

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Arrow Field Services, LLC
4 Bears to CDP Connect Project – McKenzie County
Siting Application

Case No. PU-11-99

ORDER

November 2, 2011

The evidence of record has been considered and appraised.


The Commission Orders:

1. The Hearing Officer's October 31, 2011 Recommended Findings of Fact, Conclusions of Law and Recommended Order, a copy of which is attached to this Order and made a part of this Order, is ADOPTED as the Public Service Commission's Findings of Fact, Conclusions of Law and Order.
2. Arrow Field Services LLC's application for a waiver of procedures and time schedules is granted.
3. Certificate of Corridor Compatibility No. 126 is issued to Arrow Field Services LLC for the construction, operation and maintenance of the transmission facilities. For purposes of the Certificate, the Corridor consists of a 200-foot wide area centered on the pipeline route for the length of the route. For purposes of the Certificate, the route is defined by Arrow Field Services LLC's July 22, 2011 application.
4. Route Permit No. 135 is issued to Arrow Field Services LLC for the construction, operation and maintenance of a 1.5-mile 8-inch diameter crude oil pipeline.
5. The October 21, 2011 Certification Relating to Order Provisions – Transmission Facility Siting (Certification), with accompanying Tree and Shrub Mitigation Specifications, is incorporated by reference and attached to this Order.
6. To the extent there are any conflicts or inconsistencies between Arrow Field Services LLC's Application and the October 21, 2011 Certification, the Certification provisions control.

PUBLIC SERVICE COMMISSION



Kevin Cramer
Commissioner



Tony Clark
Chairman



Brian P. Kalk
Commissioner

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Arrow Field Services, LLC
4 Bears to CDP Connect Project – McKenzie County
Siting Application

Case No. PU-11-99
OAH File No. 20110325

RECOMMENDED FINDINGS OF FACT,
CONCLUSIONS OF LAW AND RECOMMENDED ORDER

October 31, 2011

Appearances

Allen C. Hoberg, Administrative Law Judge, Substantive Hearing Officer, Office of Administrative Hearings, 2911 North 14th Street – Suite 303, Bismarck, ND 58503.

Mollie M. Smith, Attorney-at-Law, Fredrikson & Byron, P.A., 200 North Third Street, Suite 150, Bismarck, North Dakota 58501, on behalf of Arrow Field Services, LLC.

Mitchell D. Armstrong, Special Assistant Attorney General, Legal Counsel for the North Dakota Public Service Commission.

Christopher A. Marohl, Public Utility Analyst, Public Service Commission, 600 East Boulevard, Bismarck, North Dakota 58505.

Preliminary Statement

Under North Dakota Century Code, Section 49-22-07, a utility may not begin construction of a transmission facility in the state without first having obtained a route permit. The facility must be constructed, operated, and maintained in conformity with the permit and any terms, conditions, or modifications of the permit.

On July 22, 2011, Arrow Field Services, LLC (“Arrow”), filed with the North Dakota Public Service Commission (“Commission”) a consolidated application for a Certificate of Corridor Compatibility and Route Permit (“Application”) to authorize construction of a crude oil pipeline project (“Project”) in McKenzie County, North Dakota.

On August 1, 2011, Arrow filed an application requesting waiver of the following procedures and time schedules: (1) separate hearings on Arrow’s waiver request, Certificate of Corridor Compatibility application and Route Permit application; (2) separately filed applications for a Corridor Certificate and a Route Permit, and separate publication of notices of

filing the applications; and (3) submission of mylar maps and stereo-pair aerial photographs, per the Commission's Application Guidelines for a Corridor Certificate and a Route Permit.

On August 10, 2011, the Commission approved a motion to request appointment of an Administrative Law Judge to preside as a substantive hearing officer ("Hearing Officer"). On August 17, 2011, Administrative Law Judge Allen C. Hoberg was designated as Hearing Officer.

On September 6, 2011, the Hearing Officer issued a Notice of Filings and Notice of Hearing stating that the Application was deemed complete and scheduling a public hearing for December 15, 2011, at 10:00 am CDT (9:00 am MDT) at the McKenzie County Court House, 201 5th Street NW, Watford City, North Dakota.

