## 3.7 NATURAL RESOURCES

Field surveys were conducted to inventory potential resource issues such as wetlands, waterbodies, protected species, critical habitats, and/or cultural resources. Additionally, environmental data collected included information on soils, land use, wetlands and waterbody crossings, noxious weeds, trees, saplings, and shrubs, and protected species and habitats.

Targa contacted agencies regarding the Project and provided comments: North Dakota Historical Preservation Office (SHPO); North Dakota Department of Transportation (DOT); Department of the Army, Corps of Engineers; North Dakota state Water Commission; North Dakota Game and Fish Department; U.S. Department of Transportation; Federal Aviation Administration; North Dakota Department of Trust Lands; North Dakota Geological Survey; and North Dakota Department of Health. None of the agencies objected to the Project.

The office for the North Dakota Geological Survey noted on February 28, 2017 that landslides have been mapped in the vicinity of the existing pipeline route, and an enhanced level of monitoring and periodic inspection of the line may be warranted. Targo testifies its inspections will monitor for the concerns of the North Dakota Geological Survey.

### **3.7.1 WETLANDS, SURFACE WATER, AND FLOODPLAIN**

Twelve (12) waterbodies, classified as ephemeral, intermittent, or perennial streams were identified within the Project area. These waterbodies are likely jurisdictional under Section 404 of the federal Clean Water Act. Six (6) named streams were surveyed within the proposed alignment. Timber Creek, Cherry Creek, Spring Creek, and Sevenmile Creek all displayed ordinary high-water marks and were recorded as streams. North Dork Creek did not have signs of an ordinary high-water mark or flowing water; however, the area did meet the wetland criteria. Tobacco Garden Creek was dominated by upland vegetation, did not have hydric soil present, and showed no indicators of an ordinary high-water mark.

### **3.7.2 RARE, THREATENED AND ENDANGERED SPECIES REPORTING**

A survey of federal and state-listed threatened and endangered species was conducted prior to project construction, concurrent with the project wetland determinations. No state or federally-listed threatened or endangered species were observed during field survey in 2016. Migratory birds and suitable nesting habitat were observed throughout the Project area. No active raptor nests were observed within 0.5 miles of the permanent right-of-way of the Project. No bald or golden eagle nests were observed. No impacts to eagles were anticipated from the Project.

### **3.7.3 TREE AND SHRUB MITIGATION**

An estimate of tree and shrub species present and their estimated acreage was determined before the construction of the original gathering system. However, because natural resources surveys were completed post-construction, precise numbers of trees, saplings, and shrubs were estimated. Boundaries of potential forested upland, shrubland, and shelterbelt habitats were geographically referenced using ArcMAP. Tree and shrub species present in adjacent areas, as well as their size and percent cover, was used to estimate areas of the project cleared during construction of the gathering line.

A total estimate of 34 trees and 76 shrubs (110 total) were estimated to have been removed during construction activities (see Docket 47 and 48). Required total number of trees and shrubs to be replaced is 75 trees and 167 shrubs (242 total). A 2.2:1 ratio was used in anticipation of potential tree or shrub mortality during the three-year monitoring period to achieve a planted survival rate of 75%. Of the 24 landowners, three (3) were noted to desire planting spring 2019, ten (10) landowners declined replanting trees/shrubs, and the remaining trees and shrubs would be planted in spring of 2020. The species of replacement tree or shrub is not the same as the species removed because all the species removed were non-native, invasive, or introduced. Replacement choices were considered appropriate and beneficial due to plant zone hardiness, native species status, soil condition, hydrology, landscape location, grown characteristics, visual aesthetics, and wildlife value.

Further documentation and record of final plantings and the three-year monitoring after the initial plantings are currently in process.

## **3.8 CONSTRUCTION, RECLAMATION & SOILS**

Erosion and sedimentation controls, reclamation or roads, and reseeding of disturbed areas were not prevalent for this project because the pipeline and support facilities were already constructed year prior.



The restoration of disturbed areas and over-all success of reseeding and revegetation was observed for this compliance inspection. It appears that construction, use of best management practices during construction, and revegetation strategies were successful.

### 3.8.1 REPAIRS

No damage to property was observed during the site inspections.

### 3.8.2 WASTE

The Project area was free of construction debris and equipment.

## 3.9 OPERATION

### 3.9.1 OPERATION AND MAINTENANCE

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

### 3.9.2 SAFETY AND RECORD-KEEPING

No concerns were identified during the site inspection that would indicate the Project construction or operation was out of compliance with the Application or applicable safety regulations.

### 3.9.3 PUBLIC COMPLAINTS

No public complaints regarding the Project have been filed to date.

### 3.9.4 PUBLIC SAFETY

Safety concerns regarding the public appear to be minimal. A correction to maintaining a full extent of pipeline markers (signage) would be advised so the pipeline location is visible along the ground surface.

## 4 CONCLUSIONS

### 4.1 FINAL CONCLUSIONS

Overall, the Project appears to have been constructed and maintained as designed, with minimal impacts to the surrounding natural or human environment. The site compliance investigations observed the establishment of sustainable vegetation, with the exception of one (1) minor erosion and sedimentation issue (**Appendix B, photo 1**; Section 33, T150N, R97W). Also observed were leaning pipeline identification markers (signage) at Section 5, T150N, R99W (photo 2), Section 34, T150N, R96W (photo 4), and Section 34, T159N, R97W (photo 6). Please refer to **Appendix B** for photographs and **Exhibit A** for the photo location map. The correctable issues identified would be the maintenance of pipeline identification markers and confirm they are straight in their alignment with the pipeline and to regrade and restore vegetation in the area with bare earth and rill erosion observable

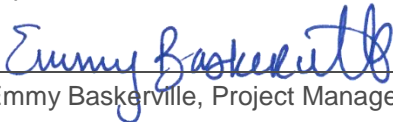
Tree and shrub mitigation is required and is currently in process. The Project record (Docket 47 and 48) indicates that plantings were supposed to have occurred spring of 2019, with the remainder of the plantings to be completed spring of 2020. Documentation of these final plantings, and the following 3-year monitoring is required.



In conclusion, the Project is currently in compliance with all the provisions set forth by the Commission with the exception of two minor restoration and maintenance issues (pipeline identification marker maintenance and bare earth/rill erosion). Also required, and in process is the tree and shrub mitigation for the site. Documentation of final plantings and 3-year monitoring is required. The Commission may elect to require Targa to correct the minor erosion and signage maintenance in order to reduce the possibility of further erodibility and degradation of conditions at those sites. The Commission may elect to conduct subsequent field verifications to ensure the erosion and pipeline marker maintenance has been completed. Tree and shrub mitigation will need to be complete as part of the Project.

## 5 SIGNATURES

The services provided by HEI scientists and engineers for this Project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained in this report represent our professional judgement and are based upon available information, our compliance inspections, and technically accepted practices. Other than this, no warranty is implied or expressed.

  
Emmy Baskerville, Project Manager

12-10-20  
Date



## 6 REFERENCES

North Dakota Public Service Commission (Commission) 2019. Online Case Search. Available from: <http://psc.nd.gov/public/casearch/>. Accessed November 2019.

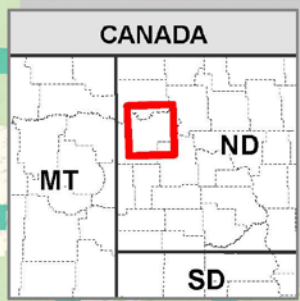
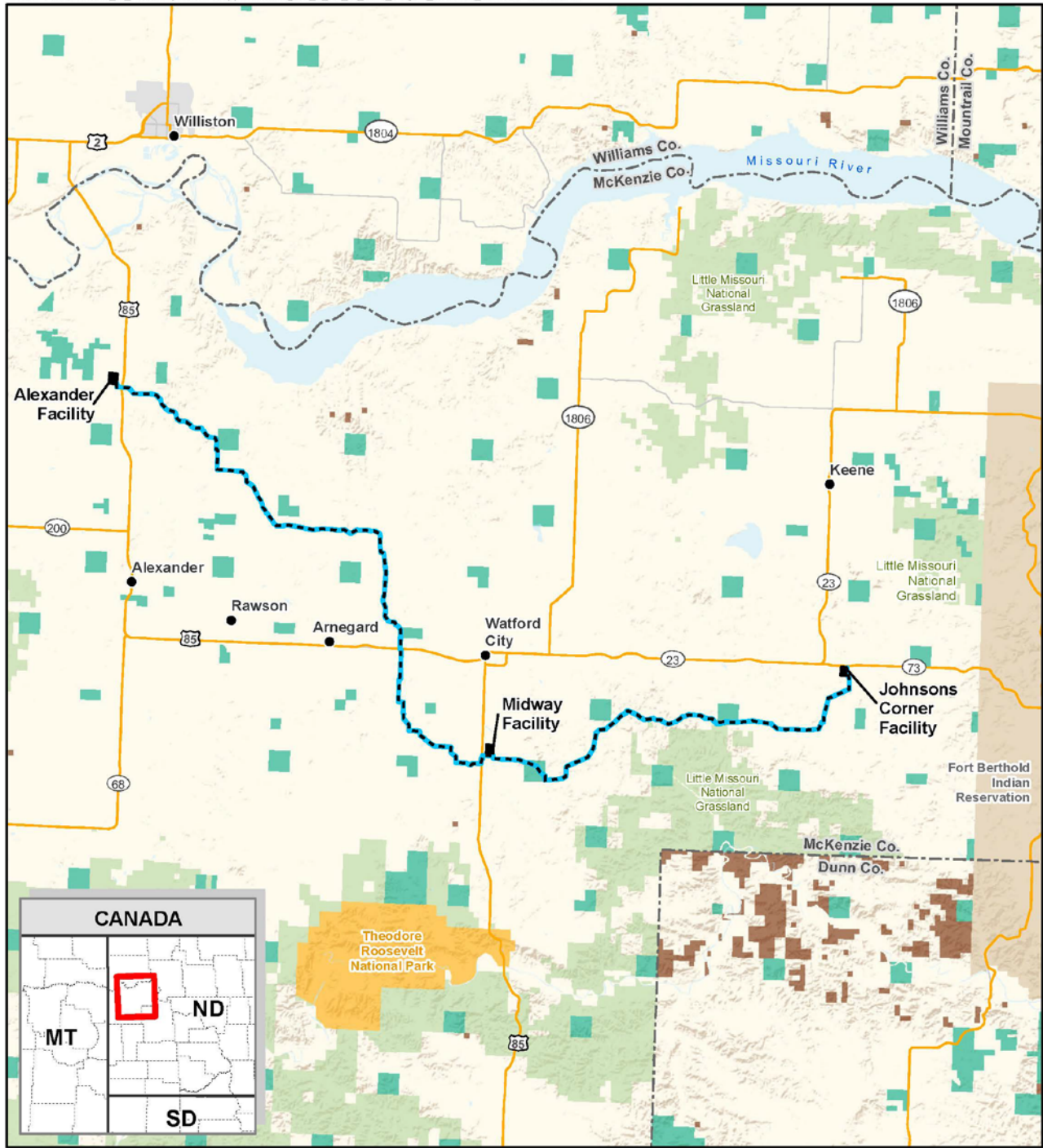




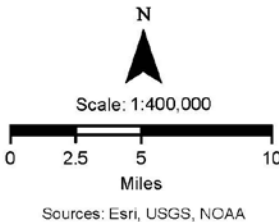
## EXHIBIT A: SITE MAP

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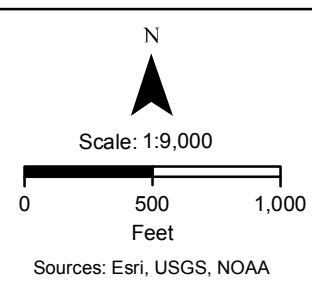
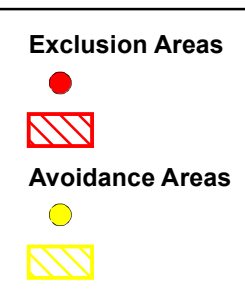
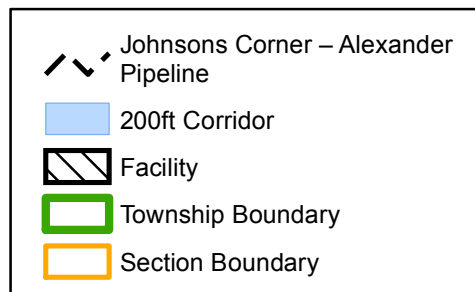
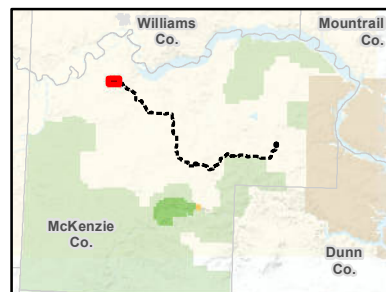
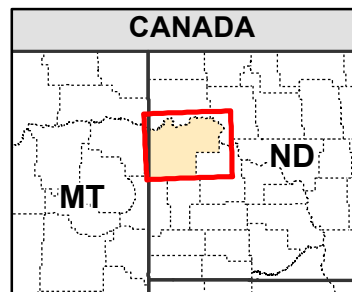
- |  |                           |
|--|---------------------------|
| --- Johnsons Corner - Alexander Pipeline | Major Urban Area          |
| 200ft Corridor                           | Surface Management Agency |
| ● City                                   | Bureau of Indian Affairs  |
| - - - County Boundary                    | Bureau of Land Management |
| Major Highway                            | Forest Service            |
| Major Road                               | National Park Service     |
| Water Body                               | State Lands               |



**Figure 1**  
**Johnsons Corner - Alexander Pipeline**

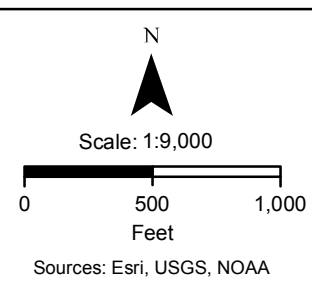
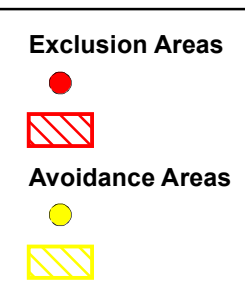
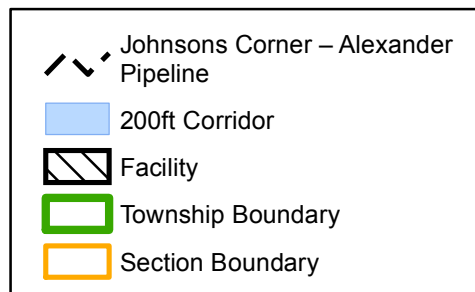
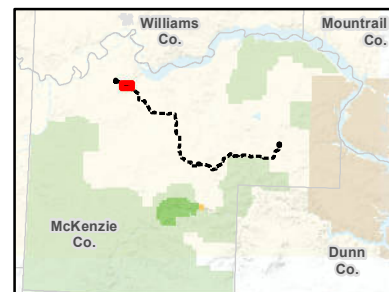
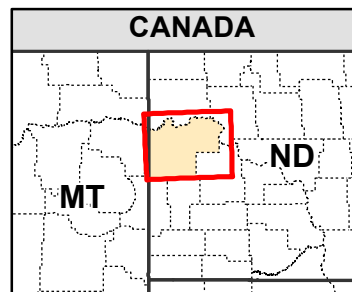
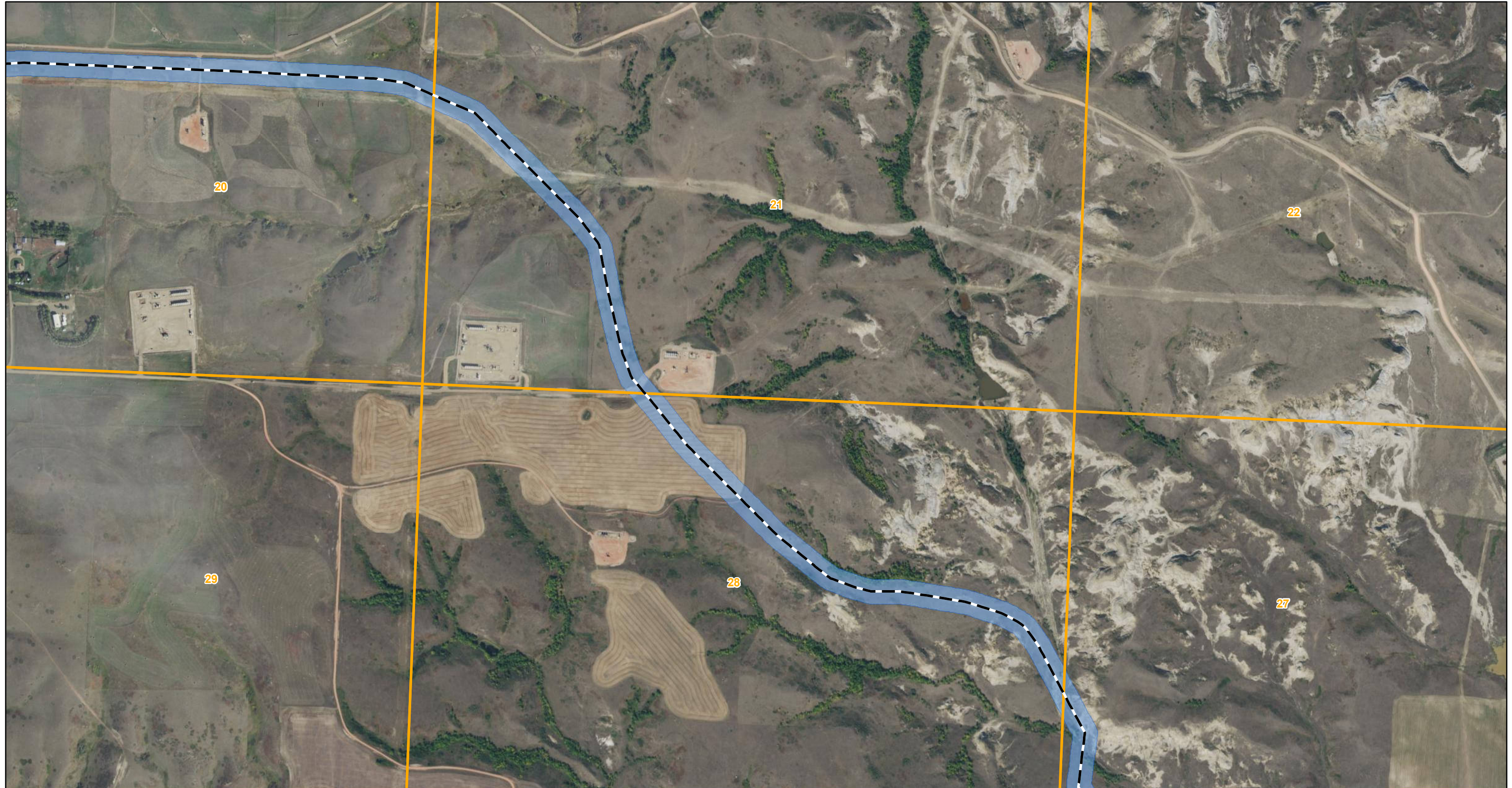
McKenzie Co., North Dakota





