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**PUBLIC SERVICE COMMISSION**

July 1, 2011

North Dakota Public Service Commission  
Darrell Nitschke  
Executive Secretary  
600 E. Boulevard Avenue Dept. 408  
Bismarck, ND 58505-0489

Re: Case No. PU-06-330

Contract No. PU-599-10

Dear Mr. Nitschke,

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. A final report was sent to you electronically via email. Enclosed is an original and copy of the final report for the post-construction inspection of Case No. PU-06-330.

The Executive Summary identifies items that still need attention by the Commission staff and siting applicant to ensure that the facilities for the project have been constructed in compliance with items identified by the ND Public Service Commission. Once these items are addressed, the Commission can act on final closeout of the construction phase of the project.

Should Commission staff or the NDPSC have any questions, please contact me for assistance.

Sincerely,

Timothy Spilman  
Project Manager

Enclosures



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**Enbridge Pipelines (North Dakota) LLC**  
**Trenton to Beaver Lodge- Crude Oil Pipeline**  
**52 miles of 10-inch steel**  
**Williams County, ND**

Prepared by Timothy Spilman, Project Manager, Keitu Engineering & Consultants, Inc.  
Final Report

### **Executive Summary**

Enbridge Pipelines (North Dakota) LLC constructed a 52 mile 10-inch Crude oil pipeline adjacent and parallel to its existing 8-inch pipeline from the existing Trenton Station to its existing Beaver Lodge Station, all in Williams County, ND. This post construction report is to help the Commission with verification that Order's set for by them are completed by Enbridge. This post construction report addressed the Orders in File PU-06-330.

No written waivers were found in case file PU-06-330. In the Amended Findings of Fact, Conclusions of Law and Order of October 12, 2006 (docket #43) #16 Finding of Fact mentioned that Enbridge had not obtained written waivers from the affected landowners to locate the pipeline with 500 feet. Enbridge was to obtain written waivers required within the 500 feet of the pipeline. Enbridge should provide the Commission a copy of all waivers required within the 500 feet of the pipeline in order to complete Order #7.

On January 2, 2007 Ty France of Rooney Engineering, Inc. (Docket # 53) sent an email that construction was to re-start on January 3, 2007 to finish the RR Crossing for the project. No Weekly Progress Report was found in case file PU-06-330 for the week of January 3<sup>rd</sup>, 2007 or documentation that the RR crossing was completed. Enbridge should provide a copy of this weekly progress report for the file or a written letter that the RR crossing was completed. Enbridge should also provide the Commission with the date the pipeline was placed in service. Once these items are provided to the Commission, Order # 9 can be completed.

March of 2007, Enbridge started unloading pipe from rail cars in the Epping Storage lay down area. Fencing, clearing, and grubbing started the end of May. In early June pipe stringing and bending of pipe started. In late June road bores, welding, and ditching started. Construction started during wildlife breeding season (Feb. 1<sup>st</sup> to July 15<sup>th</sup>). Enbridge should have been working with the Fish and Wildlife Service informing them of construction during breeding season. No record of correspondence with the Fish and Wildlife Service was found in the case file (242 acres of wildlife habitat was affected). Enbridge should provide the Commission with any correspondence with USFWS or NDFWS about breeding season as part of Order # 10.



**PU-06-330 Post-Construction Report**  
**Enbridge Pipeline (North Dakota) LLC**  
**Trenton to Beaver Lodge Crude Oil Pipeline**  
**June 14, 2011**

Enbridge should provide a written record of the hydro test results to the Commission as proof no final irreparable damage occurred during construction. Completion of Order # 16 and partial completion of Order # 10 will be completed when the pressure test record is submitted. Enbridge should also provide the Commission a record of cathodic protection reads as verification that cathodic protection was installed on the pipeline as part of completion of Order #10.

SHPO had mentioned in the June 28, 2007 letter it looked forward to reviewing the final reports for 32WI84 and 32WI957. No documentation was found in the case file about SHPO reviewing the final report and no copy of the final report was found in the case file covering additional correspondence from SHPO into investigations at 32WI84 and 32WI957. With site 32WI957 being considered significant and eligible for listing in the NRHP, Enbridge should provide final reports that site 32WI84 and 32WI927 were sent to SHPO with correspondence that Enbridge could proceed to the Commission for the approval Order #17.

On October 22, 2008 Merjent authored a letter (Docket #119) with report on Route Restoration & Revegetation Status, Tree & Shrub Restoration Status. The letter identified the ROW restoration areas requiring potential corrective measures from the inspection report. The letter also mentioned that Enbridge was currently determining a course of action to ensure these areas are restored to preconstruction conditions. No additional correspondence about corrective measures was found in the case file. In reviewing a June 22, 2009 Google Earth image of the pipeline, reseeding does not look like it occurred. The PSC post construction inspection determined the revegetation status had improved compared to the Google Earth image. The Commission should request additional information of the corrective measures done by Enbridge after the Merjent letter. If no corrective measure follow up was done by Enbridge, weed control and reseeding are required as identified in the inspection report. Weed control, reseeding and inspection documentation are required for Order #21 & #25 to be complete.

On October 23, 2009 Enbridge submitted its first monitoring year report (Docket #126). Approximately 90 percent of the plantings survived the first growing season and appear to be thriving. Enbridge will need to submit a 2<sup>nd</sup> year monitoring report (October 2010) and a 3<sup>rd</sup> year monitoring report (October 2011) for the Commission to have a final hearing on the completion of Order #22.

