Control Number: 51023

Item Number: 730

Addendum StartPage: 0

SOAH DOCKET NO. 473-21-0247
PUC DOCKET NO. 51023

APPLICATION OF THE CITY OF SAN ANTONIO TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE SCENIC LOOP 138 KV TRANSMISSION LINE IN BEXAR COUNTY	§ § § § § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

REBUTTAL TESTIMONY

OF

LISA B. MEAUX

ON BEHALF OF

APPLICANT
CPS ENERGY

April 7, 2021

730

SOAH DOCKET NO. 473-21-0247
PUC DOCKET NO. 51023
REBUTTAL TESTIMONY OF LISA B. MEAUX

TABLE OF CONTENTS

EXHIBITS

Exhibit LBM-1R: Amended Table 4-1R and Table 4-2R
Exhibit LBM-2R: Amended Figure 4-1R
Exhibit LBM-3R: TxDOT Document Regarding Boerne Stage Route
Exhibit LBM-4R: Field reconnaissance photos of Heidemann Ranch dated 3/2/2021

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Lisa B. Meaux. I am a Project Manager/Department Manager in the Environmental Division with POWER Engineers, Inc. (POWER).

Q. ARE YOU THE SAME LISA B. MEAUX THAT PROVIDED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes, I am.

II. REBUTTAL TO GENERAL POSITIONS COMMON TO INTERVENOR TESTIMONY

Q. AFTER REVIEWING THE DIRECT TESTIMONIES OF THE INTERVENORS PRE-FILED IN THIS PROCEEDING, DO YOU HAVE ANY GENERAL OBSERVATIONS ABOUT THE NATURE OF THE POSITIONS TAKEN?

A. Yes, I do. It has been my observation in working on transmission line cases for many years that many landowners oppose the routing of transmission lines across or near their properties. I observe similar opposition in this proceeding.

While I understand the views presented in the intervenor testimony, that testimony does not demonstrate that any of the segments proposed for the Project are not constructible based on the factors the Public Utility Commission of Texas (Commission or PUC) considers in evaluating routes for proposed transmission line projects. Specifically, I conclude that none of the concerns raised by intervenors would render any routes or segments proposed by CPS Energy as impracticable or inappropriate for consideration by the Commission, considering factors such as community values, recreational and park areas, historical and aesthetic values, environmental integrity, cost, engineering constraints, the Commission's policy of prudent avoidance, and paralleling of rights of way.

Q. A NUMBER OF INTERVENOR WITNESSES MENTION THEIR CONCERNS ABOUT PROXIMITY OF THE TRANSMISSION LINE TO HABITABLE STRUCTURES. DID POWER CONSIDER HABITABLE STRUCTURES DURING ITS ROUTE IDENTIFICATION PROCESS?

A. Yes. As discussed in Section 3.2.1 of the Environmental Assessment (EA), the study area for the proposed Scenic Loop 138 kilovolt (kV) Transmission Line Project (Project) (*see* EA Figure 2-1) includes areas of low, medium, and higher-density residential development. Wherever possible, POWER avoided identifying alternative route segments through neighborhoods. For example, in some areas alternative route segments were located on the exterior of more densely developed areas (*see, e.g.*, Segments 13, 17, 32, 55, 57) rather than going through the middle of those areas. In other areas, road right of way may be available to maximize the distance from habitable structures (see Segments 7, 8, 14, 16, 20, 33, 35, 36, 40, 54, 56). Mr. Scott Lyssy addresses this in his rebuttal testimony.

Due to the nature of development within the Project area, it was not feasible to locate a route without any habitable structures located within 300 feet. In my experience, the number of habitable structures within 300 feet of the proposed routes in this proceeding is consistent with what I have seen in other projects located within similar areas. Of note, page 40 of the direct testimony of Mr. John Poole for Commission Staff states that "CPS Energy's proposed alternative routes have minimized, to the extent reasonable, the number of habitable structures located in close proximity to the routes."

Q. SOME INTERVENORS DISCUSS HABITABLE STRUCTURES THAT WERE NOT INCLUDED AND COUNTED IN CPS ENERGY'S APPLICATION IN THIS PROCEEDING. HOW DO YOU RESPOND?

A. Since the filing of the CPS Energy application in this docket on July 22, 2020, as amended on December 22, 2020 (collectively, the "Application"), POWER has continued to evaluate potential habitable structures within 300 feet of a proposed route for the Project. Based on information POWER received and evaluated since December 22, 2020, the following habitable structures meet the definition in the Commission's rules and should appropriately be considered in this proceeding:

1. Map ID 202 is a single family residence approximately 260 feet from Segment 54.
2. Map ID 203 is a single family residence approximately 241 feet from Segment 13.

3. Map ID 204 is a work shop approximately 54 feet from Segment 15.
4. Map ID 205 is a work shop approximately 283 feet from Segment 15.
5. Map ID 206 is a guest house approximately 276 feet from Segment 26a.
6. Map ID 207 is a horse stable office approximately 214 feet from Segment 8.
7. Map ID 208 is a commercial-guard house approximately 63 feet from Segment 56.
8. Map ID 209 is a single family residence approximately 143 feet from Segment 26a.
9. Map ID 210 is a single family residence approximately 262 feet from Segment 56.
10. Map ID 211 is a single family residence approximately 309 feet from Segment 56.
11. Map ID 212 is a single family residence approximately 228 feet from Segment 38.
12. Map ID 213 is a single family residence approximately 255 feet from Segment 13.

Q. HAVE YOU MADE CHANGES TO ANY TABLES OR FIGURES TO REFLECT THESE HABITABLE STRUCTURE ADDITIONS?

A. Yes. Amended Table 4-1 *Land Use and Environmental Data for Route Evaluation,* Amended Table 4-2 *Land Use and Environmental Data for Segment Evaluation*, and Amended Figure 4-1 *Habitable Structures and Other Land Use Features in the Vicinity of the primary Alternative Routes* have been changed to reflect the 12 additional habitable structures. They are attached as Exhibit LBM-1R (Amended Tables 4-1R and 4-2R) and Exhibit LBM-2R (Amended Figure 4-1R) to my testimony. These additions resulted in the habitable structure counts on all of the Alternative Routes increasing by one to six habitable structures each. In summary:

- Alternative Routes C1, D1, E1, G1, H, I1, J1, M1, V, X1, Y, Z1, AA1, DD, and EE increased by 1.
- Alternative Routes A, B1, K, L, T1, BB, and CC increased by 3.
- Alternative Routes O, S, and W increased by 4.
- Alternative Route P increased by 5.
- Alternative Routes F1, N1, Q1, R1, and U1 increased by 6.

Q. WERE ANY OTHER CHANGES MADE TO AMENDED TABLE 4-1 OR AMENDED FIGURE 4-1?

A. Yes, as I will discuss later in my testimony, Amended Table 4-1 *Land Use and Environmental Data for Route Evaluation* was also changed to reflect 5 additional water wells and to include Alternative Route AA2. No other changes were made to Exhibit LBM-2R (Amended Figure 4-1).

Q. ON PAGE 17 OF HIS DIRECT TESTIMONY, MR. ANDERSON CLAIMS THAT THE MANNER WHICH POWER PRESENTS HABITABLE STRUCTURES WITHIN PROXIMITY TO EACH SEGMENT OF THE APPLICATION RESULTS

IN AN UNDERREPORTING. DO YOU AGREE THAT HABITABLE STRUCTURES HAVE BEEN UNDERREPORTED?

A. No. The tables referenced by Mr. Anderson (Amended Tables 4-6 through 4-34 in the Application) are ***route*** tables and indicate the ***closest*** segment within that ***route*** to the habitable structures. In contrast, Amended Table 4-2 presents data per ***segment*** and indicates the number of all habitable structures within 300 feet of each ***segment***. Amended Table 4-1 is a summary table and presents data per ***route*** and indicates the number of habitable structures within 300 feet of each alternative route. Because Amended Table 4-1 and Amended Tables 4-6 through 4-34 are ***route*** tables, it would be inappropriate to count habitable structures more than once per ***route*** even though they may be within 300 feet of more than one segment.

Q. A NUMBER OF INTERVENORS MENTION OR DISCUSS THEIR CONCERNS ABOUT THE VISUAL IMPACTS ASSOCIATED WITH TRANSMISSION LINES. HOW DO YOU RESPOND?

A. Many intervenors testified there will be adverse aesthetic impacts to their private property from transmission lines. It is difficult to attempt to assess aesthetic impacts to private individuals. Federal agencies and the PUC, which consider aesthetics in their actions, usually evaluate aesthetics from a public standpoint, and then consider the balancing of aesthetic impacts with numerous other appropriate considerations. Personal aesthetic opinions generally do not provide an objective basis for evaluating alternative routing options. Ultimately while POWER evaluated aesthetic impacts from a public standpoint, I recognize that the Administrative Law Judges and the Commission may choose to consider the subjective evidence presented by Intervenors regarding aesthetic impacts when making a route selection.

Q. SOME OF THE LANDOWNER INTERVENORS, INCLUDING MR. PATRICK CLEVELAND, MS. SARAH BITTER, AND MR. JASON BUNTZ ON BEHALF OF THE SAN ANTONIO ROSE PALACE, INC. AND STRAIT PROMOTIONS, INC., DISCUSSED ARCHAEOLOGY AND HISTORICAL FACTORS ASSOCIATED WITH THEIR PROPERTIES. WHAT IS YOUR OPINION REGARDING THE POTENTIAL ARCHEOLOGICAL AND HISTORICAL ISSUES RAISED BY INTERVENORS IN THIS CASE?