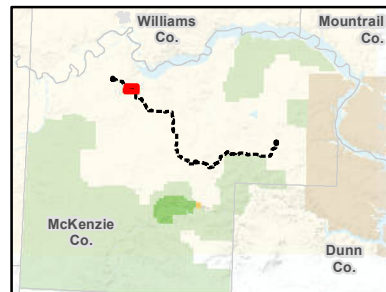
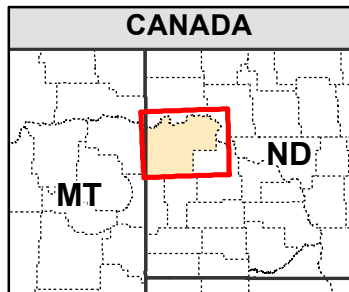
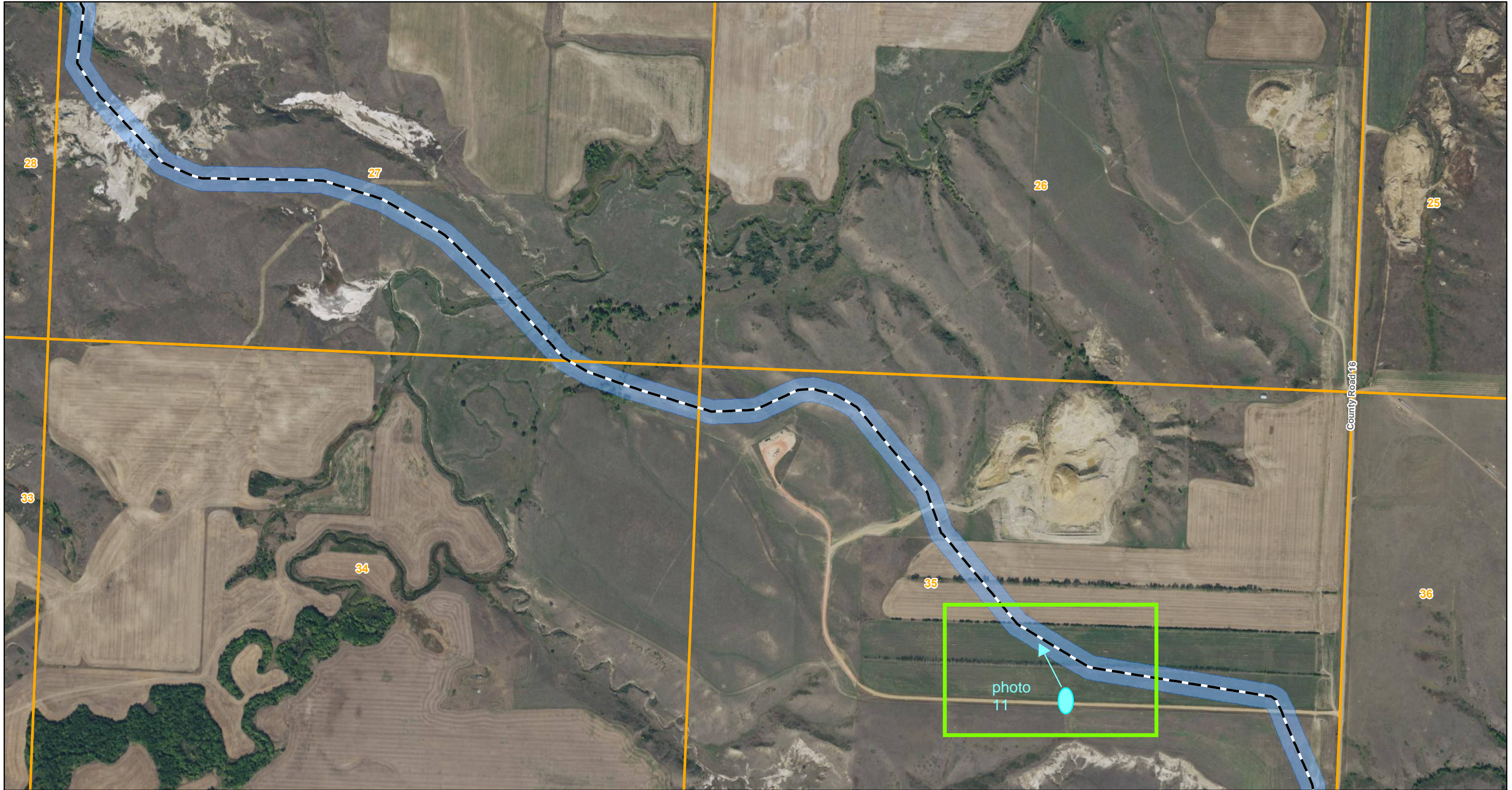
**Appendix J - Figure 7**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander Pipeline  
 McKenzie Co., North Dakota





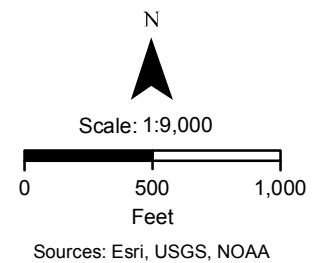
**Appendix J - Figure 8**  
**Exclusions and Avoidances**  
Johnsons Corner - Alexander Pipeline  
McKenzie Co., North Dakota





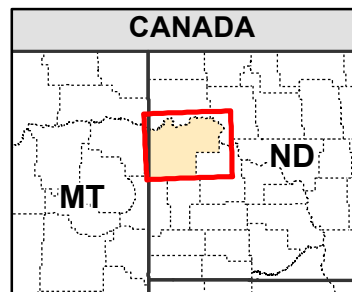
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
- 
- 
- Avoidance Areas**
- 
- 



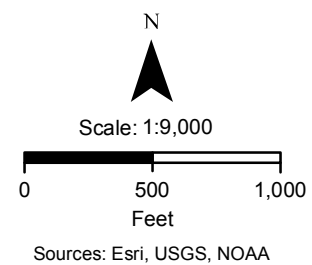
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**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





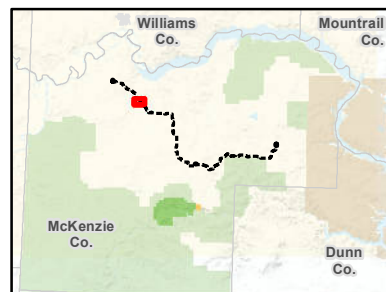
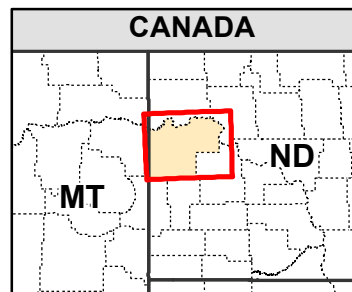
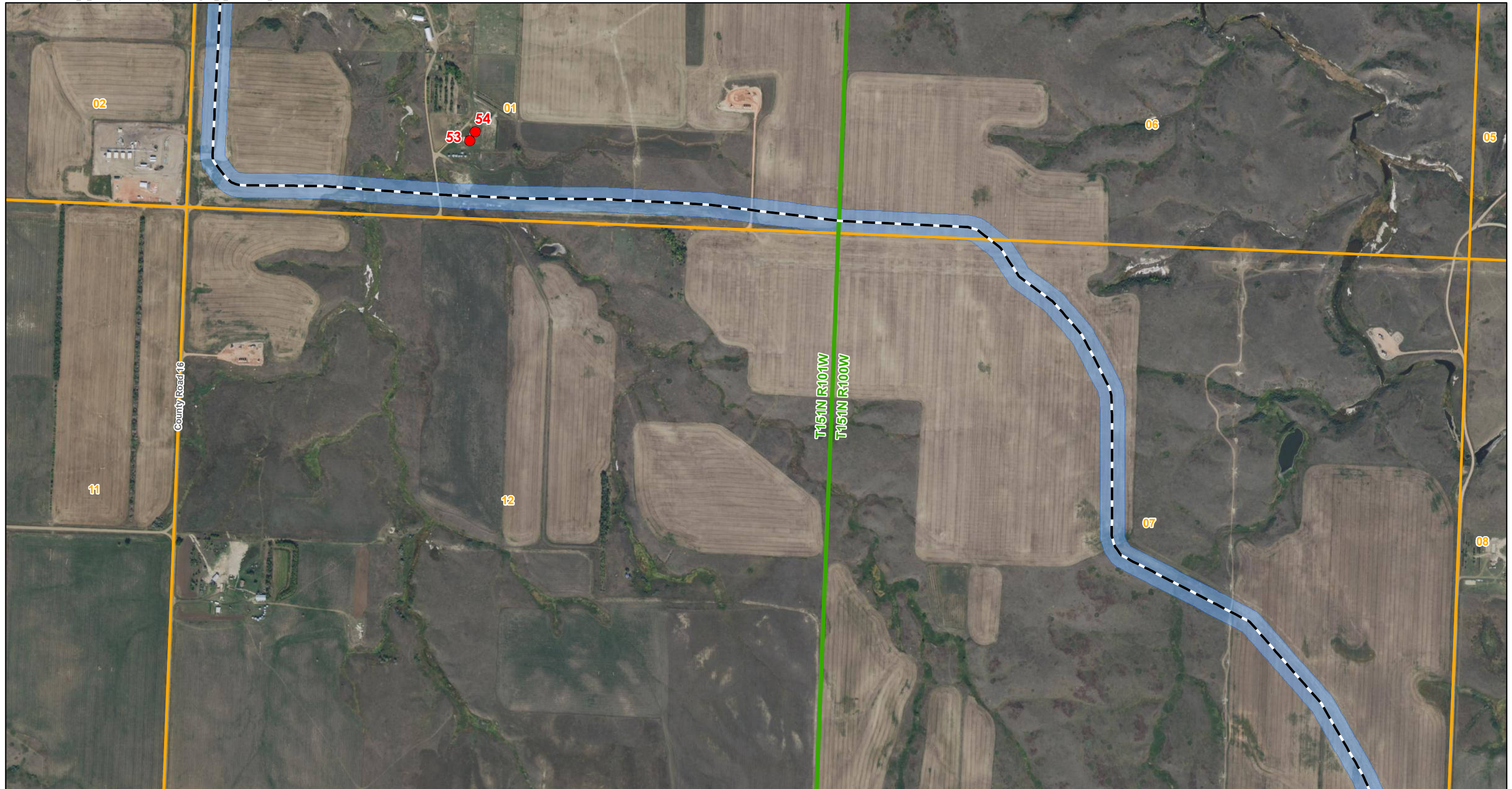
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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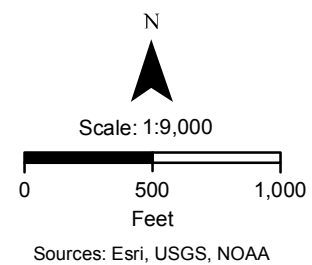
**Appendix J - Figure 10**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





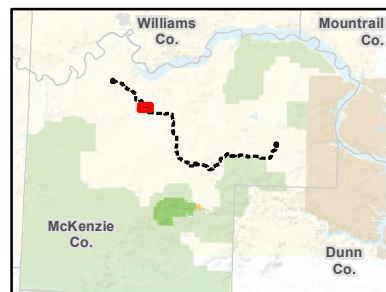
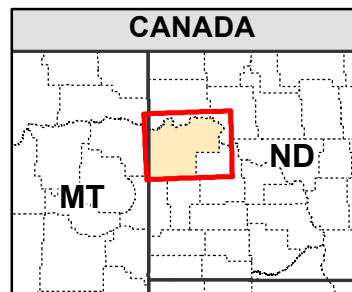
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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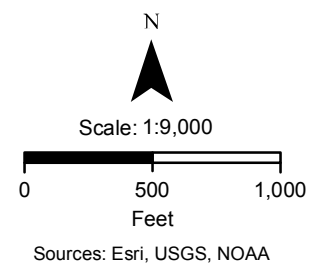
**Appendix J - Figure 11**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