On February 19, 2008 Ty France, project manager-Rooney Engineering, Inc., on behalf of Enbridge sent as-built drawings (docket #113) of the Trenton to Beaver Lodge Pipeline in Williams County, ND. Construction was complete the week of November 12, 2007 according to the weekly construction progress reports. The pipeline location as built information was provided after 3 months of the completion of construction. Order # 24 was not followed.

Enbridge Pipelines (North Dakota) LLC has complied with all other Order requests of the Commission.



## Preliminary Statement

On July 26, 2006 Enbridge Pipelines (North Dakota) LLC (Enbridge) filed a Consolidated Letter of Intent and Application for Waiver of Procedures and Time Schedules and for a Corridor Certificate and Route Permit. Enbridge proposed to construct 52 miles of 10-inch crude oil pipeline adjacent and parallel to its existing pipeline from the existing Trenton Station to its existing Beaver Lodge Station, all in Williams County.

On September 20, 2006, the Commission issued its Findings of Fact, Conclusions of Law and Order in this case.

On October 6, 2006, Enbridge filed a Request for Variance from Permit Conditions requesting that the Commission modify Paragraph 6 of the Order to allow Enbridge to commence construction on any phase of the pipeline for which it has obtained all necessary licenses and permits.

On October 12, 2006, the Commission issued an Order granting Enbridge's Request for Variance from Permit Conditions. On October 12, 2006, the Commission issued an Amended Findings of Fact, Conclusions of Law and Order.

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. This report addresses the Orders established by the NDPSC and issues established in case file no. PU-06-330.

## The Commission Orders:

### **1. Enbridge Pipelines (North Dakota) LLC's application for a waiver of procedures and time schedules is granted.**

Enbridge Pipelines (North Dakota) LLC ("Enbridge") notified the Commission of its request for deviation from pipeline route (Docket #2). In the Enbridge's letter of Intent/ Applications and Time Schedules for an amended Certificate of Corridor Compatibility/Route Permit to the Commission on 08-09-07 (Docket #2), they spelled out 6 request items. Enbridge requested: 1) Waive or reduce the time period required for separate filing of the Letter of Intent and the 1 year time period, 2) Waive ND Century Code for separate filings of such applications, hearings on such applications and certain time schedules as set forth in statutes and rules, 3) One mile wide



corridor rather than a 5.2 mile wide corridor, 4) Hold one expedited public hearing on this combined application, 5) Find that the proposed facilities are such design, location and purpose that they will produce minimal adverse effects, 6) Designate and approve the requested facilities as identified in the application, issue the Corridor Certificate and Route Permit. Enbridge made it clear that it wanted to begin as soon as possible.

On July 26, 2006 the Commission acknowledged Enbridge Pipeline (ND) LLC letter of intent and waived the waiting period for a filing siting application (Docket #5). The Commission granted waiver of all items with the issuing of the Certificate of Corridor Compatibility (Docket # 32) and the Route Permit (Docket # 31) on September 20, 2006. Order #1 is complete.

- 2. Enbridge Pipelines (North Dakota) LLC is issued Certificate of Compatibility for a Transmission Facility Corridor No. 94 and Route permit for Constriction of a Transmission Facility No. 104 to construct the Trenton to Beaver Lodge Line loop. The route that is approved for this purpose is the route proposed by Late Filed Exhibit 6 with the exception that the route in the SE ¼ of Section 34, as identified on Exhibit No. 6, Sheet 6, is placed in the originally proposed route, so as to parallel the existing pipeline.**

On September 20, 2006 the Corridor Certificate and the Route Permit was issued (Docket # 31 and 32). The as-built drawings (Docket #113) followed the route as identified prior to construction. Order #2 is complete.

- 3. Enbridge shall conduct further testing to determine if the construction or operation of the pipeline, following the proposed route, will be affected by the abandoned mine. Enbridge shall submit to the Commission a report of its findings. While construction will be allowed elsewhere, Enbridge shall not construct the pipeline within a 2,750 foot radius of abandoned mine entrances until a route in that 2,750 foot radius has been approved by the Commission.**

On April 4, 2007 a first supplemental order was issued (Docket # 67) by the Commission. It stated that on February 15, 2007 Enbridge ND file a report titled "Geophysical Investigation of Suspected Mine in Section 4 of Pherrin Township". The investigation determined that the pipeline will not be affected by the abandoned mine. The Commission found no reason to disagree with the findings and therefore found that the pipeline will not be affected by the abandoned mine in Section 4 of Pherrin Township. The Commission ordered that the route proposed by Enbridge Pipelines (North Dakota) LLC is within 2,750 foot of entrances to the abandoned mine in Section 4 of Pherrin Township APPROVED. Order # 3 is complete.



**4. Enbridge shall obtain approval from the Commission or Commission Staff prior to any changes or deviations to the pipeline route.**

The route had several minor reroutes that occurred between the application filing and the issuing of the Corridor Certificate and Route Permit on September 20, 2006. One example was on September 14<sup>th</sup>, 2006 Enbridge reached a resolution of a proposed route on property owned by Mr. Cartier.

On July 13, 2007 Enbridge requested Commission approval of a change in the transmission line route. The original permitted route was located approximately 25 feet from and parallel to an existing Enbridge pipeline, except that the route deviated in a northerly direction to avoid impacting cultural resource site 32W184. Enbridge requested a route change that, rather than deviate around site 32W184, would continue to parallel the existing Enbridge pipeline.

On August 8, 2007 the Commission held an Informal Hearing on the requests.

In a letter dated June 28, 2007 the State Historical Society of North Dakota (SHPO) indicated they had reviewed Enbridge's evaluation and recommendations concerning site 32W184 and concurred that the site is not significant, is not eligible for listing in the National Register of Historic Places (NRHP), that no historic properties would be affected by the pipeline project, and that the site need not be avoided by the pipeline project.

