

August 30, 2017

VIA HAND DELIVERY

Mr. Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480



RE: Arrow Field Services, LLC's Route and Corridor Adjustment Request and Application for Waiver of Procedures and Time Schedules - Case No. PU-17-048

Dear Mr. Nitschke:

On June 30, 2017, the North Dakota Public Service Commission ("Commission") issued its Order on Recommended Findings of Fact, Conclusions of Law and Order ("Order") granting Certificate of Corridor Compatibility Number 199 and Route Permit Number 210 to Arrow Field Services, LLC ("Arrow") for the project. Since issuance of the Order, Arrow has determined that a route and corridor amendment is necessary to facilitate interconnection with third-party facilities and to include additional corridor space for a meter station.

Therefore, pursuant to North Dakota Administrative Code ("N.D.A.C.") § 69-06-05-02(3), North Dakota Century Code ("N.D.C.C.") §§ 49-22.1-06 and 49-22.1-07, N.D.A.C. Ch. 69-06-06, and N.D.C.C. § 49-22.1-05, enclosed please find an original and ten copies of the following documents:

1. Arrow Field Services, LLC's Route and Corridor Adjustment Request;
2. Affidavit of Curt Van Hoorn, and accompanying Exhibits A-G (the original executed Affidavit will be provided under separate cover);
3. Application for Waiver of Procedures and Time Schedules; and
4. Black and white map for publication.

Attorneys & Advisors
main 701.221.8700
fax 701.221.8750
fredlaw.com

Fredrikson & Byron, P.A.
1133 College Drive, Suit
Bismarck, North Dakota
58501-1215

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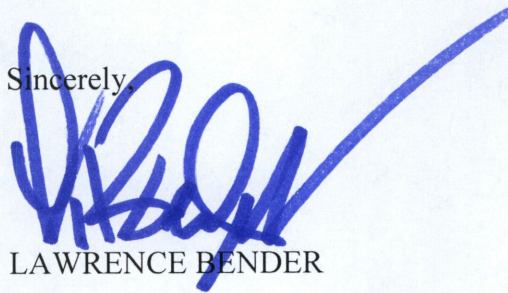
PU-17-48 Filed: 8/30/2017 Pages: 44
Application for Route and Corridor Adjustment with supporting documentation

Mr. Darrell Nitschke
August 30, 2017
Page 2

A disk containing electronic versions of the documents and shapefiles for the project are also included.

If you have any questions, please advise.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Lawrence Bender', with a long, sweeping flourish extending to the right.

LAWRENCE BENDER

LB/dmk

Enclosures

cc: Jerry Lein (via e-mail)
Jack Schuh (via e-mail)

62016608.1

PUBLIC SERVICE COMMISSION

STATE OF NORTH DAKOTA

**Arrow Field Services, LLC
10-Inch & 8-Inch NGL Pipeline Project – McKenzie
Siting Application**

CASE NO. PU-17-048

**Arrow Field Services, LLC's
Route and Corridor Adjustment Request**

I. Introduction.

Arrow Field Services, LLC (“Arrow”), is developing a new 8-inch natural gas liquids (“NGLs”) and 10-inch residue gas pipeline and associated facilities (“Project”) in McKenzie County, North Dakota. On June 30, 2017, the North Dakota Public Service Commission (“Commission”) issued an Order on Recommended Findings of Fact, Conclusions of Law and Order (“Order”) granting Certificate of Corridor Compatibility No. 199 and Route Permit No. 210 to Arrow for the Project. The corridor and route designated by the Commission are identified in Order Paragraph Nos. 3 and 4 (referred to herein as the “Designated Corridor” and the “Designated Route,” respectively) and depicted in Appendix A of Hearing Exhibit 1.

Since issuance of the Order, Arrow has determined that a route and corridor amendment is necessary to facilitate interconnection of the Project with third party facilities at the Project’s terminus. Arrow has also determined a meter station is required, which will necessitate additional corridor space to be permitted for the Project.

In accordance with North Dakota Administrative Code (“N.D.A.C.”) § 69-06-05-02(3), Arrow respectfully requests the Commission approve the requested route and corridor adjustments set forth herein. In support of its request, Arrow submits information demonstrating that the proposed adjustments comply with the requirements of North Dakota Century Code

("N.D.C.C.") Ch. 49-22.1 and N.D.A.C. § 69-06-08-02. Accompanying this request is the Affidavit of Curt Van Hoorn ("Van Hoorn Affidavit"), which attests to the information provided herein and provides additional supporting documentation.

II. Description of Route and Corridor Adjustments.

Arrow explored potential third party pipeline and facility interconnection opportunities throughout Project development, and had determined the preferred interconnection option at the time of permitting. However, it has been determined that the third party interconnect locations must be modified to interconnect the Project with a Northern Border facility and a ONEOK facility. A meter station along the Project route with additional corridor space was also determined to be required.

To interconnect the Project with the third party facilities, Arrow needs to adjust the Designated Route and Designated Corridor to include a 0.22-mile-long extension of the 8-inch NGL pipeline and a 0.20-mile-long extension of the 10-inch residue gas pipeline. The addition of the meter station will also include a modification to the Designated Corridor.

A map depicting the Designated Corridor and Designated Route for the Project, and the requested route adjustment and associated corridor adjustment for the pipeline interconnects, is attached as **Exhibit A** to the Van Hoorn Affidavit. A map depicting the planned location of the meter station and the corridor adjustment is attached as **Exhibit B** to the Van Hoorn Affidavit.

Arrow is a wholly owned subsidiary of Crestwood Equity Partners, LP ("Crestwood"), and Crestwood is the owner of the property on which the pipeline route adjustment and associated corridor adjustment for the third party interconnects is located. Rocky and Jonilla Farms, LLP owns the property affected by the meter station, and Arrow has obtained all appropriate agreements and approvals from the landowner.

Pending receipt of the necessary authorizations for the route and corridor adjustments, Arrow plans to begin construction for the adjustments as soon as possible in order to complete the Project before winter.

III. Siting Criteria Evaluation.

Arrow has analyzed the proposed route and corridor adjustments in relation to the Commission's Exclusion Area, Avoidance Area, Selection, and Policy Criteria. Based on Arrow's analysis, the adjustments will not impact any Exclusion Areas or Avoidance Areas. With respect to the Selection Criteria, Arrow has concluded that the proposed adjustments do not alter the conclusion that the "Project will have no significant adverse effects on the Commission's Selection Criteria," as set forth in Findings of Fact Paragraph No. 37 of the Recommended Findings of Fact, Conclusions of Law and Order. In addition, Arrow has concluded that the proposed adjustments will not alter any of its commitments with respect to the Policy Criteria.

IV. Environmental Analysis.

The proposed route and corridor adjustments will not impact the environmental analysis conducted for the Project, as described in the Consolidated Application for a Certificate for Corridor Compatibility and Route Permit ("Application"), or the conclusions reached by the Commission in its Order. Portions of the route and corridor adjustments fall outside the designated corridor and previously surveyed areas, so Arrow performed additional field surveys for these areas. The results of the surveys are provided in Exhibits C, D, and F to the Van Hoorn Affidavit, and are summarized below.

A. Cultural Resources.

SWCA previously conducted a Class I and Class III cultural resource inventory for the Designated Corridor, with the results provided in the Cultural Resources Inventory Report in Appendix F to the Application. *See* Hearing Exhibit No. 1.

