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APPLICATION OF AEP TEXAS INC. TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE ARANSAS PASS-TO-GREGORY 138-KV TRANSMISSION LINE IN SAN PATRICIO COUNTY	§ § § § § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

APPLICATION

JULY 2, 2025

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APPLICATION

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Files Provided Electronically on the PUC Interchange

Attachment 8 - Habitable Structures Cross-Reference Table.xlsx; Attachment 9g Notice - Landowner List.xlsx;

APPLICATION OF AEP TEXAS INC. TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE ARANSAS PASS-TO-GREGORY 138-KV TRANSMISSION LINE IN SAN PATRICIO COUNTY

DOCKET NO. 58264

Applicant AEP Texas Inc. (AEP Texas) requests that all parties serve copies of all pleadings, discovery, correspondence, and other documents on the following representatives:

Service Contacts:

Kerry McGrath
Connor Kilgallen
Duggins, Wren, Mann & Romero, LLP
600 Congress Ave., Suite 2700
Austin, Texas 78701
(512) 744-9300 (Telephone)
(512) 744-9399 (Facsimile)
kmcgrath@dwmrlaw.com

Attorney for AEP Texas Inc.

1. **Applicant (Utility) Name:** AEP Texas Inc.

   Certificate Number: 30028[1]

   Street Address: 539 North Carancahua
   Corpus Christi, Texas 78401

   Mailing Address: 539 North Carancahua
   Corpus Christi, Texas 78401

2. **Please identify all entities that will hold an ownership interest or an investment interest in the proposed project but which are not subject to the Commission's jurisdiction.**

   There are no entities that will hold an ownership interest or an investment interest in the proposed project but which are not subject to the Commission's jurisdiction.

3. **Person to Contact:** Chad Tomanec (representing AEP Texas)

   Title/Position: Regulatory Consultant – AEP Texas Inc.

   Phone Number: (512) 881-5703

   Mailing Address: 539 N Carancahua St.
   Corpus Christi, Texas 78401

   Email Address: cdtomanec@aep.com

   Alternate Contact: Jennifer Frederick (representing AEP Texas)

   Title/Position: Director Regulatory Services – AEP Texas Inc.

   Phone Number: (512) 481-4573

   Mailing Address: 400 W. 15th Street, Suite 1520
   Austin, Texas 78701

   Email Address: jjfrederick@aep.com

   Legal Counsel: Kerry McGrath and Connor Kilgallen (representing AEP Texas)

   Phone Number: (512) 744-9300

   Mailing Address: 600 Congress Ave., Suite 2700
   Austin, Texas 78701

   Email Address: kmcgrath@dwmrlaw.com; ckilgallen@dwmrlaw.com

4. **Project Description:**

   Name or Designation of Project:

   Application of AEP Texas Inc. to Amend its Certificate of Convenience and Necessity for the Aransas Pass-to-Gregory 138-kV Transmission Line in San Patricio County (Project or Application).

   Provide a general description of the project, including the design voltage rating (kV), the operating voltage (kV), the CREZ Zone(s) (if any) where the project is located (all or in part), any substations and/or substation reactive compensation constructed as part of the project, and any series elements such as

[1] Certificate Number 30028 was assigned to AEP Texas Central Company, which was merged into what is now AEP Texas Inc.

sectionalizing switching devices, series line compensation, etc. For HVDC transmission lines, the converter stations should be considered to be project components and should be addressed in the project description.

AEP Texas Inc. (AEP Texas) (Applicant) is proposing to replace the existing Aransas Pass to Gregory 69-kilovolt (kV) transmission line in San Patricio County, Texas (Project), with a double-circuit capable 138-kV concrete and steel structure transmission line to address reliability of transmission service needs in this area due to increasing load growth. The existing 69-kV transmission line has numerous landowner encroachment issues that have occurred since it was originally constructed in 1973. Therefore, the existing line location will need to be modified to replace it with new 138 kV structures and increased capacity conductor. As such, a CCN amendment will be required for the replacement route. The new structures will primarily be made of concrete and all will be taller. The new 138 kV capable transmission line will be between approximately 1.65 and 1.96 miles in length, depending on the Alternative Route approved, and will require a 100-foot-wide right-of-way (ROW).

If the project will be owned by more than one party, briefly explain the ownership arrangements between the parties and provide a description of the portion(s) that will be owned by each party. Provide a description of the responsibilities of each party for implementing the project (design, Right-Of-Way acquisition, material procurement, construction, etc.).

Not applicable.

If applicable, identify and explain any deviation in transmission project components from the original transmission specifications as previously approved by the Commission or recommended by a PURA §39.151 organization.

Not applicable.

5. Conductor and Structures:

Conductor Size and Type

The Project will use three 795 kcmil 26/7 Aluminum Conductor Steel-Supported (ACSS) conductors with one (1) optical ground wire in the overhead ground wire position.

Number of Conductors per Phase

The Project will be constructed with one conductor per phase.

Continuous Summer Static Current Rating (A)

The Continuous Summer Static Current Rating for the Project is 2033 Amps.

Continuous Summer Static Line Capacity at Operating Voltage (MVA)

The Continuous Summer Static Line Capacity at Operating Voltage for the Project is 243-316 MVA.

Continuous Summer Static Line Capacity at Design Voltage (MVA)

The Continuous Summer Static Line Capacity at Design Voltage for the Project is 243 MVA.

Type and Composition of Structures

The Project will be constructed using concrete monopole structures with braced post insulators and galvanized steel monopole structures in select locations only.

Height of Typical Structures

Typical structures will range in height between 60 to 120 feet above grade.

Estimated Maximum Height of Structures

Depending on clearance requirements, the estimated maximum height of structures is 150 feet above ground.