On August 22, 2007 the Commission found that the proposed route deviation was compatible with the environmental preservation and the efficient use of resources and would result in minimal adverse effects on the environment, natural resources, and upon the welfare of the citizens of North Dakota while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion. The Commission issued a First Amended Order (Docket #97) stating:

1. Enbridge Pipelines (North Dakota) LLC's request for a deviation in the permitted transmission line route was granted.
2. The authorization granted by the amended route permit would be subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.
3. The route deviation was subject to the conditions and limitations noted in the Order of the Commission dated September 20, 2006 in the proceeding and was subject to the conditions and limitations noted in this order.

This was the only change or deviation of the pipeline route and approval of the Commission was granted. Therefore, Order # 4 was followed.



- 5. The Certificate of Compatibility for a Transmission Facility Corridor No. 94 and Route Permit for Construction of a Transmission Facility No. 104 are effective for the life of the pipeline but are subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.**

The original Corridor Certificate #94 and Route Permit #104 were issued on September 20, 2006. This order gives the Commission future ability to additional modification if deemed necessary to protect the public or the environment. Case file PU-06-330 does not contain any information that the Commission should deemed necessary to modify the Certificate of Corridor Compatibility (Number #94) and Route Permit (Number #104) at this time. Order # 5 is complete at this time.

- 6. Enbridge shall comply with all the rules and regulations of all other agencies having jurisdiction over any phase of the proposed project. Prior to commencing construction of any phase of the proposed project, Enbridge shall obtain all other necessary licenses and permits for construction of such phase, and provide copies to the Commission prior to construction of each phase.**

Enbridge consulted federal, state, and local agencies to identify any rules and regulations that are under jurisdiction of these agencies. Items of concerns were identified in the in Section B.11 of the Application for a Route Permit. Documentation of consultations with each agency was included in Appendix C of the Application (docket #2). Agencies Enbridge consulted included:

1. U.S. Army Corps of Engineers;
2. U.S. Department of Interior, Fish and Wildlife Service (USFWS);
3. U.S. Department of Interior, Bureau of Reclamation;
4. U.S. Department of Agriculture, Natural Resource Conservation Service;
5. North Dakota Department of Health;
6. North Dakota Game and Fish Department (NDGFD);
7. North Dakota Public Service Commission;
8. North Dakota State Lands Department;
9. North Dakota State Water Commission;
10. State Historical Society of North Dakota (State Historic Preservation Office);
11. Williams County Auditor; and
12. Williams County Department of Equalization.

Enbridge provided an Environmental Guideline for Construction Manual in Appendix K of the application. Enbridge's Environmental Guidelines for Construction provides a detail discussion of the guidelines and mitigation measures that Enbridge implement on this project. It was developed based on Enbridge's corporate experience implementing best management practices during construction. Important items from the manual were spelled out within the body of the application. The guideline manual is used so Enbridge can protect the environment and comply with all applicable environmental laws, regulations, and standards.

The U.S. Army Corps of Engineers was the only agency to require studies of the project area. The U.S. Army Corps of Engineers requested Enbridge conduct cultural resource investigations and complete a wetland assessment of the project area. Cultural resources investigations were



conducted by Earthworks and discussed in Order #17. A wetland assessment was commissioned on July 26, 2006. Merjent, Inc. completed a desktop wetland review and is found in Appendix F of the application. The review identified 470 acres of wetlands with 5 acres in the construction right of way on this project. A delineation report was also part of Appendix F. On August 30, 2006 the Army Corps of Engineers authored a letter (Docket #36) discussing Enbridge's August 9, 2006 application for a nationwide permit 12. Of the 103 waters identified in Enbridge's application, 71 were subject to regulation and 32 were not. No permanent impacts were anticipated with the project's construction. General Conditions and the Section 401 Water Quality Certification requirements were to be followed with construction. These conditions and requirements were mitigation measures, documentation of any modified version of the project, and that the project was completed as permitted. Mitigation measures were followed as they were the same as the Enbridge's Environmental Guideline for Construction Manual. The project was constructed as initially permitted with no modifications to the project.

The U.S. Department of Interior, Fish and Wildlife Service provide a list of federally endangered, threatened, and candidate species and designated critical habitat that are found in Williams County. In Appendix C of the application, the USFWS concluded federally endangered, threatened, or candidate species were not known to frequent the project area and no critical habitat currently existed within the proposed route. A review of the project study area did not identify areas where animals or plant species that were unique or rare to the state would be in the proposed corridor or along the proposed route.

Initially the U.S. Department of Interior, Bureau of Reclamation informally indicated that the project might cross canals within the Buford-Trenton Irrigation District. Upon further investigation, the Bureau of Reclamation determined that no canals or other facilities owned or leased by the bureau would be crossed by the project.

The U.S. Department of Agriculture, Natural Resource Conservation Service indicated that the proposed project might cross grassland reserve program and wetland reserve program lands. These are voluntary programs whereby landowners can receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers, such as grasslands and wetlands. Upon following up with the Natural Resource Conservation Service, the Service responded that it could not provide information about the location of these lands to the Enbridge due to landowner privacy concerns, but stated that only conservation reserve program lands and not grassland reserve program or wetland reserve program lands would be affected. They stated that the conservation reserve program lands are managed by the U.S. Department of Agriculture, Farm Service Agency, but that they could not be allowed to provide information about these lands either. Enbridge identify conservation reserve program lands during its easement negotiations with landowners. Enbridge restore affected areas as appropriate and compensate landowners if rental payments or cost-share assistance were affected.