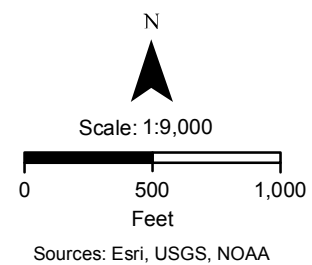
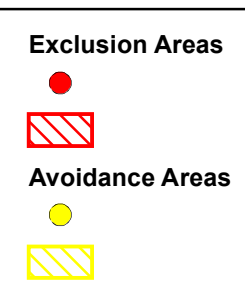
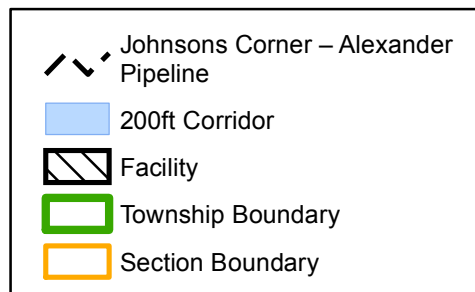
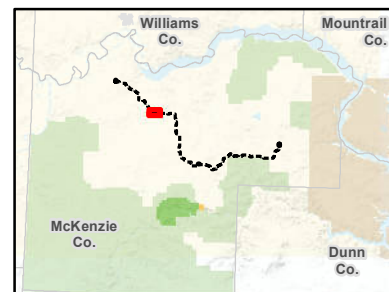
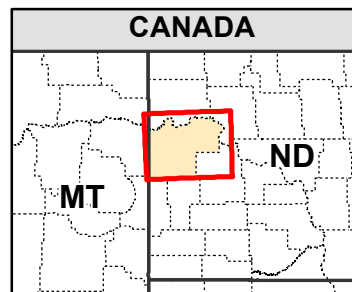
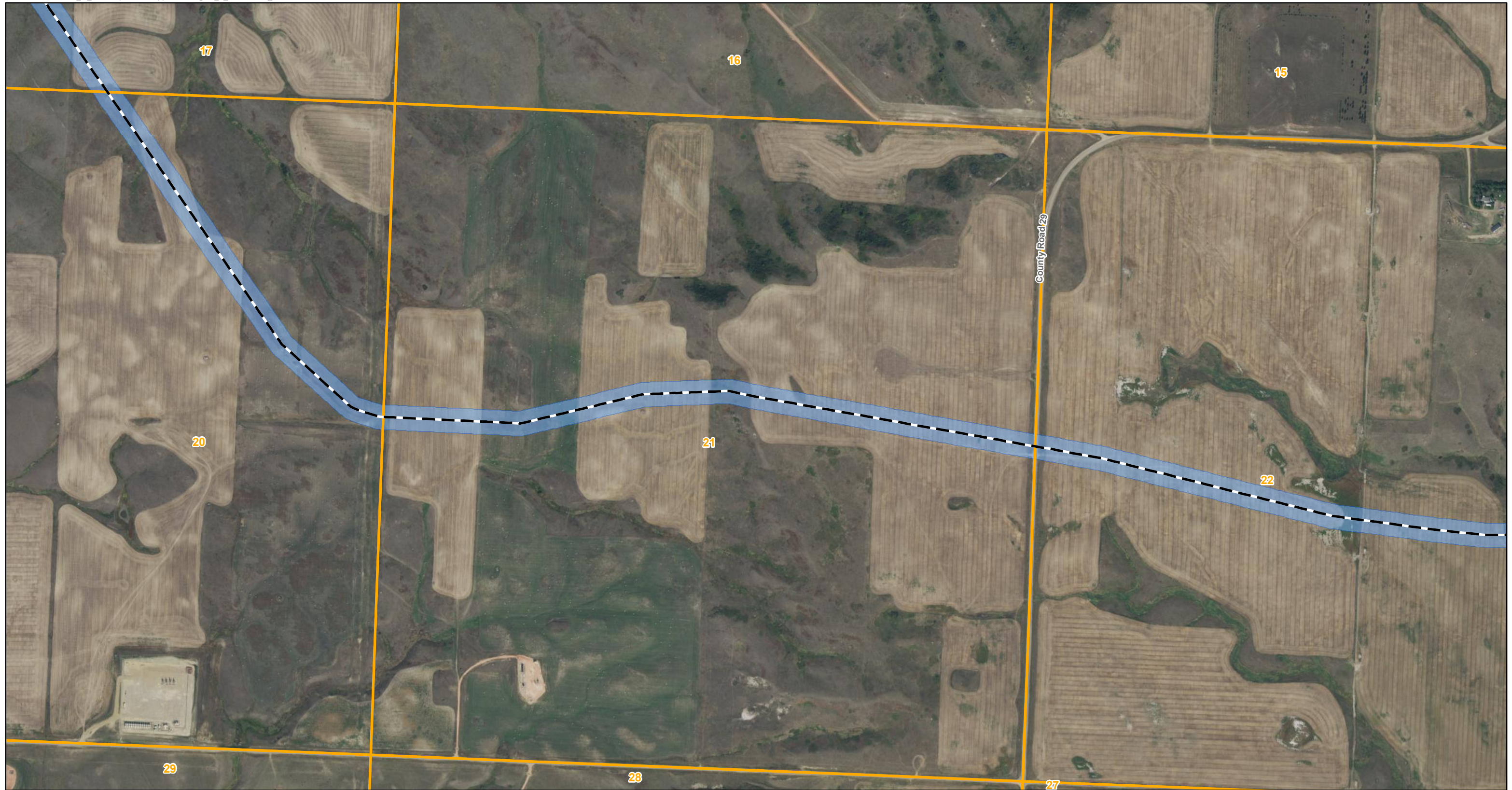
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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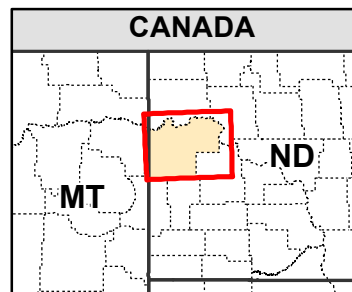
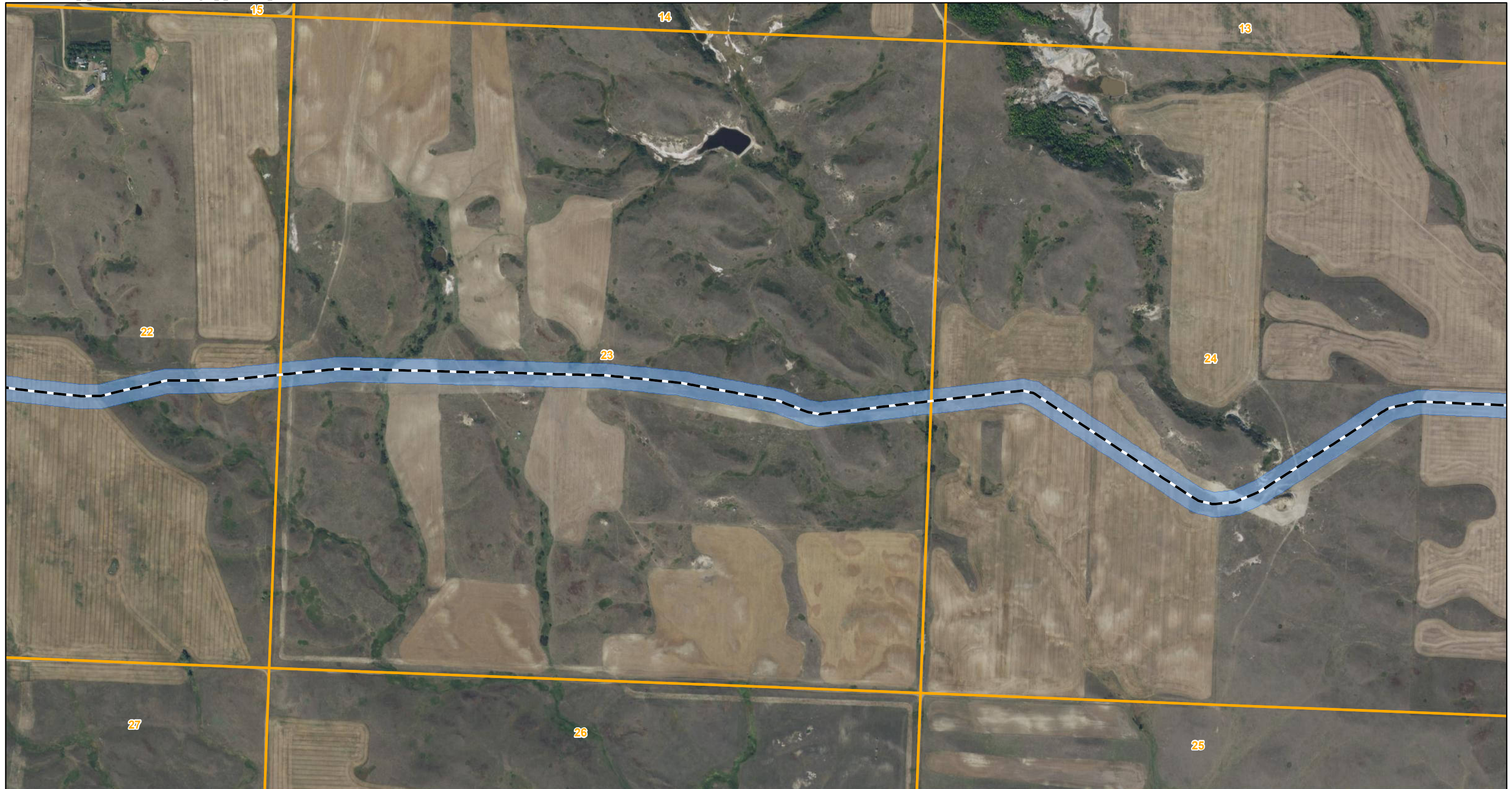
**Appendix J - Figure 12**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





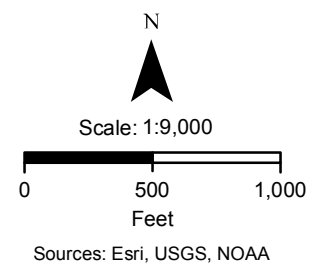
**Appendix J - Figure 13**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander Pipeline  
 McKenzie Co., North Dakota





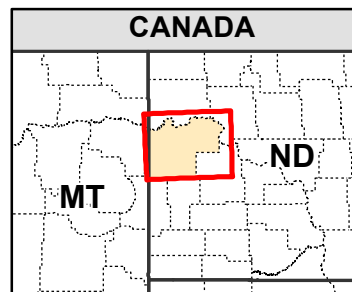
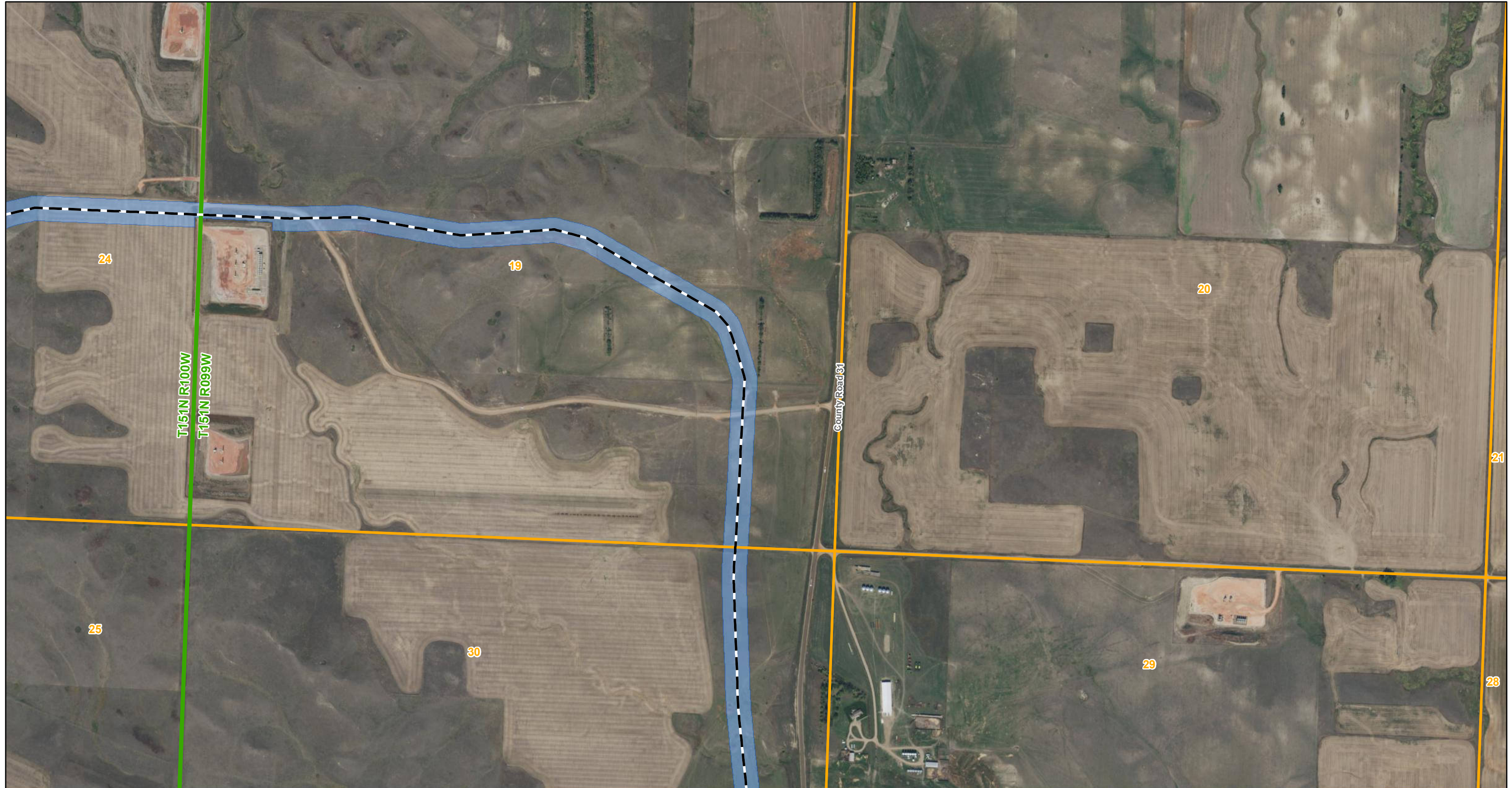
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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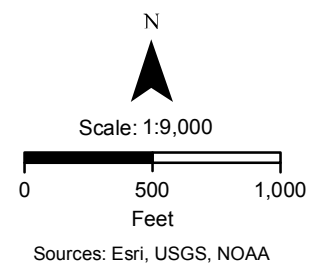
**Appendix J - Figure 14**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





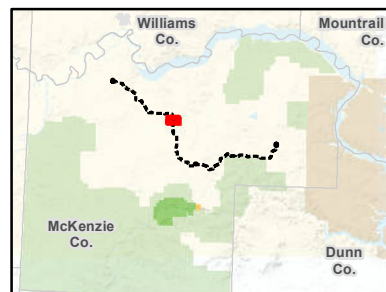
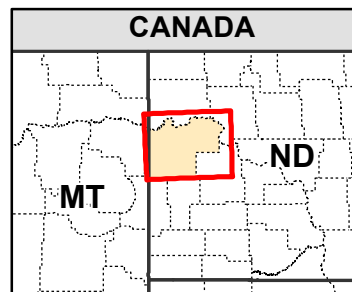
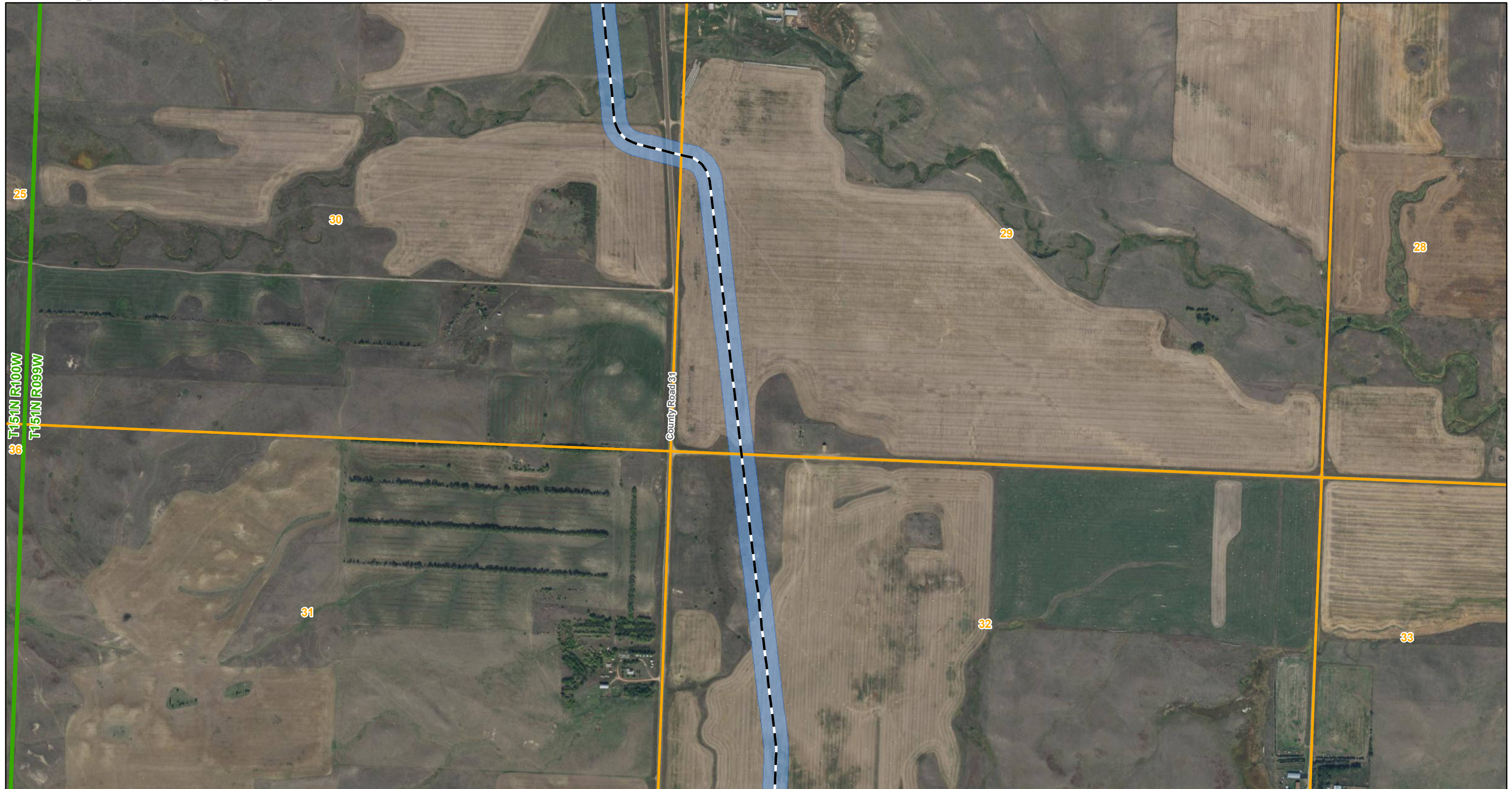
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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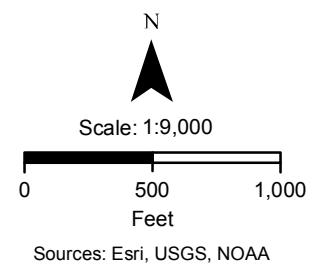
**Appendix J - Figure 15**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