Explain why these structures were selected; include such factors as landowner preference, engineering considerations, and costs comparisons to alternate structures that were considered. Provide dimensional drawings of the typical structures to be used in the project.

The area for the construction for this project is mixed between urban and rural, with nearby access to paved roadways throughout the majority of the line. In addition, due to proximity to the coast as well as nearby industrial facilities, corrosion is a significant issue to consider long-term. Because of these construction parameters for the Project, AEP Texas determined that concrete monopole structures were the most cost competitive solution and easiest to construct for this Project. Galvanized steel may need to be used in certain situations (i.e., dead-end structures), but would be limited to the extent practicable.Dimensional drawings of concrete monopole structures are included as Figures 1-2 through 1-4 of the Aransas Pass-to-Gregory 138-kV Transmission Line Project Environmental Assessment and Alternative Route Analysis. This document, prepared by the Applicant's routing consultant POWER Engineers, Inc. (POWER), is also referred to in this Application as the "EA," and is included as Attachment 1 of this Application.

For joint applications, provide and separately identify the above-required information regarding structures for the portion(s) of the project owned by each applicant.

Not Applicable. AEP Texas is the sole Applicant.

6. Right-of-way:

Miles of Right-of-Way

The miles of right-of-way (ROW) for the Alternative Routes ranges from approximately 1.65 to 1.96 miles.

A table that shows the miles of right-of-way for each route is included as Attachment 2 of the Application.

Miles of Circuit

The Project will be a single-circuit, double-circuit capable, 138-kV transmission line (operating at 69-kV initially) for all links. Therefore, the miles of circuit would range from approximately 1.58 to 1.96 miles.

A table that shows the miles of circuit for each route is included as Attachment 2 of the Application.

Width of Right-of-Way

The typical right-of-way is 100 feet wide (50 feet on either side of the centerline). Temporary easements might be required in some areas for additional working space during construction.

Percent of Right-of-Way Acquired

Because some proposed alternative routes use existing right-of-way, between zero and 29 percent of the right-of-way has previously been acquired for the Project, depending on which Alternative Route is selected.*For joint applications, provide and separately identify the above-required information for each route for the portion(s) of the project owned by each applicant.*

Not Applicable. AEP Texas is the sole Applicant.

Provide a brief description of the area traversed by the transmission line. Include a description of the general land uses in the area and the type of terrain crossed by the line.

The area traversed by the alternative routes (study area) for this Project is predominantly urban and farm land within a landscape characterized by visually flat topography.

The study area is located within the Western Gulf Coastal Plain Level III Ecoregion and Northern Humid Gulf Coastal Prairies Level IV ecoregion (USEPA 2013). Elevations within the study area range between sea level to 300 feet above mean sea level (amsl) with local relief ranging from approximately 5 to 35 feet amsl.7. **Substations or Switching Stations:**

List the name of all existing HVDC converter stations, substations or switching stations that will be associated with the new transmission line. Provide documentation showing that the owner(s) of the existing HVDC converter stations, substations and/or switching stations have agreed to the installation of the required project facilities.

The Project will be constructed between the existing AEP Texas Gregory 69/138-kV Substation and the existing AEP Texas Aransas Pass 138-kV Substation. There are no existing HVDC converter stations associated with the Project. AEP Texas is the owner of both substations.

Substation upgrades/modifications will be required at both the AEP Texas Gregory substation and AEP Texas Aransas Pass substation to replace any terminal equipment such that station ratings do not limit the capacity of the line after associated rebuild. Other modifications involve updating station relaying as necessary to account for line rebuild.

List the name of all new HVDC converter stations, substations or switching stations that will be associated with the new transmission line. Provide documentation showing that the owner(s) of the new HVDC converter stations, substations and/or switching stations have agreed to the installation of the required project facilities.

None.

8. Estimated Schedule:

Estimated Dates of:	**Start**	**Completion**
Right-of-way and Land Acquisition	February 2025	January 2026
Engineering and Design	March 2025	February 2026
Material and Equipment Procurement	June 2025	June 2026
Construction of Facilities	June 2026	December 2026
Energize Facilities	N/A	December 2026

9. Counties:

For each route, list all counties in which the route is to be constructed.

Each of the alternative routes filed in this Application would be constructed in San Patricio County.

10. Municipalities:

For each route, list all municipalities in which the route is to be constructed.

One of the Project endpoints is located within the western edge of the municipal boundary of the City of Gregory in San Patricio County at the existing AEP Texas Gregory Substation. Therefore, portions of all fifteen (15) alternative routes would be constructed within the City of Gregory.

For each applicant, attach a copy of the franchise, permit or other evidence of the city's consent held by the utility, if necessary or applicable. If franchise, permit, or other evidence of the city's consent has been previously filed, provide only the docket number of the Application in which the consent was filed. Each applicant should provide this information only for the portion(s) of the project which will be owned by the applicant.

Not Applicable. The transmission line routing will not utilize municipal public right-of-way.

11. Affected Utilities:

Identify any other electric utility served by or connected to facilities in this application.

None. The transmission line that is the subject of this Application will not be directly connected to any other electric utility.

Describe how any other electric utility will be affected and the extent of the other utilities' involvement in the construction of this project. Include any other utilities whose existing facilities will be utilized for the project (vacant circuit positions, ROW, substation sites and/or equipment, etc.) and provide documentation showing that the owner(s) of the existing facilities have agreed to the installation of the required project facilities.

Not Applicable. No other electric utility is involved in the construction of the Project. The Project does not utilize existing facilities owned by any other electric utility.