On June 30, 2006 the North Dakota Game and Fish Department (Appendix C of application) indicated the proposed project would not likely have adverse effect on unique or rare animals or plant species and did not identify any species of concern or conservation priority.



The National Wetland Inventory maps indicate numerous wetlands within the proposed project corridor. The NDGFD recommended that steps be taken to protect any wetlands that cannot be avoided, above-ground appurtenances not be placed in wetland areas, and no alterations be made in existing drainage patterns. Enbridge agreed to take steps to protect wetlands that cannot be avoided (see Section D.2.c.ii.4 of the application). Enbridge did this by following wetland areas mitigation measures identified in Enbridge's Environmental Guideline for Construction Manual. Enbridge also agreed to prohibit siting aboveground facilities in wetlands. The PSC June 8<sup>th</sup>, 2011 post construction inspection determined that the above-ground appurtenances (block valve sets) were not placed in wetlands. Enbridge restore drainage patterns back to their existing flow pattern based on Google Earth image review of the pipeline corridor and field inspection. Enbridge was also asked that every effort be made to prevent destruction of woody vegetation and any loss of trees and shrubs be replaced on a 2:1 basis. Working with the State Forester, the Commission's staff came with a Tree and Shrub Mitigation Plan for this project that had a 2:1 replacement basis for trees and shrubs. Enbridge is to follow this mitigation plan to comply with Order # 22.

NDGFD also recommended that the Little Muddy Creek be directionally bored if possible. Enbridge did directionally bore the Little Muddy Creek in December 2006.

The North Dakota State Health Department did not identify concerns with the proposed project.

The North Dakota State Lands Department did not identify concerns with the proposed project.

Based on the route permit application, North Dakota State Water Commission informally indicated they have no concerns with the proposed project, but have not yet provided these conclusions in writing.

The State Historical Society of North Dakota correspondence and requirements are identified and discussed in Order # 17.

The Williams County Auditor did not identify concerns with the proposed project. The Williams County Department of Equalization did not identify concerns with the proposed project.

Enbridge complied with all the rules and regulations of all other agencies having jurisdiction over any phase of the proposed project. Enbridge obtained all other necessary licenses and permits for construction. Order # 6 is complete.

**7. Enbridge shall obtain written waivers from affected landowners for location of the pipeline within 500 feet of a residence, school, or place of business prior to any construction in those areas.**

One business (a feed lot), a school, and six residences are located within 500 feet of the pipeline. Three residences are on the opposite side of County Road 8 from the proposed pipeline and were buffered from construction by the road. The proposed pipeline route was at a further distance from the residences than the existing 8-inch pipeline. No written waivers were found in case file



PU-06-330. In the Amended Findings of Fact, Conclusions of Law and Order of October 12, 2006 (docket #43), number 16 Finding of Fact mentioned that Enbridge had not obtained written waivers from the affected landowners to locate the pipeline with 500 feet. Enbridge was to obtain written waivers required within the 500 feet of the pipeline. Enbridge should provide the Commission a copy of all waivers required within the 500 feet of the pipeline in order to complete Order # 7.

- 8. Enbridge shall conduct a preconstruction conference to be held prior to the commencement of any construction. The conference must include an Enbridge representative, Enbridge's construction supervisor, and Commission staff, to ensure that Enbridge fully understands the conditions set forth in this order.**

On October 2, 2006, a pre-construction conference (Docket # 38) was held (by WebEx meeting). In attendance was Brent Horton, Supervisor Special Projects (Enbridge), Mike Harris, Senior Lands and Right-of Way Specialist (Enbridge); Kris Benson, Environment Analyst (Enbridge); Trent Mattick, Senior Construction Coordinator (Enbridge), Fred Washek, Construction Coordinator (Enbridge); Kim Strandberg, Project Clerk (Enbridge), Ed Kelly, Project Manager for Station Construction (Rooney Engineering), Troy Pierantoni, Project Manager (Rooney Engineering); Ty France, Project Manager of Phase V Pipeline (Rooney Engineering); Jared Heath, and Associate Engineer for Station Construction (Rooney Engineering) and Pat Fahn with the ND Public Service Commission.

The conference included a review of the order's findings of fact and ordering clauses, a review of penal provisions in the siting statute, and a question and answer period. Order # 8 is completed.

- 9. Enbridge shall inform the Commission of the date construction will start just prior to the commencement of construction; report to the Commission on the date construction is started; and, once construction has started, shall keep the Commission updated on construction activities on a weekly basis.**

On November 17<sup>th</sup>, 2006, Ty France (Rooney Engineering, Inc. – Project Manager) informed Pat Fahn with the Commission via email (Docket #47) that Enbridge will commence construction activities 11/20/06 on the 10 inch Trenton to Beaver Lodge Pipeline.

Weekly Construction Progress Reports (Docket #'s 48-50, 52, 72, 73, 75, 76, 78, 79, 81-83, 85-88, 90, 92-96, 100-112) were provided to the Commission on a regular weekly basis. On January 2, 2007 Ty France of Rooney Engineering, Inc. (Docket # 53) sent an email that construction was to re-start on January 3, 2007 to finish the RR Crossing for the project. No Weekly Progress Report was found in case file PU-06-330 for the week of January 3<sup>rd</sup>, 2007 or that the RR crossing was completed. The PSC post construction inspection verified that the crossing was completed. Enbridge should provide a copy of this weekly progress report for the file or a written letter that the RR crossing was completed. Enbridge should also provide the Commission with the date the pipeline was placed in service (commissioned). Once these items are provided to the Commission, Order # 9 can be completed.