On September 20, 2011, the Hearing Officer issued a Notice of Filings and Notice of Rescheduled Hearing rescheduling the public hearing for October 24, 2011, at 1:30 pm CDT (12:30 pm MDT) at the McKenzie County Court House, 201 5th Street NW, Watford City, North Dakota.

The Notice of Filings and Notice of Rescheduled Hearing identified the following issues to be considered with respect to the application for waiver of procedures and time schedules:

1. Are the proposed facilities of such length, design, location, or purpose that they will produce minimal adverse effects and that adherence to applicable procedures and time schedules may be waived?
2. Is it appropriate for the Commission to waive any procedures and time schedules as requested in the application?

The Notice of Filings and Notice of Rescheduled Hearing identified the following issues to be considered with respect to the applications for a certificate of corridor compatibility and route permit:

1. Will the location, construction, and operation of the proposed facilities produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?
2. Are the proposed facilities compatible with the environmental preservation and the efficient use of resources?
3. Will the proposed facility locations minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion?

On October 24, 2011, the public hearing was held as scheduled.

Having allowed all interested persons an opportunity to be heard and having heard, reviewed and considered all testimony and evidence presented, the Hearing Officer makes the following:

Findings of Fact

1. Arrow is a Delaware limited liability company that is headquartered in Tulsa, Oklahoma.
2. Arrow has been authorized to do business in the State of North Dakota since July 16, 2009, as evidenced by the Certificate of Good Standing issued by the North Dakota Secretary of State on April 19, 2011.

Size, Type, and Preferred Location of Facility

3. The Project will consist of approximately 1.5 miles of underground pipeline that will extend between Arrow's existing Central Delivery Point ("CDP") Facility to an interconnect with the existing 4 Bears Pipeline. The Project will be located approximately 18 miles east of Watford City and will be located entirely in McKenzie County, North Dakota. The estimated cost of the project is \$2.2 million.
4. The Project will use 8-inch steel pipe and the maximum allowable operating pressure will be 1,440 pounds per square inch gauge. The pipeline will have a maximum capacity of up to 24,000 barrels per day of crude oil.
5. Above ground facilities will consist of aerial or pipeline markers and markers to identify cathodic protection test stations.

Need for the Facility

6. Arrow has concluded that there is a need for the facility. The Project will provide a critical transportation link between the existing 4 Bears Pipeline and the Arrow CDP Connect Facility that will reduce the need for surface transportation and enhance the marketability of crude oil produced in the Williston Basin.

Study of Preferred Route(s)

7. In its Application, Arrow defined its study area as a one-mile-wide study area centered on the proposed Project route. Within the study area, Arrow identified an approximately 200-foot wide survey corridor centered on the preferred pipeline route for the purpose of conducting cultural resource field surveys, and biological and wetland/waterbody field surveys.
8. Arrow analyzed a number of alternatives and factors, including engineering, economic, and environmental factors to determine the most feasible route. The potential alternatives considered included a no action alternative, an increased storage facility capacity and ground transportation alternative, and routing alternatives.

9. The following agencies were contacted by Arrow and provided written comments: United States Fish and Wildlife Service (“USFWS”); North Dakota Game and Fish Department; North Dakota State Land Department; State Historical Society of North Dakota, State Historic Preservation Office (“SHPO”); and North Dakota Farm Service Agency – McKenzie County.

10. Arrow conducted a Class I literature search on the one-mile wide study area, and a Class III Cultural Resource Inventory on the 200-foot wide survey corridor. Additionally, environmental data collected included information on soils, land use, wetlands and waterbody crossings, trees and shrubs, noxious weeds, and protected species and habitat.

11. The SHPO has concurred with the determination that no historic properties will be affected by the Project provided the Project area remains as depicted in the Class I and Class III Cultural Resource Inventory report.

12. The Commission has established criteria pursuant to North Dakota Century Code Section 49-22-05.1 to guide the Commission in evaluating the suitability of granting a Certificate of Corridor Compatibility and Route Permit. The criteria, as set forth in North Dakota Administrative Code Section 69-06-08-02, are classified as Exclusion Areas, Avoidance Areas, Selection Criteria and Policy Criteria.

13. A transmission facility route must not be sited within an Exclusion Area. No Exclusion Areas are located within the study area or crossed by the route

14. A transmission facility route must not be sited within an Avoidance Area unless the applicant shows that under the circumstances there are no reasonable alternatives. In determining whether an Avoidance Area shall be designated for a facility, the Commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes. No Avoidance Areas are located within the study area or crossed by the route.

