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BEFORE THE

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PUC DOCKET NO. 45170

SOAH DOCKET NO. 473-16-1403

APPLICATION OF BRAZOS ELECTRIC POWER COOPERATIVE, INC.
TO AMEND A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR
A 138-KV TRANSMISSION LINE IN DENTON COUNTY

(OAK POINT TRANSMISSION LINE AND SUBSTATION PROJECT)

TESTIMONY IN SUPPORT OF STIPULATION OF

LARRY COX

COX|McLAIN ENVIRONMENTAL CONSULTING, INC.

ON BEHALF OF

BRAZOS ELECTRIC POWER COOPERATIVE, INC.

May 16, 2016

202

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1 **Introduction and Qualifications**

2 Q. **Please state your name and business address.**

3 A. My name is Larry Cox, and my business address is 6010 Balcones Drive, Suite 210,
4 Austin, Texas 78731.

5 Q. **By whom are you employed and in what capacity?**

6 A. I am a Principal and co-owner of Cox|McLain Environmental Consulting, Inc.

7 Q. **Please describe the business of Cox|McLain Environmental Consulting, Inc.**
8 **(Cox|McLain).**

9 A. Cox|McLain is based in Austin, Texas, and provides a variety of environmental services,
10 including compliance management services critical to risk reduction and regulatory
11 clearance, wetland/Section 404 permits, Endangered Species Act fieldwork and
12 consultations, socioeconomic/environmental justice and community impact analyses,
13 archaeological surveys and probability analyses, archival research, historic architecture
14 studies, Phase I Environmental Site Assessments (ESAs), environmental compliance
15 inspections, and spatial analysis/landscape-level constraints evaluation via Geographic
16 Information Systems (GIS).

17 Our firm employs professional personnel in the fields of ecology, environmental
18 planning, archaeology, architectural history, and geographic information
19 systems/cartography with many years of applied experience and specific training in
20 environmental assessments, permitting, and management. We provide comprehensive
21 National Environmental Policy Act (NEPA) compliance support, particularly as related to
22 multidisciplinary Environmental Reports, Environmental Assessments, and
23 Environmental Impact Statements, as well as permitting and determinations for such

1 issues as jurisdictional wetlands and other "waters of the U.S.," and endangered species
2 issues.

3 **Q. Please describe your educational and professional qualifications, and your business**
4 **experience.**

5 A. I completed a B.S. in Soil and Crop Sciences at Texas A&M University in 1988 and
6 completed coursework in Texas A&M University's Graduate Studies Program in
7 Rangeland Ecology and Management from 1989-1991 (completed all but thesis).

8 I am currently pre-certified by Texas Department of Transportation (TxDOT) in
9 the areas of wetland delineation, Nationwide Permits, Section 404 Individual Permits,
10 U.S. Coast Guard and U.S. Army Corps of Engineers (USACE) Section 10 permits,
11 Water Pollution Abatement Plans, protected species determinations-habitat, impact
12 evaluation assessments, biological surveys, Section 4(f) and Section 6(f) evaluations,
13 hazardous materials initial site assessment, and environmental document preparation. I
14 have attended training courses in wetland delineation, wetland plant identification,
15 NEPA/Section 4(f) applied to transportation projects, wetland construction and
16 restoration, USACE Section 404 Permits, and applied fluvial geomorphology.

17 I have over 24 years of environmental consulting experience. I have managed
18 several hundred projects throughout the state of Texas, including environmental
19 compliance support for commercial construction, road and bridge construction, water and
20 wastewater treatment plant construction, electric transmission line routing, right-of-way
21 assessment and permitting, landfill development, and water/wastewater/gas pipeline
22 construction, as well as many other various land development type projects.

1 Q. **Have you previously performed work related to transmission line administrative**
2 **proceedings?**

3 A. Yes, I have helped prepare and/or supervise the preparation of Route Studies,
4 Environmental Reports, Environmental Assessments, endangered species surveys,
5 wetland delineations, and cultural resources surveys related to electric transmission lines
6 and substations in Texas.