**10. Enbridge shall construct and operate the pipeline in the manner described in the application and at the hearing and in late filed exhibits and supplemental materials, and in accordance with all applicable safety requirements.**

Design, construction and operation of the pipeline and related facilities were to be in accordance with U.S. Department of Transportation regulations governing the 195 of Title 49 of the Code of Federal Regulations, Transportation of Hazardous Liquids by Pipelines.

Initial Design information was identified in the application (Docket #2) and weekly progress reports gave information to assist in the evaluation of Order # 9. Enbridge received a variance to commence construction on any phase of the pipeline for which it has obtained all necessary licenses and permits due to good cause. Line construction started on 11/20/06. Enbridge constructed parts of the pipeline which required bores in late 2006. The Highway 2 crossing, Highway 2 & 85 crossing, Little Muddy River crossing, and BN RR crossings were part of the initial construction. An open cut crossing was also completed on the Sheldon Tract of land.

March of 2007, Enbridge started unloading pipe from rail cars in the Epping Storage lay down area. Fencing, clearing, and grubbing started the end of May. In early June pipe stringing and bending of pipe started. In late June road bores, welding, and ditching started. Construction started during wildlife breeding season (Feb. 1<sup>st</sup> to July 15<sup>th</sup>). Enbridge should have been working with the Fish and Wildlife Service informing them of construction during breeding season. No record of correspondence with the Fish and Wildlife Service was found in the case file (242 acres of wildlife habitat was affected). The only potential fishery stream Little Muddy River Creek (Class 2 Stream by the ND Dept. of Health) was bored in December 2006. Construction was completed in late October 2007 with cleanup continuing into November.

On September 16<sup>th</sup>, 2006 (Docket #29) Enbridge addressed potential noise levels. Enbridge evaluated landslide risks (Docket #2 page 26) of the pipeline. Enbridge also identified mitigations measures (Docket #2) for constructing around a school, agriculture productivity, livestock grazing and movement, potential accidental spills or contamination of soils, and woodland areas. Enbridge also proposed, received approval, and followed test drilling by an abandoned mine (Docket #28, #67). Enbridge verified no prior incidents (Docket #21, #22) along the existing pipeline this the pipeline was to parallel.

Silt fences were used for erosion control during construction with installation identified in the weekly construction progress reports. Coating of bare pipe, welding, bending of pipe, ditching, lowering in, backfilling and tie-ins were also identified in the weekly construction progress reports. Hydro testing to completion was also identified in the weekly progress reports. A copy of the hydro test results should be submitted to the Commission for part of the completion of Order # 10. A letter can be submitted with a summary of description what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating. The pipeline as built (Docket #113) and the final proposed route (Docket #04 with Mr. Cartier reroute) reflect the same route.



Cathodic protection of a pipeline is an essential part of operating a pipeline. Cathodic read stations were found along the pipeline during the PSC post construction field inspection. Enbridge should provide the Commission a record of cathodic protection reads for as verification that cathodic protection was installed on the pipeline. Based on the limited information in the case file and a post construction field inspection, Enbridge had constructed the pipeline in the manner identified in the application, late exhibits and supplemental material. Enbridge is currently operating the pipeline and looks to be following the manner described by the Commission's requirements. Once a copy of the construction during breeding correspondence, hydro test results and verification of cathodic protection is submitted to the Commission, Order # 10 will be complete.

**11. The pipeline must be buried to a minimum depth from the ground surface to the top of the pipe of 48 inches in rangeland, 48 inches for cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines.**

According to the application (Docket #2), 62.6% of the corridor was agricultural land , 33.9% was grasslands, 1.4% wetlands, 0.3% woodlands, and 1.8% developed lands. The PSC post construction field inspection on June 8, 2011 found depths were acceptable. Order #11 is completed.

**12. All crossings of graded roads must be bored unless the responsible governing agency specifically permits Enbridge to open cut the road.**

Highway 2 and Highway 2 & 85 road crossing that required Highway permits were completed in December of 2006. In 2007, 32 main roads, 4 house roads, and 2 roads to oil pads were identified. In reviewing each road with Google Earth 2011 and the as-built maps (Docket #113), each road identified was bored. Therefore, all road crossings were bored. Order #12 is complete.

**13. The crossing at Little Muddy Creek will be bored using horizontal directional drilling, unless otherwise approved by the Commission.**

Weekly Construction Progress reports identified the Little Muddy Creek as being horizontally drilled. The creek crossing pipe was welded, x-rayed, coated, and hydro tested the week of December 4<sup>th</sup>, 2006 (Docket #50). Boring the creek started the week of December 11<sup>th</sup> (Docket #51) and was completed the week of December 18<sup>th</sup> (Docket #52). Progress was slowed due to running into significant cobble rock. Order #13 was followed.



**14. The width of the clear cuts through any wooded areas and shelterbelts must be kept at a maximum of 50 feet unless otherwise approved by the Commission.**