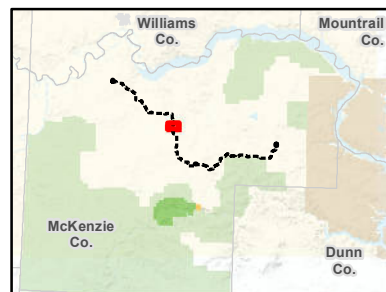
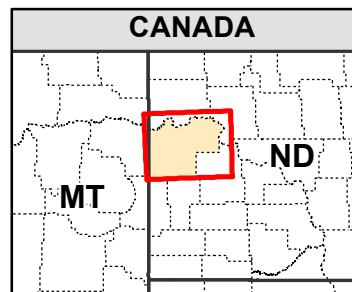
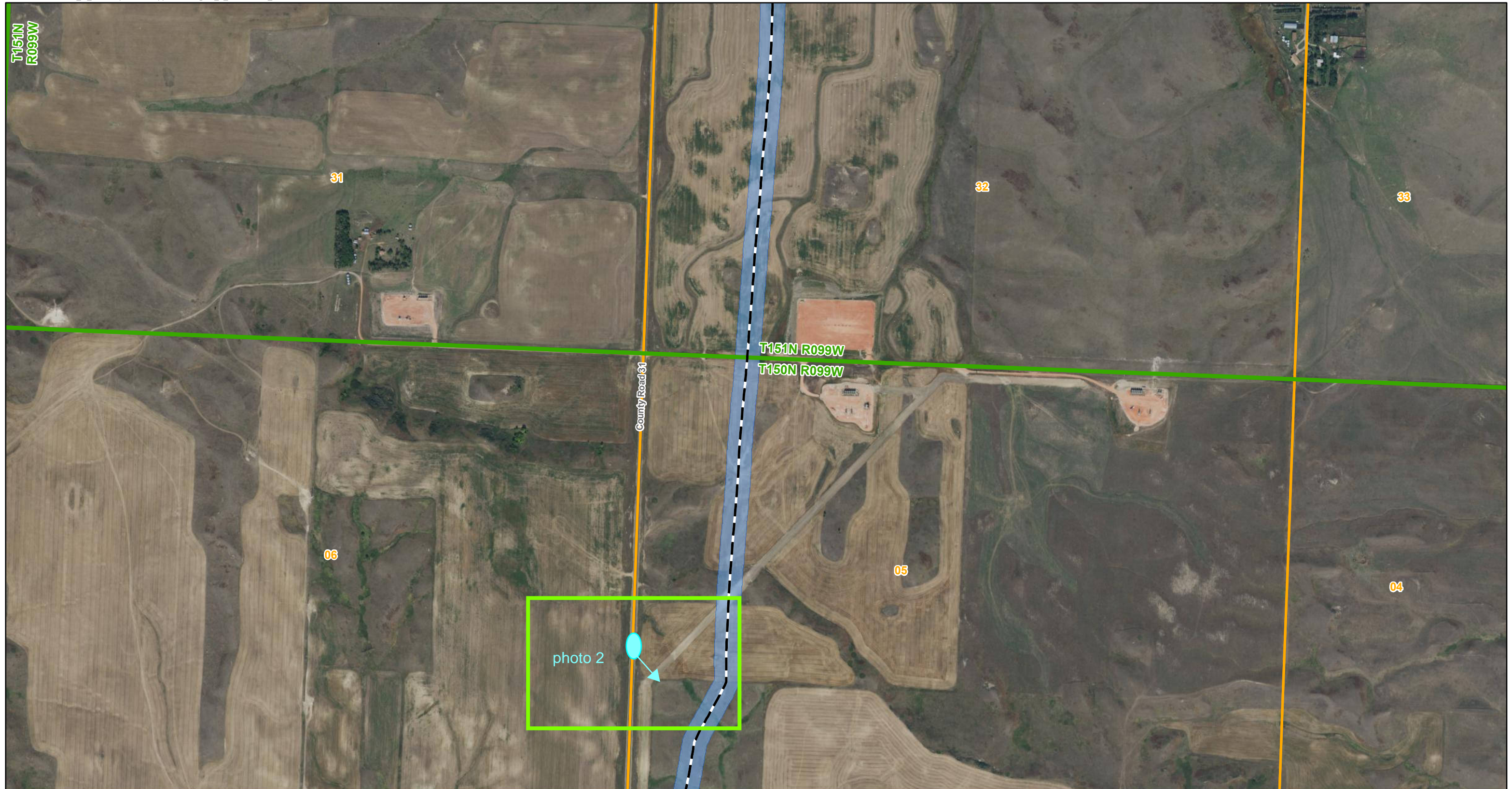
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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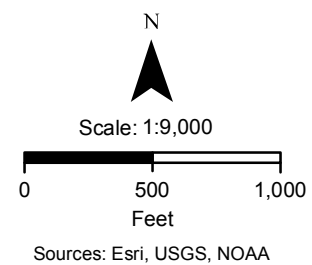
**Appendix J - Figure 16**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander  
 Pipeline  
 McKenzie Co., North Dakota





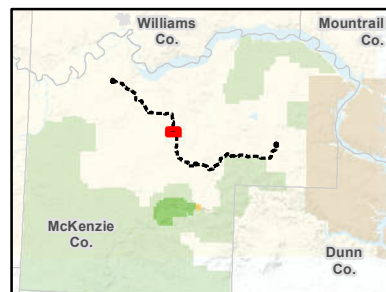
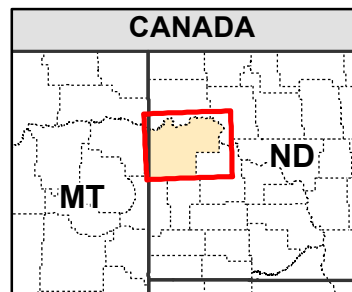
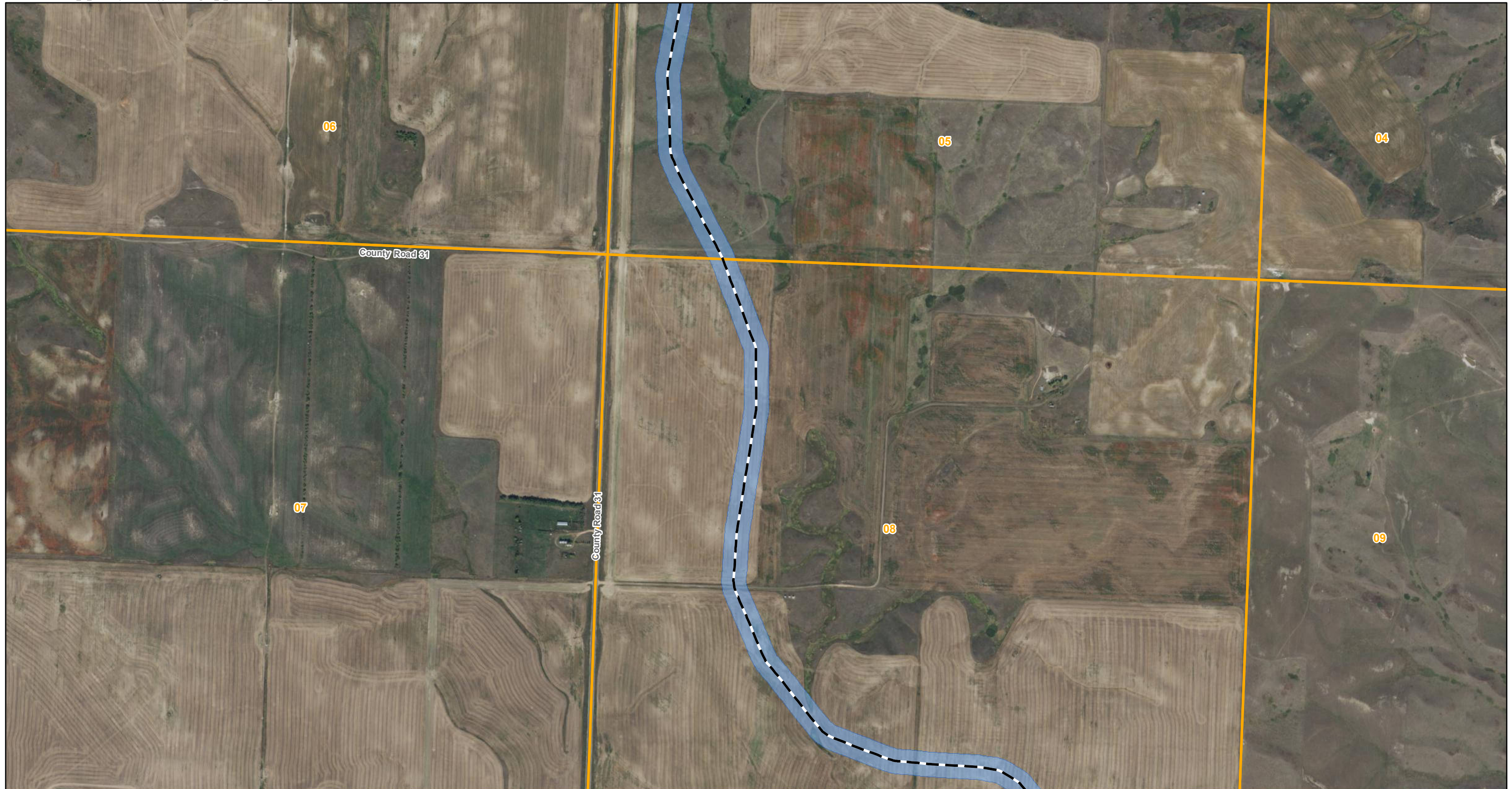
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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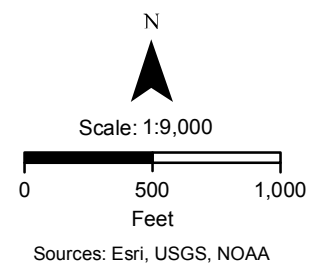
**Appendix J - Figure 17**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





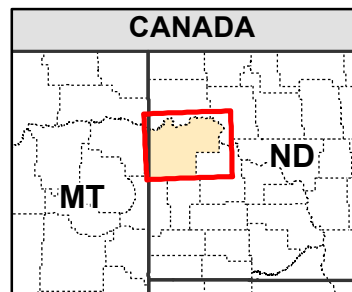
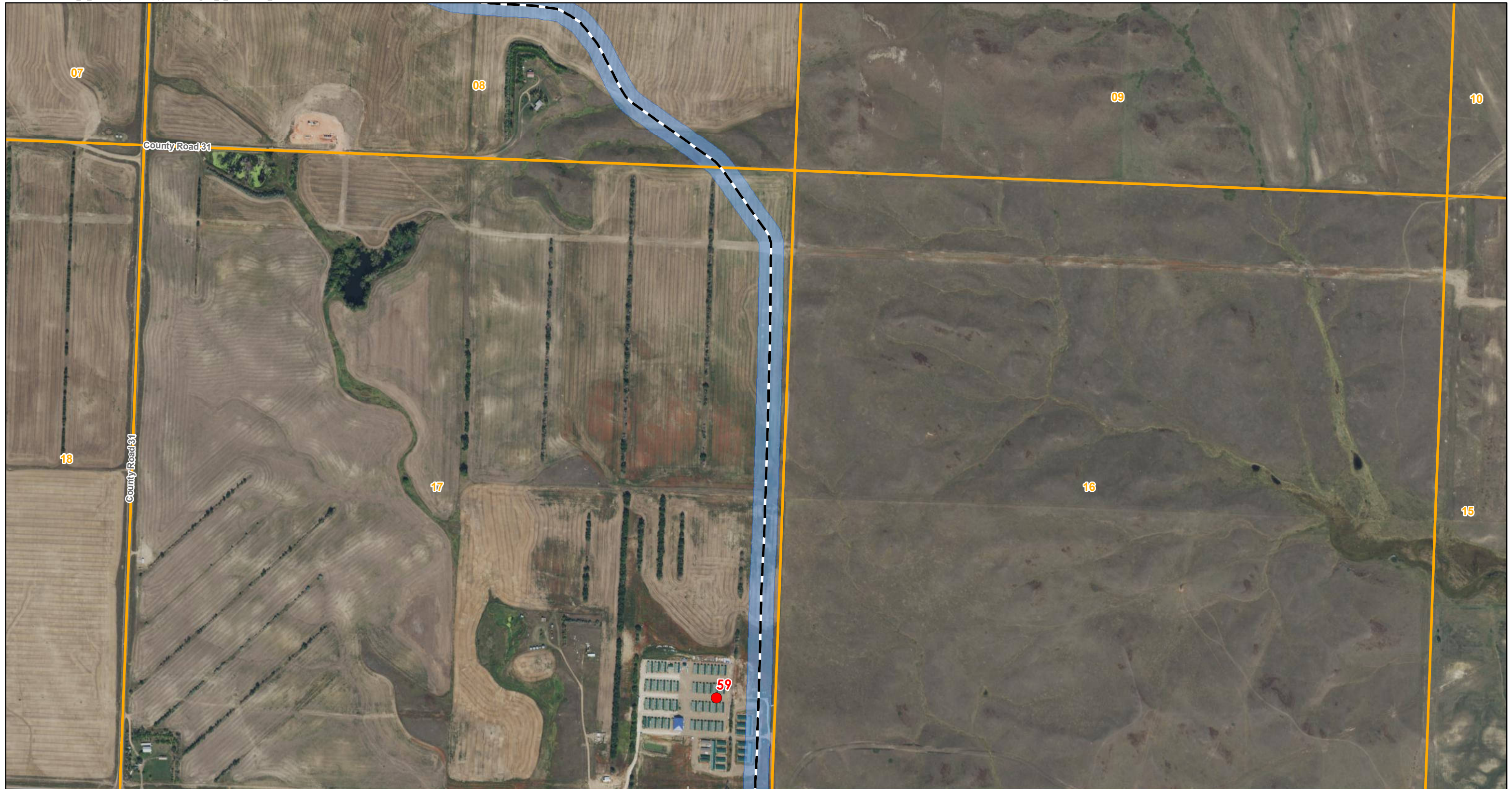
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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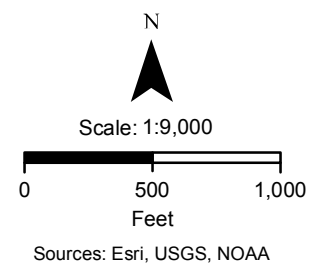
**Appendix J - Figure 18**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





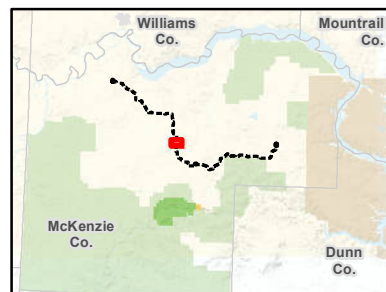
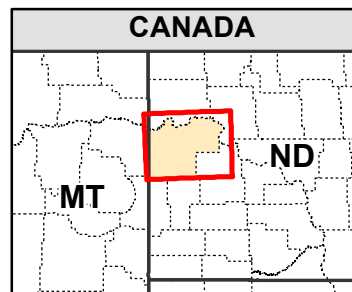
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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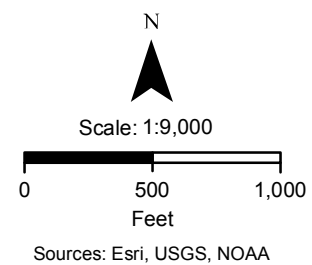
**Appendix J - Figure 19**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