7 Q. **Has your testimony ever been excluded by the PUC for any reason?**

8 A. No.

9 Q. **Is the information contained in your testimony true and correct, within your**
10 **personal knowledge, and prepared by you or by knowledgeable persons upon whose**
11 **expertise, judgment and opinions you rely in performing your duties?**

12 A. Yes. In addition, I am a custodian of Cox|McLain's records for all sponsored portions of
13 this CCN Application, including the RSER (collectively, the Records). These Records
14 were kept by Cox|McLain in the regular course of business, and it was the regular course
15 of business of Cox|McLain for its employee or representative, with knowledge of the
16 Records and the CCN Application, to make the Records or transmit information thereof
17 to be included in such Records. The Records were made at or near the time or reasonably
18 soon thereafter, and the Records are the originals or exact duplicates of the originals.

19 **Purpose of Testimony**

20 Q. **Please describe the basis for and the purpose of your testimony.**

21 A. The purpose of my testimony is to support and explain certain aspects of the Stipulation
22 Route for Brazos Electric's proposed 138-kV transmission line and substation in this
23 docket (Proposed Project). The Stipulation Route is an agreed settlement route

1 comprised of existing route segments proposed in the CCN Application in this docket
2 (Application). I am testifying in support of the Stipulation Route and the Unopposed
3 Stipulation (Stipulation).

4 Q. **Please describe your role in connection with the Proposed Project.**

5 A. Cox|McLain prepared the Route Study and Environmental Report (RSER), Attachment
6 No. 2A of Volume 3 of the Application. The Application was also prepared by
7 Cox|McLain under my supervision. I also provided direct testimony in this matter.

8 **The Route Study and Environmental Report (RSER)**

9 Q. **Please generally describe the purpose of the Route Study (RS) as part of the RSER**
10 **and Application.**

11 A. Brazos Electric contracted with Cox|McLain to prepare the RS as part of the RSER in
12 order to support the Application process, as well as the review process of the Rural
13 Utilities Service (RUS) of the U.S. Department of Agriculture (USDA). The purpose of
14 the RS was to identify transmission line route alternatives for the proposed Oak Point
15 Transmission Line Project and evaluate preliminary alternatives, and select transmission
16 line route alternatives running from the proposed, alternative tap points to the proposed,
17 alternative substation sites based on engineering, economic, and environmental
18 considerations. Methods used to locate and evaluate route alternatives were in
19 accordance with the procedures and recommendations of Brazos Electric and the PUC for
20 transmission line routing, and included the use of such documents and resources as:

- 21 • Aerial photography (Digital Ortho Quarter Quad [DOQQ] and USDA imagery);
- 22 • USGS 7.5 Minute Quadrangle Maps;

- Site reconnaissance for constraints map verification along publicly accessible roadways;
- Personal communication, including those associated with public meetings;
- Agency coordination (including receipt of recorded archeological site information and threatened or endangered species occurrence information); and
- Other published data (FEMA maps, NWI maps, soil survey data, FAA airport locations, FCC radio and cell tower data, et cetera).

Q. What information does the RS provide?

A. The RS provides a description of the proposed project; summary of the process utilized to identify and analyze substation site and transmission line route alternatives (including a discussion of methodology and study area delineation); and results of environmental constraints mapping. The RS includes various graphics and tables intended to illustrate potential environmental constraints associated with the transmission route alternatives.

Q. What factors were considered in selecting routes for the Proposed Project?

A. The factors considered in selecting routes for this project were as outlined in PURA §37.056 and PUC Substantive Rule §25.101, as well as Brazos Electric's standard routing factors, including:

Rule §25.101(b)(3)(B)(i)-(iv) Factors

1. Routes utilizing existing, compatible rights-of-way, including the use of vacant positions on existing multiple-circuit transmission lines;
2. Routes parallel to existing compatible rights-of-way;
3. Routes parallel to property lines or other natural or cultural features; and
4. Routes conforming with the policy of prudent avoidance.