12. Financing:

Describe the method of financing this project. For each applicant that is to be reimbursed for all or a portion of this project, identify the source and amount of the reimbursement (actual amount if known, estimated amount otherwise) and the portion(s) of the project for which the reimbursement will be made.

Funds for this Project will come from short-term borrowings and owner equity.

13. Estimated Costs:

Provide cost estimates for each route of the proposed project using the following table. Provide a breakdown of "Other" costs by major cost category and amount. Provide the information for each route in an attachment to this Application.

Tables that show the estimated cost of the transmission facilities and the station facilities for this Project are included as Attachment 3 of this Application.

For joint Applications, provide and separately identify the above-required information for the portion(s) of the project owned by each applicant.

Not Applicable. AEP Texas is the sole Applicant.

14. Need for the Proposed Project:

For a standard application, describe the need for the construction and state how the proposed project will address the need. Describe the existing transmission system and conditions addressed by this application. For projects that are planned to accommodate load growth, provide historical load data and load projections for at least five years. For projects to accommodate load growth or to address reliability issues, provide a description of the steady state load flow analysis that justifies the project. For interconnection projects, provide any documentation from a transmission service customer, generator, transmission service provider, or other entity to establish that the proposed facilities are needed. For projects related to a Competitive Renewable Energy Zone, the foregoing requirements are not necessary; the applicant need only provide a specific reference to the pertinent portion(s) of an appropriate commission order specifying that the facilities are needed. For all projects, provide any documentation of the review and recommendation of a PURA §39.151 organization.

The Project is needed to address reliability criteria violations (thermal overloads). AEP Texas' annual transmission planning assessment carried out in 2021 identified thermal overloads on AEP Texas' Aransas Pass – Gregory 69 kV & Gregory – Rincon 69 kV lines under certain contingency scenarios. N-G-1 and N-1-1 contingency events showed potential for violation of thermal ratings on the line in the 2026 summer peak case build. Recent analysis performed in 2024 utilizing Steady State Working Group (SSWG) power-flow cases released in October 2023 identified a potential overload condition of the Aransas Pass – Gregory 69 kV line still exists for specific N-1-1 (maintenance outage) contingency event.

Analysis carried out indicates that unavailability of Dupont Switch Ingleside to Ingleside City 138 kV transmission circuit followed by loss of Rockport – Rincon 138 kV transmission circuit would overload Aransas Pass – Gregory 69 kV to 115% of its emergency rating. Gregory – Rincon 69 kV line mileage is approximately 7.5 miles. Majority of the Gregory -Rincon line was rebuilt to 138 kV standards previously due to maintenance and rehab needs. Approximately 0.03 miles of this line will need to be rebuilt to achieve ratings increase. The existing line has a 98 MVA emergency rating. Aransas Pass – Gregory 69 kV line mileage is approximately 8.5 miles. Currently the entire Aransas Pass – Gregory 69 kV line contains 336 ACSR conductor and will need to be rebuilt. The existing Aransas Pass – Gregory line has a 63 MVA emergency rating. Following this analysis, American Electric Power Service Corporation (AEPSC) submitted the Aransas Pass to Rincon 69-kV Line Rebuild Project to the Electric Reliability Council of Texas (ERCOT) Regional Planning Group (RPG) in November 2024.

On May 16, 2025, ERCOT endorsed the AEPSC Aransas Pass to Rincon 69-kV Line Rebuild Project as a Tier 2 transmission project in accordance with ERCOT Protocol Section 3.11.4. This endorsement recommended the following work:

- Rebuild the existing Aransas Pass to Gregory 69-kV transmission line,to 138-kV capable, but operational at 69-kV, with normal and emergency ratings of at least 239 MVA, approximately 8.5-miles, and approximately 1-mile of new right of way (ROW). The existing Aransas Pass and Gregory 69-kV substations are currently owned by AEP Texas.
- Rebuild the existing Gregory to Rincon 69-kV transmission line to 138-kV capable, but operational at 69-kV, with normal and emergency ratings of at least 239 MVA, approximately 0.03-mile. The existing Gregory and Rincon 69-kV susbstations are currently owned by AEP Texas.
- Upgrade the existing Gregory 69-kV substation to at least 2,000 A capable station. Replace the bus-tie switch at Gregory with a bus-tie breaker. The existing Gregory 69-kV substation is currently owned by AEP Texas.
- Upgrade the existing Gregory 69-kV transmission line terminal at Aransas Pass to at least 2,000 A capability. The existing Aransas Pass and Gregory 69-kV substations are currently owned by AEP Texas; and
- Upgrade Gregory 69-kV transmission line terminal at Rincon to at least 2,000 A capability. The existing Gregory and Rincon 69-kV substations are currently owned by AEP Texas.

Copies of the ERCOT Independent Review of the Aransas Pass to Rincon 69-kV Line Rebuild Project (published on May 16, 2025) and ERCOT Letter of Endorsement (submitted on May 29, 2025) are included in this application as Attachment 4a and 4b respectively.

15. Alternatives to Project:

For a standard application, describe alternatives to the construction of this project (not routing options). Include an analysis of distribution alternatives, upgrading voltage or bundling of conductors of existing facilities, adding transformers, and for utilities that have not unbundled, distributed generation as alternatives to the project. Explain how the project overcomes the insufficiencies of the other options that were considered.

ERCOT considered two other options.

One option included the building of a new Gregory to Gibbs 138 kV transmission line rated at 239 MVA, approximately 8.5 miles, rebuild Gregory to Rincon 0.03 mile line for 239 MVA operation, upgrade Gregory Substation to 2000 amp operation which would include change out of bus tie switch to a bus tie breaker rated at 2000 amps, upgrade the Rincon termination for the line from Gregory for 200 amps, and upgrade the Aransas Pass termination of the Gregory line for 2000 amps.
The other option considered by ERCOT was the construction of new Ingleside to DuPont Switch double circuit 138 kV transmission line, approximately 3.25 miles, and rebuild of the Ingleside substation for 2000 amp operation. ERCOT considered both of these options considerably more expensive to resolve the overload issue being addressed.