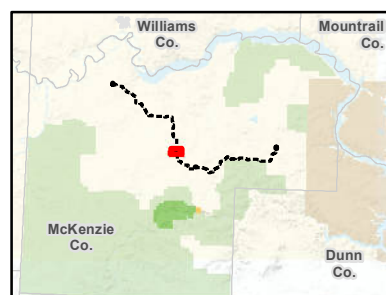
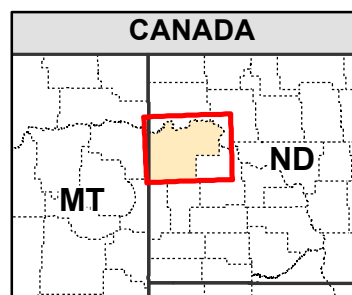
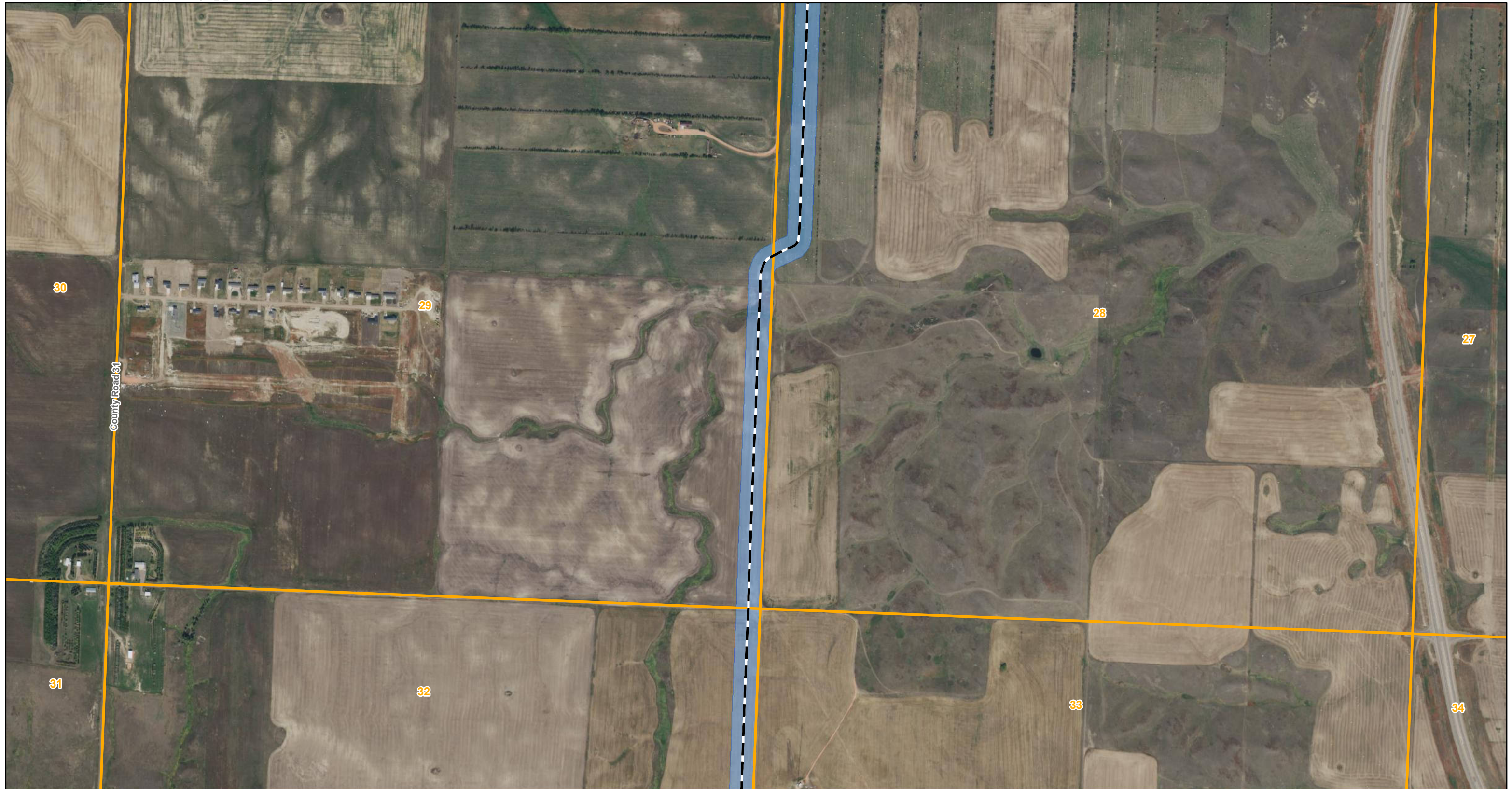
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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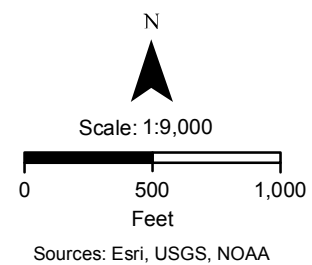
**Appendix J - Figure 20**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander Pipeline  
 McKenzie Co., North Dakota





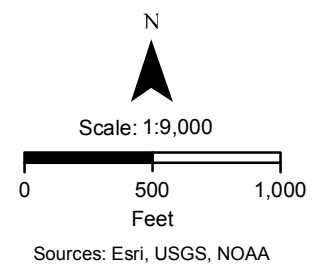
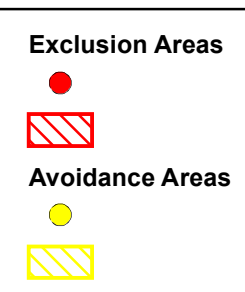
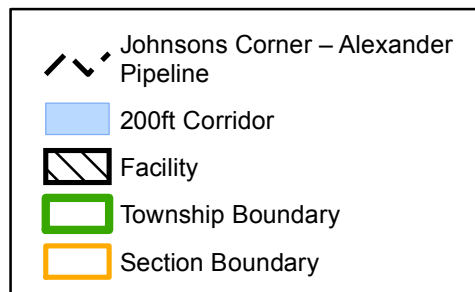
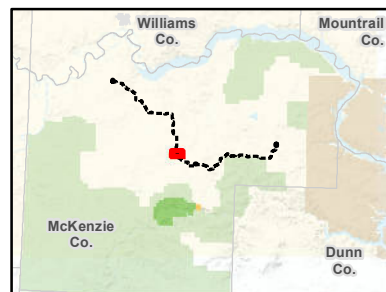
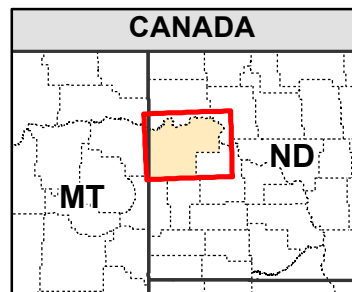
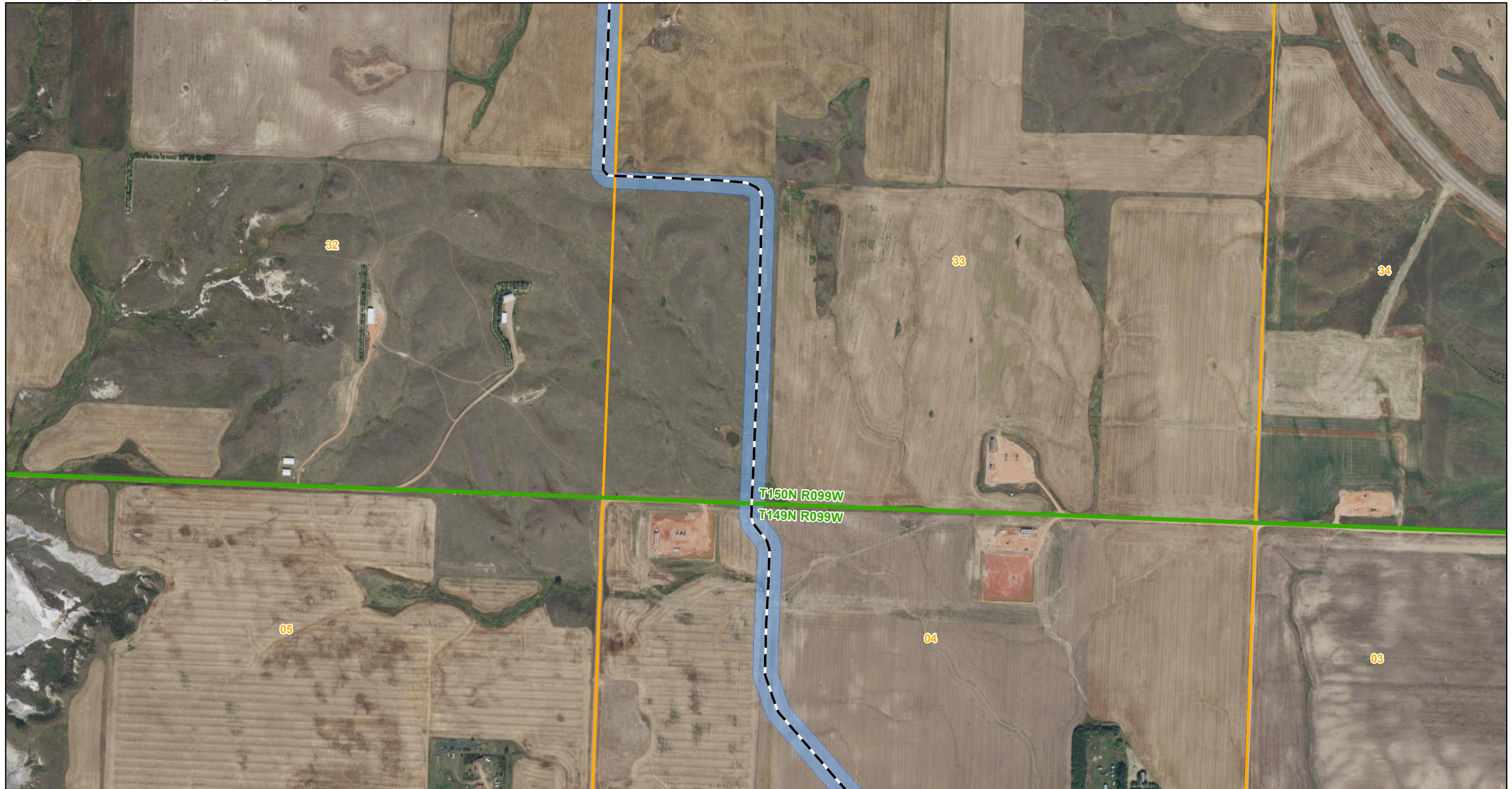
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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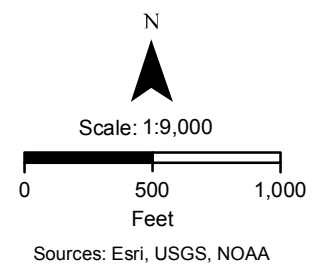
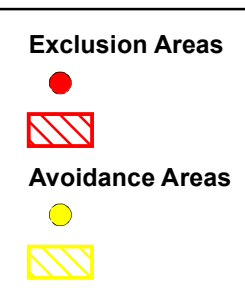
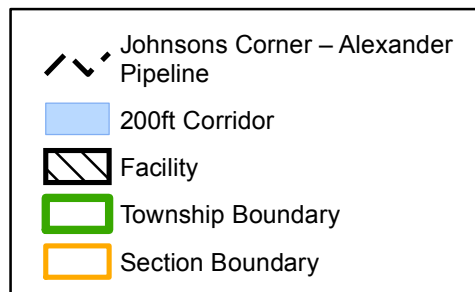
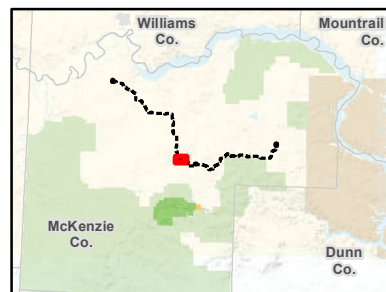
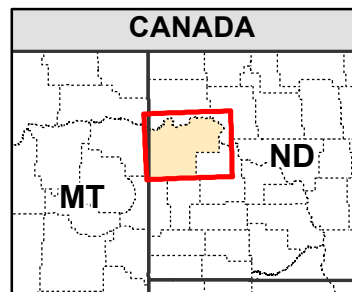
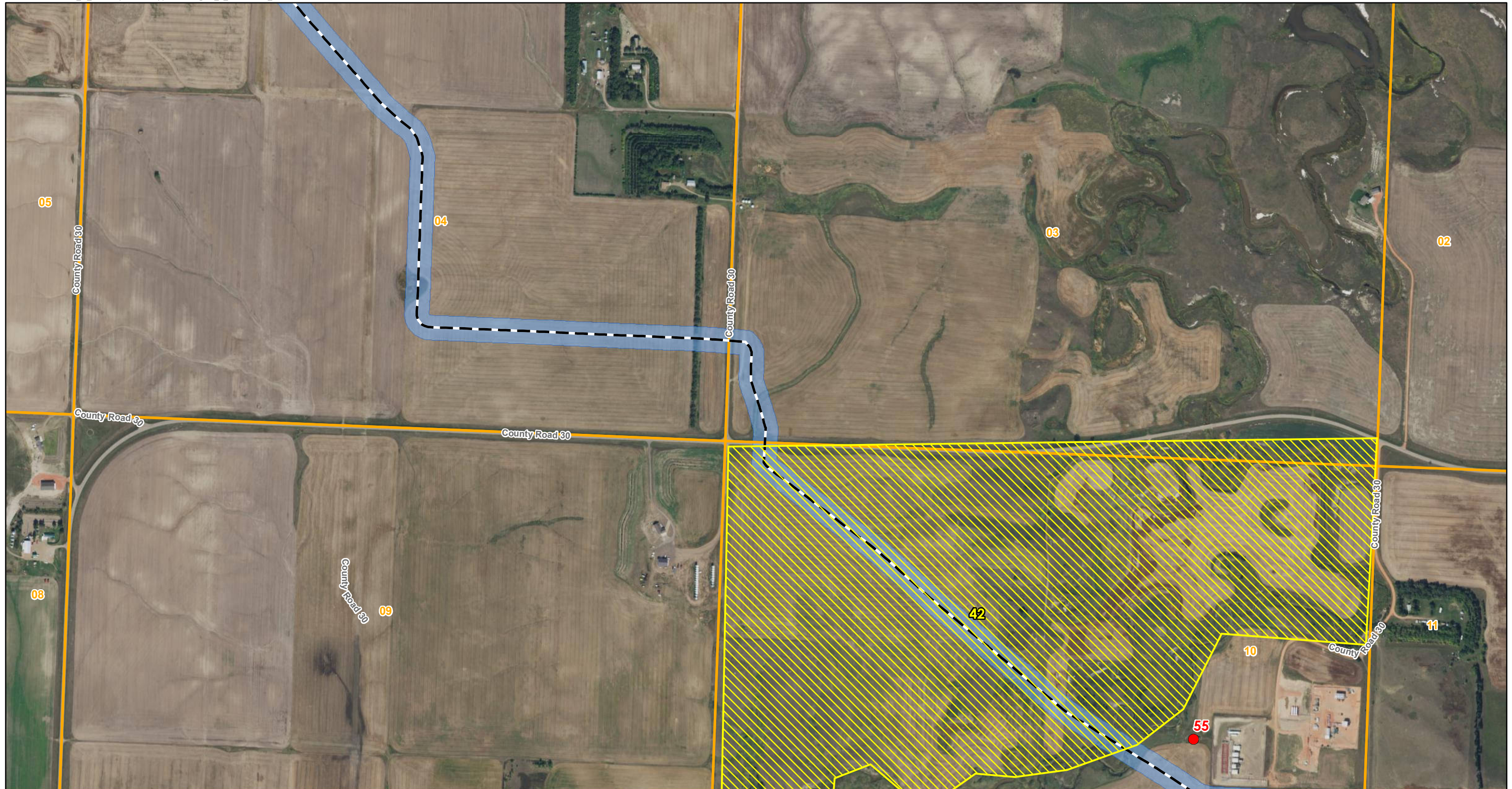
**Appendix J - Figure 21**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