A. In preparing the EA, POWER obtained all known archeological/historical records for the study area from the Texas Historical Commission (THC) and the Texas Archeological Research Laboratory and utilized that information in delineating and evaluating possible route locations for this project. None of POWER's investigation revealed potential historical or archaeological concerns that cannot be adequately addressed and mitigated with any of the routes proposed for the project.

In general, landscape and development modifications in the Project area have altered the historical nature of most of the properties and I have not seen any evidence that a transmission line would alter any of the historic aspects that may be associated with properties in the study area.

Typically, when the PUC approves a transmission line project, the final order includes an ordering paragraph concerning coordination with the THC. If a formal survey is required and/or previously unknown sites are located or discovered during construction, the utility coordinates with the THC. Sometimes the transmission structure locations are adjusted, or a minor route deviation is implemented to span or avoid cultural resource sites. This is how I recommend any issues pertaining to potential archeological or historical sites be handled in this case.

Q. SEVERAL INTERVENORS DISCUSS THEIR CONCERNS WITH POTENTIAL IMPACTS OF THE TRANSMISSION LINE ON WILDLIFE HABITAT, HABITAT FRAGMENTATION, AND VEGETATION GENERALLY. DID POWER CONSIDER AND EVALUATE THE WILDLIFE AND VEGETATION IMPACTS OF THE PROJECT?

A. Yes. Wherever reasonable and practical, POWER identified alternative segments/routes to parallel existing cleared right of way/corridors, cleared fence lines/property lines, wildlife

management/brush control clearings, roads, etc., which limits the amount of vegetation clearing and new habitat fragmentation.

The EA identifies and discusses the potential of the Project to impact the state and federal listed threatened/endangered species that are known to occur, or which potentially occur, within the study area. At the environmental planning stage of the Project, before the Commission selects a route, it is simply not possible to conduct on-the-ground observations or surveys on private property throughout the study area and along all alternative routes, as neither CPS Energy nor POWER has access to private property. Thus, impacts to wildlife habitat cannot be identified with specificity until the Commission selects and approves a route and on-the-ground investigations can be conducted.

I believe the Project will not have a significant detrimental impact on vegetation and wildlife habitat. It is true that any trees or brush vegetation that are located at structure locations or along access roads or that pose a threat to safe operation of the line will generally need to be removed within the transmission line right of way. However, ground cover, including grasses and herbaceous vegetation, can remain or be re-established. Properly installed and maintained erosion control measures implemented prior to and during construction, together with revegetation, will greatly reduce the potential for erosion and off right of way sedimentation. Further, while the line may affect visual quality, it will not be a barrier to human or mobile wildlife movements. Animals can and do cross, graze within, travel along, and rest within transmission line right of way. As I have observed all over the state, hunters regularly place hunting blinds and game feeders along and within transmission line right of way. The ability to conduct hunting and implement wildlife management plans is completely compatible with a transmission line.

Q. DOES A TRANSMISSION LINE TAKE LAND AWAY FROM A LANDOWNER OR PREVENT A LANDOWNER FROM CONTINUING TO USE IT FOR HUNTING OR WILDLIFE MANAGEMENT PURPOSES?

A. No. In most circumstances, the landowner remains the rightful owner of the land within a transmission line right of way and can continue to use the land for hunting and other wildlife management activities after construction. When an individual is hunting, they tend to be focused on specific animals during the hunt and not necessarily the surrounding area.

Therefore, I do not believe that the proposed transmission line will negatively impact hunting activities.

Q. DO YOU BELIEVE THE PROPOSED TRANSMISSION LINE WILL ADVERSELY AFFECT RECREATIONAL HUNTING ON INTERVENOR PROPERTIES?

A. No. While I agree the transmission line will be visible and could potentially detract from an individual's hunting experience from an aesthetic standpoint depending on the person's location in relation to the transmission line, it should not cause a long-term impact to game movements or populations once construction of the proposed transmission line is completed.

Q. SEVERAL INTERVENORS, INCLUDING BEXAR RANCH AND MR. JERRY RUMPF, RAISE SIMILAR POSITIONS RELATED TO SURFACE WATER IMPACTS. HOW WILL SURFACE WATER IMPACTS BE AVOIDED DURING CONSTRUCTION OF THE PROJECT?

A. As described more fully in the EA, during construction of the Project, CPS Energy will properly implement erosion control measures using Best Management Practices, as required by the Texas Commission on Environmental Quality (TCEQ) under a Storm Water Pollution Prevention Plan (SWPPP), and thus will effectively control erosion and the potential for significant adverse impacts to creeks and streams.

Q. MANY OF THE INTERVENING PARTIES DISCUSS THE PARALLELING OF PROPERTY LINES IN THEIR TESTIMONY, PARTICULARLY IN THE LOCATIONS WHERE THE ROUTING IS IDENTIFIED AWAY FROM PROPERTY LINES. PLEASE DESCRIBE HOW POWER CONSIDERED THE PARALLELING OF PROPERTY LINES IN ITS DELINEATION AND EVALUATION OF ROUTES IN THIS PROCEEDING.

A. Paralleling property lines does not outweigh all other factors the Commission must consider in evaluating potential routes. This factor is considered in balance with many other factors, including cost and engineering constraints. Commission Substantive Rule 25.101(b)(3)(B) states, among other things, that a new transmission line "shall be routed to the extent reasonable to moderate the impact on the affected community and landowners," and that consideration should be given to "whether the routes parallel property lines ***or*** other natural

or cultural features" (emphasis added). Where reasonable, POWER delineated routes that paralleled existing compatible right of way, and/or paralleled property lines, fence lines, or other natural or cultural features.

Q. SOME INTERVENORS RAISE ISSUES ABOUT FUTURE DEVELOPMENT. HOW DOES THE PUC TREAT FUTURE DEVELOPMENT?

A. Typically, the Administrative Law Judges at SOAH and PUC Staff and Commissioners give more weight to existing development over future development.

Q. WHAT IS YOUR IMPRESSION OF THE DEVELOPMENT WEST OF SERENE HILLS?

A. While I do not disagree that the area west of Serene Hills, referred to as Scenic Crest, is undergoing development as indicated by clearing and earth moving activities, no new habitable structures were identified directly west of the Segment 17 during field reconnaissance performed by me on March 2, 2021. Segment 17 is proposed to parallel property lines, which is in accordance with PUC Substantive Rules.

III. RESPONSE TO TEXAS PARKS AND WILDLIFE DEPARTMENT'S SEPTEMBER 10, 2020 AND FEBRUARY 18, 2021 LETTERS TO THE PUC

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. This section of my testimony responds to recommendations and comments contained in two letters from the Texas Parks and Wildlife Department (TPWD) to the PUC dated September 10, 2020 and February 18, 2021. Both letters are attached as exhibits to Mr. Poole's testimony.

Q. WHY DID TPWD SEND TWO LETTERS?

A. The first letter was a response to the initial application filing of July 22, 2020. The second letter was an update to address the application amendment filed on December 22, 2020.

Q. WHAT GENERAL IMPRESSIONS DO YOU HAVE OF THE LETTERS?

A. TPWD's letters include comments and recommendations regarding the project and potential impacts on sensitive fish/wildlife resources, habitats, or other sensitive natural resources. This information provides some sound and reasonable advice. Overall, the letters include

typical concerns, comments, and recommendations that are often provided by TPWD with regard to proposed transmission line projects. POWER and CPS Energy have already taken into consideration several of the recommendations offered by TPWD.

It is important to note that the TPWD letters do not take into consideration PURA § 37.056 or Commission Substantive Rule § 25.101, two critical regulatory guidelines that POWER and CPS Energy employed throughout the process of developing the alternative routes and while preparing the EA in support of CPS Energy's CCN Application. The TPWD letters only consider limited issues.

Q. DID TPWD CHANGE ITS RECOMMENDATION REGARDING THE LEAST IMPACTING ROUTE TO PARK AND WILDLIFE RESOURCES BETWEEN THE TWO LETTERS?

A. Yes. Because of the changes resulting from the application amendment on December 22, 2020, TPWD re-evaluated the routes in the Application. The February 18, 2021 letter reflects TPWD's most current evaluation of the routes contained in the Application. It is important to note that TPWD admittedly only used 18 of the 48 evaluation criteria to arrive at their recommendation. With that noted, in my opinion, Route DD recommended by TPWD in their most recent letter is a feasible alternative route for approval.

IV. ADDITIONAL PROPOSED ROUTES AND SEGMENT MODIFICATIONS

Q. HAVE ANY OTHER ADDITIONAL ROUTES (COMPRISED OF SEGMENTS CONTAINED IN THE APPLICATION) BEEN PROPOSED THAT WERE NOT INCLUDED IN CPS ENERGY'S APPLICATION?