AEP Texas is not a bundled utility and cannot own or control distributed generation.

16. Schematic or Diagram:

For a standard application, provide a schematic or diagram of the applicant's transmission system in the proximate area of the project. Show the location and voltage of existing transmission lines and substations, and the location of the construction. Locate any taps, ties, meter points, or other facilities involving other utilities on the system schematic.

A diagram of the transmission system in the proximate area of the Project is included with this Application as Attachment 5.

17. Routing Study:

Provide a brief summary of the routing study that includes a description of the process of selecting the study area, identifying routing constraints, selecting potential line segments, and the selection of the routes. Provide a copy of the complete routing study conducted by the utility or consultant. State which route the applicant believes best addresses the requirements of PURA and P.U.C. Substantive Rules.

A copy of the complete environmental assessment and routing study that was prepared by POWER is included as Attachment 1 to this Application. This study is titled *Gregory-to-Aransas Pass 138-kV Transmission Line Environmental Assessment and Alternative Route Analysis* (EA). The EA presents the analysis that was conducted by POWER and the land use and environmental data for all of the Alternative Routes that were considered for this Project.

The objective of the EA was to identify and evaluate an adequate number of geographically diverse alternative transmission line routes that comply with the routing criteria in PURA and the PUC's Substantive Rules, and ultimately recommend to AEP Texas the routes that POWER determined best address the requirements of PURA and the PUC's Substantive Rules from a land use and environmental standpoint. AEP Texas and POWER utilized a comprehensive transmission line routing and evaluation methodology to delineate and evaluate alternative transmission line routes.

As discussed below, the study approach utilized by POWER for this EA consisted of Project scoping and study area delineation, data collection, constraint mapping, Preliminary Alternative Link identification, review and adjustment of Alternative Routes following field review, consideration of open house input, Alternative Route analysis and impact assessment, and finally the recommendation by POWER of alternative routing options to the Applicant, including the Primary Alternative Routes determined to best address the requirements of PURA and the PUC's Substantive Rules from a land use and environmental perspective.

The first step in the selection of alternative routing options was to select a study area. This area needed to encompass the Project endpoints and include a sufficiently large area within which feasible and geographically diverse Alternative Routes could be delineated. The study area is shown on Figure 2-1 of the EA.

POWER used data in the evaluation of the Alternative Routes that were drawn from a variety of sources, including published literature (documents, reports, maps, aerial photography, etc.) and information from local, state, and federal agencies. Recent Esri-hosted World Imagery (2015-2022), 2022 United States Department of Agriculture (USDA) National Agriculture Inventory Program (NAIP) color aerial imagery, Bing maps (November 2021 to January 2022), Google Earth (2023), United States Geological Survey (USGS) 7.5-minute quadrangle topographic maps, USGS National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) maps, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, USFWS Information for Planning and Consultation (IPaC), Texas Parks and Wildlife Department (TPWD) Texas Natural Diversity Database (NDD), TPWD Ecological Mapping Systems of Texas, Texas Archaeological Sites Atlas (Atlas) through the Texas Archeological Research Laboratory (TARL) and Texas Historical Commission (THC), Texas Railroad Commission (RRC), and ground reconnaissance surveys were used throughout the evaluation of the Alternative Routes.

Ground reconnaissance of the study area and computer-based evaluation of digital aerial imagery was utilized for the evaluation of Alternative Routes. Though the data collection effort was concentrated in the early stages of the Project, it was ongoing and continued throughout the evaluation process.

A constraint mapping process was used in the selection and refinement of possible Alternative Routes. The geographic locations of environmentally sensitive and other restrictive areas within the study area were located and considered during transmission line route delineation. These constraints were mapped on a topographic representation of the area created on USGS 7.5-minute quadrangle topographic base maps and on aerial photography. The environmental and land-use constraints topographic map is included as Figure C-1 and the aerial map is included as Figure C-2 located in Appendix C of Attachment 1 of this application.

Using the constraint maps, electrical system maps, field inspections, and input from AEP Texas, POWER designated 34 Preliminary Alternative Links that took into consideration environmental and land use constraints. These Preliminary Alternative Links are shown on Figure 2-2 of the EA (see Attachment 1). The principal criteria used to locate these Preliminary Alternative Links were habitable structures within 300 feet of ROW centerlines, overall length of route, and the length of ROW crossing bottomland/riparian woodland.

AEP Texas hosted an in-person open house meeting within the study area to solicit comments, concerns, and input from residents, landowners, and other interested parties. The open house meeting was held at the Gregory Municipal Complex Community Center in Gregory, San Patricio County, on June 27, 2024. To further ensure landowners had access to Project information, AEP Texas developed a Project website.

Following the public meeting, POWER and AEP Texas personnel performed a review and analysis of comments and information received at the public open house and discussions with landowners and interested stakeholders. The purpose of the review and analysis was to evaluate areas of concern and to consider modifications to the Preliminary Alternative Links.

Based on information obtained from the public meeting; meetings and communications with local, state, and federal agencies; further field review; additional communications with property owners, and discussions with the AEP Texas project team, POWER identified a total of 33 Primary Alternative Links. These Primary Alternative Links are shown on Figure 2-3 of the EA.