Google Earth 2011 was used to measure the width of the shelterbelts. Eight shelterbelts are located east of 118<sup>th</sup> Ave NW. The furthest west shelterbelt had a width of 78 feet (1<sup>st</sup>), the next shelterbelt to the east was 45 feet (2<sup>nd</sup>), the next 48 feet (3<sup>rd</sup>), the 4<sup>th</sup> shelterbelt is 70 feet (4<sup>th</sup>) width, the 5<sup>th</sup> shelter belt begins north of the pipeline (no cut through shelterbelt), the 6<sup>th</sup> shelterbelt is 43 feet in width, the seventh shelterbelt is 74 feet in width, and the 8<sup>th</sup> shelterbelt is 60 feet in width. A tree row 1600 feet west of 109<sup>th</sup> Avenue NW has a shelterbelt width of 39 feet. A shelterbelt of a width of 45 feet is located 1050 feet west of 109<sup>th</sup> Ave NW. An additional shelterbelt 390 feet west of 109<sup>th</sup> Avenue NW has a width of 61 feet. East of 109<sup>th</sup> Avenue NW, there is a shelterbelt of width 72 feet located 460 feet to the east and a shelterbelt of 57 feet width located 1060 feet east. Other shelterbelts were located on the west/east run of the pipeline but started to the north of the pipeline and therefore, no cut through the shelterbelts occurred. Seven shelterbelts exceeded the 50 feet width by taking measurements using Google Earth. It must be noted that an existing 8" pipeline exists 20 to 25 feet south of the new line. Trees were removed initially when the 8" pipeline existing line was constructed. Viewing Google Earth images from year 2005 and comparing them to year 2009 images, the shelterbelt widths for the seven shelterbelts did not increase due to new construction. Therefore, the shelterbelts were kept at existing distances or a maximum of 50 feet or less.

One woodland area located at 48° 17' 3.78" N 103° 01' 1.6" W had a width cut of 50 feet. Therefore, the wooded areas were kept at a maximum of 50 feet. Order # 14 was followed.

**15. Enbridge shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species, or of bald or golden eagles that Enbridge becomes aware of and that were not previously reported to the Commission.**

In Appendix C of the application (Docket # 2) a letter from the USFWS concluded federally endangered, threatened, or candidate species are not known to frequent the project area and no critical habitat currently exist within the proposed route. On June 30<sup>th</sup>, 2006 the NDGFD authored a letter that indicated the proposed project would not likely have adverse effects on unique or rare animals or plant species and did not identify any species of concern or conservation priority.

At the pre-construction conference on October 2, 2006 with the Commission's staff (Docket # 38), Enbridge understood and agreed that it shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species, or of bald or golden eagles that Enbridge becomes aware of during construction. A review of the weekly construction progress reports (Docket #'s 48-50, 52, 72, 73, 75, 76, 78, 79, 81-83, 85-88, 90, 92-96, 100-112) did not note any critical habitat in the area during construction. No report of any critical habitat of threatened or endangered species, or of bald or golden eagle's notification to the Commission was found in case file PU-06-330. Based on no reports of critical habitat in the weekly progress reports and no reported presence in the permit area found in the case file, Order 15 was followed.



**16. Construction must be suspended when weather conditions are such that construction activities will cause irreparable damage, unless adequate protection measures approved by the Commission are taken.**

Enbridge started construction the week of November 20<sup>th</sup>, 2006 and work through December on highway crossings, a river crossing, one open cut crossing, and a railroad crossing. Work was suspended at that point due to weather conditions until the week of March 26<sup>th</sup> when construction began again with unloading of pipe, fencing, and wind row soil berms. The weekly construction progress reports (Docket #'s 48-50, 52, 72, 73, 75, 76, 78, 79, 81-83, 85-88, 90, 92-96, 100-112) commented on wet spring conditions, slowed construction, and areas had to dry before construction. The weekly construction progress report on May 21, 2007 mentioned that it was a short construction week due to weather. The weekly progress reports for June 11<sup>th</sup> and June 18<sup>th</sup> mentioned that rains slowed construction during those weeks.

Enbridge acted responsible based on progress reports. The pipeline was hydro tested upon completion to establish a Maximum Operating Pressure. Passing the pressure test insures that no irreparable damage occurred on the pipeline during construction. Enbridge should provide a written record of the hydro test conducted to the Commission to complete the case file. A letter can be submitted with a summary of description what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating.

Based on review of the progress reports, construction was suspended when weather conditions were such that construction should not occur. Enbridge should provide a written record of the hydro test conducted to the Commission as final irreparable damage occurred during construction. Order # 16 will be completed when the pressure test record is submitted.

**17. All cultural resource mitigation plans must be submitted to the North Dakota State Historic Preservation Office (SHPO) and approved by the SHPO prior to the start of any fieldwork or construction activity. If any cultural resource, paleontological resource, archeological resource, historical resource, or gravesite is discovered during construction of the facility, earth disturbing activities in the immediate vicinity of the discovery must be halted. The resource must be marked, preserved and protected from any further disturbance until a professional examination can be made in consultation with the SHPO. A report of such examination must be filed with the SHPO and the Commission. Clearance to proceed must be given by the SHPO and the Commission.**

Thirty-one potential cultural resource sites were identified in the corridor. Enbridge's recommended to the SHPO that 11 are not eligible for listing in the National Register of Historic Places. The remaining 20 sites were avoided by the proposed pipeline route. Enbridge's completed Cultural Resource Report was submitted to the Commission on September 14, 2006. Enbridge filed the Report with the SHPO on September 18, 2006. On September 21 (Docket #37) the SHPO office concurred with a "No Historic Properties Affected" determination provided the



project is of the nature stated and it takes place in locations plotted, mapped, and described in the report and other project documentation.

On February 14, 2007 Enbridge authored a letter (Docket #59) to Patrick Fahn of the PSC to document compliance with Order #17 by providing a copy of the letter from the NDSHPO concurring with Enbridge's evaluation of sites 32W176 and 32W1960. These sites were along the abandoned mine area.

On May 22, 2007 a letter (Docket #80) from SHPO stating that they concurred with the scope and scale of the proposed investigations for Site 32WI957 and found it acceptable. On June 8, 2007 a letter (Docket #84) from SHPO stated that they had reviewed, accepted, and concurred with the scope and scale of the proposed investigations for Site 32WI84.