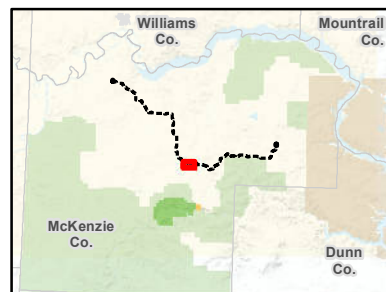
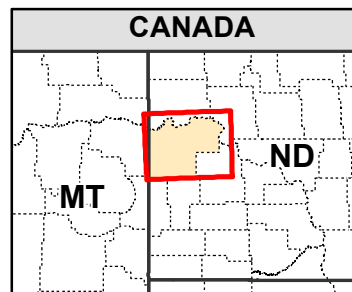
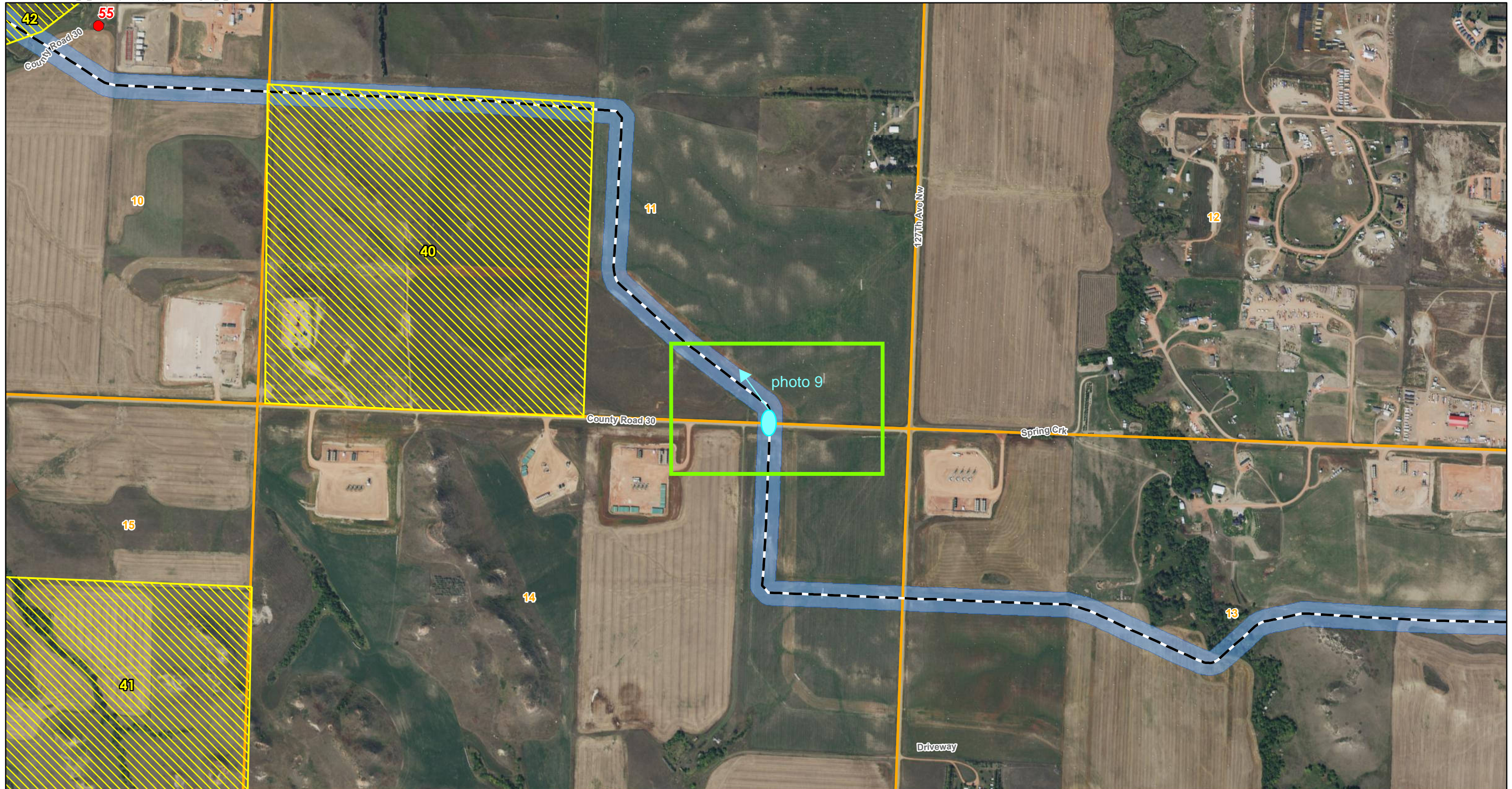
**Appendix J - Figure 22**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





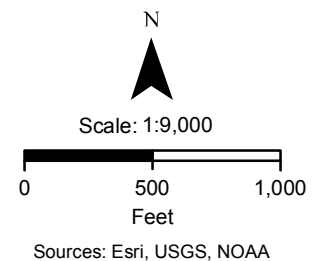
**Appendix J - Figure 23**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander Pipeline  
 McKenzie Co., North Dakota



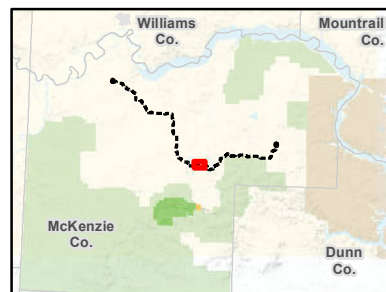
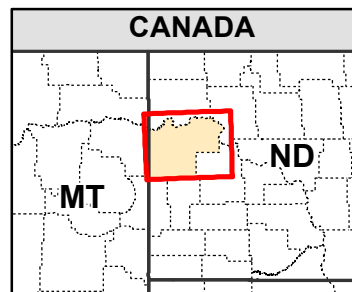


- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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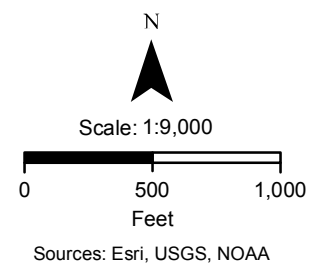


**Appendix J - Figure 24**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota



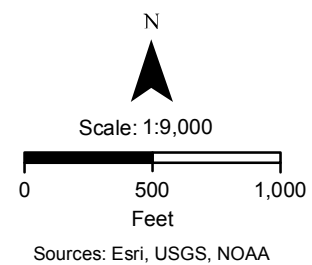
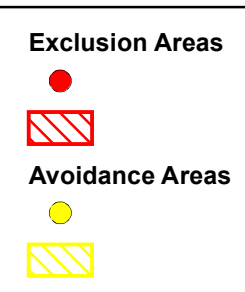
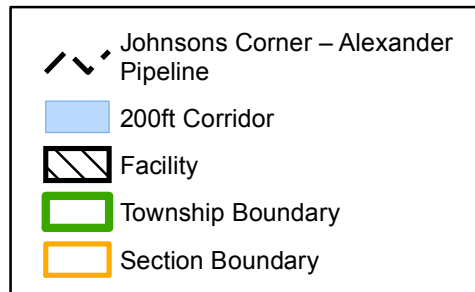
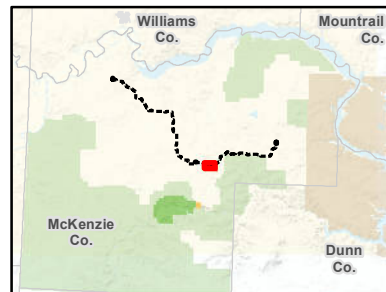
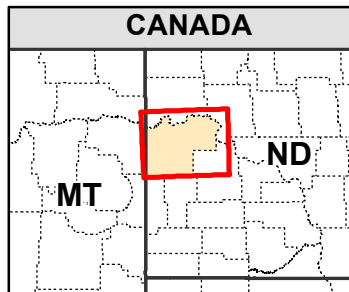
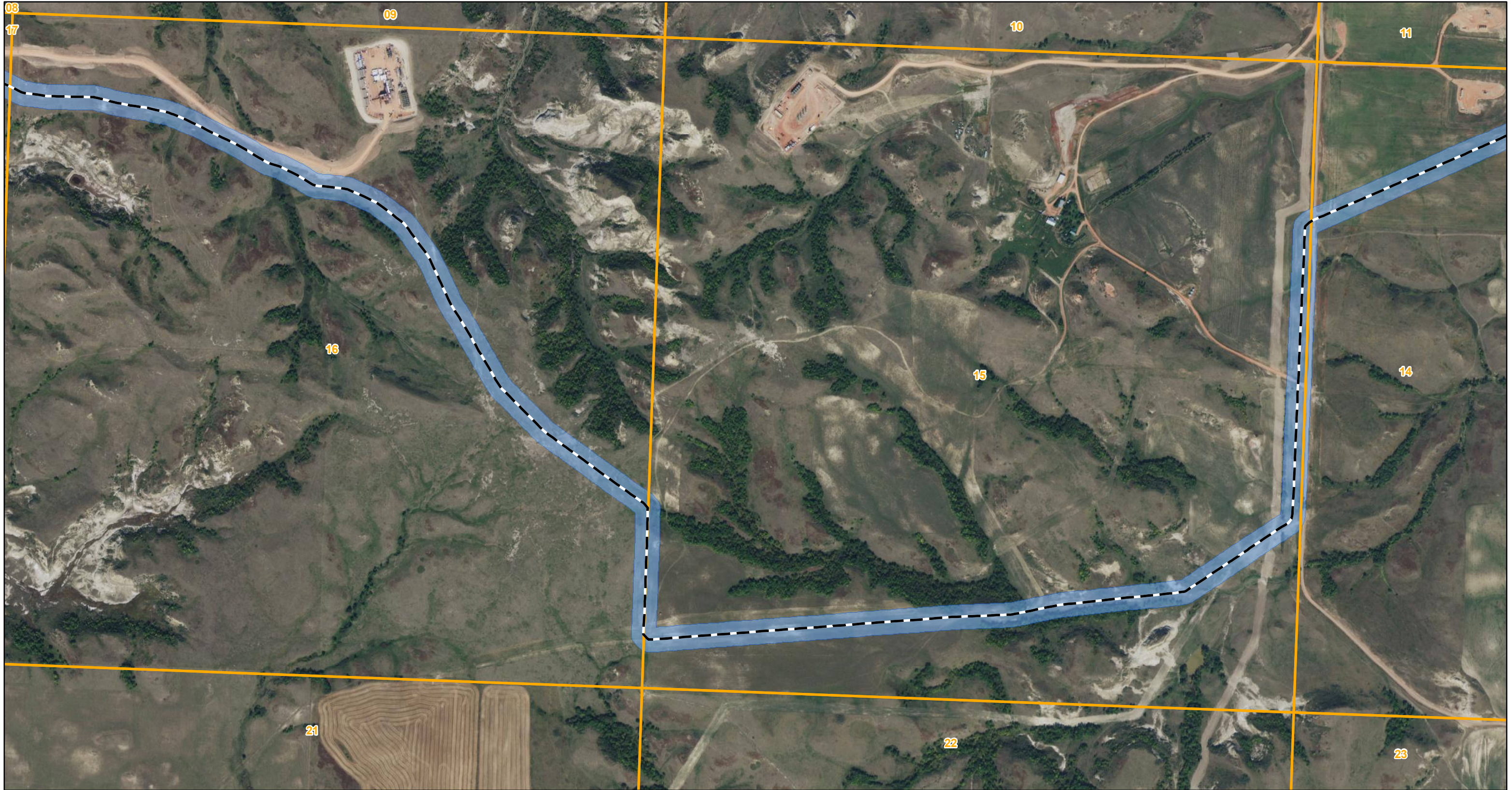
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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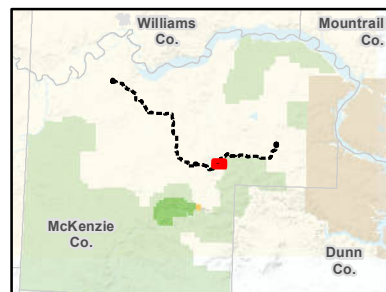
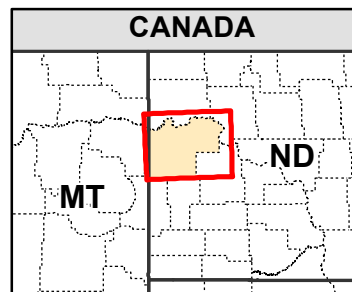
**Appendix J - Figure 25**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





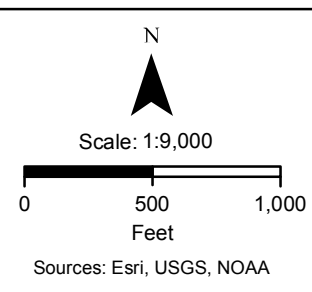
**Appendix J - Figure 26**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





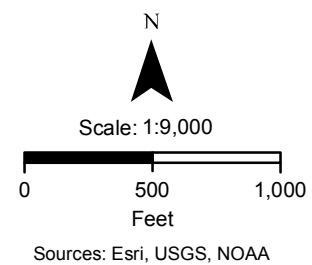
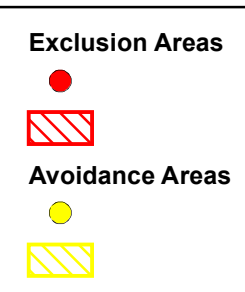
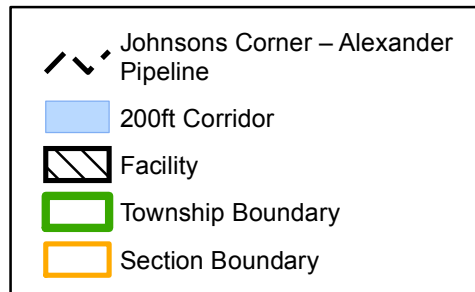
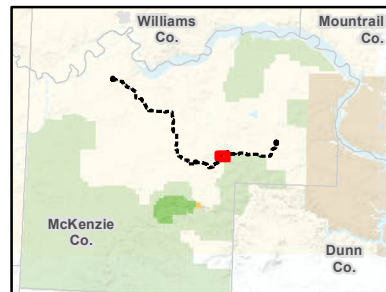
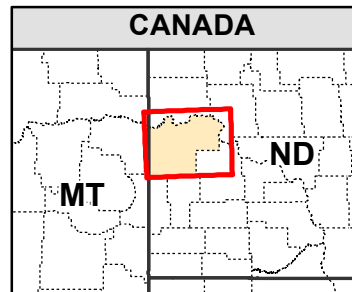
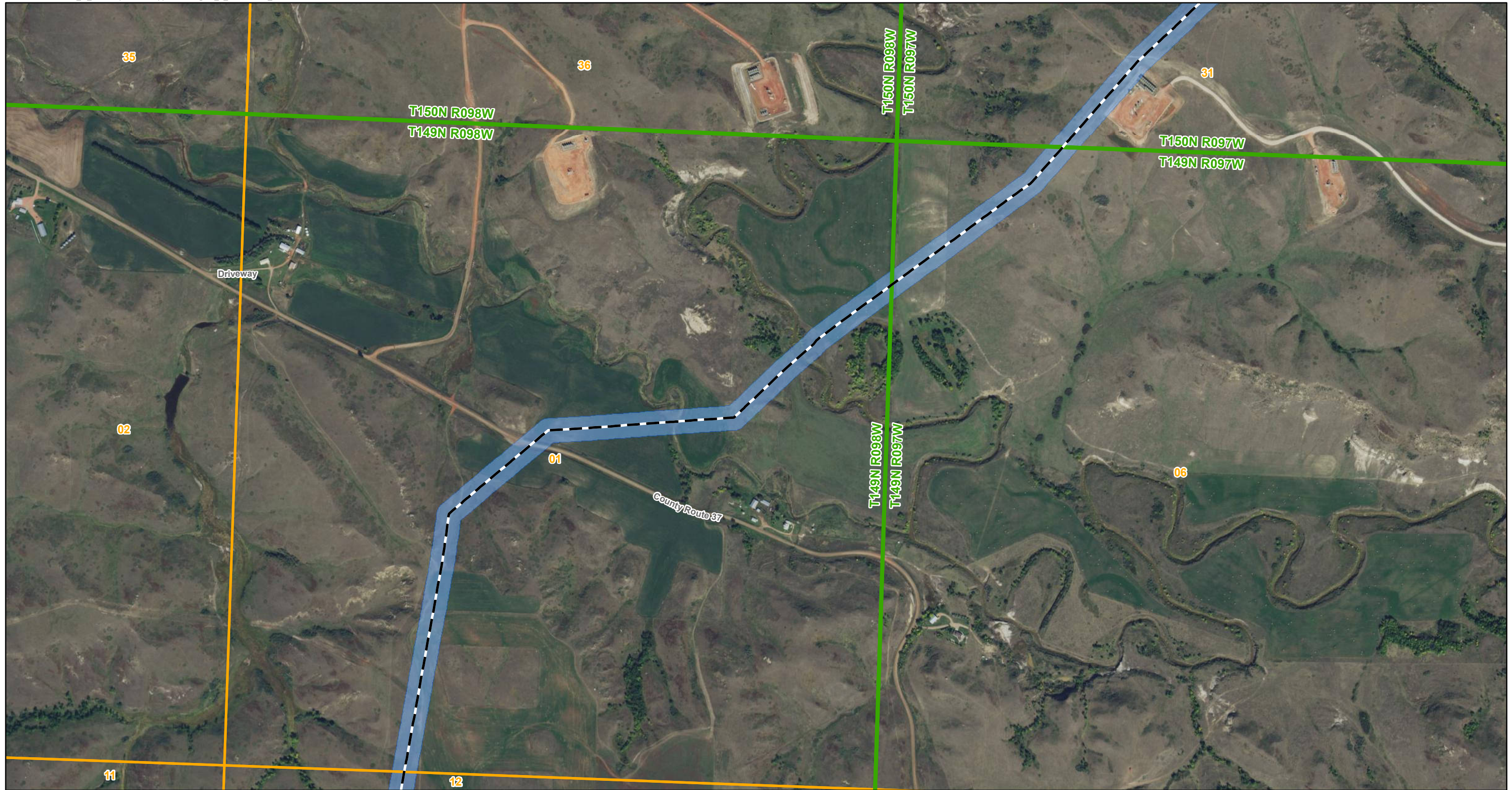
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
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- Avoidance Areas**
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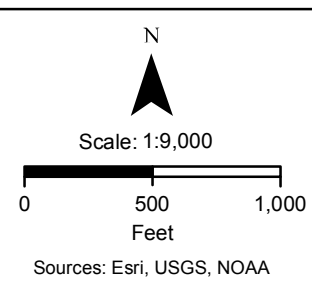
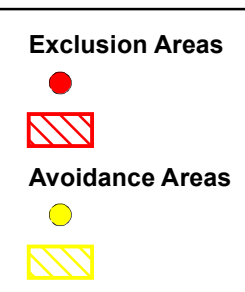
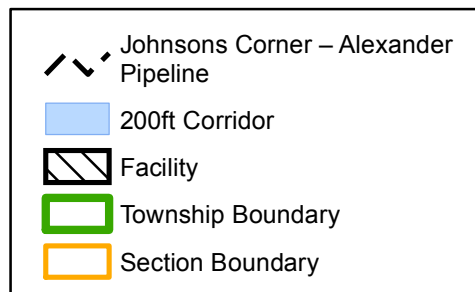
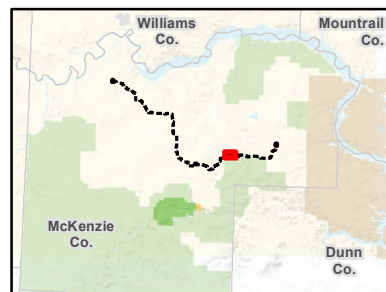
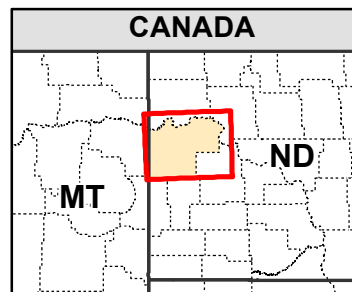
**Appendix J - Figure 27**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