The Primary Alternative Links were then used by POWER, with input from the Applicant's project team, to finalize 11 Alternative Routes for evaluation. POWER identified potentially affected resources and considered each during this alternative route development process. In evaluating these identified Alternative Routes, POWER considered 41 environmental and land use criteria. These criteria are listed in Table 2-2 of the EA (see Attachment 1).

POWER professionals with expertise in different environmental disciplines (wildlife biology, land use/planning, and archaeology) and the POWER Project Manager evaluated the Alternative Routes. Evaluations were based on environmental and land use conditions present along each Alternative Route.

Each POWER staff person independently analyzed the environmental data for each Alternative Route from the perspective of their own technical discipline. The evaluators then met as a group and discussed their independent results. The group reached a consensus regarding the relationship and relative sensitivity among the major environmental factors and ranked the Alternative Routes based strictly on the environmental and land use data and shared discussion. Based upon this ranking, POWER recommended a route that best addresses the requirements of PURA and PUC Substantive Rules strictly from an environmental and land use perspective. The results are shown in Table 5-1 of the EA (see Attachment 1).

The consensus opinion of the POWER evaluators was to recommend Alternative Route B as the route that best addresses the requirements of PURA and PUC Substantive Rules from an environmental land use perspective, followed by Alternative Routes K, D, C, and A.

AEP Texas considered all of the certification criteria in PURA and the PUC Substantive Rules, input from the public, and the environmental and land use recommendation of its routing consultant, POWER. AEP Texas also evaluated each Alternative Route from an engineering, design, construction, operations, and maintenance perspective, and considered the estimated cost for each of the Alternative Routes.

Based on these considerations and evaluation, AEP Texas believes that Alternative Route A provides the best balance of routing characteristics and best addresses the requirements of PURA and PUC Substantive Rules. Data and a discussion of this determination are included with this Application as Attachment 6. However, all of the Alternative Routes and Alternative Links are viable and constructible, and AEP Texas will construct the Project using whichever route or routing links the Commission selects.

18. Public Meeting or Public Open House:

Provide the date and location for each public meeting or public open house that was held in accordance with P.U.C. Proc. R. 22.52. Provide a summary of each public meeting or public open house including the approximate number of attendants, and a copy of any survey provided to attendants and a summary of the responses received. For each public meeting or public open house provide a description of the method of notice, a copy of any notices, and the number of notices that were mailed and/or published.

AEP Texas hosted a public open house meeting to solicit comments, concerns, and input from residents, landowners, and other interested parties. The meeting was held in Gregory, San Patricio County, on June 27, 2024 at the Gregory Municipal Complex Community Center at 310 Ayers Street in Gregory, Texas.

A summary of the public meeting and additional information concerning the open house meeting are provided in Section 2.7.4 and Appendix B of the EA (see Attachment 1).

19. Routing Maps:

Base maps should be a full scale (one inch = not more than one mile) highway map of the county or counties involved, or other maps of comparable scale denoting sufficient cultural and natural features to permit location of all routes in the field. Provide a map (or maps) showing the study area, routing constraints, and all routes or line segments that were considered prior to the selection of the routes. Identify the routes and any existing facilities to be interconnected or coordinated with the project. Identify any taps, ties, meter points, or other facilities involving other utilities on the routing map. Show all existing transmission facilities located in the study area. Include the locations of radio transmitters and other electronic installations, airstrips, irrigated pasture or cropland, parks and recreational areas, historical and archeological sites (subject to the instructions in Question 27), and any environmentally sensitive areas (subject to the instructions in Question 29).

Routing maps are provided in the EA. Figure C-1 is a topographic-based map (scale of 1 inch = 260 feet) that shows the study area, all Primary Alternative Links, routing constraints and other environmental and land use features, and existing transmission lines and is located in Appendix C of the EA. Figure C-2 is an aerial-based map (scale of 1 inch = 260 feet) that shows the study area, all routing links, routing constraints and other environmental and land use features, and existing transmission lines and is located in Appendix C of the EA. Figure 2-2 of the EA shows the Preliminary Alternative Links and Figure 2-3 shows the Primary Alternative Links evaluated for the Project.

Provide aerial photographs of the study area displaying the date that the photographs were taken or maps that show (1) the location of each route with each route segment identified, (2) the locations of all major public roads including, as a minimum, all federal and state roadways, (3) the locations of all known habitable structures or groups of habitable structures (see Question 19 below) on properties directly affected by any route, and (4) the boundaries (approximate or estimated according to best available information if required) of all properties directly affected by any route.

Figure C-2 in Appendix C of the EA (see Attachment 1) is an aerial photograph-based map (scale of 1 inch = 260 feet) that depicts, as applicable: (1) the location of the Primary Alternative Links; (2) the locations of all major public roads, including all federal and state roadways; (3) the locations of all known habitable structures (within 300 feet of the links) on properties directly affected by the route; and (4) the boundaries (approximate or estimated according to best available information) of all properties directly affected by the route.

Aerial-photograph-based maps (scale of 1 inch = 260 feet) are included in this Application as Attachment 7 and show the approximate boundaries of all properties that are directly affected by all routes according to the best information available from county tax appraisal district records.

For each route, cross-reference each habitable structure (or group of habitable structures) and directly affected property identified on the maps or photographs with a list of corresponding landowner names and addresses and indicate which route segment affects each structure/group or property.

A cross reference table that shows the landowner name, address, property identification number, habitable structure identification number, and the associated Primary Alternative Links, which cross reference to the landownership map (Attachment 7) is located in Attachment 8 of this Application.

20. Permits:

List any and all permits and/or approvals required by other governmental agencies for the construction of the proposed project. Indicate whether each permit has been obtained.