1 ***Brazos Electric's Routing Factors***

- 2 1. Minimum adverse environmental impacts;
- 3 2. Minimum adverse impact on potential growth areas;
- 4 3. Maximum utilization of property lines, roadways, and fence lines;
- 5 4. Maximum utilization of existing ROWs;
- 6 5. Minimum adverse impacts to rangeland and farmland;
- 7 6. Minimum adverse impacts to existing residences;
- 8 7. Acceptance of routing by federal and state agencies; and
- 9 8. Public meeting and landowner input;

10 Routes follow or parallel roads or proposed roads, floodplains, property lines and
11 other natural or cultural features as much as feasible. All routes conform to the policy of
12 prudent avoidance, especially with respect to existing habitable structures.

13 A top priority was to identify environmental and human constraints within the
14 study area that would preclude routing a transmission line. Using RUS, PUC, and Brazos
15 Electric guidelines for transmission line routing, Cox|McLain identified proposed route
16 segments to be further evaluated. These route segments were then refined and further
17 evaluated in the RS prepared by Cox|McLain in conjunction with Brazos Electric, and the
18 public, in accordance with PUC guidelines for CCN applications.

19 Ultimately, 48 route segments were evaluated, and 15 alternative routes were
20 selected according to the information detailed within the RS as part of the RSER, which
21 has been included as Attachment No. 2A to Volume 3 of the Application, and the
22 additional information provided by Brazos Electric. The route segments comprising the
23 Stipulation Route were among these 48 segments.

1 Q. **Please generally describe the purpose of the Environmental Report (ER) as part of**
2 **the RSER and Application.**

3 A. Brazos Electric contracted with Cox|McLain to prepare an ER as a part of the RSER in
4 response to sections of the Application and because of the requirements of the RUS. An
5 ER was, therefore, required pursuant to the RUS's Environmental Policies and
6 Procedures, 7 CFR §1794.22 (a), and prepared as part of the RSER and Application. The
7 purpose of the ER is to respond to the sections of the CCN Application referred to above,
8 and to provide sufficient information to perform an environmental evaluation of the
9 proposed project and fulfill its responsibilities under the National Environmental Policy
10 Act of 1969, as amended, as well as other federal environmental mandates. An ER is
11 intended to determine if a proposed action (e.g., permit issuance, federal funding, etc.)
12 would result in "significant" adverse impacts to the human and/or natural environment.
13 The ER also typically presents agency comments pursuant to other state and federal
14 permits or authorizations, including jurisdictional wetlands, threatened or endangered
15 species, cultural resources (prehistoric and historic), and other environmental resource
16 categories that may be specific to the Proposed Project.

17 Q. **What information does the ER provide?**

18 A. The ER provides a description of the proposed project; a discussion of the purpose and
19 need for the proposed project; a summary description of distribution, transmission, and
20 No Action alternatives to the proposed project; a general description of the environmental
21 baseline setting (both human and natural) of the study area; a general assessment of
22 potential impacts of the proposed project (both beneficial and adverse); and a summary of

1 proposed measures to mitigate potential adverse impacts, as may be applicable to a given
2 project.

3 **The Stipulation Route**

4 **Q. Please describe the general location of the Proposed Project.**

5 A. The proposed project will be located in northeastern Denton County, Texas from a tap on
6 the existing Brazos Electric 138 kV line located southeast of Krugerville and continuing
7 south to a new substation on the Oak Point peninsula.

8 **Q. Please provide a general description of the area traversed by the Proposed Project.**

9 A. The Proposed Project is located north of Lake Lewisville generally east of US 377
10 southeast of Krugerville and continuing west and south, crossing US 380, to a new
11 substation in the vicinity of Oak Point along or near FM 720. The project area
12 encompasses a rural/suburban area, which includes portions of the Cities and Towns of
13 Krugerville, Cross Roads, Little Elm, Oak Point, Lincoln Park and Providence Village.
14 The land in the project study area is primarily comprised of undeveloped land and
15 residential parcels and subdivisions, and also contains businesses, places of worship,
16 schools, parkland, public/municipal/utility facilities, and sports (polo) fields. The study
17 area is developing, with multiple residential subdivisions, commercial buildings, and road
18 projects under construction. The northern portions of the study area are more densely
19 populated than the southern portions. Terrain is level to gently rolling.