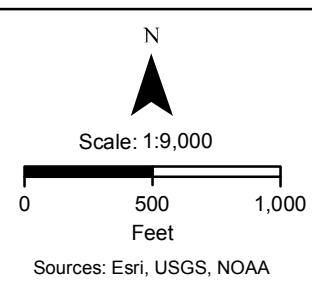
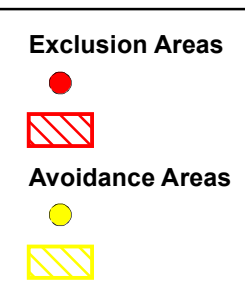
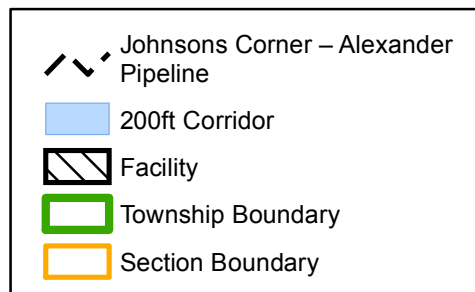
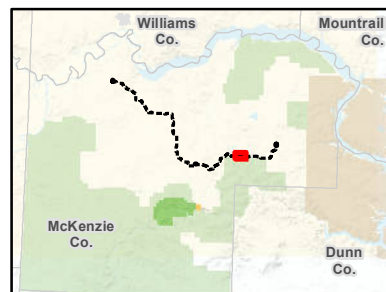
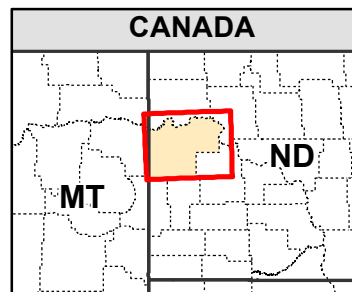
**Appendix J - Figure 28**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





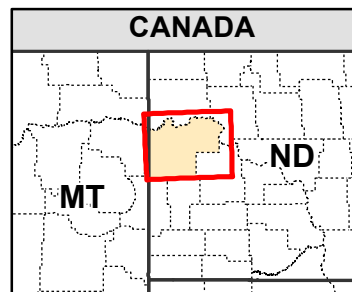
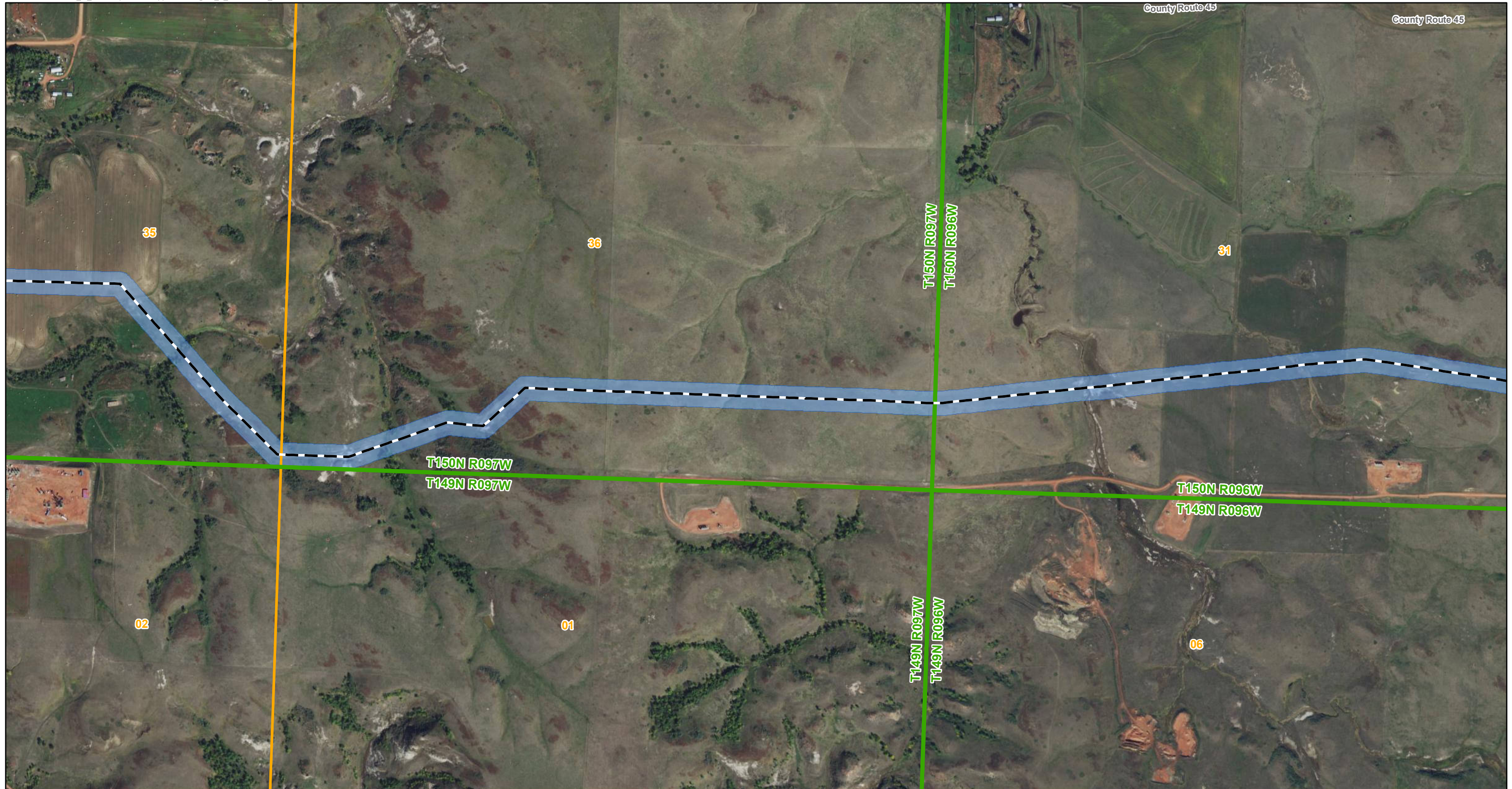
**Appendix J - Figure 29**  
**Exclusions and Avoidances**  
Johnsons Corner - Alexander  
Pipeline  
McKenzie Co., North Dakota





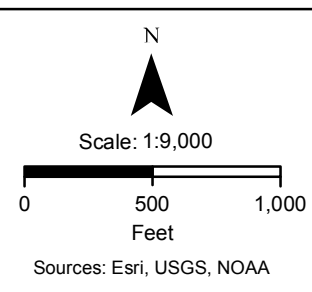
**Appendix J - Figure 30**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander  
 Pipeline  
 McKenzie Co., North Dakota





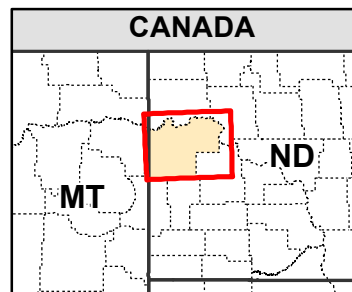
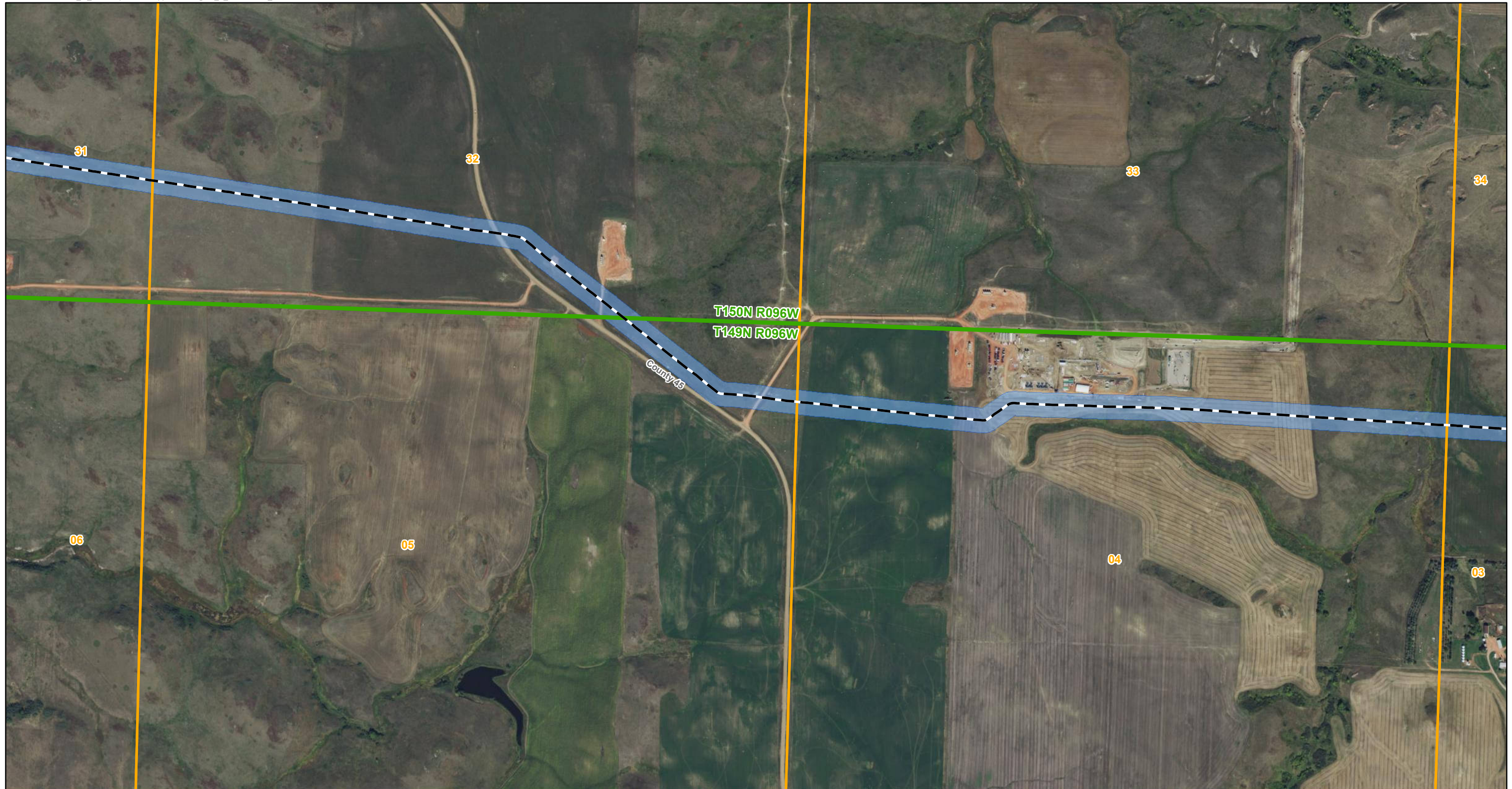
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
- 
- 
- Avoidance Areas**
- 
- 



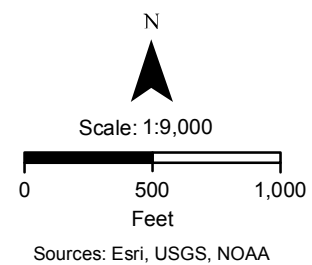
**Appendix J - Figure 31**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander Pipeline  
 McKenzie Co., North Dakota





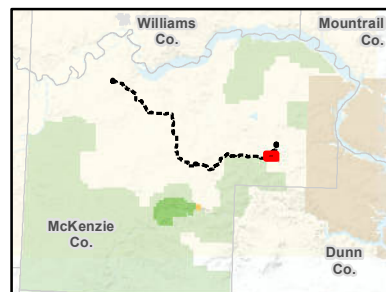
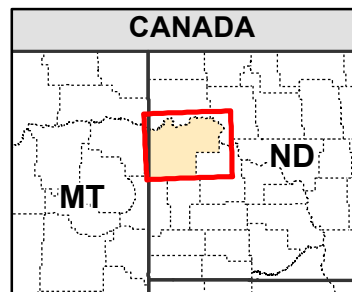
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
- 
- 
- Avoidance Areas**
- 
- 



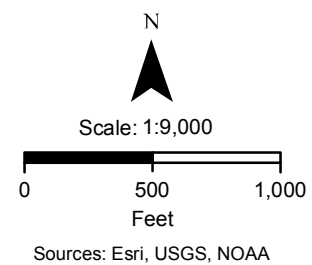
**Appendix J - Figure 32**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander  
 Pipeline  
 McKenzie Co., North Dakota





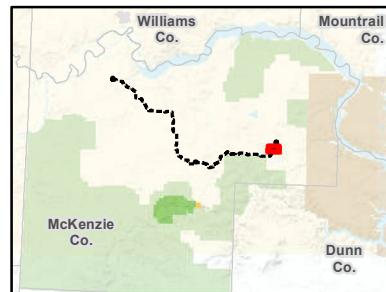
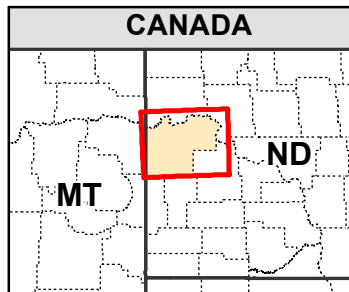
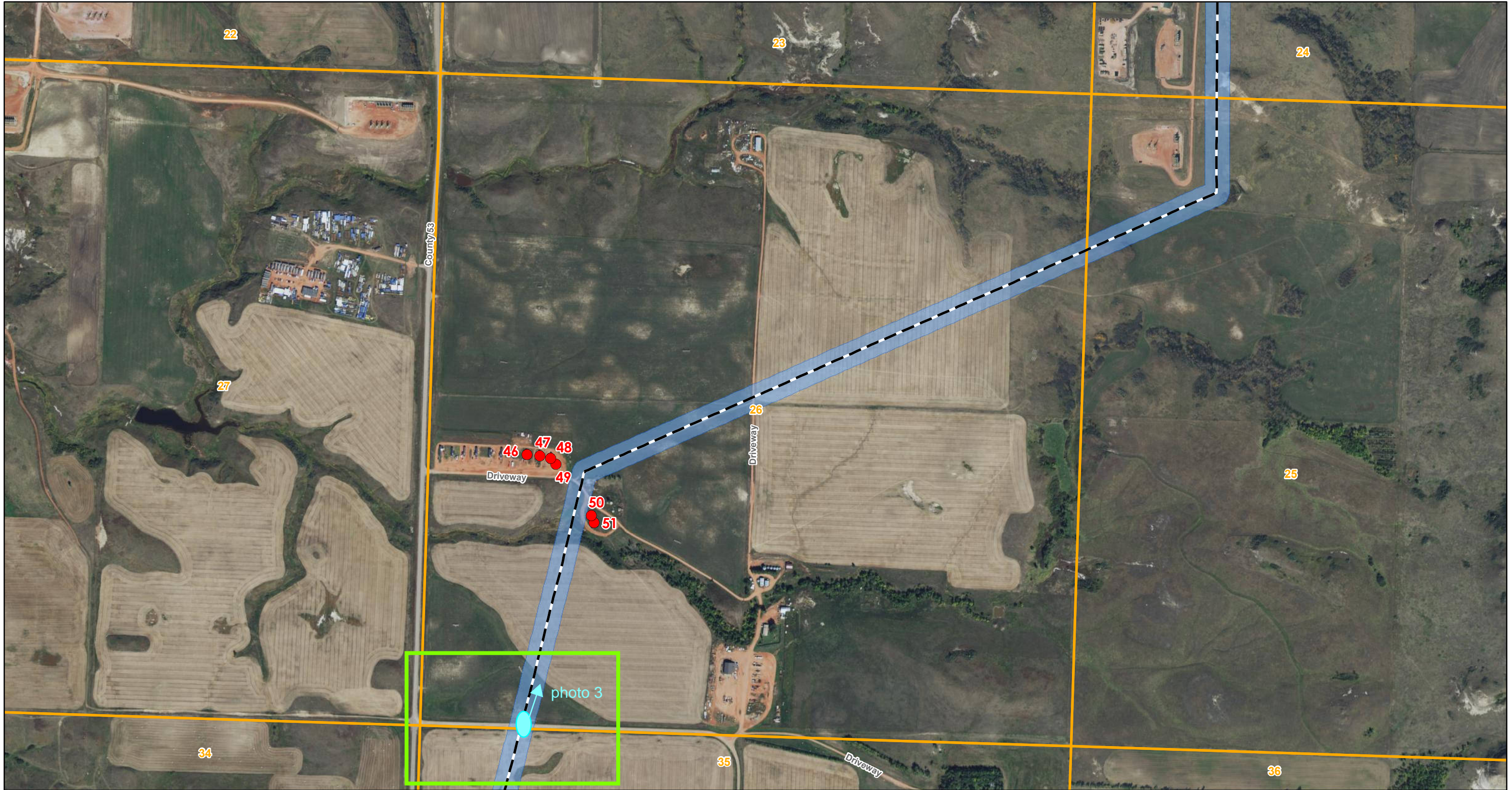
- Johnsons Corner – Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
- 
- 
- Avoidance Areas**
- 
- 