A. Yes. An additional route has been proposed by Lisa Chandler, Clinton R. Chandler, and Chip and Pamela Putnam in the testimony of Mr. Brian C. Andrews. The route identified by Mr. Andrews was labeled Route AA2. Route AA2 is comprised of segments in the Application. POWER has prepared land use and environmental data tabulations for Route AA2 and provided that data to the Chandlers and Putnams in discovery. Mr. Andrews used that data in preparing his testimony. The data prepared by POWER for Route AA2 is included in Exhibit LBM-1R attached to my testimony. Route AA2 is a viable route for the Project and complies with the relevant provisions of PURA and the PUC Substantive Rules for the approval of transmission lines.

V. REBUTTAL TO TESTIMONY OF JASON E. BUNTZ ON BEHALF OF INTERVENORS THE SAN ANTONIO ROSE PALACE, INC. AND STRAIT PROMOTIONS, INC.

Q. MR. BUNTZ'S TESTIMONY STATES THAT THE PRIMARY ALTERNATIVE ROUTES ARE INCONSISTENT WITH THE HISTORICAL VALUES ALONG SCENIC LOOP, BOERNE STAGE, AND TOUTANT BEAUREGARD. DO YOU AGREE?

A. No. There is both commercial and residential development along Scenic Loop, Boerne Stage, and Toutant Beauregard. In the immediate vicinity of where Primary Alternative Routes are proposed, Toutant Beauregard has existing distribution poles along portions of the roadway. In addition, the Rose Palace's own marquee on Boerne Stage, a restaurant's signage at the intersection of Boerne Stage and Toutant Beauregard, and a communication tower on Toutant Beauregard are all prominently visible where Primary Alternative Routes are proposed. Further, paralleling the Primary Alternative Routes with existing roadways is consistent with the PUC Substantive Rules.

Q. DO YOU AGREE WITH MR. BUNTZ'S CLAIM THAT THE BASE LINE INVENTORY OF THE HISTORICAL RESOURCES IN THE STUDY AREA IS NOT SUFFICIENT FOR A THOROUGH ANALYSIS OF IMPACTS TO HISTORICAL VALUES?

A. No. POWER performed data collection from the appropriate resources for a thorough analysis of impacts to historical values within the study area. Mr. Buntz even states this in his own testimony on Page 4, Line 26. POWER was aware of and appropriately documented the presence of the Scenic Loop-Bourne Stage-Toutant Beauregard Historic Corridor in the EA on page 3-53.

Q. ARE YOU FAMILIAR WITH TXDOT'S HISTORIC DISTRICT AND PROPERTIES GIS MAP REFERENCED BY MR. BUNTZ?

A. I was not aware of it until reviewing Mr. Buntz's testimony. After reviewing Mr. Buntz's testimony I visited the TxDOT site to view the GIS Map he referenced.

Q. DID YOU DISCOVER ANYTHING OF SIGNIFICANCE ON THE TXDOT SITE THAT WOULD CHANGE THE DECISIONS MADE DURING THE SELECTION

OF THE PRELIMINARY SUBSTATION SITES OR ROUTE SEGMENTS OR THE ALTERNATIVE ROUTES FOR THIS PROJECT?

A. No I did not. In fact, the TxDOT notes associated with Boerne Stage state the following: "Designated by lege in 2011, most wont comport to 106 standard of eligibility but must assess individual projects; Rd doesn't seem historic." See Exhibit LBM-3R.

Q. MR. BUNTZ'S TESTIMONY ASSERTS ON PAGE 13 THAT THE EA OVERSTATES THE IMPACTS TO THE R.L. WHITE RANCH HISTORIC DISTRICT AND UNDERSTATES THE IMPACTS TO THE HEIDEMANN RANCH HISTORIC DISTRICT. HOW DO YOU RESPOND?

A. I disagree that the EA overstates the impacts to the R.L. White Ranch Historic District, specifically to Mr. Buntz's characterization of why POWER used boldface type in Table 4-5 (Lines 23-26) "To really nail their point home…". POWER regularly uses boldface font in tables in the cultural resource sections included in its EAs. The notes at the bottom of Tables 4-4 and 4-5 in the EA clearly explain "Bold entries will be crossed by the 100-foot - wide ROW [right of way]." Use of boldface font was not an attempt to overstate the data or potential impact to the R.L. White Ranch Historic District, but instead to communicate to the reader that the feature will be crossed by the right of way.

I also disagree that the EA understates the impacts to the Heidemann Ranch Historic District, which is not crossed by any of the segments. Mr. Buntz states "…the transmission line would run along the west side of Toutant-Beauregard Road and be clearly visible not only from the Heidemann Ranch grounds, but also from the historic buildings." Mr. Buntz further asserts that "[a] transmission line running along Toutant-Beauregard Road, as with Route Z-1, located in such close proximity to the Heidemann Ranch, would alter the property's rural landscape setting." Mr. Buntz does not mention the existence of the existing distribution line on the west side of Toutant Beauregard Road across from the Heidemann Ranch, the existing trees on the Heidemann Ranch that will likely shield the location where Segment 36 is proposed, or the multiple contemporary yard art pieces present along the entire east side of Toutant Beauregard Road on the Heidemann Ranch. These features detract from the "rural landscape" and the overall setting and feel of the Historic District. See Exhibit LBM-4R.

Q. DO YOU AGREE WITH MR. BUNTZ'S CLAIM ON PAGE 16 THAT THE SAN ANTONIO ROSE PALACE "...IS IN KEEPING WITH THE COMMUNITY'S HISTORIC RANCHING IDENTITY AND HAS ALREADY LED TO CONSIDERABLE COMMUNITY VALUE."

A. While I do not dispute that the San Antonio Rose Palace is a venue that provides western-lifestyle events, none of the 186 open house meeting questionnaires received by CPS Energy or POWER identified the San Antonio Rose Palace as a specific "community value or resource." Further, the San Antonio Rose Palace was not identified on any of the questionnaires as a "factor" that should be considered when identifying and evaluating alternative transmission line segments and substation sites or a "feature" that should be added to the Land Use and Environmental Constraints map.

VI. OPEN HOUSE MEETINGS

Q. DOES THE PUC REQUIRE THAT THE PUBLIC BE NOTIFIED REGARDING MODIFICATIONS MADE TO THE SEGMENTS FOLLOWING AN OPEN HOUSE?

A. No. There is no requirement in the PUC Substantive or Procedural Rules that requires utilities contact landowners regarding modifications made to the proposed segments following an open house meeting. This phase of the project that we are in now, before the State Office of Administrative Hearings (SOAH), is the public's opportunity to participate and influence the decision making process before SOAH and then ultimately before the Commissioners at the PUC.

VII. REBUTTAL TO TESTIMONY OF PATRICK CLEVELAND AND STEPHEN AND PAUL ROCKWOOD ON BEHALF OF HIGH COUNTRY RANCH ASSOCIATION

Q. PLEASE PROVIDE A GENERAL DESCRIPTION OF THE HIGH COUNTRY RANCH ASSOCIATION (HCR).

A. It is my understanding, after reading Mr. Cleveland's testimony, Page 2, Lines 1-8, that HCR is a private community, approximately 350 acres in size, with 15 individually owned lots on approximately 50 acres in the northeast corner of the property. The remaining 300 acres

make up a private common recreation area that is available to the individual lot owners and their families.

Q. WHY DID POWER NOT INCLUDE HCR IN ITS INVENTORY OF PARK AND RECREATIONAL AREAS WITHIN 1,000 FEET OF THE PROPOSED ALTERNATIVE ROUTES?

A. Many landowners use their private property for a variety of recreational uses, therefore the inclusion of private recreational areas would introduce a degree of subjectivity extremely difficult to quantify and assess. In my opinion, it would be virtually impossible to build a transmission line of any length in Texas without crossing private property that is used for some type of private recreation. Thus, POWER does not include private recreational areas in its routing analysis. Based on my understanding, the HCR "common recreation area" area is private and only available to the 15 individual lot owners of HCR.

Q. MR. CLEVELAND AND THE ROCKWOODS STATE CONCERNS ABOUT CONSTRUCTING A TRANSMISSION LINE ACROSS THE HCR PROPERTY. HOW DO YOU RESPOND?

A. I do not believe the presence of a transmission line will interfere with the uses of the HCR property identified in their testimony. Additionally, even if the HCR property was considered a park and recreational area, numerous transmission lines are located in and near park and recreational areas throughout the state of Texas. In many instances trails and recreation areas are designed to take advantage of and maximize the use of the undeveloped land in the right of way of transmission lines. The residences of HCR will still be able to use the common recreation area.

Q. ON PAGE 16 OF MR. CLEVELAND'S DIRECT TESTIMONY, HE EXPRESSES CONCERN REGARDING THE SEGMENT 49A'S COMPLIANCE WITH THE COMMISSION'S SUBSTANTIVE RULES REGARDING FOLLOWING PROPERTY LINES. HOW DID POWER EVALUATE THE WESTERN PORTION OF SEGMENT 49A?

A. Paralleling natural and cultural features when possible is in accordance with the PUC Substantive Rule 25.101(b)(3)(B)(iii). Examples of natural or cultural features include

existing roadways, edges of timber (tree lines), fence lines, and other natural divisions of property. Specific to HCR, Segment 49a is proposed to roughly parallel an existing two track dirt road.

Q. DOES THE PUC REQUIRE ANALYSIS REGARDING ADJACENT PROPERTIES DIRECTLY AFFECTED BY A PROPOSED TRANSMISSION LINE ROUTE SIMILAR TO THAT PRESENTED IN MR. CLEVELAND'S TESTIMONY?