On August 9, 2017, SWCA conducted a Class III cultural resource inventory of an area for the meter station outside of the Designated Corridor, consisting of a 200-foot-wide area as depicted on Exhibit B to the Van Hoorn Affidavit. No cultural resources were observed during the course of the inventory for the meter station. SWCA prepared an Addendum to a Class I and Class III Cultural Resources Inventory (“Addendum”), dated August 11, 2017, in which SWCA noted no cultural resources were observed during the course of the inventory and recommended no further work regarding cultural resources was necessary. *See* Exhibit D to Van Hoorn Affidavit.¹ In a letter dated August 18, 2017, the North Dakota State Historic Preservation Office (“SHPO”) found the report acceptable. *See* Exhibit E to Van Hoorn Affidavit. As noted, concurrence by the SHPO set forth in Exhibit E only applies to the amended corridor required for the meter station.

On August 22, 2017, SWCA completed a cultural resources survey for the amended pipeline route and corridor required for the third party interconnects, consisting of a 200-foot-wide area as depicted on Exhibit A to the Van Hoorn Affidavit. No cultural resources were

¹ During the August 9, 2017 survey, SWCA also conducted a survey for a previously considered pipeline reroute for the third party facility interconnects. However, the route and corridor adjustment depicted in the Addendum for the pipeline was not chosen as the final route adjustment location. As such, the information contained in the Addendum is only relevant to the meter station corridor adjustment. Any information in the Addendum regarding the pipeline route adjustment should be disregarded.

observed during the course of the inventory for the pipeline route and corridor amendment. SWCA prepared an Addendum 2 to a Class I and Class III Cultural Resources Inventory (“Addendum 2”), dated August 23, 2017, in which SWCA noted no cultural resources were observed during the course of the inventory and recommended no further work regarding cultural resources was necessary. *See* Exhibit E to Van Hoorn Affidavit. In a letter dated August 24, 2017, the SHPO found the report acceptable. *See* Exhibit G to Van Hoorn Affidavit.

B. Natural Resources.

SWCA previously conducted a natural resources field survey of the Designated Corridor and a Natural Resources and Wetland Determination Report summarizing the results was provided in Appendix D to the Application. *See* Hearing Exhibit No. 1.

On August 9 and 22, 2017, SWCA completed natural resources surveys of the proposed pipeline route extension and meter station to be located outside of the Designated Corridor, which consisted of a 200-foot-wide survey corridor. No wetlands, woody vegetation, noxious weeds, or threatened or endangered species or habitat were observed within the area surveyed. The results are summarized in an Addendum to the Natural Resources Report, dated August 22, 2017, which is provided in Exhibit C to the Van Hoorn Affidavit.

V. Conclusion.

As set forth above, the requested route and corridor adjustments comply with the requirements of N.D.C.C. Ch. 49-22.1 and the Commission’s siting criteria in N.D.A.C. § 69-06-08-02. No exclusion or avoidance areas, as set forth in N.D.A.C. §§ 69-06-08-02(1) and (2), will be affected by the proposed corridor and route modifications. Furthermore, the affected landowners have agreed to the adjustments. Therefore, Arrow respectfully requests that the Commission grant its request and issue an amended Certificate of Corridor Compatibility and

Route Permit authorizing construction, operation, and maintenance of the Project consistent with the route and corridor adjustments requested herein.

Dated this ____ day of August, 2017.

FREDRIKSON & BYRON, P.A.

By 

LAWRENCE BENDER, ND Bar #03908
DANIELLE M. KRAUSE, ND Bar #06874
Attorneys for Arrow Field Services, LLC
1133 College Drive, Suite 1000
Bismarck, ND 58501
(701) 221-8700

61957862_1.docx

facility and a ONEOK facility. A meter station along the Project route was also determined to be required.

5. To interconnect the Project with the third party facilities, Arrow needs to adjust the Designated Route and Designated Corridor to include a 0.22-mile-long extension of the 8-inch NGL pipeline and a 0.20-mile-long extension of the 10-inch residue gas pipeline. A map depicting the Project's Designated Corridor and Designated Route, and the Project's requested route adjustment and associated corridor adjustment for the pipelines is attached as **Exhibit A**.

6. The addition of the meter station will also include a modification to the Designated Corridor. A map depicting the planned location of the meter station and the corridor adjustment is attached as **Exhibit B**.

7. Arrow is a wholly owned subsidiary of Crestwood Equity Partners, LP ("Crestwood"), and Crestwood is the owner of the property on which the pipeline route adjustment and associated corridor adjustment for the third party interconnects is located. *See* Exhibit A.

8. Only one set of landowners (Rocky and Jonilla Farms, LLP, whose land is already crossed by the Project) is affected by the meter station, and Arrow has obtained all appropriate agreements and approvals from the landowner for the meter station. *See* Exhibit B.

9. Arrow has analyzed the Project route and corridor adjustments in relation to the Commission's Exclusion Area, Avoidance Area, Selection, and Policy Criteria.

10. In relation to the Selection Criteria, the analysis remains consistent with the information set forth in Section 17.3 of the Application. Further, the proposed adjustments do not alter the conclusion that no significant adverse impact will result from the location,

construction and operation of the Project at the adjusted locations, as set forth in Findings of Fact Paragraph No. 37 of the Recommended Findings of Fact, Conclusions of Law and Order.

11. The proposed adjustments will not affect any of Arrow's commitments with respect to the Policy Criteria. See Application § 17.4, Hearing Exhibit No. 1.

12. Based on Arrow's analysis, no Exclusion Areas or Avoidance Areas are located within the adjusted corridor or crossed by the adjusted route.

13. The proposed route and corridor adjustments will not impact the environmental analysis conducted for the Project, as described in the Application, or the conclusions reached by the Commission in its Order.

14. Supplemental surveys were conducted by SWCA Environmental Consultants ("SWCA") for the meter station and the pipeline route extensions with respect to Natural Resources and Cultural Resources.

15. On August 9 and 22, 2017, SWCA completed a natural resources survey of the proposed pipeline route extensions and meter station located in the NE¼ of Section 28 and SW¼ of Section 29, Township 149 North, Range 98 West, McKenzie County, North Dakota. No wetlands, woody vegetation, noxious weeds, or threatened or endangered species or habitat were observed within the area surveyed. A copy of the Addendum to the Natural Resources Report for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project in McKenzie County, North Dakota prepared by SWCA is attached hereto as **Exhibit C**.

16. On August 9, 2017, SWCA completed a cultural resource survey for the amended corridor required for the meter station to be located in Section 28, Township 149 North, Range 98 West in McKenzie County. The results of the survey applicable to the meter station are provided in the August 11, 2017 Addendum to a Class I and Class III Cultural Resources

Inventory (“Addendum”), attached hereto as **Exhibit D**. A previously considered pipeline route and corridor adjustment for the third party interconnects was also surveyed at this time and included in the Addendum. However, only the meter station information contained in the Addendum is relevant to the route and corridor adjustment request presently before the Commission. Information regarding the requested pipeline route and corridor adjustment for the third party interconnects has been updated by a subsequent survey as set forth in Exhibit F.

17. The Addendum was submitted to the North Dakota State Historic Preservation Office (“SHPO”) for review. The SHPO found the Addendum acceptable and determined there has been a good faith effort to identify and avoid impacts to Significant Sites provided the adjustment remains as mapped and described. A copy of the SHPO letter is attached hereto as **Exhibit E**. As noted, concurrence by the SHPO set forth in Exhibit E only applies to the amended corridor required for the meter station.