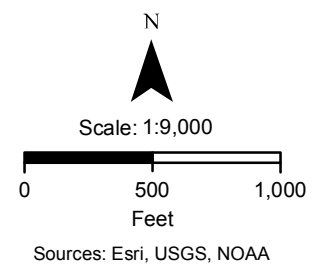
**Appendix J - Figure 33**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota





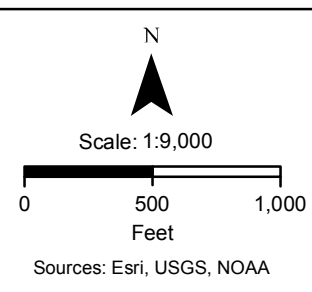
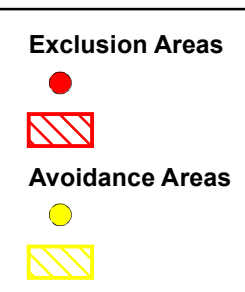
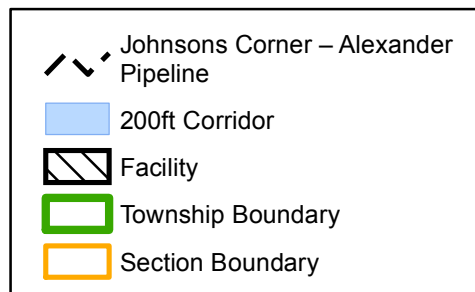
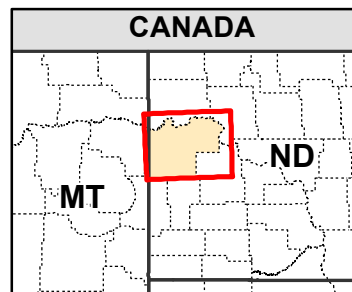
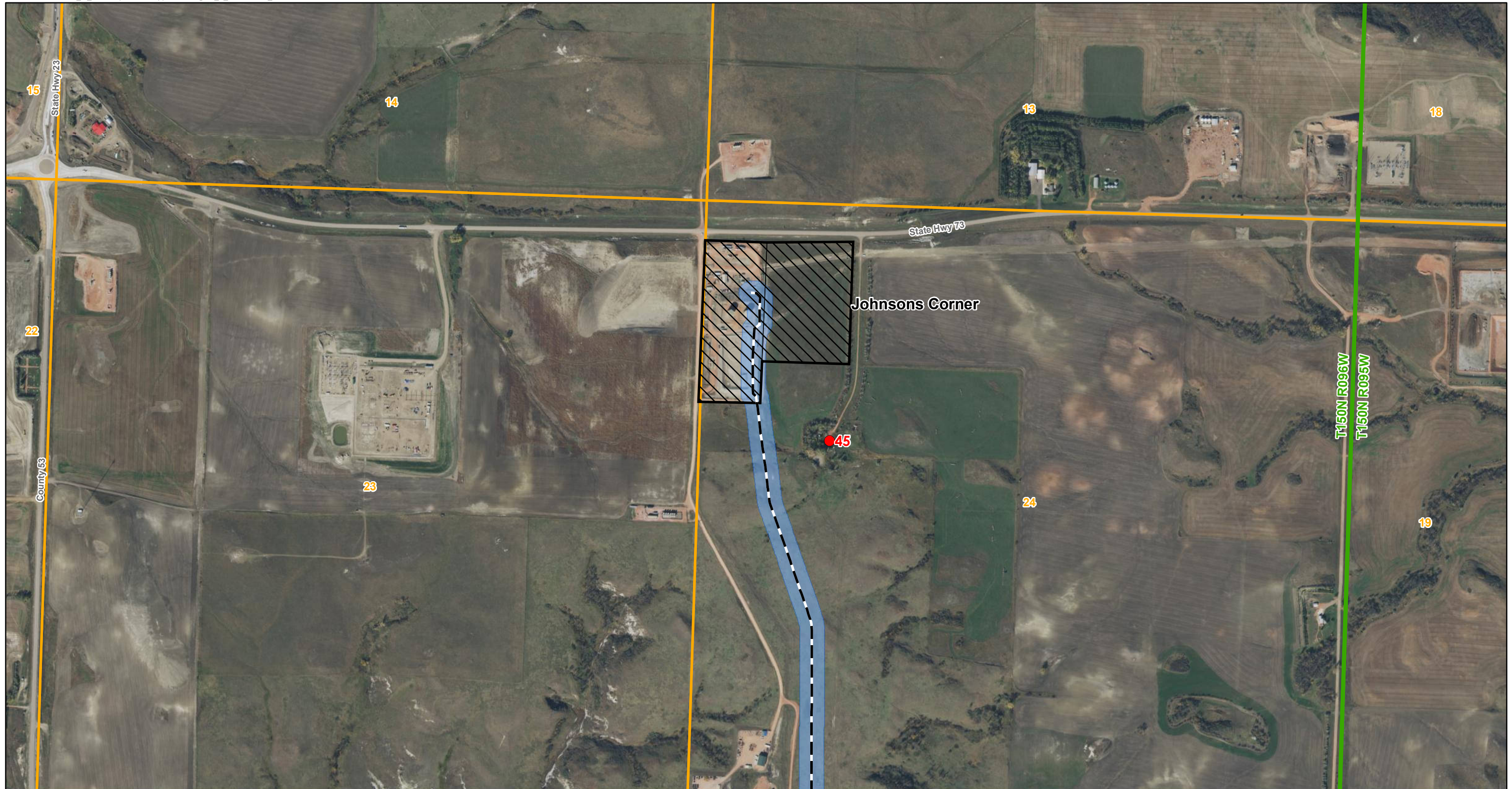
- Johnsons Corner - Alexander Pipeline
- 200ft Corridor
- Facility
- Township Boundary
- Section Boundary

- Exclusion Areas**
- 
- 
- Avoidance Areas**
- 
- 



**Appendix J - Figure 34**  
**Exclusions and Avoidances**  
 Johnsons Corner - Alexander Pipeline  
 McKenzie Co., North Dakota





**Appendix J - Figure 35**  
**Exclusions and Avoidances**  
 Johnsons Corner – Alexander Pipeline  
 McKenzie Co., North Dakota

## 7 APPENDIX A: COMPLIANCE REVIEW SUMMARY

The following provisions are found in PU-16-695, Case Search at North Dakota’s Public Service Commission website: <https://www.psc.nd.gov/public/casesearch/index.php> (see Docket 38, Findings of Fact, Conclusions of Law and Order (May 31, 2017)).

This compliance review was conducted after the initial construction of the initially permitted gathering facility (Findings of Fact, paragraph 2). This same infrastructure was proposed to be converted from a gathering facility to a transmission facility. The details of the compliance review only considers the long-term success and existing status of restoration and reclamation along the existing project corridor.

Permit Conditions/Order Provisions	Compliance	Verification and Discussion
<b>RESTORATION and MAINTENANCE</b>		
Certification Relating to Order Provisions, ¶16 <i>“...upon completion of the construction of the facility, Company restored the area affected by the activities to as near as was practicable to the condition as it existed prior to the beginning of construction.”</i>	Yes	Houston Engineering, Inc. conducted 1 construction inspection and compliance review for the project.
Certification Relating to Order Provisions, ¶17 <i>“...all pre-existing township and county roads and lanes used during construction were, or are being, repaired to a condition that is equal to or better than the condition prior to the construction of the transmission facility and accommodates their previous use, and that areas used as temporary roads or working areas during construction were, or are going, restored to their original condition.”</i>	Yes	The project appears to be consistent with the required road restoration; no issues observed.
Certification Relating to Order Provisions, ¶18 <i>“...reclamation, fertilization, and reseeding was, or is being done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.”</i>	Yes	The project appears to be reclaimed with the exception of one potentially problem area in Section 33, T150N, R97W (see <b>Photograph 1</b> )
Certification Relating to Order Provisions, ¶19 <i>“...reclamation and maintenance of the transmission facility right-of-way, transmission facility, associated facilities, fences and gates, drainage tile, and roadways will continue throughout the life of the transmission facility.”</i>	Yes	The project appears compliant with this provision with the exception of the leaning identification markers which may require maintenance. .

Permit Conditions/Order Provisions	Compliance	Verification and Discussion
Certification Relating to Order Provisions, ¶20 <i>"...comply with the Tree and Shrub Mitigation Specifications [included below]."</i>	In process	Tree and Shrub mitigation is in process. Trees and shrubs that were removed have been documented, as required, in Docket 47. Subsequent planting and 3 year observation period is required and will continue after this report submittal.
Certification Relating to Order Provisions, ¶21 <i>"...removed all waste that was a product of construction and has properly disposed of it. .. remove all waste that is a product of operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.."</i>	Yes	No project-generated waste was observed on site.
<b>TREE and SHRUB MITIGATION</b>		
Tree and Shrub Mitigation Specifications, ¶1-6 – Inventory	Yes	The actual number of trees and shrubs removed during construction of the gathering line was not available to Targa. Targa used geospatial data to estimate 34 trees and 76 shrubs were removed (see Docket 48). The Tree and Shrub Mitigation Plan is located in the PU-16-695 case file, Docket 47.
Tree and Shrub Mitigation Specifications, ¶7-9 – Clearing for Replacement	Yes	Please see comment above.
Tree and Shrub Mitigation Specifications, ¶10 – Replacement <i>"...Prior to tree and shrub replacement, documentation identifying the number and variety of trees and shrubs removed, as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings, must be filed with the Commission for approval."</i>	Yes	Please see comment above.
Tree and Shrub Mitigation Specifications, ¶11 – Replacement <i>"...Two 2-year-old saplings must be planted for every one tree removed. Two shrubs (stem cuttings) must be planted for every one shrub removed."</i>	In process.	A total estimate of 34 trees and 76 shrubs (110 total) were removed during construction activities. The required total number of trees and shrubs to be replaced on this inventory is 75 trees and 167 shrubs (242 total), assuming a 2.2 : 1 replacement ratio. (see Docket 47, p. 4)

Permit Conditions/Order Provisions	Compliance	Verification and Discussion
<p>Tree and Shrub Mitigation Specifications, ¶12 – Replacement</p> <p><i>“...except in the case of invasive or noxious species, trees and shrubs must be replaced by the same species or similar species, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service. Invasive or noxious species must be replaced by similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.”</i></p>	<p>Yes</p>	<p>The species of replacement tree or shrub for the Project is not the same as the species removed because all species removed were non-native, invasive, or introduced (Docket 47, p. 4). Replacement choices were considered appropriate because the selected species are beneficial on many levels; factors considered include: plant zone hardiness, native species status, soil condition, hydrology, landscape location, growth characteristics, visual aesthetics, and wildlife value.</p>
<p>Tree and Shrub Mitigation Specifications, ¶13 – Replacement</p> <p><i>“...Tree and shrub replacement must not be conducted within a 20 to 30 foot wide path over the pipeline to facilitate visual inspections of the right-of-way in accordance with U.S. Department of Transportation safety regulations.”</i></p>	<p>In process</p>	<p>Documentation of replacement of trees and shrubs, as noted in Docket 47 and 48, for 2019 and 2020 have not been recorded in the case file. It is assumed that documentation of these final plantings would include this information.</p>
<p>Tree and Shrub Mitigation Specifications, ¶14 – Replacement</p> <p><i>“...Landowners must be given the option of having replacement trees and shrubs planted on the landowner’s property, either on or off the right-of-way. The landowner must also be given the opportunity to waive those options in writing in order to have replacement trees and shrubs planted off the landowner’s property.”</i></p>	<p>Yes</p>	<p>According to documents on file it appears that Targa provided landowner’s options as prescribed; some landowners opted out of the replanting of trees and shrubs.</p>

Permit Conditions/Order Provisions	Compliance	Verification and Discussion
<p>Tree and Shrub Mitigation Specifications, ¶15 – Replacement</p> <p><i>“...At the conclusion of the project, documentation identifying the actual number, variety, type, location and date of the replacement plantings must be filed with the Commission.”</i></p>	<p>In process</p>	<p>Targa is contracting with the McKenzie County Soil Conservation District for replacement planting during spring 2019 and 2020 of 75 trees and 167 shrubs. Of the 24 landowners involved, 10 declined replanting, 3 will get a total of 49 trees and 47 shrubs replanted during Spring 2019 and the remaining 11 landowners will get replanting of 26 trees and 120 shrubs during spring 2020.</p> <p>Documentation regarding these plantings has not yet been filed for the project.</p>
<p>Tree and Shrub Mitigation Specifications, ¶16 – Replacement</p> <p><i>“...Tree and shrub replacements must be inspected annually, in September, for three years. The first annual inspection must be at least one year from the anniversary date of the original plantings. A report of each annual inspection must be submitted to the Commission by October 1 of each year, documenting the condition of planting and any woodlands work completed as of September of each year. If after the third annual report the survival rate is less than 75%, the Commission may order additional plantings.”</i></p>	<p>In process</p>	<p>This is in process. Tree plantings were anticipated for spring 2019 and spring 2020, of which have not been documented in the case file as of November 2019, at the time of writing this report.</p>
<p>Docket 48</p> <p><i>“After the initial plantings Targa will file the species, GPS coordinates, landowner, height, date of planting and a photograph of each tree or shrub. Targa states it will inspect plantings annually for 3 years and file a report before October 1 of each year. ...It was also recommended that the Commission approve Targa’s initial tree and shrub mitigation plan conditioned on survival rates being reported based on a 100% survey rather than representative sampling.</i></p>	<p>In process</p>	<p>See comment above.</p>

## APPENDIX B: FINAL REPORT PHOTOGRAPHY



Photo 1: Bare earth and rill erosion  
(Section 33, T150N, R97W)



Photo 2: Leaning pipeline identification marker  
(Section 5, T150N, R99W)



Photo 3: Pipeline corridor located south of Johnsons  
Corner facility; looking south. (Section 26, T150N, R96W)



Photo 4: Leaning pipeline identification marker along  
restored pipeline corridor. (Section 34, T150N, R96W)



Photo 5: Restored pipeline corridor.  
(Section 34, T149N, R96W)



Photo 6: Leaning pipeline identification marker  
(Section 34, T150N, R97W)





Photo 7: View of pipeline corridor  
(Section 33, T150N, R97W)



Photo 8: Pipeline restored corridor and Midway facility.  
(Section 7, T149N, R98W)



Photo 9: View of restored pipeline corridor.  
(Section 11, T149N, R99W)



Photo 10: View of restored pipeline corridor  
(Section 35, T152N, R101W)



Photo 11: Restored pipeline corridor  
(Section 35, T152N, R101W)



Photo 12: Looking west, across US Hwy 85, to the Alexander Facility  
(Section 19, T152N, R101W)