A. No. Neither the Commission's Substantive nor Procedural Rules require property that is not crossed or does not have a habitable structure with 300 feet of a 138 kV transmission line to be provided notice regarding a transmission line project. Notwithstanding the specific requirements of the Commission's Rules, in this proceeding CPS Energy did provide notice to ***all*** landowners within 300 feet of a proposed transmission line route.

VIII. REBUTTAL TO TESTIMONY OF MARK D. ANDERSON ON BEHALF OF ANAQUA SPRINGS HOMEOWNERS' ASSOCIATION, BRAD JAUER, AND BVJ PROPERTIES, L.L.C.

Q. MR. ANDERSON REFERENCES, ON PAGE 23 OF HIS DIRECT TESTIMONY, CPS ENERGY'S ROUTING/SITING PROCESS MANUAL ASSERTING THAT SEGMENT 54 DOES NOT AVOID RESIDENTIAL AREAS, SUBDIVISIONS OR HABITABLE STRUCTURES. HOW DO YOU RESPOND?

A. I disagree. As stated in the EA on page 3-43, "The study area is primarily suburban with some rural areas." Further, the study area is experiencing significant growth and development that was taken into consideration during development of the segments and routes. By examining the proposed alignment of Segment 54 on Amended Figure 4-1, it is apparent that Segment 54 was routed in a manner to avoid, to the extent possible, residential areas, subdivisions and habitable structures. This is true of all of the segments and routes included in CPS Energy's Application. In addition, specific to Segment 54, one-third of the alternative routes in the Application do not include Segment 54 and are available for consideration and approval by the Commission.

Q. ON PAGE 20 OF MR. ANDERSON'S DIRECT TESTIMONY HE STATES, "IN MY OPINION, THE SARA MCANDREW ELEMENTARY SCHOOL AND ITS

RECREATIONAL FACILITIES SHOULD HAVE BEEN CAREFULLY CONSIDERED AND GIVEN GREAT WEIGHT..." DID POWER CONSIDER THE SCHOOL AND ITS RECREATIONAL ACTIVITIES THAT OCCUR THERE?

A. Yes, POWER and CPS Energy carefully considered the Sara McAndrew Elementary School and the recreational activities that occur there. This is evident by the presence of multiple routing options around and away from the school. Segment 35 is located across the street from the school, Segment 41 is proposed to parallel the far northern property boundary, away from existing school facilities, and Segment 42a is located to the south of and off of school property. Routing options "away" from the school include use of Segments 28-29 to the north, Segments 20-32 or Segments 54-21 to the south along with all of the alternative routes that head south using Segment 7 and 8 along Scenic Loop Road.

Q. WHY DID POWER NOT IDENTIFY THE SARA MCANDREW ELEMENTARY SCHOOL AS A PARK AND RECREATIONAL AREA IN THE EA?

A. POWER did not identify the Sara McAndrew Elementary School as a park and recreational area because it is identified as a school. It is my experience that intervenors, administrative law judges, and the Commissioners are familiar with recreational activities that occur on school properties. In my view, designation as a "school" represents a more comprehensive designation than a "park and recreational area."

Q. ON PAGE 30 OF MR. ANDERSON'S DIRECT TESTIMONY HE EXPRESSES CONCERN THAT 15 OF THE ROUTES IN THE APPLICATION INCORPORATE SEGMENTS IN CLOSE PROXIMITY TO THE SCHOOL. HOW DO YOU RESPOND?

A. There are also 16 alternative routes included in the application that do not incorporate segments in close proximity to the school for the Commission to consider for approval. Thus, the majority of routes included in the Application do not come in close proximity to a school.

Q. DO ANY OF THE ALTERNATIVE ROUTES CROSS A CEMETERY OR THE HEIDEMANN RANCH HISTORIC DISTRICT?

A. No. Segment 36 is proposed across the street from the Heidemann Ranch Historic District, which has a cemetery on the property. Mr. Anderson's suggestion to move the segment to

the same side of the road as the historic district would further encroach on what he classifies as a "national treasure" on page 33 of his direct testimony. As currently proposed, Segment 36 is located approximately 593 feet from the cemetery on the Heidemann Ranch Historic District property.

IX. REBUTTAL TO TESTIMONY OF BRIAN C. ANDREWS ON BEHALF OF LISA CHANDLER, CLINTON R. CHANDLER, AND CHIP AND PAMELA PUTNAM

Q. DO YOU AGREE WITH THE WAY MR. ANDREWS PERFORMS AND PRESENTS HIS ANALYSIS OF THE ALTERNATIVE ROUTES, SPECIFICALLY ON PAGE 22 WHERE HE USES 7 OF THE 48 EVALUATION CRITERIA?

A. I do not dispute Mr. Andrews' direct testimony on Pages 13-15 that 25 of the evaluation criteria in Amended Table 4-1 used to evaluate the alternative routes have a value of zero. However, on Page 22 of his direct testimony, Mr. Andrews focuses only on seven of the remaining 23 evaluation criteria stating "...the Commission has put significant weight upon those factors in its routing decisions." In my opinion, Mr. Andrews' analysis is too narrow in scope given the applicable factors for consideration in PURA and the Commission's Rules. Each docket/project before the Commission is unique and requires consideration of all of the evaluation criteria and applicable regulations.

X. REBUTTAL TO TESTIMONY OF BRAD JAUER ON BEHALF OF BRAD JAUER AND BVJ PROPERTIES, L.L.C.

Q. DO YOU AGREE WITH MR. JAUER'S DIRECT TESTIMONY ON PAGE 5 THAT THERE IS A STEEL PIPELINE IN THE SAME LOCATION WHERE SEGMENT 20 WOULD BE LOCATED?

A. No. The facilities referred to in Mr. Jauer's direct testimony are low pressure natural gas ***distribution*** facilities that are owned and operated by CPS Energy's Gas Solutions. The facilities are a 6-inch and 8-inch ***plastic*** pipe located ***within*** the road right of way of Toutant Beauregard Road in the vicinity of Segment 20. Mr. Adam Marin and Mr. Lyssy both address pipelines in further detail in their rebuttal testimony.

XI. REBUTTAL TO TESTIMONY SUBMITTED ON BEHALF OF SAVE HUNTRESS LANE AREA ASSOCIATION (SHLAA)

Q. ON PAGE 7 OF HER DIRECT TESTIMONY, MS. CYNTHIA GRIMES REFERENCES FIVE ADDITIONAL WATER WELLS ALONG SEGMENTS 8, 15, AND 26A. DO YOU AGREE WITH INCLUSION OF THESE WATER WELLS IN THIS PROCEEDING?

A. Yes. Accordingly, Amended Table 4-1 *Land Use and Environmental Data for Route Evaluation* has been updated to reflect the additional five water wells. It is attached as Exhibit LBM-1R.

Q. ON PAGE 10 OF HIS DIRECT TESTIMONY, MR. JERRY RUMPF REFERENCES CONSERVATION AREAS REGISTERED WITH THE STATE OF TEXAS AND CLAIMS THAT THE PROPOSED SEGMENTS WOULD GO THROUGH THOSE CONSERVATION AREAS. HOW SHOULD THESE AREAS BE CONSIDERED?

A. While such areas preserve the natural environment in the Altair Subdivision, there is no federal interest in these areas and therefore, no limitation on CPS Energy identifying a route across these areas or acquiring right of way in the event the Commission approves a route across such areas.

XII. REBUTTAL TO TESTIMONY OF DR. MARK TURNBOUGH ON BEHALF OF BEXAR RANCH, L.P. (BEXAR RANCH)

Q. ON PAGE 21-22 OF HIS DIRECT TESTIMONY, DR. TURNBOUGH QUESTIONS THE DEGREE TO WHICH SEGMENTS 43, 44, AND 45 PARALLEL EXISTING FEATURES. HOW DID POWER CONSIDER THE PARALLELING OF SEGMENTS 43, 44, AND 45 ON THE BEXAR RANCH?

A. In accordance with Commission Substantive Rule 25.101(b)(3)(B)(iii), POWER calculated the length of each of these segments parallel to property lines and ***other natural or cultural features***. Although a two track dirt road may not be a public road, it is a cultural feature of the Bexar Ranch. Routes parallel to such features may require less disturbance than those through undisturbed areas. Although the labeling for criteria number five in Amended Table 4-1 and Amended Table 4-2 generally references length of right of way parallel to other

existing "ROW," such reference was not intended to be a legal definition of public rights of way, rather the intent was to reference property lines and other natural or cultural features (other than streams, which are captured by line 41 of the referenced tables) in accordance with the Commission's Substantive Rules. Notwithstanding inclusion of dirt roads in such paralleling (on both the Bexar Ranch and the HCR), it is not POWER's intent to equate paralleling a major public roadway with the paralleling of a dirt two track private road.

Q. IS IT APPROPRIATE TO COMBINE THE TOTAL ACRES OF HABITAT CROSSED BY ALL SEGMENTS ON BEXAR RANCH (SEGMENTS 43, 44, AND 45) AS DR. TURNBOUGH HAS DONE?

A. No. You cannot combine the total acreage of habitat crossed by Segments 43, 44, and 45 on Bexar Ranch because those three segments will not all be used in one route. Only one of those three segments will be used if the PUC chooses a route that crosses Bexar Ranch.