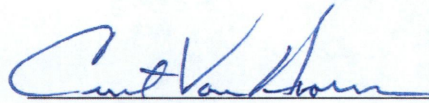
18. On August 22, 2017, SWCA completed a cultural resources survey for the amended pipeline route and corridor required for the third party interconnects to be located in Section 29, Township 149 North, Range 98 West in McKenzie County. The results of the survey applicable to the pipeline route and corridor adjustment for the interconnects are provided in the August 23, 2017 Addendum 2 to a Class I and Class III Cultural Resources Inventory (“Addendum 2”), attached hereto as **Exhibit F**.

19. The Addendum 2 was submitted to the SHPO for review. The SHPO found the Addendum 2 acceptable and determined there has been a good faith effort to identify and avoid impacts to Significant Sites provided the Project remains as mapped and described. A copy of the SHPO letter with respect to the amended pipeline route and corridor is attached hereto as **Exhibit G**.

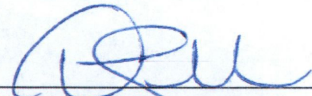
20. With respect to the route and corridor adjustments, Arrow will comply with all applicable conditions and protections in siting laws and rules and commission orders previously issued for any part of the facility.

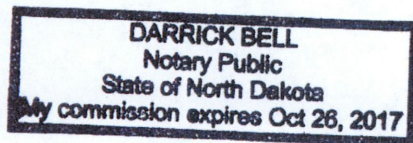
21. Arrow desires to begin construction for the route adjustments as soon as possible in order to complete construction activities before winter.

FURTHER AFFIANT SAYETH NOT.


Curt Van Hoorn

Subscribed and sworn to before me
this 29th day of August, 2017.


Notary Public










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Exhibit A



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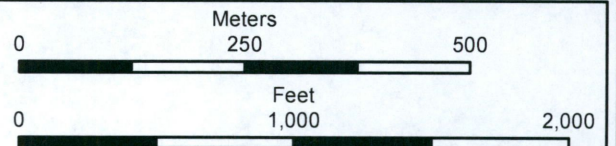
-  Approved Project Pipeline
-  Proposed NGL 8-inch Pipeline Reroute
-  Proposed Residue 10-inch Pipeline Reroute
-  Existing Road
-  Designated Corridor
-  Proposed Amended Corridor
-  Section Boundary

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Base Map: 2016 Aerial Imagery
Source: USDA/FSA - Aerial Photography Field Office
Quadrangle: Teepee Buttes (1995)
Township/Range: T. 149N, R. 98W
McKenzie County, North Dakota

Projection: NAD 1983 UTM Zone 13N



Exhibit B



Legend

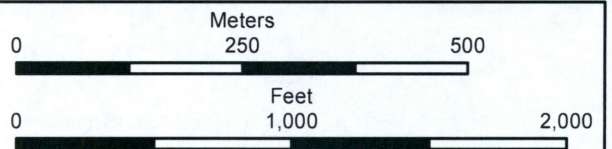
- Approved Project Pipeline
- Existing Road
- Proposed Meter Station
- Designated Corridor
- Proposed Amended Corridor
- Section Boundary

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Base Map: 2016 Aerial Imagery
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Projection: NAD 1983 UTM Zone 13N





2/36
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August 22, 2017

Mr. Don Butler and Mr. Chris Reischman
Crestwood Midstream Partners, L.P.
700 Louisiana Street, Suite 2060
Houston, Texas 77002

RE: Addendum to the Natural Resources Report for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project in McKenzie County, North Dakota

Dear Mr. Butler and Mr. Reischman:

SWCA Environmental Consultants (SWCA) conducted a wetland delineation and natural resources assessment on behalf of Arrow Field Services, LLC (Arrow) for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline project on November 15 and 16, 2016 (Belisle 2016). The project, as approved by the State of North Dakota Public Service Commission (Case No. PU-17-48), is located on privately owned lands in McKenzie County, North Dakota, and includes two 2.6-mile-long pipelines in the transmission pipeline corridor: one is a 10-inch-diameter welded steel pipeline, and the other is an 8-inch-diameter welded steel pipeline. A reroute expansion is proposed to shift the centerline farther from the existing pipeline and encompasses a 0.22-mile-long reroute for the 8-inch pipeline and a 0.20-mile-long reroute for the 10-inch pipeline. The extension of these pipelines will connect to third-party transmission pipelines. The construction right-of-way would not exceed a 100-foot-wide corridor, with a 50-foot-wide permanent right-of-way. Natural resource surveys were conducted for a metering station and the reroute expansion on August 9 and 22, 2017, and consisted of a 200-foot-wide survey corridor buffering the proposed pipeline reroutes in portions of NE $\frac{1}{4}$ Section 28 and SW $\frac{1}{4}$ Section 29, Township 149 North, Range 98 West (Figures 1a and 1b). The rerouted portion will occur in areas currently and previously surveyed as described herein and in Belisle (2016).

METHODS

Wetland Delineation

SWCA conducted determinations in accordance with guidelines presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (U.S. Army Corps of Engineers [USACE] 2010). For an area to be considered a wetland, it must exhibit three criteria: the presence of hydric soils, wetland hydrology, and a vegetative community comprised of greater than 50% hydrophytes.

Exhibit C

Waterbodies

Waterbodies (i.e., ponds, creeks, streams, rivers) were identified by the presence of an ordinary high water mark (OHWM). Common identifiable indicators of an OHWM include open water or evidence of a clear, natural line visible on the bank; shelving; changes in soil characteristics; the destruction of terrestrial vegetation; the presence of litter and debris; and watermarks on structures that are inundated during normal high water conditions. The OHWM typically represents the potential limits of the USACE jurisdiction. Please note that the USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies.

SWCA classified streams as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round and the water table is located above the stream bed. Groundwater is the primary water source for stream flow while precipitation runoff is supplemental. Ecologists classified streams that showed significant flow during the field survey or were named or designated as solid blue lines on the U.S. Geological Survey topographic maps as perennial.

An intermittent stream has flowing water for only portions of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for stream flow. Runoff from rainfall is the primary source of water for stream flow.

Tree/Sapling/Shrub Enumeration

SWCA ecologists determined the total number of trees, saplings, and shrubs present within the survey area. Additionally, ecologists taxonomically identified all species observed within the survey area to species level. The boundary of all forested upland and shrubland habitat was geographically referenced using a Trimble GeoXT series handheld global positioning system (GPS) unit.

Noxious Weeds

“Noxious weed” is a plant species designated as state-listed or county-listed noxious weeds. They generally are not native to a given area, spread rapidly, and have adverse ecological and economic impacts. Noxious weed species may have high reproduction rates and are usually adapted to occupy a diverse range of habitats otherwise occupied by native species. These species may subsequently out-compete native plant species for resources, causing a reduction in native plant populations. Noxious weed communities (both alive and residual) were identified and mapped during field surveys by visual inspection of the survey corridor.

Wildlife including Threatened and Endangered Species

Information regarding the presence of threatened or endangered species, which may occur within the survey area, was obtained from the U.S. Fish and Wildlife Service list of threatened and endangered species by North Dakota county (U.S. Fish and Wildlife Service 2015). This document

does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species. The lack of discovery of threatened or endangered species does not signify their non-existence within the area, but only that no primary or secondary indications of these species were recorded.

SWCA completed a cursory survey for all listed species and their habitat potentially impacted by construction activities within the survey area. A line-of-sight survey for wildlife was also conducted for a distance of approximately 0.5 mile with the aid of binoculars. Unique wildlife habitats were closely inspected on foot. Additionally, SWCA characterized suitable threatened and endangered species habitat encountered during the field survey.