20 **Q. Please generally describe the Stipulation Route, which is the settlement route.**

21 A. The Stipulation Route is approximately 42,349 feet in length, or approximately eight
22 miles. The segments that comprise the Stipulation Route are as follows: Tap 2, and
23 Segments 2, 9, 11, 14, 24, 17, 30, 32-Modified, 33-Modified, 34-Modified, 35-Modified,

1 39, 40, 41, and Substation 1. A complete description of the Stipulation Route and the
2 segments that comprise the route is attached and incorporated as Exhibit A. A map
3 depicting the Stipulation Route and the segments that comprise the route is attached and
4 incorporated as Exhibit B. Segments 32, 33, 34, and 35 were modified at the request of
5 the affected Parties, as described in Exhibit A and shown on Exhibit B. Brazos Electric
6 will purchase a 70-foot easement (wider if needed in some circumstances) for the
7 Stipulation Route.

8 **Q. Please identify the Parties directly affected by the Stipulation Route.**

9 **A.** The Parties directly affected by the Stipulation Route include:

- 10 • CTMG Regatta II LLC on Tap 2, Segment 2 and Segment 9
- 11 • 720 & 380, LTD on Segment 17 and Segment 30
- 12 • Spiritas Ranch Enterprises, LLP on Modified Segment 32, Modified Segment 33
13 and Modified Segment 34
- 14 • The Rudman Partnership on Modified Segment 35, Segment 39, Segment 40,
15 Segment 41 and Substation site 1
- 16 • Highwood Development, Ltd. (John Dowdall), purchaser of the Kim
17 Schwimmer/Phase 16 Investments, LP property on Modified Segment 35
- 18 • Thelma Reyes on Modified Segment 35
- 19 • Jimmie and Virginia Wisdom on Modified Segment 35

20 **Q. Please describe the routing and environmental characteristics and comparable**
21 **advantages of the Stipulation Route.**

22 **A.** The Stipulation Route moderates the impact of the Proposed Project and meets the
23 Commission's routing criteria because it:

- 1 • costs less than nine of the 15 proposed routes;
- 2 • is shorter than eight of the 15 proposed routes;
- 3 • has a lower or equal number of habitable structures within 300 feet of the right-of-
- 4 way (ROW) center line than eight of the 15 proposed routes;
- 5 • parallels apparent property boundaries more than 12 of the 15 proposed routes
- 6 • parallels utility lines more than nine of the 15 proposed routes;
- 7 • parallels roadways more than seven of the 15 proposed routes;
- 8 • has a similar or lower environmental impact to any other route; and
- 9 • best achieves the expressed community values.

10 The Stipulation Route is composed of existing segments proposed in the
11 Application and is only slightly different than the end-to-end routes proposed in the
12 Application. Like the 15 proposed routes, the Stipulation Route has no significant
13 environmental effects, and is a reasonable, viable, and environmentally acceptable route.
14 The Stipulation Route complies with the routing criteria prescribed in the Public Utility
15 Regulatory Act, the PUC rules, policies and procedures for transmission line siting, and
16 the routing guidelines of Brazos Electric.

17 Q. **Describe the modifications to Segments 32, 33, 34, and 35, and the reasons for these**
18 **modifications.**

19 A. At the request of Spiritas Ranch Enterprises, LLP (Spiritas), segments 32, 33, and 34
20 were modified from the original proposed versions of these segments in the Application.
21 All of these three segments lie exclusively on land owned by Spiritas, and the
22 modifications affect no other landowner. These three modified segments are part of the

1 Stipulation Route, and their new descriptions and locations are reflected in Exhibits A
2 and B.

3 At the request of John Dowdall of Highland Development, Ltd. (Highland),
4 segment 35 was modified from its original proposed version in the Application to lessen
5 its road frontage impact. This segment lies exclusively on property under contract for
6 purchase by Highland, and this modification affects no other landowner. This segment is
7 also part of the Stipulation Route, and its new description and location is reflected in
8 Exhibits A and B.