XIII. CONCLUSION

Q. AFTER HAVING REVIEWED THE INTERVENORS' TESTIMONY IN THIS DOCKET, WHAT IS YOUR CONCLUSION?

A. I have found nothing in any of the intervenors' testimony that would preclude construction of the Project along any of the 31 filed alternative routes developed from the 49 primary alternative route segments proposed by CPS Energy in its Application and Amended Application. I also have found nothing that would preclude construction of the Project on other alternative routes comprising segments included in CPS Energy's Application (or segment modifications where the landowners directly affected by such route modifications will likely consent to the proposed routing) combined in a forward progressing manner that address the need for the Project, including Route AA2.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

Exhibit LBM-1R
Page 1 of 5

Amended Table 4-1R
Environmental and Land Use Data For Route Evaluation
Scenic Loop

Evaluation Criteria																	
Land Use		A	B1	C1	D1	E	F1	G1	H	I1	J1	K	L	M1	N1	O	P
1	Length of alternative route (miles)	6.66	6.19	5.77	5.22	6.62	5.66	6.20	6.32	5.03	5.46	5.29	6.91	5.85	5.33	6.83	4.89
2	Number of habitable structures[1] within 300 feet of the route centerline	72	64	49	44	61	18	53	62	44	42	39	38	44	17	33	17
3	Length of ROW using existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Length of ROW parallel and adjacent to existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Length of ROW parallel to other existing ROW (roadways, railways, canals, etc.)	1.79	1.00	2.43	2.13	2.45	1.48	1.35	1.89	2.01	2.26	1.86	2.21	2.76	1.15	2.91	0.85
6	Length of ROW parallel and adjacent to apparent property lines[2]	3.71	3.19	1.39	1.49	2.54	2.49	1.96	3.20	1.58	0.78	1.85	2.18	1.49	2.49	1.30	2.62
7	Sum of evaluation criteria 4, 5, and 6	5.50	4.19	3.82	3.62	4.99	3.97	3.31	5.09	3.59	3.04	3.71	4.38	4.25	3.64	4.21	3.47
8	Percent of evaluation criteria 4, 5, and 6	83%	68%	66%	69%	75%	70%	53%	80%	71%	56%	70%	63%	73%	68%	62%	71%
9	Length of ROW across parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Length of ROW across cropland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Length of ROW across pasture/rangeland	0.61	0.76	1.69	0.77	0.69	0.89	0.65	0.50	0.67	0.67	0.51	0.38	1.09	0.71	0.42	0.36
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Length of route across gravel pits, mines, or quarries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Length of ROW parallel and adjacent to pipelines[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Number of pipeline crossings[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Number of transmission line crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Number of IH, US and state highway crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Number of FM or RM road crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Number of cemeteries within 1,000 feet of the ROW centerline and substation site	0	1	1	1	0	1	1	0	1	1	0	0	1	1	0	1
22	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline and substation site	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Number of private airstrips within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Number of heliports within 5,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline and substation site	0	0	1	1	0	0	0	0	1	1	0	0	1	0	1	0
28	Number of identifiable existing water wells within 200 feet of the ROW centerline and substation site	6	4	2	3	3	6	4	5	3	3	3	3	4	6	3	4
29	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics																	
30	Estimated length of ROW within foreground visual zone[6] of IH, US and state highways	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Estimated length of ROW within foreground visual zone[6] of FM/RM roads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Estimated length of ROW within foreground visual zone[6][7] of parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ecology																	
33	Length of ROW across upland woodlands/brushlands	5.27	5.06	3.48	3.94	5.24	4.70	5.10	5.03	3.86	4.20	4.40	6.14	4.24	4.56	6.24	4.42
34	Length of ROW across bottomland/riparian woodlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Length of ROW across NWI mapped wetlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Length of ROW across critical habitat of federally listed endangered or threatened species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Area of ROW across golden-cheeked warbler modeled habitat designated as 3-Moderate High and 4-High Quality (acres)[8]	13.88	13.68	10.74	11.12	12.29	19.03	12.78	12.29	8.92	11.81	25.08	14.38	11.12	19.03	2.95	25.11
38	Area of ROW across golden-cheeked warbler modeled habitat designated as 1-Low and 2-Moderate Low Quality (acres)[8]	18.21	17.55	12.08	12.17	15.74	15.04	18.59	16.46	12.93	14.95	11.65	21.28	12.17	13.33	16.59	12.04
39	Length of ROW across open water (lakes, ponds)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	Number of stream and river crossings	3	6	6	8	3	10	7	3	8	9	4	8	10	9	10	4
41	Length of ROW parallel (within 100 feet) to streams or rivers	0.07	0.10	0.00	0.10	0.07	0.15	0.17	0.07	0.10	0.17	0.26	0.20	0.10	0.15	0.24	0.15
42	Length of ROW across Edwards Aquifer Contributing Zone	6.66	6.19	5.77	5.22	6.62	5.66	6.20	6.32	5.03	5.46	5.29	6.91	5.85	5.33	6.83	4.89
43	Length of ROW across FEMA mapped 100-year floodplain	0.13	0.78	0.55	1.03	0.13	0.25	0.75	0.13	1.03	1.00	0.17	0.42	1.49	0.23	0.07	0.09
Cultural Resources																	
44	Number of recorded cultural resource sites crossed by ROW	0	0	0	0	0	2	0	0	0	0	0	0	0	2	1	1
45	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline	0	2	2	2	2	12	2	0	2	2	0	0	2	12	1	10
46	Number of NRHP listed properties crossed by ROW	0	0	0	0	0	1	0	0	0	0	1	1	0	1	1	1
47	Number of additional NRHP listed properties within 1,000 feet of ROW centerline	1	2	1	1	1	0	2	1	1	1	0	0	1	0	0	0
48	Length of ROW across areas of high archeological site potential	1.73	2.94	2.89	3.14	1.49	3.10	2.84	1.44	3.24	3.27	2.40	4.55	3.76	2.84	2.94	2.49

[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.

[2] Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

[4] Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

[5] As listed in the Chart Supplement South Central US (FAA 2019b formerly known as the Airport/Facility Directory South Central US) and FAA 2019a.

[6] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

[7] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

[8] From Model C by Diamond et al. 2010.

All length measurements are shown in miles unless noted otherwise.

Exhibit LBM-1R
Page 2 of 5

Amended Table 4-1R
Environmental and Land Use Data For Route Evaluation
Scenic Loop

Evaluation Criteria																	
Land Use		Q1	R1	S	T1	U1	V	W	X1	Y	Z1	AA1	BB	CC	DD	EE	AA2
1	Length of alternative route (miles)	5.56	4.76	6.73	5.93	6.36	6.60	6.25	5.34	5.23	4.53	4.82	4.73	5.23	4.64	4.99	4.89
2	Number of habitable structures[1] within 300 feet of the route centerline	12	13	29	37	12	32	29	41	40	31	31	27	57	33	32	30
3	Length of ROW using existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Length of ROW parallel and adjacent to existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Length of ROW parallel to other existing ROW (roadways, railways, canals, etc.)	1.39	0.85	2.57	0.51	1.20	2.60	2.60	0.79	3.01	1.60	1.85	1.45	1.94	1.88	2.13	1.85
6	Length of ROW parallel and adjacent to apparent property lines[2]	2.44	2.21	0.74	3.96	2.54	2.21	1.03	2.67	1.26	1.49	0.87	1.85	1.90	1.39	0.68	0.74
7	Sum of evaluation criteria 4, 5, and 6	3.83	3.06	3.31	4.46	3.74	4.82	3.63	3.46	4.27	3.09	2.72	3.30	3.84	3.27	2.81	2.59
8	Percent of evaluation criteria 4, 5, and 6	69%	64%	49%	75%	59%	73%	58%	65%	82%	68%	56%	70%	73%	70%	56%	53%
9	Length of ROW across parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Length of ROW across cropland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Length of ROW across pasture/rangeland	0.24	0.36	0.08	0.28	0.24	0.00	0.08	0.59	0.93	0.54	0.54	0.37	0.62	1.05	1.05	0.54
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Length of route across gravel pits, mines, or quarries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Length of ROW parallel and adjacent to pipelines[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Number of pipeline crossings[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Number of transmission line crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Number of IH, US and state highway crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Number of FM or RM road crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Number of cemeteries within 1,000 feet of the ROW centerline and substation site	1	1	0	2	1	0	0	0	1	1	1	0	0	1	1	1
22	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline and substation site	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Number of private airstrips within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Number of heliports within 5,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline and substation site	0	0	1	1	0	1	1	0	1	1	1	0	1	1	1	1
28	Number of identifiable existing water wells within 200 feet of the ROW centerline and substation site	5	5	2	6	5	0	2	2	1	2	2	2	2	1	1	2
29	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics																	
30	Estimated length of ROW within foreground visual zone[6] of IH, US and state highways	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Estimated length of ROW within foreground visual zone[6] of FM/RM roads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Estimated length of ROW within foreground visual zone[6][7][7] of parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ecology																	
33	Length of ROW across upland woodlands/brushlands	5.27	4.35	6.51	5.46	6.07	6.52	6.03	4.25	3.76	3.60	3.81	4.08	4.27	3.12	3.40	3.88
34	Length of ROW across bottomland/riparian woodlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Length of ROW across NWI mapped wetlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Length of ROW across critical habitat of federally listed endangered or threatened species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Area of ROW across golden-cheeked warbler modeled habitat designated as 3-Moderate High and 4-High Quality (acres)[8]	5.52	19.03	4.77	20.39	8.31	4.28	2.95	11.92	11.12	11.12	9.6	25.08	23.82	10.74	11.43	11.81
38	Area of ROW across golden-cheeked warbler modeled habitat designated as 1-Low and 2-Moderate Low Quality (acres)[8]	17.59	13.33	18.57	15.87	22.81	18.34	16.59	13.18	12.34	11.02	14.56	10.50	11.35	10.93	13.72	13.80
39	Length of ROW across open water (lakes, ponds)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	Number of stream and river crossings	11	8	10	8	12	9	9	3	6	8	9	4	4	6	7	9
41	Length of ROW parallel (within 100 feet) to streams or rivers	0.21	0.15	0.11	0.10	0.08	0.24	0.24	0.00	0.07	0.10	0.17	0.26	0.15	0.00	0.08	0.17
42	Length of ROW across Edwards Aquifer Contributing Zone	5.56	4.76	6.73	5.93	6.36	6.60	6.25	5.34	5.23	4.53	4.82	4.73	5.23	4.64	4.99	4.89
43	Length of ROW across FEMA mapped 100-year floodplain	0.16	0.16	0.24	0.97	0.40	0.00	0.00	0.03	0.38	1.03	1.00	0.17	0.15	0.28	0.25	1.00
Cultural Resources																	
44	Number of recorded cultural resource sites crossed by ROW	2	2	1	1	2	1	1	0	0	0	0	0	0	0	0	0
45	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline	12	12	1	12	12	0	1	2	2	2	2	0	0	2	2	2
46	Number of NRHP listed properties crossed by ROW	1	1	1	0	1	1	1	0	0	0	0	1	1	0	0	0
47	Number of additional NRHP listed properties within 1,000 feet of ROW centerline	0	0	0	1	0	0	0	1	2	1	1	0	0	1	1	1
48	Length of ROW across areas of high archeological site potential	3.13	2.65	4.07	3.72	4.77	2.85	2.75	1.44	2.26	3.01	3.35	2.33	2.80	2.34	2.52	3.19