SWCA ecologists noted all wildlife observed during the field survey. Wildlife sightings can involve primary observations (i.e., actual sighting of an animal) or secondary observations (i.e., observation of scat, tracks, or fur deposits).

Mapping

The survey area was inventoried using a Trimble GeoXT GPS unit. The aforementioned GPS unit is capable of recording geographic data with sub-meter accuracy. SWCA used Universal Transverse Mercator Zone 13N as the projected coordinate system and North American Datum 1983 as the datum. ArcGIS v10.5 (ESRI Redlands, California) was used to generate the survey area maps. Please note that any data recorded using the GPS unit, and displayed on the attached map, are for review purposes only and do not represent a professional civil survey.

RESULTS

Wetlands

SWCA ecologists did not identify any wetlands within the survey area.

Waterbodies

SWCA ecologists did not identify any waterbodies within the survey area.

Tree/Sapling/Shrub Enumeration

SWCA ecologists did not identify any woody vegetation with a diameter at breast height (DBH) of ≥ 1 inch within the survey area.

Noxious Weeds

SWCA ecologists did not identify any state/county listed noxious weeds within the survey area.

Wildlife including Threatened and Endangered Species

No threatened and endangered wildlife species or their habitats were observed within the survey area. The survey area is 95% agricultural fields and 5% non-native grasslands. Overall, this reroute will not alter the results and affects determinations provided in the original Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Natural Resources Report (Belisle 2016).

CONCLUSIONS

On August 9 and 22, 2017, SWCA completed a natural resources survey of the proposed NB Residue reroute located in NE¼ Section 28 and SW¼ Section 29, Township 149 North, Range 98 West, McKenzie County, North Dakota (see Figures 1a and 1b).

- SWCA ecologists did not observe any wetlands or waterbodies within the survey area.
- No areas of woody vegetation or state/county listed noxious weeds were recorded within the survey area.
- No threatened or endangered species or suitable habitat were observed within the survey area.

Please contact me at 701-258-6622 or jbivens@swca.com should you have any further questions regarding the information gathered during SWCA's field survey.

Sincerely,



Jason Bivens
Environmental Specialist/Project Manager
Bismarck Natural Resources
SWCA Environmental Consultants

Attachment: Site Layout Maps

REFERENCES

- Belisle, D. 2016. *Natural Resources and Wetland Delineation Report for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota*. Prepared by SWCA Environmental Consultants. Bismarck, North Dakota.
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)*. Edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-30. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Fish and Wildlife Survey. 2015. County occurrence of endangered, threatened, and candidate species and designated critical habitat in North Dakota. Available at: <http://www.fws.gov/northdakotafieldoffice/SEtable.pdf>. Accessed August 10, 2017.

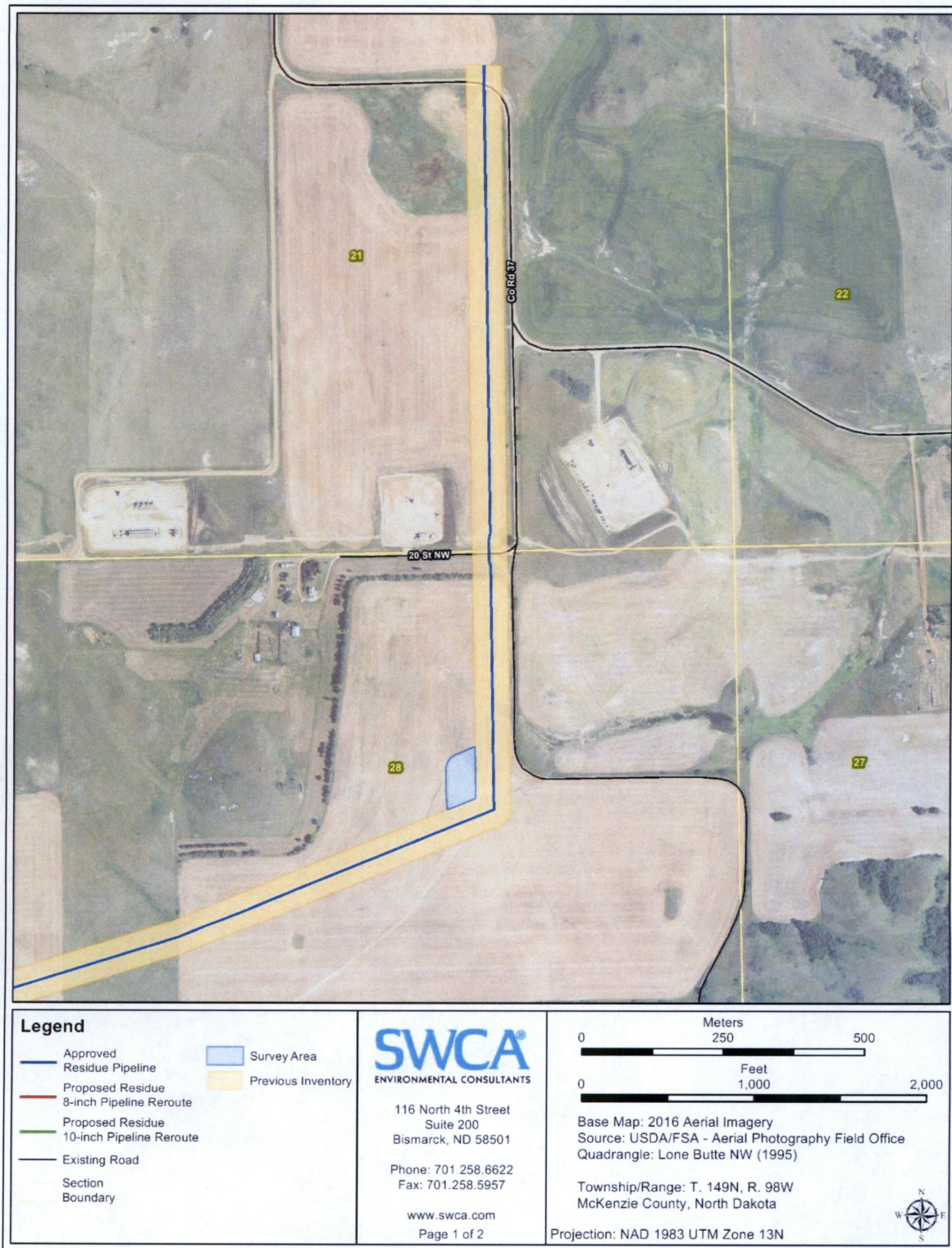


Figure 1a. Site layout map 1 of 2 for the Arrow NB Residue Gas Pipeline reroute.