15. Cultural resources were identified within the study area. However, the two cultural resources identified within the route and analyzed during the Class III Cultural Resource Inventory were determined to not be eligible for the National Register of Historic Places, and neither avoidance nor mitigation are necessary.

16. In accordance with the Commission’s Selection Criteria, a transmission route shall be approved if it is demonstrated that any significant adverse impacts that will result from the location, construction, and maintenance of the transmission facility will be at an acceptable minimum or managed and maintained at an acceptable minimum. Arrow has analyzed the impacts of the Project in relation to all of the relevant Selection Criteria. The Project will have no significant adverse impacts on the Commission’s Selection Criteria.

17. A wetland boundary determination and a wetland delineation were completed along the proposed route. No areas that meet the United States Army Corps of Engineer’s wetland criteria will be crossed by the route. The Project will cross Dry Creek using the horizontal direction drill method to cross beneath the stream bed. No permanent impacts to wetlands or waterbodies are anticipated. Small amounts of shrubland habitat are present within the study area, and have been avoided by the route to the extent practicable. An inventory of trees and shrubs that would be

affected by the Project has been completed, and trees and shrubs have been counted and will be replaced in accordance with the Commission's tree and shrub mitigation specifications.

18. The Project may result in temporary displacement of wildlife, due to clearing and construction, but impacts are expected to be temporary and minimal. The Project will have no significant impact on fish and wildlife resources and no impacts are anticipated to endangered, threatened or sensitive plant or animal species.

19. The USFWS comments focused on threatened and endangered species, candidate species, migratory birds, bald and golden eagles, and high value habitat avoidance. Arrow will comply with the USFWS's recommendations found in Exhibit 1.

20. In accordance with the Commission's Policy Criteria, preference may be given to an applicant demonstrating certain benefits of the transmission facility. Arrow has analyzed the relevant Policy Criteria and has expressly committed to designing, constructing and operating the pipeline in accordance with all applicable federal, state and local laws and regulations; energy conservation through the facility's location and design; training and utilizing available labor in the state; constructing the Project to take advantage of economies of scale; achieving transmission capacity in the most minimally intrusive and most efficient way possible; and coordinating with state and local officials. Arrow submitted evidence to demonstrate commitment to maximize the benefits of the proposed transmission facility as far as is possible so as to meet the Policy Criteria.

21. It is appropriate to authorize a corridor only for the area for which Arrow performed the more thorough cultural resource study.

Measures to Minimize Impact

22. Arrow has agreed to a number of steps to mitigate the impact of the Project, as indicated by the October 21, 2011 Certification Relating to Order Provisions – Transmission Facility Siting, with accompanying Tree and Shrub Mitigation Specifications.

23. The Project's temporary construction right-of-way ("ROW") will generally be 120 feet wide, except the construction ROW may be reduced to 80 feet wide at certain locations, such as approaching waterbodies. The construction ROW will be reduced to 50 feet wide in wooded areas. The Project's permanent ROW will be 50 feet wide. Arrow will use existing public roads to access the ROW.

24. The design, construction and operation of the pipeline will be in accordance with the United States Department of Transportation ("DOT") regulations governing the transportation of crude oil, as prescribed under 49 CFR Parts 194 and 195.

25. Arrow will use environmental monitors and inspectors to comply with all applicable permits.

26. Arrow's existing Emergency Action Plan will include the Project.

From the foregoing Findings of Fact, the Hearing Officer now makes the following:

Conclusions of Law

1. The Commission has jurisdiction over the applicant, Arrow Field Services, LLC, and over the subject matter of this application under North Dakota Century Code Chapter 49-22.
2. Arrow is a utility as defined in North Dakota Century Code Section 49-22-03(13).
3. The proposed pipeline is a transmission facility as defined in North Dakota Century Code Section 49-22-03(12).
4. The location, construction, and operation of the Project will produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota.
5. The location, construction and operation of the Project are compatible with environmental preservation and the efficient use of resources.
6. The Project will minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.
7. The Project is of such length, design, location and purpose that it will produce minimal adverse effects, in accordance with North Dakota Century Code Section 49-22-07.2.
8. It is appropriate for the Commission to waive those certain procedures and time schedules as requested in the Application and provided under North Dakota Century Code Section 49-22-07.2.