9 Q. **Did these modifications affect the total cost of the Stipulation Route?**

10 A. These modifications reduced the total cost of the Stipulation Route by approximately
11 \$261,000 by straightening out the segments and reducing the number of turns.

12 **Conclusion**

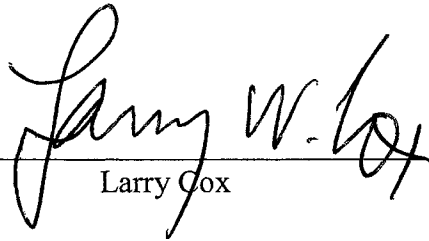
13 Q. **Please state whether the Stipulation Route complies with the requirements of PURA
14 and the PUC Substantive Rules.**

15 A. The Stipulation Route takes into consideration the criteria identified by the PUC, Brazos
16 Electric, and the RUS in their guidelines for routing transmission line facilities, to include
17 community values, landowner input, prudent avoidance, environmental impacts, existing
18 habitable structures, economics, and potential growth areas. In addition, it (1) does not
19 unreasonably impact habitable structures, (2) provides minimal environmental impact,
20 and (3) utilizes property lines, roads, and natural features as much as feasible. Thus, the
21 Stipulation Route complies with applicable routing guidelines and is acceptable to Brazos
22 Electric.
23

1 Q. Does this conclude your testimony?

2 A. Yes.

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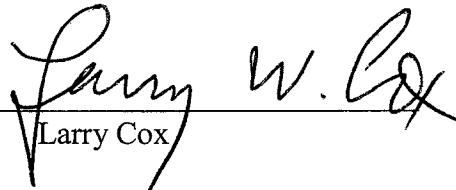

Larry Cox

7 STATE OF TEXAS §
8 §
9 COUNTY OF TRAVIS §
10

11 BEFORE ME, the undersigned authority, on this day personally appeared Larry Cox,
12 who, having been placed under oath by me, did depose as follows:

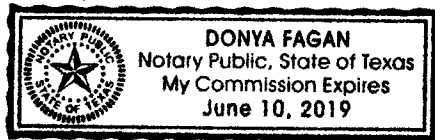
13 My name is Larry Cox. I am of legal age and a resident of the State of Texas. The
14 foregoing testimony, opinions, and exhibits offered by me are true and correct, and within my
15 personal knowledge.


16
17
18


Larry Cox

19 SUBSCRIBED AND SWORN TO BEFORE ME by the said Larry Cox this 16 day of
20 May, 2016.

21
22




Notary Public, State of Texas
ID# 13025490-9

Stipulation Route Segment Description

The Stipulation Route segments include: Tap 2, and Segments 2, 9, 11, 14, 24, 17, 30, 32-Modified, 33-Modified, 34-Modified, 35-Modified, 39, 40, 41, and Substation 1.

Segment 2

Segment 2 begins at Tap 2, located along an existing Brazos transmission line in open land, approximately 3,574 feet east of SH 377 and approximately 3,396 feet north of Liberty Road. It extends south for approximately 2,263 feet, terminating at its junction with Segments 7 and 9.

Segment 9

Segment 9 begins at the junction of Segments 2 and 7. It extends west across open land for approximately 1,613 feet, crosses Liberty Road south of the intersection of Liberty Road and Bailey Lane, and then continues south along the west side of Liberty Road for approximately 561 feet to its terminus at the junction of Segments 10 and 11.

Segment 11

Segment 11 begins at the junction of Segments 9 and 10 and extends west across open land for approximately 1,880 feet, then turns south along the eastern side of SH 377 approximately 278 feet to its terminus at the junction of Segments 13 and 14.