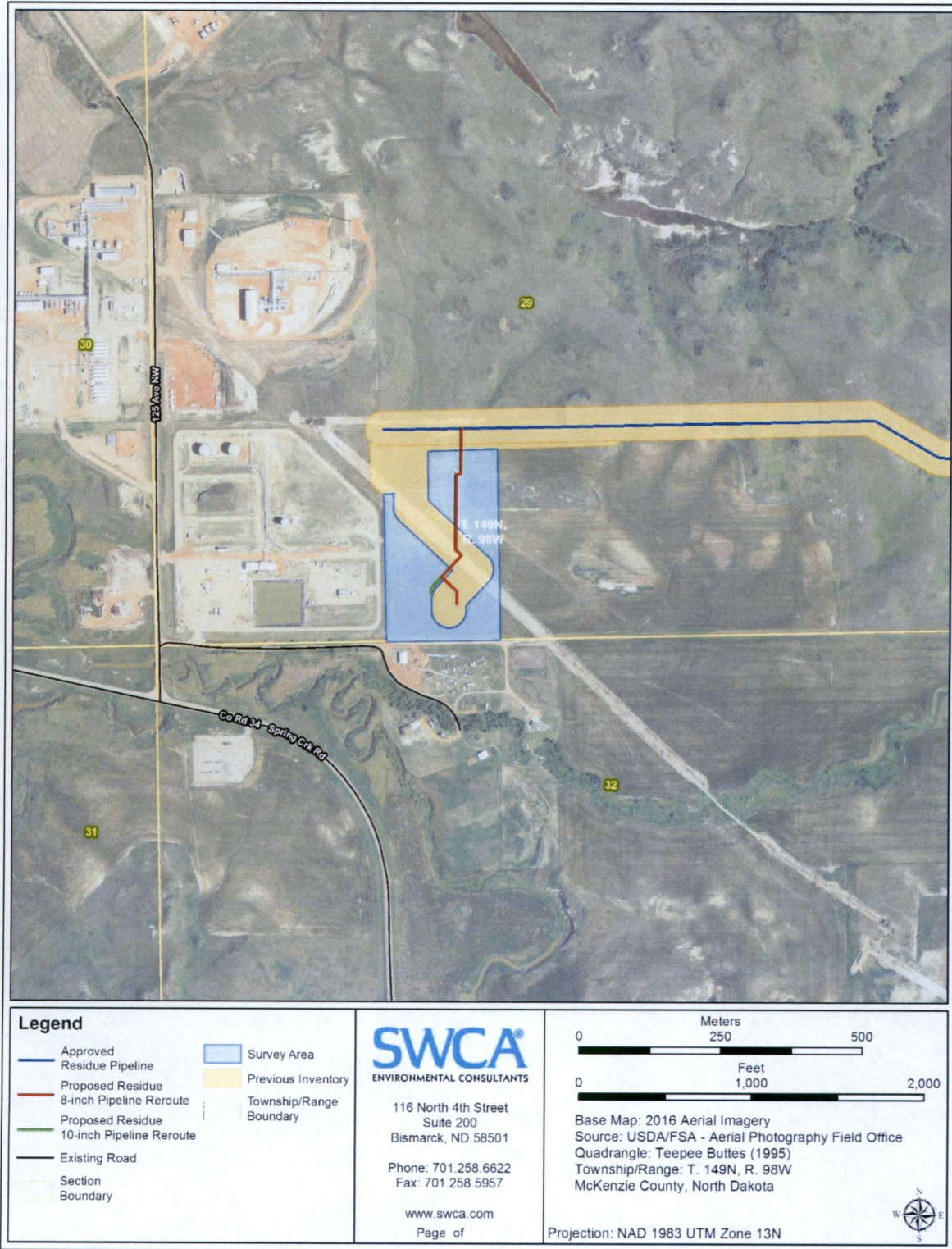


Figure 1b. Site layout map 2 of 2 for the Arrow NB Residue Gas Pipeline reroute.



**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

Doug Burgum
Governor of North Dakota

August 18, 2017

North Dakota
State Historical Board

William M. Harding
Principal Investigator
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501

Terrance Rockstad
Bismarck - President

Gereld Gerntholz
Valley City - Vice President

H. Patrick Weir
Medora - Secretary

Calvin Grinnell
New Town

Albert I. Berger
Grand Forks

Steve C. Martens
Fargo

Daniel Stenberg
Watford City

Sara Otte Coleman
*Director
Tourism Division*

Kelly Schmidt
State Treasurer

Alvin A. Jaeger
Secretary of State

Melissa Baker
*Director
Parks and Recreation Department*

Thomas Sorel
*Interim Director
Department of Transportation*

Claudia J. Berg
Director

NDSHPO REF.: 17-0221B PSC PU-17-48 "Addendum to A Class I and Class III Cultural Resource Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota for Proposed Alignment Reroute and Metering Station Expansion"

Dear Bill:

We have reviewed project correspondence and document NDSHPO REF.: 17-0221B PSC PU-17-48 "Addendum to A Class I and Class III Cultural Resource Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota for Proposed Alignment Reroute and Metering Station Expansion," by William Harding (SWCA, January 2017) and find it acceptable. There has been a good faith effort to identify and avoid impacts to "Significant Sites," provided this project remains as described and mapped in this report dated August 11, 2017.

Thank you for the opportunity to review this project. If you have questions please contact either Paul Picha at ppicha@nd.gov or (701) 328-3574 or Susan Quinnell at squinnell@nd.gov or (701) 328-3576.

Sincerely,

Claudia J. Berg
Director, State Historical Society of North Dakota

Accredited by the
American Alliance
of Museums since 1986



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SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501

North Dakota Negative Results Cultural Resources Report

| | | | |
|--|---|--------------------------|-----------|
| <i>Date of Report:</i> | August 23, 2017 | | |
| <i>Project Name/Report Title:</i> | Addendum 2 to a Class I and Class III Cultural Resources Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota, for Proposed Alignment Reroute | | |
| <i>Project Proponent/Sponsor:</i> | Arrow Field Services, LLC (Arrow) 1200 Summit Avenue, Suite 3200 Fort Worth, Texas 76102 | | |
| <i>Lead Agency:</i> | North Dakota State Historic Preservation Office | | |
| <i>SWCA Project Number:</i> | 40238 | | |
| <i>Principal Investigators:</i> | William M. Harding and Sarah Baer | | |
| <i>Author of Report:</i> | William M. Harding | | |
| <i>Person Performing Fieldwork:</i> | Sarah Baer, SWCA Environmental Consultants (SWCA) | | |
| <i>Date of Fieldwork:</i> | August 22, 2017 | | |
| <i>Acres/Area Inventoried:</i> | Arrow Residue Reroute <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><i>Total Survey Area</i></td> <td style="text-align: center;">7.9 acres</td> </tr> </table> | <i>Total Survey Area</i> | 7.9 acres |
| <i>Total Survey Area</i> | 7.9 acres | | |
| <i>Legal Locations:</i> | W1/2SESW Section 29, Township (T) 149 North (N), Range (R) 98 West (W) Tepee Buttes (1995) and Lone Butte NW (1995), North Dakota, U.S. Geological Survey (USGS) 7.5-minute Quadrangle | | |
| <i>ND Prehistoric Study Unit:</i> | Little Missouri River Study Unit | | |
| <i>ND Historic Study Unit:</i> | Historic 22 | | |

Addendum 2 to A Class I and Class III Cultural Resources Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota, for Proposed Alignment Reroute

Location Description

The Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project is located in McKenzie County, North Dakota. The project location is approximately 7.4 miles southeast of Watford City, North Dakota, and is situated approximately 1.30 miles east of U.S. Highway 85 and approximately 0.20 mile northeast of Spring Creek Road. It is located on harvested and unharvested agricultural fields. An intermittent tributary of Spring Creek is approximately 0.12 mile south of the project location and flows west to its confluence with Spring Creek approximately 0.13 mile southwest of the project location. Spring Creek joins Cherry Creek, which empties into the Little Missouri River about 10.2 miles southeast-east of the project location. Additional description and information regarding the project location is provided in Schleicher 2016 and 2017.