The Applicant will coordinate with all of the appropriate local, state, and federal agencies with jurisdiction regarding the construction of the transmission facilities associated with this Project. AEP Texas and/or POWER have initiated contact with and provided information about the Project to various agencies. Some input from these agencies has been incorporated in this application; however, requests for permits and/or approvals will not be submitted to the appropriate agencies until the final alignment of the approved route is determined. None of the following potential permits, approvals, requirements, easements, or clearances have been obtained.

- Floodplain development permits and road crossing permits might be required by San Patricio County, depending on the location of the transmission line structures.
- Permits for crossing roads, highways, and/or other properties owned or maintained by the Texas Department of Transportation will be obtained as necessary.
- Cultural resource clearance will be obtained from the THC for the approved Project ROW as necessary.
- A Storm Water Pollution Prevention Plan (SWPPP) may be required by the Texas Commission on Environmental Quality (TCEQ). AEP Texas or its contractors will submit a Notice of Intent to the TCEQ at least 48 hours prior to the beginning of construction and will have the SWPPP on site at the initiation of clearing and construction activities.
- A Miscellaneous Easement from the Texas General Land Office will be obtained as necessary for any ROW that crosses a state-owned riverbed or navigable stream.

- Notification to the Federal Aviation Administration (FAA) may be required depending on the alignment of the approved route, structure locations, and structure designs. Requirements to alter the design of the structures or potential requirements to mark and/or illuminate the line will be coordinated with the FAA as needed. The Project is located within the Coastal Management Program boundary. Following PUC approval of a route for this Project, AEP Texas will coordinate with the General Land Office (GLO) as required.
- Permits or other requirements associated with possible impacts to endangered/threatened species will be coordinated with the USFWS as necessary.
- Permits or other requirements associated with possible impacts to waters of the United States under the jurisdiction of the United States Army Corps of Engineers (USACE) will be coordinated with the USACE as necessary. None of the routing links for this Project crosses property that is owned by the USACE, and no easements on USACE property will be necessary. No Section 10 permitting with a Pre-Construction Notification is anticipated.

21. Habitable structures:

For each route list all 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 if the proposed project will be constructed for operation at 230kV or less, or within 500 feet of the centerline if the proposed project will be constructed for operation at greater than 230kV. Provide a general description of each habitable structure and its distance from the centerline of the route. In cities, towns or rural subdivisions, houses can be identified in groups. Provide the number of habitable structures in each group and list the distance from the centerline of the route to the closest and the farthest habitable structure in the group. Locate all listed habitable structures or groups of structures on the routing map.

General descriptions of the habitable structures that are within 300 feet of the centerline of each Alternative Route and the distances from the centerlines are provided in Tables 5-2 through 5-12 of the EA. The habitable structures that are located within 300 feet of the Alternative Routes are shown on Figure C-2 located in Appendix C of the EA (see Attachment 1) and on Attachment 7. Details regarding the number of habitable structures that are within 300 feet of the centerline of the Alternative Routes are included in Table 4-1 and in Section 4.3.1.1 of the EA (see Attachment 1).

The number of habitable structures located within 300 feet of the Alternative Routes ranges from one each for Alternative Routes A, B, and C, to 83 for Alternative Routes F and G.

22. Electronic Installations:

For each route, list all commercial AM radio transmitters located within 10,000 feet of the center line of the route, and all FM radio transmitters, microwave relay stations, or other similar electronic installations located within 2,000 feet of the center line of the route. Provide a general description of each installation and its distance from the center line of the route. Locate all listed installations on a routing map.

One commercial AM radio tower is located within 10,000 feet of the centerlines of each of the Alternative Routes. The number of FM radio transmitter or other electronic communication facilities identified within 2,000 feet of the route centerlines ranges from one each for Alternative Routes A, B, C, D, J, and K to three each for the other five Alternative Routes (see Table 4-1 and Section 4.3.6 of the EA in Attachment 1).

Tables 5-2 through 5-12 of the EA provide the distance of the commercial AM radio tower and the FM radio transmitters or other electronic communication facilities from the centerline of the Alternative Routes. Figure C-2 shows the location of the commercial AM radio tower and the FM radio transmitters or other electronic communication facilities in relation to the Alternative Routes (see Appendix C of the EA in Attachment 1 of the Application).

23. Airstrips:

For each route, list all known private airstrips within 10,000 feet of the center line of the project. List all airports registered with the Federal Aviation Administration (FAA) with at least one runway more than 3,200 feet in length that are located within 20,000 feet of the center line of any route. For each such airport, indicate whether any transmission structures will exceed a 100:1 horizontal slope (one foot in height for each 100 feet in distance) from the closest point of the closest runway. List all listed airports registered with the FAA having no runway more than 3,200 feet in length that are located within 10,000 feet of the center line of any route. For each such airport, indicate whether any transmission structures will exceed a 50:1 horizontal slope from the closest point of the closest runway. List all heliports located within 5,000 feet of the center line of any route. For each such heliport, indicate whether any transmission structures will exceed a 25:1 horizontal slope from the closest point of the closest landing and takeoff area of the heliport. Provide a general description of each listed private airstrip, registered airport, and heliport; and state the distance of each from the center line of each route. Locate and identify all listed airstrips, airports, and heliports on a routing map.

According to FAA Regulations, Title 14 Code of Federal Regulations, Part 77, notification of the construction of the proposed transmission line will be required if structure heights exceed the height of an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of a public or military airport having at least one runway longer than 3,200 feet.

If a runway is less than 3,200 feet, notification would be required if structure heights exceed the height of an imaginary surface extending at a slope of 50 to 1 for a distance of 10,000 feet. Notification is also required for structure heights exceeding the height of an imaginary surface extending outward and upward at a slope of 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area for heliports.