On June 28, 2007 SHPO reviewed project correspondence letter report of NRHP evaluations and cultural resource recommendations for sites 32WI84, 32WI957, and 32W1968 and found it acceptable (Docket # 91). SHPO had previously concurred with the scope and scale of the proposed investigations for NRHP evaluations at sites 32WI84, 32WI957. SHPO concurred that site 32WI957 was significant and is eligible for listing in the National Register of Historic Places (NRHP). They also concurred that site 32WI84 was not significant and is not NRHP eligible. "No Historic Properties Affected" determination was concurred provided the project is of the nature stated and that recommended stipulations, as outlined in 6/25/07 correspondence, are followed.

SHPO had mentioned in the June 28, 2007 letter it looked forward to reviewing the final reports for 32WI84 and 32WI957. No documentation was found in the case file about SHPO reviewing the final report and no copy of the final report was found in the case file covering additional correspondence from SHPO into investigations at 32WI84 and 32WI957. With site 32WI957 being considered significant and eligible for listing in the NRHP, Enbridge should provide final reports that site 32WI84 and 32WI927 were sent to SHPO with correspondence that Enbridge could proceed to the Commission for the approval Order #17.

No cultural resource, paleontological site, archeological site, historical site, or grave site was discovered during construction. This is based on review of weekly construction progress reports and verification that no correspondence was identified in the Commission's file.

**18. During construction, at least 12 inches of topsoil, where available (or topsoil to the depth of cultivation, whichever is greater), over and along trench areas where cuts will be made, must be stripped and segregated from subsoil. Any area on which excavated subsoil will be placed must also be stripped of topsoil. After backfilling is completed, any excess subsoil must be placed over the excavation area, blending the grade into existing topography. Topsoil must then be replaced over areas from which it was stripped only after the subsoil is replaced.**

In the application (Docket # 2), the pipeline was to be installed mostly 20 feet north and/or west of the existing pipeline. The proposed pipeline identified 37 miles of 60 feet Right of Way



(ROW) along the existing ROW, 13 miles on existing ROW but amend or supplement its easements, and 3 miles of crossovers and minor route variations requiring 75' and 125' wide construction ROW. A 200 foot ROW was required at the beginning and end, wetlands, waterbodies, roads, railroads, areas of rocky soil, steep slopes, and rugged terrain.

In the Amended Findings of Facts (Docket #43) number 22 states that Enbridge testified that it will work with landowners to make sure the appropriate amount of topsoil is being removed according to the landowners' requirements and according to the requirements of the Commission. At least 12 inches of topsoil, where available, was to be stripped and segregated from subsoil. Any area on which excavated subsoil will be place must first be striped of topsoil. After backfilling with subsoil, any excess subsoil will be placed over the excavation area, blending the grade into existing topography. This method was also discussed in the pre construction conference as the conference included a review of the order's ordering clauses, the penalty provisions NDCC 49-22-21, and a question and answer period.

In weekly construction progress reports (Docket #'s 48-50, 52, 72, 73, 75, 76, 78, 79, 81-83, 85-88, 90, 92-96, 100-112), the activity of grading/stripping was identified as part of the construction process. Use of a grader is used to blade the topsoil to the edges of the ROW. This is the activity of grading/stripping. After that, the excavated subsoil is placed 18 inches to the side or sides of the pipeline trench is the activity of ditch. Should topsoil be more than 12", the ditch line topsoil was kept separate than the subsoil. The activity of grading/stripping was completed in the weekly construction progress report with stripping starting the week of May 29, 2007. After pipe installation, the subsoil is placed back in the hole with proper compaction occurring using a track hole or a grader. A grader is used to pull the top soil off the ROW edges and ditch line piles and spread it back across the construction ROW to the existing topography. In the weekly construction progress report of November 12, 2007 (Docket #112), the description identified backfilling and ROW cleanup 100% complete. The PSC post construction verified topsoil was put back into place after construction and before reseeding. A site inspection verified that the top soil was spread to the topography. Order #18 was followed.

**19. Reclamation and clean-up along the right-of-way must be continuous and coordinated with ongoing construction.**

The construction crossings in November/December 2006 were cleaned up at each site prior to moving on to the next site. Spring 2007 construction broke ground the week of May 29<sup>th</sup> and was finished the week of October 22<sup>nd</sup>. Weekly construction progress reports showed cleanup starting August 6, 2007 and ROW Cleanup 100% complete the week of November 12<sup>th</sup>, 2007. This is acceptable as being continuous and coordinated with ongoing construction. Order #19 is completed.



- 20. All pre-existing roads and lanes used during construction must be restored to a condition that will accommodate their previous use, and areas used as temporary roads during construction must be restored to their original condition.**

Enbridge used existing public roads to access the construction right-of-way and did not need to modify roads or create new access roads. Roads that were paved or graveled did not require modification. Dirt roads and two-track trails may have been graded and filled to make the roads passable prior to construction. Temporary drives were used to allow convenient access to the entry and exit of the horizontal directional drill sites at the BNSF crossing (milepost #18) and Little Muddy Creek (milepost 30.3). These drives were extended from County Road 8 to the work areas on each side of the drill sites. Original roads looked the same as prior to construction using Google Earth aerial images. Order # 20 is completed.