Project Description

SWCA conducted a Class I and Class III cultural resources inventory on behalf of Arrow for a reroute of the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project (Schleicher 2016). The original project includes two parallel 2.6-mile-long pipelines in the transmission pipeline corridor: one is a 10-inch-diameter welded steel residue pipeline, and the other is an 8-inch-diameter welded steel pipeline. The proposed reroute consists of a 0.22-mile-long extension of the 8-inch pipeline and a 0.20-mile-long extension of the 10-inch pipeline. The extensions will connect to respective third-party transmission pipelines. The proposed project is located on privately owned lands in McKenzie County, North Dakota. The construction right-of-way would not exceed a 100-foot-wide corridor, and the permanent right-of-way would be 50 feet wide. The project would use existing access roads for construction. The Class III inventory consisted of a block survey covering the proposed reroutes. The extensions would lie in the current inventory area, described herein, and in previously surveyed areas, described in Schleicher 2016 and 2017.

Files/Records Search Results

SWCA conducted a Class I cultural resources files search of files maintained at the State Historical Society of North Dakota for a 1-mile buffer surrounding the project location on October 5, 2016 (updated on April 11 and 21, 2017). Schleicher 2016 and 2017 list all of the associated previous inventories and previously documented cultural resources in the area. None of the previous inventories or previous cultural resources lie in the current inventory area.

Field Methods and Survey Conditions

SWCA conducted a Class III cultural resources inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project reroute expansion on August 22, 2017. The non-overlapping inventory was conducted by means of pedestrian transects spaced at no more than 15 meters apart. A block survey area was surveyed to cover the proposed pipeline extensions, portions of which had been previously inventoried. Vegetation in the inventoried area consisted mostly of a harvested and unharvested agricultural fields followed by mixed prairie plants including brome (*Bromus* spp.), prairie coneflower (*Ratibida columnifera*), clover (*Trifolium* spp.), and yucca (*Yucca glauca*). The bare ground surface visibility was 5 to 70 percent at the time of the inventory, depending on vegetation density. Soil consisted of light-brown to brown clay loam formed on residuum with some colluvial deposits on the hill slope. Previous disturbances to the area consist of farming and natural erosion.

During the inventory, SWCA took photographs, recorded global positioning system (GPS) routes and points for the proposed pipeline reroute expansion, and took notes, all of which are on file at SWCA's Bismarck, North Dakota, office. A map of the inventoried pipeline reroute is attached to this report, as are photographs of the project location.

Addendum 2 to A Class I and Class III Cultural Resources Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota, for Proposed Alignment Reroute

Results and Recommendations

SWCA inventoried a 7.9-acre block area covering the proposed pipeline reroutes. No cultural resources were observed during the course of the inventory; therefore, no further work regarding cultural resources is necessary.

References

Schleicher, Jolene

2016 *A Class I and Class III Cultural Resource Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota*. Report prepared by SWCA Environmental Consultants and submitted to the North Dakota State Historic Preservation Office, Bismarck.

2017 *Addendum to A Class I and Class III Cultural Resource Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota*. Report prepared by SWCA Environmental Consultants and submitted to the North Dakota State Historic Preservation Office, Bismarck.

Addendum 2 to A Class I and Class III Cultural Resources Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota, for Proposed Alignment Reroute



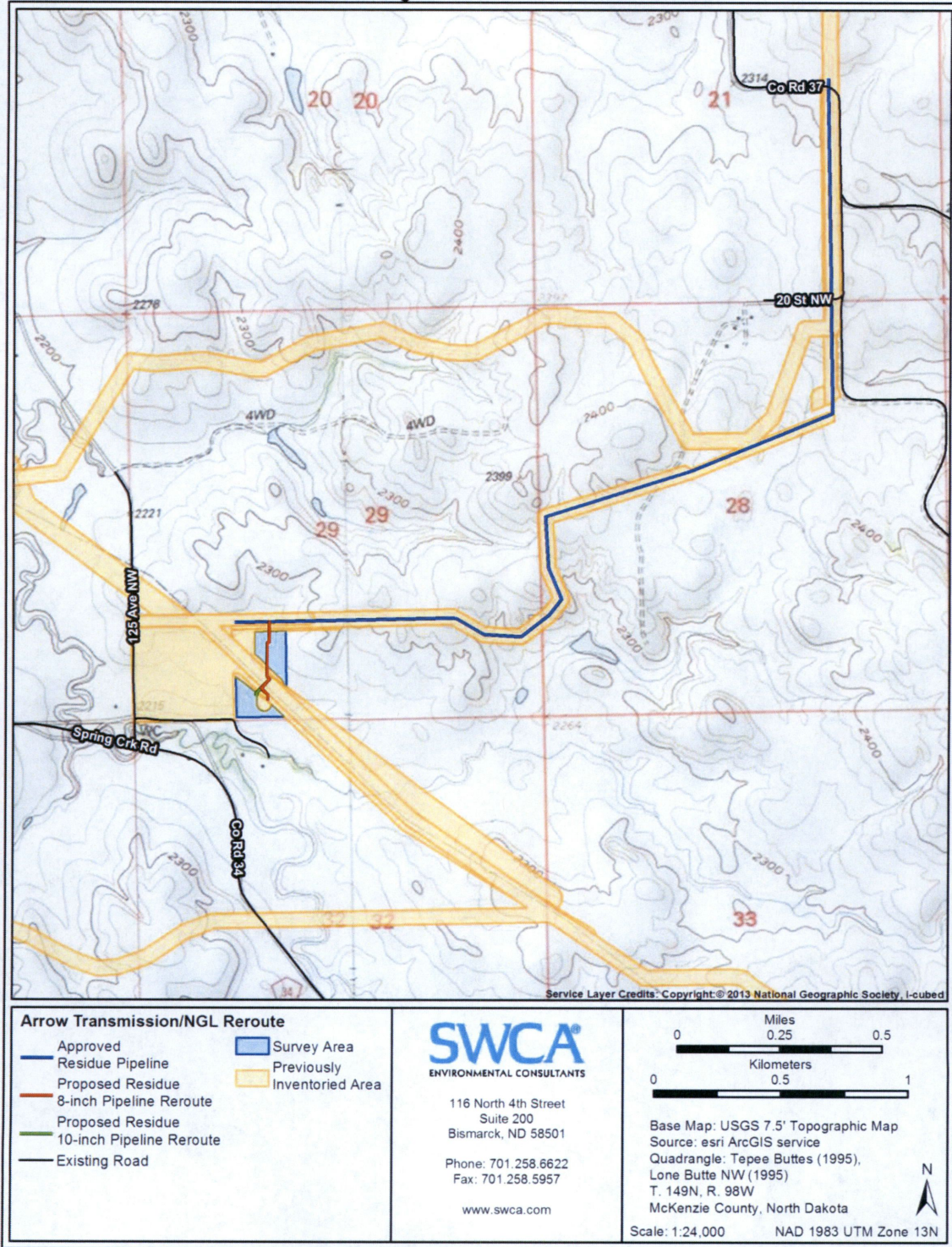
- Overview of proposed reroute expansion, facing south-southeast.
- Photographed by Sarah Baer on August 22, 2017.
- Image has not been altered.



- Overview of proposed pipeline reroute, facing northwest.
- Photographed by Sarah Baer on August 22, 2017.
- Image has not been altered.