[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.

[2] Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

[4] Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

[5] As listed in the Chart Supplement South Central US (FAA 2019b formerly known as the Airport/Facility Directory South Central US) and FAA 2019a.

[6] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

[7] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

[8] From Model C by Diamond et al. 2010.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2R
Environmental and Land Use Data For Segment Evaluation
Scenic Loop

Evaluation Criteria																						
Land Use		1	2	3	4	5	7	8	13	14	15	16	17	20	21	22	25	26a	27	28	29	30
1	Length of alternative route (miles)	0.60	0.43	0.03	0.12	0.25	0.33	0.58	0.60	0.31	0.87	0.69	1.22	0.59	0.46	0.41	0.50	1.34	1.51	0.56	0.70	0.49
2	Number of habitable structures[1] within 300 feet of the route centerline	0	3	0	2	1	1	5	12	12	5	6	20	10	0	4	2	4	0	0	3	1
3	Length of ROW using existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Length of ROW parallel and adjacent to existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Length of ROW parallel to other existing ROW (roadways, railways, canals, etc.)	0.60	0.00	0.03	0.12	0.18	0.33	0.30	0.08	0.23	0.00	0.51	0.00	0.49	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.09
6	Length of ROW parallel and adjacent to apparent property lines[2]	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.52	0.00	0.65	0.18	0.92	0.00	0.33	0.41	0.49	0.88	0.21	0.36	0.66	0.00
7	Sum of evaluation criteria 4, 5, and 6	0.60	0.00	0.03	0.12	0.18	0.33	0.58	0.60	0.23	0.65	0.69	0.92	0.49	0.33	0.41	0.49	0.88	0.60	0.36	0.66	0.09
8	Percent of evaluation criteria 4, 5, and 6	100%	0%	100%	100%	70%	100%	100%	100%	74%	75%	100%	75%	82%	72%	100%	97%	65%	40%	64%	94%	19%
9	Length of ROW across parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Length of ROW across cropland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Length of ROW across pasture/rangeland	0.29	0.39	0.03	0.09	0.00	0.18	0.35	0.11	0.13	0.24	0.00	0.07	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Length of route across gravel pits, mines, or quarries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Length of ROW parallel and adjacent to pipelines[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Number of pipeline crossings[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Number of transmission line crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Number of IH, US and state highway crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Number of FM or RM road crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Number of cemeteries within 1,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
22	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline and substation site	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
23	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Number of private airstrips within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Number of heliports within 5,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
28	Number of identifiable existing water wells within 200 feet of the ROW centerline and substation site	1	0	0	0	1	0	1	1	1	3	0	1	0	0	0	1	2	0	0	2	0
29	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics																						
30	Estimated length of ROW within foreground visual zone[6] of IH, US and state highways	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Estimated length of ROW within foreground visual zone[6] of FM/RM roads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Estimated length of ROW within foreground visual zone[6][7] of parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ecology																						
33	Length of ROW across upland woodlands/brushlands	0.30	0.01	0.00	0.02	0.23	0.14	0.21	0.47	0.10	0.60	0.62	1.13	0.30	0.46	0.39	0.50	1.33	1.51	0.35	0.54	0.37
34	Length of ROW across bottomland/riparian woodlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Length of ROW across NWI mapped wetlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Length of ROW across critical habitat of federally listed endangered or threatened species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Area of ROW across golden-cheeked warbler modeled habitat designated as 3 Moderate High and 4-High Quality (acres)[8]	0	0	0	0	0	0	0	1.59	0	0.71	0	0.45	0	1.90	1.22	3.54	2.17	1.08	0.72	0	0
38	Area of ROW across golden-cheeked warbler modeled habitat designated as 1-Low and 2-Moderate Low Quality (acres)[8]	0	0	0	0	0.62	1.71	0	2.36	0.54	3.62	2.00	5.55	2.56	3.04	1.22	0.72	4.53	1.36	2.04	0.80	0.08
39	Length of ROW across open water (lakes, ponds)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	Number of stream and river crossings	2	0	0	0	0	1	1	0	0	1	0	0	1	1	0	0	5	4	0	0	0
41	Length of ROW parallel (within 100 feet) to streams or rivers	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.07	0.00	0.00	0.00
42	Length of ROW across Edwards Aquifer Contributing Zone	0.60	0.43	0.03	0.12	0.25	0.33	0.58	0.60	0.31	0.87	0.69	1.22	0.59	0.46	0.41	0.50	1.34	1.51	0.56	0.70	0.49
43	Length of ROW across FEMA mapped 100-year floodplain	0.46	0.27	0.00	0.00	0.00	0.02	0.07	0.00	0.00	0.04	0.00	0.00	0.10	0.13	0.00	0.00	0.11	0.00	0.00	0.00	0.00
Cultural Resources																						
44	Number of recorded cultural resource sites crossed by ROW	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
45	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline	0	0	0	0	0	0	0	0	0	10	0	0	0	0	3	0	5	0	0	0	2
46	Number of NRHP listed properties crossed by ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	Number of additional NRHP listed properties within 1,000 feet of ROW centerline	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1
48	Length of ROW across areas of high archeological site potential	0.60	0.39	0.03	0.05	0	0.26	0.20	0.29	0.08	0.65	0	0.17	0.59	0.46	0.26	0.18	1.01	1.07	0.18	0.00	0.00

[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.

[2] Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

[4] Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

[5] As listed in the Chart Supplement South Central US (FAA 2019b formerly known as the Airport/Facility Directory South Central US) and FAA 2019a.

[6] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

[7] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

[8] From Model C by Diamond et al. 2010.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2R
Environmental and Land Use Data For Segment Evaluation
Scenic Loop