Segment 14

Segment 14 begins at the junction of Segments 11 and 13 and extends south along the eastern side of SH 377 for approximately 1,044 feet where it shifts slightly to the southwest for approximately 334 feet and crosses FM 424. From there, it turns south for approximately 3,250 feet along the western side of FM 424 to its terminus at the junction of Segments 15 and 24.

Segment 24

Segment 24 begins at the junction of Segments 14 and 15. It extends south approximately 75 feet along the western side of FM 424, then turns west across open land for approximately 2,081 feet to its terminus at the junction of Segments 17 and 18.

Segment 17

Segment 17 begins at the junction of Segments 18 and 24. It extends south for approximately 1,209 feet, crosses Fishtrap Road, and then continues south for approximately 1,619 feet. From there it turns west across open land for approximately 1,730 feet, then turns south for approximately 185 feet where it crosses U.S. Highway (US) 380. From there, it continues south for approximately 2,918 feet along the eastern side of South Potter Shop Road, then turns east across dense woodlands and open land for approximately 3,658 feet where it crosses Naylor Road. It then continues east approximately 2,818 feet crossing open land and dense woodlands to its terminus at the junction of Segments 30 and 31.

Segment 30

Segment 30 begins at the junction of Segments 29 and 32 and continues west for approximately 1,147 feet before terminating at the junction of Segments 17 and 31.

Segment 32-Modified

Segment 32 begins at the junction of Segments 29 and 30. It crosses FM 720 and extends southeast for approximately 182 feet, then turns east along property boundaries for approximately 1,904 feet before terminating at the junction of Segments 28 and 33.

Segment 33-Modified

Segment 33 begins at the junction of Segments 28 and 32 and extends south across open land for approximately 1,194 feet to its terminus at the terminus of Segment 34.

Segment 34-Modified

Segment 34 begins at the terminus of Segment 33. It extends south across open land for approximately 2,824 feet to its terminus at the junction of Segments 35 and 36.

Segment 35-Modified

Segment 35 begins at the junction of Segments 34 and 36. It extends west for approximately 623 feet, south for approximately 1,198 feet, west for approximately 435 feet, and turns south for approximately 667 feet. It then crosses Lloyds Road and extends south along the eastern side of property boundaries for approximately 3,052 feet to its terminus at the junction of Segments 38 and 39.

Segment 39

Segment 39 begins at the junction of Segments 35 and 38 and extends east for approximately 1,168 feet to its terminus at the junction of Segments 40 and 44.

Segment 40

Segment 40 begins at the junction of Segments 39 and 44 and extends east for approximately 434 feet to its terminus at the junction of Segments 41 and 42.

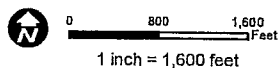
Segment 41

Segment 41 begins at the junction of Segments 40 and 42 and extends south across open land for approximately 64 feet to its terminus at Substation 1.