Addendum 2 to A Class I and Class III Cultural Resources Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota, for Proposed Alignment Reroute

Contains Privileged Information -- Do Not Release



Project location map at 1:24,000 scale showing inventoried area.
Teepee Buttes (1995) and Lone Butte NW (1995) USGS 7.5-minute Quadrangle

Addendum 2 to A Class I and Class III Cultural Resources Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota, for Proposed Alignment Reroute

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HISTORICAL
SOCIETY
OF NORTH DAKOTA**

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Governor of North Dakota

August 24, 2017

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Principal Investigator
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, North Dakota 58501

NDSHPO REF.: 17-0221C PSC PU-17-48 "Addendum 2 to A Class I and Class III Cultural Resource Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota for Proposed Alignment Reroute"

Dear Bill:

We have reviewed project correspondence and document NDSHPO REF.: 17-0221C PSC PU-17-48 "Addendum 2 to A Class I and Class III Cultural Resource Inventory for the Arrow NB Residue Gas Pipeline and Arrow Bakken NGL Pipeline Project, McKenzie County, North Dakota for Proposed Alignment Reroute," by William Harding (SWCA, January 2017) and find it acceptable. There has been a good faith effort to identify and avoid impacts to "Significant Sites," provided this project remains as described and mapped in this report dated August 11, 2017.

Thank you for the opportunity to review this project. If you have questions please contact either Paul Picha at ppicha@nd.gov or (701) 328-3574 or Susan Quinnell at squinnell@nd.gov or (701) 328-3576.

Sincerely,

Claudia J. Berg
Director, State Historical Society of North Dakota

PUBLIC SERVICE COMMISSION

STATE OF NORTH DAKOTA

**Arrow Field Services, LLC
10-Inch & 8-Inch NGL Pipeline Project – McKenzie
Siting Application**

CASE NO. PU-17-048

**Application of Arrow Field Services, LLC,
for Waiver or Reduction of Procedures and Time Schedules for Route and Corridor
Adjustment Request**

On January 23, 2017, Arrow Field Services, LLC (“Arrow”), submitted to the North Dakota Public Service Commission (“Commission”) a Consolidated Application for a Certificate of Corridor Compatibility and Route Permit (“Application”) for a 2.6-mile, 8-inch natural gas liquids (“NGLs”) and a 2.6-mile, 10-inch residue gas pipeline and associated facilities in McKenzie County, North Dakota (the “Project”). On June 30, 2017, the Commission issued an Order on Recommended Findings of Fact, Conclusions of Law and Order (“Order”) granting Certificate of Corridor Compatibility No. 199 and Route Permit No. 210 to Arrow for the Project.

Since issuance of the Order, Arrow has determined that a route and corridor adjustment is necessary to facilitate interconnection of the Project with third party facilities at the Project terminus. Arrow has also determined a meter station along the Project route is required which necessitates additional corridor space. Therefore, Arrow is submitting herewith a Route and Corridor Adjustment Request (“Adjustment Request”) requesting issuance of an amended Certificate of Corridor Compatibility and Route Permit authorizing construction, operation, and maintenance of the Project with the requested adjustments.

In connection with the Adjustment Request, Arrow submits to the Commission this application for a waiver or reduction of procedures and time schedules (“Waiver Request”) set

forth in North Dakota Century Code (“N.D.C.C.”) Chapter 49-22.1 and North Dakota Administrative Code (“N.D.A.C.”) Article 69-06. In accordance with N.D.C.C. § 49-22.1-05 and N.D.A.C. Art. 69-06, Arrow requests the Commission waive the following:

1. The requirements to hold a separate hearing on a waiver request, a request for an amendment to a Certificate of Corridor Compatibility, and a request for an amendment to a Route Permit, and separate notices of such applications, as may be required by N.D.C.C. §§ 49-22.1-05, 49-22.1-06, 49-22.1-07, and 49-22.1-10, and N.D.A.C. § 69-06-01-02. Arrow requests the Commission waive the hearing requirement in its entirety unless specifically requested within the designated time period by an interested party showing good cause.
2. In the absence of such a request for a hearing, Arrow requests the Commission issue an Order based on the Adjustment Request, and accompanying documentation, as well as all relevant materials previously submitted in this matter, through its Notice of Opportunity for Hearing procedures. If the Commission determines a hearing is necessary, Arrow requests the Commission hold a single consolidated hearing on this Waiver Request and the Adjustment Request.
3. Arrow further requests the Commission shorten any time periods specified in N.D.C.C. §§ 49-22.1-06 and 49-22.1-07, if applicable.

Consistent with N.D.A.C. § 69-06-06-01(2), Arrow provides the following information in support of the Waiver Request:

A. Description of Proposed Project Route and Corridor Adjustments.

1. **Type:** The Project, including the route and corridor adjustments, will require installation of two underground steel pipelines and associated facilities that will transport residue

gas (i.e., natural gas from which NGLs have been removed) and natural gas liquids (NGLs). The residue gas pipeline is a 10-inch pipeline and the NGL pipeline is an 8-inch pipeline. The pipeline route and corridor adjustment consists of a 0.22-mile-long extension of the 8-inch NGL pipeline and a 0.20-mile-long extension of the 10-inch residue gas pipeline from the previously permitted route to adjust the interconnection location to the third party facilities. A meter station along the Project route is also required. See Arrow's Consolidated Application previously filed with the Commission for additional information regarding the Project type.

2. **Product**: Consistent with the Project as approved, the Project will transport residue gas and NGLs in two separate pipelines.

3. **Capacity and Design**: The capacity and design of the Project, including the route and corridor adjustments, will remain as set forth in information previously submitted in this matter.

The Project will require installation of a nominal 10.750-inch outside diameter steel pipeline with a nominal wall thickness of 0.365 inch for the residue gas pipeline and a nominal 8.625-inch outside diameter steel pipeline, with a nominal wall thickness of 0.322 inch for the NGL pipeline. The nominal wall thicknesses will increase to 0.500 inch for both pipelines at specific locations, such as road crossings. The pipe material will be API5L X52.

The maximum operating pressure ("MOP") for the residue gas pipeline is 1,480 pounds per square inch gauge ("psig") and for the NGL pipeline the MOP is 1,440 psig. The maximum flow rate of the residue gas pipeline is 30 million cubic feet per day. The maximum flow rate for the NGL pipeline is 5,000 barrels per day ("bpd"). The Project, including the route and corridor adjustments, will meet the design criteria outlined in 49 C.F.R. Part 192 and Part 195, and will be constructed, operated, and maintained in accordance with 49 C.F.R. Part 192 and Part 195.

For additional analysis of the capacity and design for the Project, please see Sections 1.0, 9.1, and 9.2 of Arrow's Consolidated Application previously filed with the Commission.

4. **Location**: The pipeline route and corridor adjustment consists of a 0.22-mile-long extension of the 8-inch NGL pipeline and a 0.20-mile-long extension of the 10-inch residue gas pipeline in Section 29, Township 149 North, Range 98 West in McKenzie County. The addition of the meter station will include a modification to the Designated Corridor in Section 28, Township 149 North, Range 98 West in McKenzie County.

A map depicting the Project's Designated Corridor and Designated Route, and the Project's requested route adjustment and associated corridor adjustment for the pipeline interconnects is attached as **Exhibit A** to the Affidavit of Curt Van Hoorn ("Van Hoorn Affidavit"), filed herewith. A map depicting the planned location of the meter station and the corridor adjustment is attached as **Exhibit B** to the Van Hoorn Affidavit.

5. **Geographical Service Area**: The Project, with the route and corridor adjustments, will serve the same geographical service area as set forth in the Application. Specifically, the Project is located entirely in McKenzie County.

6. **Time Schedule**: Arrow has provided to the Commission its notice for start of construction for the Project as permitted. With respect to the facilities associated with the route and corridor adjustments, Arrow anticipates the following schedule:

- August 2017 — Arrow files with the Commission its Adjustment Request.
- September 2017 — The Commission grants the Adjustment Request and issues an amended Certificate of Corridor Compatibility and Route Permit for the Project.
- September 2017 — Arrow will begin construction of the interconnection facilities for the route adjustment and meter station upon approval by the Commission.