Evaluation Criteria																						
Land Use		**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42a**	**43**	**44**	**45**	**46**	**46a**	**46b**	**47**	**49a**	**50**
1	Length of alternative route (miles)	0.59	0.87	0.35	0.04	0.52	0.47	0.56	0.45	0.87	2.57	0.46	0.91	2.05	1.98	2.59	0.79	0.86	0.99	0.19	1.35	0.04
2	Number of habitable structures[1] within 300 feet of the route centerline	2	24	0	0	2	1	3	3	2	8	0	0	3	0	0	1	0	1	0	0	1
3	Length of ROW using existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Length of ROW parallel and adjacent to existing transmission line ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Length of ROW parallel to other existing ROW (roadways, railways, canals, etc.)	0.00	0.00	0.35	0.00	0.28	0.42	0.00	0.00	0.00	0.88	0.00	0.00	0.85	1.39	1.20	0.00	0.00	0.09	0.00	0.34	0.00
6	Length of ROW parallel and adjacent to apparent property lines[2]	0.26	0.87	0.00	0.00	0.00	0.00	0.38	0.00	0.87	1.26	0.24	0.34	0.65	0.00	0.00	0.52	0.42	0.73	0.19	0.02	0.04
7	Sum of evaluation criteria 4, 5, and 6	0.26	0.87	0.35	0.00	0.28	0.42	0.38	0	0.87	2.13	0.24	0.34	1.50	1.39	1.20	0.52	0.42	0.82	0.19	0.36	0.04
8	Percent of evaluation criteria 4, 5, and 6	43%	100%	100%	0%	54%	89%	68%	0%	100%	83%	52%	37%	73%	70%	46%	65%	49%	83%	100%	27%	100%
9	Length of ROW across parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Length of ROW across cropland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Length of ROW across pasture/rangeland	0.16	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.02	0.14	0.04	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Length of route across gravel pits, mines, or quarries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Length of ROW parallel and adjacent to pipelines[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Number of pipeline crossings[4]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Number of transmission line crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Number of IH, US and state highway crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Number of FM or RM road crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Number of cemeteries within 1,000 feet of the ROW centerline and substation site	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
22	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline and substation site	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	1	1
23	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Number of private airstrips within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Number of heliports within 5,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline and substation site	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Number of identifiable existing water wells within 200 feet of the ROW centerline and substation site	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
29	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) and substation site	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics																						
30	Estimated length of ROW within foreground visual zone[6] of IH, US and state highways	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Estimated length of ROW within foreground visual zone[6] of FM/RM roads	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Estimated length of ROW within foreground visual zone[6][7] of parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ecology																						
33	Length of ROW across upland woodlands/brushlands	0.42	0.86	0.35	0.02	0.06	0.36	0.55	0.42	0.87	2.46	0.31	0.87	1.93	1.98	2.59	0.79	0.86	0.99	0.19	1.26	0.04
34	Length of ROW across bottomland/riparian woodlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Length of ROW across NWI mapped wetlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Length of ROW across critical habitat of federally listed endangered or threatened species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Area of ROW across golden-cheeked warbler modeled habitat designated as 3 Moderate High and 4-High Quality (acres)[8]	0.52	3.99	0	0	0	0	3.69	1.26	0	11.12	1.27	1.65	14.89	1.38	3.58	4.23	6.43	3.22	0.08	3.92	0
38	Area of ROW across golden-cheeked warbler modeled habitat designated as 1-Low and 2-Moderate Low Quality (acres)[8]	3.38	2.21	0	0	0.16	2.71	1.40	1.03	2.82	6.90	0.90	1.14	4.12	5.66	9.25	3.51	2.74	1.89	0.89	4.67	0.23
39	Length of ROW across open water (lakes, ponds)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.003	0	0	0	0	0	0
40	Number of stream and river crossings	1	0	0	0	0	2	1	0	2	3	1	3	2	3	4	1	1	1	0	2	0
41	Length of ROW parallel (within 100 feet) to streams or rivers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.07	0.00	0.10	0.11	0.17	0.04	0.00	0.00	0.00	0.00	0.08	0
42	Length of ROW across Edwards Aquifer Contributing Zone	0.59	0.87	0.35	0.04	0.52	0.47	0.56	0.45	0.87	2.57	0.46	0.91	2.05	1.98	2.59	0.79	0.86	0.99	0.19	1.35	0.04
43	Length of ROW across FEMA mapped 100-year floodplain	0.00	0.00	0.00	0.00	0.00	0.15	0.05	0.00	0.00	0.13	0.00	0.75	0.00	0.00	0.24	0.00	0.00	0.03	0.00	0.00	0
Cultural Resources																						
44	Number of recorded cultural resource sites crossed by ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline	0	0	2	2	2	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
46	Number of NRHP listed properties crossed by ROW	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
47	Number of additional NRHP listed properties within 1,000 feet of ROW centerline	2	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
48	Length of ROW across areas of high archeological site potential	0.47	0.51	0.00	0.00	0.19	0.47	0.45	0.42	0.31	0.72	0.05	0.91	0.54	0.71	2.17	0.52	0.36	0.38	0.19	0.57	0.00

[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.

[2] Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

[4] Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

[5] As listed in the Chart Supplement South Central US (FAA 2019b formerly known as the Airport/Facility Directory South Central US) and FAA 2019a.

[6] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

[7] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

[8] From Model C by Diamond et al. 2010.

All length measurements are shown in miles unless noted otherwise.

Amended Table 4-2R
Environmental and Land Use Data For Segment Evaluation
Scenic Loop

Evaluation Criteria

	Land Use	51	52	53	54	55	56	57
1	Length of alternative route (miles)	0.15	0.10	0.10	0.70	1.47	1.13	0.62
2	Number of habitable structures[1] within 300 feet of the route centerline	0	0	0	19	19	16	9
3	Length of ROW using existing transmission line ROW	0	0	0	0	0	0	0
4	Length of ROW parallel and adjacent to existing transmission line ROW	0	0	0	0	0	0	0
5	Length of ROW parallel to other existing ROW (roadways, railways, canals, etc.)	0.15	0.00	0.00	0.60	0.00	0.00	0.31
6	Length of ROW parallel and adjacent to apparent property lines[2]	0.00	0.00	0.10	0.00	1.19	0.00	0.31
7	Sum of evaluation criteria 4, 5, and 6	0.15	0.00	0.10	0.60	1.19	0.00	0.62
8	Percent of evaluation criteria 4, 5, and 6	100%	0%	100%	86%	81%	0%	100%
9	Length of ROW across parks/recreational areas[3]	0	0	0	0	0	0	0
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0
11	Length of ROW across cropland	0	0	0	0	0	0	0
12	Length of ROW across pasture/rangeland	0.00	0.00	0.00	0.25	0.00	0.08	0.00
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)	0	0	0	0	0	0	0
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)	0	0	0	0	0	0	0
15	Length of route across gravel pits, mines, or quarries	0	0	0	0	0	0	0
16	Length of ROW parallel and adjacent to pipelines[4]	0	0	0	0	0	0	0
17	Number of pipeline crossings[4]	0	0	0	0	0	0	0
18	Number of transmission line crossings	0	0	0	0	0	0	0
19	Number of IH, US and state highway crossings	0	0	0	0	0	0	0
20	Number of FM or RM road crossings	0	0	0	0	0	0	0
21	Number of cemeteries within 1,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0
22	Number of FAA registered airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline and substation site	0	0	0	1	0	0	0
23	Number of FAA registered airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline and substation site	0	0	0	0	0	0	0
24	Number of private airstrips within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0
25	Number of heliports within 5,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0
26	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline and substation site	0	0	0	0	0	0	0
27	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline and substation site	0	0	0	0	1	1	0
28	Number of identifiable existing water wells within 200 feet of the ROW centerline and substation site	0	0	0	1	0	2	0
29	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells) and substation site	0	0	0	0	0	0	0
	Aesthetics							
30	Estimated length of ROW within foreground visual zone[6] of IH, US and state highways	0	0	0	0	0	0	0
31	Estimated length of ROW within foreground visual zone[6] of FM/RM roads	0	0	0	0	0	0	0
32	Estimated length of ROW within foreground visual zone[6][7] of parks/recreational areas[3]	0	0	0	0	0	0	0
	Ecology							
33	Length of ROW across upland woodlands/brushlands	0.15	0.10	0.10	0.22	1.47	0.98	0.61
34	Length of ROW across bottomland/riparian woodlands	0	0	0	0.00	0.00	0.00	0.00
35	Length of ROW across NWI mapped wetlands	0	0	0	0	0	0	0
36	Length of ROW across critical habitat of federally listed endangered or threatened species	0	0	0	0	0	0	0
37	Area of ROW across golden-cheeked warbler modeled habitat designated as 3 Moderate High and 4-High Quality (acres)[8]	0	0.31	0.38	0	1.40	0.06	0.05
38	Area of ROW across golden-cheeked warbler modeled habitat designated as 1-Low and 2-Moderate Low Quality (acres)[8]	0.10	1.02	0.95	0.29	4.90	3.15	2.91
39	Length of ROW across open water (lakes, ponds)	0	0	0	0	0	0	0
40	Number of stream and river crossings	0	0	0	0	2	2	0
41	Length of ROW parallel (within 100 feet) to streams or rivers	0	0	0	0	0	0	0
42	Length of ROW across Edwards Aquifer Contributing Zone	0.15	0.10	0.10	0.70	1.47	1.13	0.62
43	Length of ROW across FEMA mapped 100-year floodplain	0	0	0	0	0	0	0
	Cultural Resources							
44	Number of recorded cultural resource sites crossed by ROW	0	0	0	0	1	1	0
45	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline	0	0	0	0	0	1	0
46	Number of NRHP listed properties crossed by ROW	0	0	0	0	0	0	0
47	Number of additional NRHP listed properties within 1,000 feet of ROW centerline	0	0	0	0	0	0	0
48	Length of ROW across areas of high archeological site potential	0.15	0.10	0.10	0.28	0.58	0.48	0.20

[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline of a transmission project of 230-kV or less.

[2] Apparent property boundaries created by existing roads, highways, or railroad ROWs are not "double-counted" in the length of ROW parallel to apparent property boundaries criteria.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church within 1,000 feet of the centerline of the project.

[4] Only steel pipelines six inches and greater in diameter carrying hydrocarbons were quantified in the pipeline crossing and paralleling calculations.