From the foregoing Recommended Findings of Fact and Conclusions of Law, the Hearing Officer now issues the following:

Order

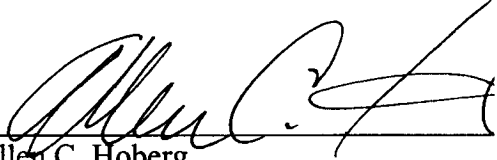
1. That Arrow Field Services, LLC's application for a waiver of procedures and time schedules be granted.
2. That a Certificate of Corridor Compatibility be issued to Arrow Field Services, LLC designating a corridor for the construction, operation, and maintenance of the proposed pipeline. For purposes of the Certificate, the Corridor will consist of a 200-foot wide area centered on the pipeline route for the length of the route.
3. That a Route Permit be issued to Arrow Field Services, LLC granting authority to construct and operate an 8-inch crude oil pipeline and associated facilities in McKenzie County, North Dakota.

That the October 21, 2011 Certification Relating to Order Provisions – Tran
y Siting, with accompanying Tree and Shrub Mitigation Specifications, be incorp
ce and attached to the Order issued by the Commission.

That, to the extent there are any conflicts or inconsistencies between the Applica
tification provisions, the certification provisions control.

State of North Dakota
Public Service Commission

By: _____


Allen C. Hoberg
Administrative Law Judge
Substantive Hearing Officer
Office of Administrative Hearings
2911 North 14th Street — Suite 303
Bismarck, North Dakota 58503
Telephone: (701) 328-3200

PUBLIC SERVICE COMMISSION

STATE OF NORTH DAKOTA

Certificate of Corridor Compatibility Number 126

This is to certify that the Commission has designated a transmission facility corridor for Arrow Field Services, LLC, for the construction of a 1.5 mile, 8-inch pipeline in McKenzie County, North Dakota for the transmission of crude oil.

This certificate is issued in accordance with the Order of this Commission dated November 2, 2011 in Case No. PU-11-99 and is subject to the conditions and limitations noted in the Order.

Bismarck, North Dakota, November 2, 2011.

ATTEST:

PUBLIC SERVICE COMMISSION



Executive Secretary



Commissioner

**PUBLIC SERVICE COMMISSION
STATE OF NORTH DAKOTA**

Route Permit Number 135

This is to certify that the Commission has designated a transmission facility route for Arrow Field Services, LLC, for the construction of a 1.50 mile, 8-inch pipeline in McKenzie County, North Dakota for the transmission of crude oil.

This certificate is issued in accordance with the Order of this Commission dated November 2, 2011 in Case No. PU-11-99 and is subject to the conditions and limitations noted in the Order.

Bismarck, North Dakota, November 2, 2011.

ATTEST:

PUBLIC SERVICE COMMISSION


Executive Secretary


Commissioner

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Arrow Field Services, LLC
4 Bears to CDP Connect Project – McKenzie County
Siting Application

Case No. PU-11-99

CERTIFICATION RELATING TO ORDER PROVISIONS
TRANSMISSION FACILITY SITING

I am, James E. Lind, a representative of Arrow Field Services, LLC ("Arrow Field") with authority to bind Arrow Field to requirements to be set forth by the Commission in its Order and I certify the following:

1. Arrow Field understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission will be subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Arrow Field shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.
2. Arrow Field agrees to hold a preconstruction conference prior to commencement of any construction, which must include a Arrow Field representative, its construction supervisor, and a representative of Commission Staff, to ensure that Arrow Field fully understands the conditions set forth in the Commission's order.
3. Arrow Field agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the transmission facility including all city, township, and county zoning regulations.
4. Arrow Field understands and agrees that it shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction activity associated with the transmission facility that requires said license or permit.
5. Arrow Field agrees to inform the Commission of its intent to start construction on the transmission facility prior to the commencement of construction. Once construction has started, Arrow Field shall keep the Commission updated on construction activities on a weekly basis.
6. Arrow Field understands and agrees that the pipeline will be buried to a minimum depth from the ground surface to the top of the pipe of 48 inches in range land, 48 inches for cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines.
7. Arrow Field understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission is subject to suspension or revocation and may, in an appropriate and proper case, be suspended or revoked for failure to comply with the

Commission's order, the conditions and criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.