- Fourth Quarter 2017 — Arrow will have completed construction of the interconnection facilities and meter station associated with the route and corridor adjustments.

7. **Future Plans:** Except as set forth in the Route and Corridor Adjustment Request and supporting documents, Arrow has no specific plans for additions to or modification of the Project at this time.

8. **Need for the Facility and Alternatives Considered.**

As set forth in the Order, the Project, in connection with a proposed natural gas processing plant and associated gathering system, will provide for enhanced recovery and utilization of natural gas resources, including NGLs. The facilities will help reduce the volume of nonmarketed natural gas released presently and minimize future releases as more wells are completed and tied into the gathering system.

For additional analysis of the need for the Project, including a discussion of alternatives evaluated, please see Sections 3.0 and 13.0 of Arrow's Consolidated Application previously submitted to the Commission.

9. **Ten Year Plan.**

With the exception that the third party pipeline interconnections must be modified, the Project, including the route and corridor adjustments, is consistent with Arrow's Ten Year Plan for 2017-2027 filed with the Commission in January of 2017.

10. **Cost.**

Arrow estimates that the amendments to the Project will cost approximately \$250,000.

B. Waiver Request.

Arrow requests that the Commission grant the waivers requested herein because these waivers are needed to prevent potentially significant delays to the Project. Without the waivers

of time schedules and procedures requested, completion of Arrow's approved Project will be delayed, which in turn, will delay the environmentally sound and economic development and utilization of the oil and gas resources in McKenzie County.

Section 49-22.1-05 of the North Dakota Century Code provides that the Commission may waive procedures and time schedules upon a finding that "the proposed facility is of a length, design, location, or purpose that it will produce minimal adverse effects." Based upon the investigation and analysis set forth in Arrow's Adjustment Request and supporting documentation, granting the requested waivers is appropriate because the proposed adjustment will produce minimal adverse effects due to its length (minimal additional corridor space and a 0.22-mile-long extension of the 8-inch NGL pipeline and a 0.20-mile-long extension of the 10-inch residue gas pipeline), its design (underground piping and limited above-ground appurtenances associated with an underground pipeline), its location (located in rural McKenzie County, and avoiding Exclusion and Avoidance Areas, as set forth in Section 69-06-08-02 of the North Dakota Administrative Code), and its purpose (underground transportation of residue gas and NGLs).

In determining whether the proposed facility will result in adverse impacts on the environment, Arrow evaluated the route and corridor adjustments using the siting criteria set forth in N.D.A.C. § 69-06-08-02 and the factors set forth in N.D.C.C. § 49-22.1-09. Based upon Arrow's evaluation, the adjustments will have minimal adverse effects.

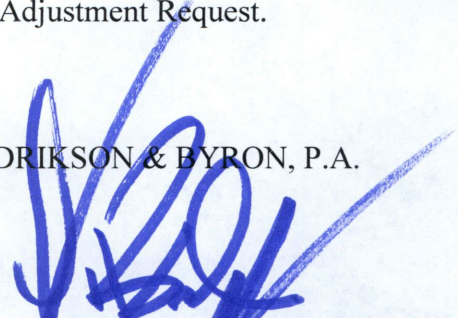
Accordingly, Arrow respectfully requests that the Commission grant the requested waivers and issue a Notice of Filing and Notice of Opportunity for Hearing as soon as possible. Arrow further requests that the Commission determine the matter without a hearing absent

receipt of a hearing request within the designated time period by an interested party showing good cause, and render an expeditious decision on the Adjustment Request.

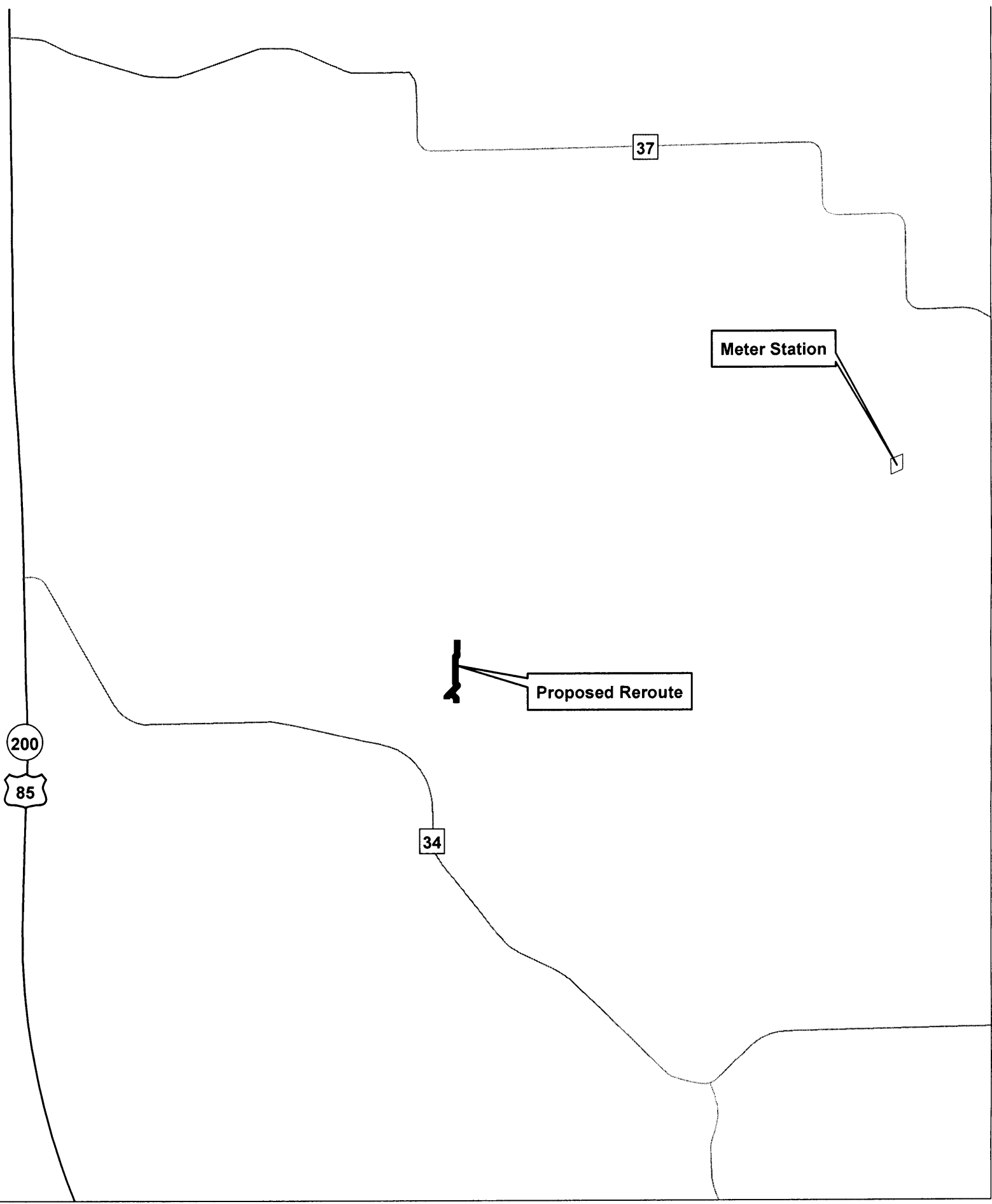
Dated this ____ day of August, 2017.

FREDRIKSON & BYRON, P.A.

By



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Proposed Reroute

Meter Station