Typical structure heights for this Project will be approximately 60 to 120 feet, depending on location and design.

There are no FAA-registered public airports where the runway is longer than 3,200 feet located within 20,000 feet of the centerline of the Alternative Routes. There are no FAA-registered public airports where the runway is no longer than 3,200 feet located within 10,000 feet of the Alternative Routes or heliports located within 5,000 feet of the Alternative Routes.

There is one FAA-registered private airstrip, Magee Airstrip, where the runway is no longer than 3,200 feet located within 10,000 feet of all of the Alternative Routes.

General descriptions of any airports, airstrips, and heliports are provided in Section 4.3.5.2 of the EA. Table 4-1 of the EA identifies the number of airports, airstrips, and heliports for each of the alternative routes.

Tables 5-2 through 5-12 of the EA provide the distance of Magee Airstrip from the centerline of the Alternative Routes. Figure C-2 shows the location of Magee Airstrip in relation to the Alternative Routes (see Appendix C of the EA in Attachment 1 of the Application).

24. Irrigation Systems:

For each route identify any pasture or cropland irrigated by traveling irrigation systems (rolling or pivot type) that will be traversed by the route. Provide a description of the irrigated land and state how it will be affected by each route (number and type of structures etc.). Locate any such irrigated pasture or cropland on a routing map.

None of the alternative routes cross any land irrigated by known mobile irrigation systems (rolling or pivot type).

25. Notice:

Notice is to be provided in accordance with P.U.C. Proc. R. 22.52.

A. Provide a copy of the written direct notice to owners of directly affected land. Attach a list of the names and addresses of the owners of directly affected land receiving notice.

A sample copy of the written direct notice and enclosures that were mailed to owners of directly affected land is provided in Attachments 9a through 9f. A list of the names and addresses of these landowners is provided in Attachment 9g.

B. Provide a copy of the written notice to utilities that are located within five miles of the routes.

A sample copy of the written notice to utilities that are located within five miles of the proposed Project is provided in Attachment 10a. The list of the names and addresses of these utilities is provided in Attachment 10b.

C. Provide a copy of the written notice to county and municipal authorities, and the Department of Defense Siting Clearinghouse. Notice to the DoD Siting Clearinghouse should be provided at the email address found at http://www.acq.osd.mil/dodsc/.

Sample copies of the written notice to county and municipal authorities are provided as Attachment 11a. The list of the names and addresses of these authorities is provided in Attachment 11b. Verification of notice to the DoD Military Aviation and Installation Assurance Siting Clearinghouse of the open house and intent to file the CCN Application is provided as Attachment 11c. Verification of notice to the DoD Military Aviation and Installation Assurance Siting Clearinghouse of the CCN Application filing is provided in Attachment 11d.

D. Provide a copy of the notice that is to be published in newspapers of general circulation in the counties in which the facilities are to be constructed. Attach a list of the newspapers that will publish the notice for this application. After the notice is published, provide the publisher's affidavits and tear sheets.

The text of the notice to be published in newspapers of general circulation in the counties in which the proposed facilities are to be constructed is provided in Attachment 12a. A list of the newspaper that will publish the notice for this Application is provided as Attachment 12b.

In addition to the notices described above, 16 TAC § 22.52 requires AEP Texas to provide notice of this Application to the Office of Public Utility Counsel. A copy of that notice is included in this Application as Attachment 13.

For a CREZ application, in addition to the requirements of P.U.C. Proc. R. 22.52 the applicant shall, not less than twenty-one (21) days before the filing of the application, submit to the Commission staff a "generic" copy of each type of alternative published and written notice for review. Staff's comments, if any, regarding the alternative notices will be provided to the applicant not later than seven days after receipt by Staff of the alternative notices. Applicant may take into consideration any comments made by Commission staff before the notices are published or sent by mail.

Not Applicable. This is not a CREZ application.

26. Parks and Recreation Areas:

For each route, list all parks and recreational areas owned by a governmental body or an organized group, club, or church and located within 1,000 feet of the center line of the route. Provide a general description of each area and its distance from the center line. Identify the owner of the park or recreational area (public agency, church, club, etc.). List the sources used to identify the parks and recreational areas. Locate the listed sites on a routing map.

POWER performed a review of federal and state databases and county and local maps to identify parks and/or recreational areas within the study area. Reconnaissance surveys were also conducted to identify any additional park or recreational areas that are located within the study area.

None of the Alternative Routes cross any known parks and recreation areas and none of the Alternative Routes are located within 1,000 feet of a known park or recreation facility.

27. Historical and Archeological Sites:

For each route, list all historical and archeological sites known to be within 1,000 feet of the center line of the route. Include a description of each site and its distance from the center line. List the sources (national, state or local commission or societies) used to identify the sites. Locate all historical sites on a routing map. For the protection of the sites, archeological sites need not be shown on maps.

To identify the historical and archeological sites in the study area, POWER researched the available records and literature at the TARL. In addition, the THC's Historic Sites Atlas files and the Texas Department of Transportation's Historic Resources Aggregator files were used to identify listed and eligible National Register of Historical Places (NRHP) properties and sites, NRHP districts, cemeteries, Official Texas Historical Markers, State Archeological Landmarks, and any other potential cultural resources to ensure the completeness of the study. To identify areas with a high probability for the occurrence of cultural resources, POWER used 7.5-minute topographic maps and aerial photography.

One previously recorded archeological site was identified within 1,000 feet of the Alternative Routes. The site is approximately 135 feet from Alternative Routes B, D, K, and J, and approximately 489 feet from Alternative Routes A and C. A general description of the archeological site is provided in Section 4.4 of the EA. The distances from the centerline of the Alternative Routes are shown in Tables 5-2 through 5-12 of the EA. For the protection of the site, archeological sites are not shown on the maps.