8. Arrow Field agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission's order issuing a Certificate of Corridor Compatibility or Route Permit, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.
9. Arrow Field agrees to construct and operate the transmission facility in the manner described in Arrow Field's application, in any late filed exhibits and supplemental materials, and in accordance with all applicable safety requirements.
10. Arrow Field agrees to report promptly to the Commission the presence in the permit area of any critical habitat or threatened species, endangered species, bald eagles, or golden eagles of which Arrow Field becomes aware and which were not previously reported to the Commission.
11. Arrow Field understands and agrees that all cultural resource mitigation plans must be submitted to the North Dakota State Historic Preservation Office and approved prior to the start of any fieldwork and construction activity in the affected area.
12. Arrow Field understands and agrees that if any cultural resource, paleontological site, archeological site, historical site, or grave site is discovered during construction, it must be marked, preserved and protected from further disturbances until a professional examination can be made and a report of such examination is filed with the Commission and the State Historical Society and clearance to proceed is given by the Commission.
13. Arrow Field understands and agrees that all buried facility crossings of graded roads must be bored unless the responsible governing agency specifically permits Arrow Field to open cut the road.
14. Arrow Field understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the transmission facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.
15. Arrow Field understands and agrees that construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land, unless adequate protection measures approved by the Commission are taken.
16. Arrow Field understands and agrees that all topsoil, up to 12 inches, 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 the subsoil. Except along segments of the line using the double ditching method, 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 be replaced over areas from which it was stripped only after the subsoil is replaced.

17. Arrow Field understands and agrees that reclamation, fertilization, and reseeding is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.
18. Arrow Field understands and agrees that its obligation for reclamation and maintenance of the right-of-way will continue throughout the life of the transmission facility.
19. Arrow Field understands and agrees that its obligation for reclamation and maintenance of the transmission facility, associated facilities, and roadways will continue throughout the life of the transmission facility.
20. Arrow Field agrees to comply with the Tree and Shrub Mitigation Specifications, attached.
21. Arrow Field understands and agrees that it shall work with landowners and residents to mitigate any increase in television and residential radio interference that results from the construction of the transmission facility.
22. Arrow Field understands and agrees that it shall repair or replace all fences and gates removed or damaged during all phases of construction and operation of the transmission facility.
23. Arrow Field understands and agrees that it shall repair or replace all broken or damaged drainage tile during all phases of construction and operation of the transmission facility.
24. Arrow Field understands and agrees that staging areas or equipment shall not be located on land owned by a person other than Arrow Field unless otherwise negotiated with landowners.
25. Arrow Field understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.
26. Arrow Field understands and agrees that it shall, as soon as practicable upon the completion of the construction of the transmission facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.
27. Arrow Field understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the transmission facility.
28. Arrow Field understands and agrees that it shall advise the Commission of any extraordinary events which take place at the site of the transmission facility, including injuries to any person, or the death of any threatened or endangered species on the site within five business days of such event.

29. Arrow Field understands and agrees that it shall implement a procedure for how complaints concerning the transmission facility will be handled by Arrow Field.
30. Upon request, Arrow Field agrees to provide the Commission with engineering design drawings of the transmission facility prior to construction.
31. Arrow Field understands and agrees that it shall inform the Commission in writing of any plans to modify the transmission facility or of any plans to modify the site plan for the transmission facility. Arrow Field understands and agrees to obtain written approval from the Commission prior to any modifications to the site plan or the transmission facility. Approval may be granted after notice and opportunity for hearing.
32. Arrow Field agrees to provide the Commission with both an electronic and a paper copy of the corridor approved by the Commission, and will provide this information within three months of the Commission order approving the corridor. Arrow Field also agrees to provide an electronic version of the approved corridor that can be imported into ESRI GIS mapping software within 3 months of the Order. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.
33. Arrow Field agrees to provide the Commission with both an electronic and a paper copy of the design specifications for the construction of the transmission facility showing the location of the transmission facility as built, and will provide this information within three months of the completion of the construction. Arrow Field also agrees to provide an electronic version of the as-built facility design specifications that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.
34. Arrow Field understands and agrees that the authorizations granted by any Certificate of Corridor Compatibility or Route Permit issued by the Commission for the transmission facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.
35. Arrow Field understands and agrees that in the event Arrow Field desires to construct, within any corridor granted by a Certificate of Corridor Compatibility in this proceeding, a transmission facility or energy conversion facility that was not included in Arrow Field's application in this proceeding, Arrow Field shall apply to the Commission for a Route Permit or Site Certificate for the facility.
36. Arrow Field shall notify the Commission, as soon as reasonably possible, if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during construction conducted under the certificate or permit issued in this proceeding. In

the event of any damage to underground facilities, Arrow Field shall suspend construction in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined and clearance to proceed has been given by the Commission or Commission staff.