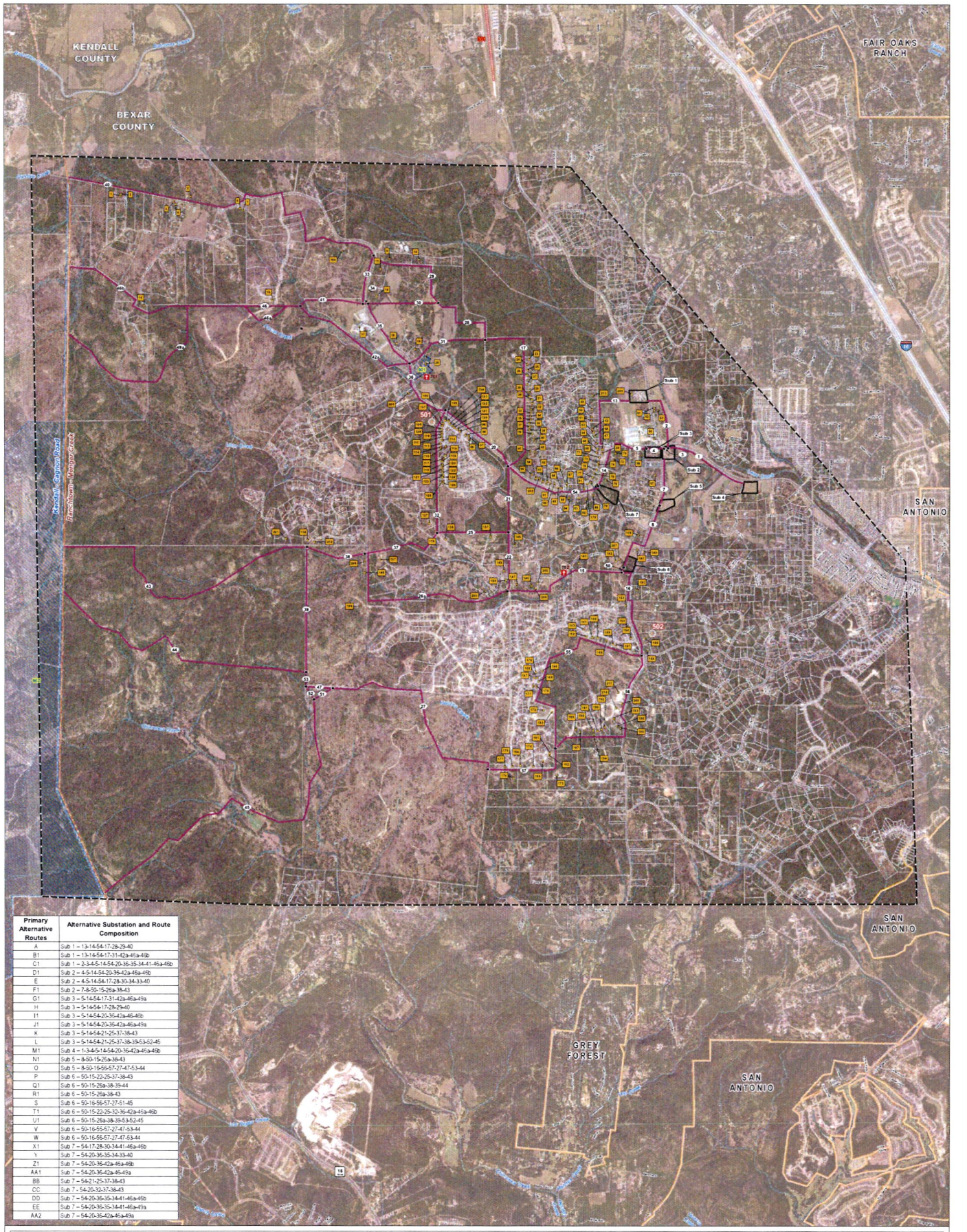
[5] As listed in the Chart Supplement South Central US (FAA 2019b formerly known as the Airport/Facility Directory South Central US) and FAA 2019a.

[6] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of interstates, US and state highway criteria are not "double-counted" in the length of ROW within the visual foreground zone of FM roads criteria.

[7] One-half mile, unobstructed. Lengths of ROW within the visual foreground zone of parks/recreational areas may overlap with the total length of ROW within the visual foreground zone of interstates, US and state highway criteria and/or with the total length of ROW within the visual foreground zone of FM roads criteria.

[8] From Model C by Diamond et al. 2010.

All length measurements are shown in miles unless noted otherwise.



Primary Alternative Routes	Alternative Substation and Route Composition
A	Sub 1 – 13-14-54-17-28-29-40
B1	Sub 1 – 13-14-54-17-31-42a-46a-46b
C1	Sub 1 – 2-3-4-5-14-54-20-35-35-34-41-46a-46b
D1	Sub 2 – 4-5-14-54-20-35-42a-46a-46b
E	Sub 2 – 4-5-14-54-17-28-30-34-33-40
F1	Sub 2 – 7-8-50-15-26a-38-43
G1	Sub 3 – 5-14-54-17-31-42a-46a-49a
H	Sub 3 – 5-14-54-17-28-29-40
I1	Sub 3 – 5-14-54-20-35-42a-46-46b
J1	Sub 3 – 5-14-54-20-35-42a-46a-49a
K	Sub 3 – 5-14-54-21-25-37-38-43
L	Sub 3 – 5-14-54-21-25-37-38-39-53-52-45
M1	Sub 4 – 1-3-4-5-14-54-20-35-42a-46a-46b
N1	Sub 5 – 8-50-15-26a-38-43
O	Sub 5 – 8-50-15-56-57-27-47-53-44
P	Sub 6 – 50-15-22-25-37-38-43
Q1	Sub 6 – 50-15-26a-38-39-44
R1	Sub 6 – 50-15-26a-38-43
S	Sub 6 – 50-16-56-57-27-51-45
T1	Sub 6 – 50-15-22-25-32-36-42a-46a-46b
U1	Sub 6 – 50-15-26a-38-39-53-52-45
V	Sub 6 – 50-16-55-57-27-47-53-44
W	Sub 6 – 50-16-56-57-27-47-53-44
X1	Sub 7 – 54-17-28-30-34-41-46a-46b
Y	Sub 7 – 54-20-35-35-34-33-40
Z1	Sub 7 – 54-20-36-42a-46a-46b
AA1	Sub 7 – 54-20-36-42a-46-49a
BB	Sub 7 – 54-21-25-37-38-43
CC	Sub 7 – 54-20-32-37-38-43
DD	Sub 7 – 54-20-36-35-34-41-46a-46b
EE	Sub 7 – 54-20-36-35-34-41-46a-49a
AA2	Sub 7 – 54-20-36-42a-46a-49a

Legend

Project Components
- Study Area Boundary
- Primary Alternative Segment, Node, and Label
- Proposed Substation Site

Land Use Features
- Habitable Structure
- Communication Tower (FCC)
- Cemetery (USGS)
- National Register of Historic Places (THC)

Existing Utility Features
- 138 kV Transmission Line
- 345 kV Transmission Line

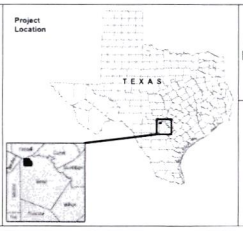
Transportation Features
- Interstate Highway
- State Highway
- Local Road
- Airport Runway

Hydrologic Features
- River / Stream (NHD)
- Floodplain (FEMA)

Administrative Features
- City Limits
- Parcel Boundary
- County Boundary

1 inch = 1,000 feet

Project Location



SCENIC LOOP 138 kV TRANSMISSION LINE AND SUBSTATION PROJECT

EXHIBIT LBM-2R Amended Figure 4-1R Habitable Structures and Other Land Use Features in the Vicinity of the Primary Alternative Routes

0 1,000 2,000 3,000 4,000 Feet

N

cps

POWER ENGINEERS

Date: 4/7/2021

Exhibit LBM-3R - TxDOT Document Regarding Boerne Stage Route

Historic Properties (LINE)

Resource	Boerne Stage Route
Historic Status	NRHP Eligible
NRHP Criteria	A&C
Criteria Description	History; Engineering
Listed Date	
Atlas Number	0
Time Period	
Alternate Name	
Notes	Designated historic by lege in 2011, most wont comport to 106 standard of eligibility but must assess individual projects; Rd doesn't seem historic
Historic District	
Property Number	
Category	Structure
Level	Local
TxDOT District	San Antonio
County	Bexar; Kendall
Address	From IH 10 to SH 16
City	Boerne
State	TX
Zip Code	78,255
Length (Feet)	68,610 66
Latitude (Midpoint)	29.669767
Longitude (Midpoint)	-98.677130
CSJ	
CSJ 2	
Surveyed	

Exhibit LBM-3R - TxDOT Document Regarding Boerne Stage Route

Scenic Loop Field Recon. North Side of Toutant Beauregard Road on Heidemann Ranch.3/2/21

Scenic Loop Field Recon. North Side of Toutant Beauregard Road on Heidemann Ranch.3/2/21

Scenic Loop Field Recon. North Side of Toutant Beauregard Road on Heidemann Ranch.3/2/21

Scenic Loop Field Recon. North Side of Toutant Beauregard Road on Heidemann Ranch.3/2/21

Scenic Loop Field Recon. North Side of Toutant Beauregard Road on Heidemann Ranch.3/2/21

Scenic Loop Field Recon. North Side of Toutant Beauregard Road on Heidemann Ranch.3/2/21