- 21. Reclamation, fertilization and reseeding must be done by Enbridge according to the Natural Resource Conservation Service unless otherwise specified by the landowner and approved by the Commission.**

ROW cleanup was completed the week of November 12<sup>th</sup>, 2007 (Docket #112). Final ROW seeding and tree planting was to occur in the spring of 2008. Final Reseeding started on 4-28-08 and finished on 5-6-08 (Docket #118). On October 22, 2008 Merjent, Inc. sent a letter with report on route restoration and revegetation status (PU-07-600, Docket #32) to Pat Fahn (ND PSC) on behalf of Enbridge. On August 16-19, 2008 an environmental inspector did a revegetation assessment on the pipeline right of way. His recommendation was that 27,380 feet of ROW be treated for weeds and 11,550 lineal feet be replanted. He determined that to be 55 acres that needed to be treated for weeds and at least 25 acres reseeded. Fertilization was mentioned to have occurred.

Dennis Froemke of the Natural Resource Conservation Service (NRCS) was contacted about weeds and replanting issues by the environmental inspector. Recommendation for revegetation about weeds and replanting were given.

On October 22, 2008 Merjent authored a letter (Docket #119) with report on Route Restoration & Revegetation Status, Tree & Shrub Restoration Status. The letter identified the ROW restoration areas requiring potential corrective measures from the inspection report. The letter also mentioned that Enbridge was currently determining a course of action to ensure these areas are restored to preconstruction conditions. No additional correspondence about corrective measures was found in the case file. In reviewing a June 22, 2009 Google Earth image of the pipeline, reseeding does not look like it occurred. The Commission should request additional information of the corrective measures done by Enbridge after the Merjent letter. If no corrective measure follow up was done by Enbridge, weed control and reseeding are required as identified in the inspection report. Weed control, reseeding and inspection documentation are required for Order #21 to be complete.

- 22. Trees or other woody vegetation must be replaced with saplings that are two or more years old at a rate of two for every one removed. Landowners shall be given the option of having replacement trees/shrubs planted off the right-of-way on the landowner's property or waiving that requirement in writing and allowing Enbridge to plant the replacement trees/shrubs elsewhere. All effected trees and shrubs must be quantified before construction activity. Enbridge shall record, and file with the Commission, the number and variety of replacement tree and shrub plantings, the specific planting area(s) and the dates of the plantings. Enbridge shall inspect tree replacements once a year for three years, on the anniversary of the plantings, and send a report on or shortly before October 1 of each year to the Commission documenting work completion and condition of woodlands planting. The Commission may order additional plantings if survival rates are less than 75%.**

The pipeline crossed one wooded draw and an estimated 19 shelterbelts, totaling approximately two acres. The tree and shrub replacement plan 1<sup>st</sup> proposal was sent to the Commission on November 09, 2006 (Docket #46) The Commission approved a Tree and Shrub replacement plan for this project on July 29, 2009 (Docket #125). For reference, 10,624 trees and shrubs were removed during the Trenton to Beaver Lodge Pipeline Project. The Williams County Soil Conservation District (WCSCD) planted 21,918 trees and shrubs in spring 2009 according to a planting plan approved by the North Dakota State Forester and the PSC.

On October 23, 2009 Enbridge submitted its first monitoring year report (Docket #126). The WCSCD monitored the planting site in fall 2009. Approximately 90 percent of the plantings survived the first growing season and appear to be thriving. Enbridge will need to submit a 2<sup>nd</sup> year monitoring report (October 2010) and a 3<sup>rd</sup> year monitoring report (October 2011) for the Commission to have a final hearing on the completion of Order #22.

- 23. Enbridge shall repair or replace all fences and gates removed or damaged during all phases of construction and operation of the proposed transmission facility.**

On June 30, 2008 Pat Fahn of the ND PSC received an email about final seeding progress report (docket #118) from Ty France, project manager-Rooney Engineering, Inc., on behalf of Enbridge. The letter stated that fencing started on 4-28-08 and was finished 5-6-08. The PSC post construction field inspection on June 8, 2011 found fences and gates satisfactory. Order #23 is completed.

- 24. Enbridge shall provide the Commission with a copy of the design specifications for construction of the pipeline showing the location of the pipeline as built, and shall provide this information within 3 months of the completion of the construction.**

On February 19, 2008 Ty France, project manager-Rooney Engineering, Inc., on behalf of Enbridge sent as-built drawings (docket #113) of the Trenton to Beaver Lodge Pipeline in



Williams County, ND. Construction was complete the week of November 12, 2007 according to the weekly construction progress reports. The pipeline location as built information was provided after 3 months of the completion of construction. Order # 24 was not followed.

**25. Enbridge's obligation for reclamation and maintenance of the right-of-way shall continue throughout the life of the pipeline.**

The case file had an email (Docket # 118) from July 30<sup>th</sup>, 2008 authored by Ty France, Rooney Engineering, Inc., stating that final reseeding was completed. An enclosure to the email was a final report of the revegetation assessment on the pipeline ROW. The environmental inspector recommended weed control and reseeding. On October 22, 2008 Merjent authored a letter (Docket #119) with report on Route Restoration & Revegetation Status, Tree & Shrub Restoration Status. The letter identified the ROW restoration areas requiring potential corrective measures from the inspection report. The letter also mentioned that Enbridge is currently determining a course of action to ensure these areas are restored to preconstruction conditions.

Comparing the proposed pipeline map (Docket #4) to a June 22, 2009 Google Earth aerial image of the ROW of the pipeline route, it was very evident in the 2009 photo as grass was absent and the ROW grass in places lacked green vigor compared to the grass outside the ROW. Moisture levels have been less than normal. During the PSC post construction field inspection, the pipeline was driven with vegetation observed. Vegetation looked green from the road. Based on the record documentation and a Google Earth aerial image of the route site area, reseeding is recommended in areas identified in the environmental inspector's report of August 29, 2008 or a record is required that weed control and reseeding did occur after the inspector's report for completion of Order #25.