37. Arrow Field understands and agrees that the corridor certificate and route permit are subject to suspension or revocation and may, after hearing, be suspended or revoked for failure to comply with the Commission's order, requirements of the One-Call Excavation Notice System under North Dakota Century Code Chapter 49-23, the conditions and criteria of the certificate or permit or subsequent modification, or failure to comply with applicable statutes, or rules, regulations, standards, and permits of other state or federal agencies.

Dated this 21st day of October, 2011.

ARROW FIELD SERVICES, LLC

By

Its President and CEO

STATE OF NORTH DAKOTA

PUBLIC SERVICE COMMISSION

**Arrow Field Services, LLC
4 Bears to CDP Connect Project – McKenzie County
Siting Application**

Case No. PU-11-99

Tree and Shrub Mitigation Specifications

Inventory

1. Trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds (e.g., *Caragana arborescens*, *Elaeagnus angustifolia*, *Rhamnus cathartica*, *Tamarix chinensis*, *T. parviflora*, *T. ramosissima*, *Ulmus pumila*), shall be inventoried before cutting. The inventory shall record the location, number, and species of trees and shrubs.
2. In windbreaks, shelterbelts, and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, shall be inventoried for replacement.
3. In native growth areas, trees anticipated to be cleared that are 1-inch diameter at breast height (dbh) or greater shall be inventoried for replacement.
4. In native growth areas, shrubs anticipated to be cleared in the permanent right-of-way shall be inventoried for replacement.
5. In native growth areas outside the permanent right-of-way, shrubs shall be cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock intact. If soil disturbance is necessary, the native topsoil shall be preserved and replaced after construction. Shrubs shall be allowed to regenerate naturally where native topsoil is preserved and replaced. Where native topsoil is not preserved and replaced, shrubs anticipated to be cleared shall be inventoried for replacement.
6. In native growth areas, trees and shrubs may be inventoried by actual count or by sampling method that will properly represent the woody vegetation population. A sampling plan developed by the company, filed with the North Dakota Public Service Commission (Commission), and approved prior to the start of construction shall define the sampling method to be used for trees, for tall shrubs and for low shrubs. The data from the sample plots shall be extrapolated to the total acreage of the wooded area to be cleared to determine the species and quantity of trees and shrubs to be replaced.

Clearing for Construction

7. Trees and shrubs shall be selectively cleared, leaving mature trees and shrubs intact where practical.
8. The width of clear cuts through windbreaks, shelterbelts and all other wooded areas shall be limited to 50 feet or less unless otherwise approved by the Commission.
9. If the area of trees or shrubs actually cleared differs from the area inventoried, the difference in number of trees and shrubs to be replaced shall be noted on the inventory.

Replacement

10. Prior to replacement, documentation identifying the number and variety of trees removed as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings shall be filed with the Commission for approval.
11. Tree replacement shall be on a 2 to 1 basis with 2-year-old saplings. Shrub replacement shall be on a 2 to 1 basis with stem cuttings.
12. Trees and shrubs shall be replaced by the same species or similar species, except in the case of invasive species or noxious weeds, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.
13. Landowners shall be given the option of having replacement trees or shrubs planted off the right-of-way on the landowner's property or waiving that requirement in writing and allowing those replacement trees or shrubs to be planted at alternative locations.
14. At the conclusion of the project, documentation identifying the actual number, variety, type, location, and date of the replacement plantings shall be filed with the Commission.
15. Tree and shrub replacements shall be inspected once a year for three years, on or about the anniversary of the plantings, and, on or shortly before October 1 of each year, a report shall be submitted to the Commission documenting the condition of replacement planting and any woodlands work completed. If after three years from the anniversary of the plantings the survival rate is less than 75%, the Commission may order additional planting(s).