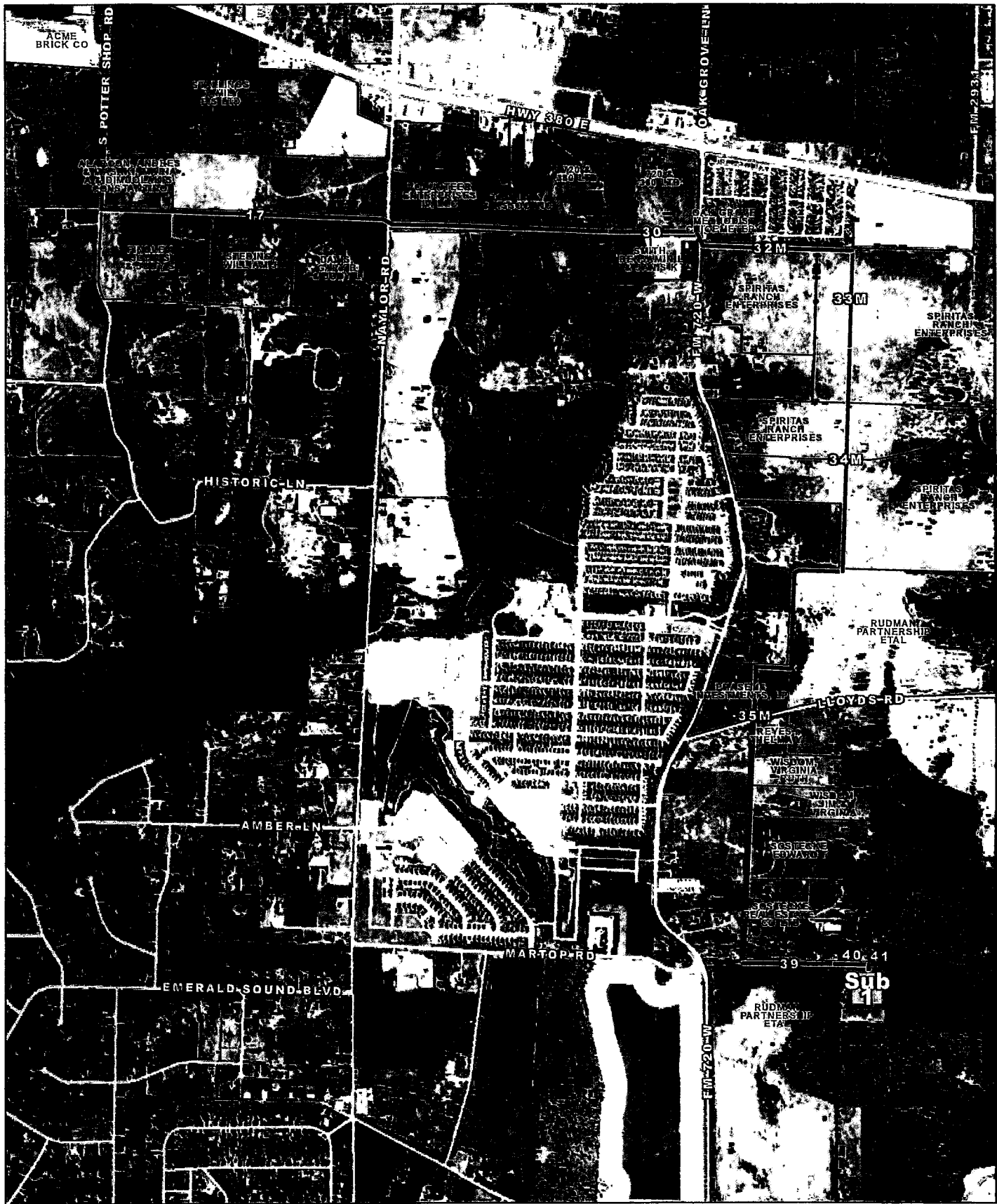


Brazos Electric Cooperative
Exhibit B - Stipulation Route
Oak Point Transmission Line and Substation Project
North Sheet

Date Saved: 5/18/2016 NAIP Aerial Date: 7/25/2014 - 10/06/2014 Dates of Field Visits: 2/26/2015, 3/2/2015, 3/6/2015, 3/10/2015
 Data Sources: FCC 2015, FAA 2013, TPWD (NDD) 2015, DCAD 2015, Texas RRC 2014, NHD 2014, THC 2014, USACE 2006, USDA 1905

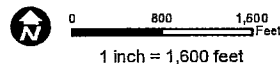





- Stipulation Route
- Property Boundary
- Proposed Tap Sites



Brazos Electric Cooperative
Exhibit B - Stipulation Route
Oak Point Transmission Line and Substation Project
South Sheet

Date Saved: 5/18/2016 NAIP Aerial Date: 7/25/2014 - 10/06/2014 Dates of Field Visits: 2/26/2015, 3/2/2015, 3/6/2015, 3/10/2015
 Data Sources: FCC 2015, FAA 2013, TPWD (NDD) 2015, DCAD 2015, Texas RRC 2014, NHD 2014, THCA 2014, USACE 2006, USDA 1905



-  Stipulation Route
-  Property Boundary
-  Proposed Substations