No recorded cultural resource sites are crossed by the Alternative Routes. None of the Alternative Routes cross or are located within 1,000 feet of any NRHP-listed or determined-eligible property. No cemeteries are located within 1,000 feet of the Alternative Routes.

Because a cultural resources survey has not been conducted for the alternative routes, additional cultural resource sites that have not yet been recorded or evaluated might also exist within the corridor. Consequently, the potential of impacting undiscovered cultural resources exists along the alternative routes. To assess this potential, high probability areas (HPA) for additional, unrecorded prehistoric resources were identified by a professional archeologist by reviewing aerial, soil, and topographic maps. HPAs for pre-contact archeological sites are typically identified adjacent to streams or near sources of fresh water along the alternative routes and near previously recorded sites. Post-contact resources are likely to be found near water sources; however, they will also be near primary and secondary roads that provided access to the sites. Buildings and cemeteries are more likely to be located within or near communities. To facilitate the data evaluation and alternative route comparison, each HPA was mapped using Geographic Information Systems and the length of each alternative route crossing these areas was tabulated.

All of the 11 Alternative Routes cross HPAs for potential archeological sites or other prehistoric cultural resources. The length of ROW across HPAs ranges from 0.16 mile to 1.15 miles Table 4-1 of the EA identifies the length in miles of HPAs for each of the alternative routes.

28. Coastal Management Program:

For each route, indicate whether the route is located, either in whole or in part, within the coastal management program boundary as defined in 31 T.A.C. §503.1. If any route is, either in whole or in part, within the coastal management program boundary, indicate whether any part of the route is seaward of the Coastal Facilities Designation Line as defined in 31 T.A.C. §19.2(a)(21). Using the designations in 31 T.A.C. §501.3(b), identify the type(s) of Coastal Natural Resource Area(s) impacted by any part of the route and/or facilities.

The study area is located within the Coastal Management Program (CMP) boundary as defined in 31 Tex. Admin. Code §503. Coastal Natural Resource Areas (CNRAs) are identified for the Study Area that include special hazard areas (FEMA floodplains). The proposed Project will be constructed consistent with the applicable goals and policies of the CMP. None of the alternative routes will have any direct and significant impact on any of the applicable CNRAs.

Alternative Routes E through I each have some length of ROW across 100-year floodplains ranging from 0.55 mile to 0.80 mile. Construction activities would not significantly impede the flow of water within the watershed, significantly impact the overall function of the floodplain, nor adversely affect downstream properties. Prior to construction, if required, the Applicant will coordinate with the appropriate floodplain administrator to acquire any necessary floodplain construction permits.

29. Environmental Impact:

Provide copies of any and all environmental impact studies and/or assessments of the project. If no formal study was conducted for this project, explain how the routing and construction of this project will impact the environment. List the sources used to identify the existence or absence of sensitive environmental areas. Locate any environmentally sensitive areas on a routing map. In some instances, the location of the environmentally sensitive areas or the location of protected or endangered species should not be included on maps to ensure preservation of the areas or species. Within seven days after filing the application for the project, provide a copy of each environmental impact study and/or assessment to the Texas Parks and Wildlife Department (TPWD) for its review at the address below. Include with this application a copy of the letter of transmittal with which the studies/assessments were or will be sent to the TPWD.

Wildlife Habitat Assessment Program
Wildlife Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

The EA that was conducted by POWER is included with this Application as Attachment 1. Data used by POWER in the delineation and evaluation of Alternative Routes were drawn from a variety of sources, including published literature (documents, reports, maps, aerial photography, etc.) and information from local, state, and federal agencies. Esri-hosted World Imagery (2015-2022), 2022 USDA NAIP color aerial imagery, Bing maps (November 2021 to January 2022), Google Earth (2023), USGS 7.5-minute quadrangle topographic maps, USGS NHD, FEMA maps, USFWS NWI maps, USFWS IPaC, TPWD NDD, TPWD Ecological Mapping Systems of Texas, the Atlas through the TARL and THC, and RRC were used throughout the evaluation of the Alternative Routes. Ground reconnaissance of the study area and computer-based evaluation of digital aerial imagery were utilized for both refinement and evaluation of Alternative Routes. The data collection effort, although concentrated in the early stages of the Project, was an ongoing process and continued up to the point of final Alternative Route option selections.

A copy of the letter of transmittal of the application, including the EA for this Project, to the TPWD is included in this application as Attachment 14a. An affidavit verifying that the Application and EA were sent to TPWD is included in this application as Attachment 14b.

30. Affidavit:

Attach a sworn affidavit from a qualified individual authorized by the applicant to verify and affirm that, to the best of their knowledge, all information provided, statements made, and matters set forth in this Application and attachments are true and correct.

The sworn affidavit of the AEP Texas Regulatory Consultant for this Project is included with this Application as Attachment 15.

CCN Application - List of Attachments

1	Environmental Assessment and Alternative Route Analysis
2	Estimated Lengths of Alternative Routes
3	Estimated Costs of Alternative Routes
4a	ERCOT Independent Review of the AEPSC Aransas Pass to Rincon 69-kV Rebuild Project
4b	ERCOT Endorsement Letter
5	Diagram of Transmission System in Project Area
6	PURA and PUC Best Meets Route Discussion
7	Directly Affected Landowners Map
8	Habitable Structure Cross-Reference Table
9a	Notice – Landowner Letter
9b	Notice – Map of Multiple Routing Options
9c	Notice – Alternative Route Link Descriptions
9d	Notice – PUC Landowner Brochure
9e	Notice – Comment Form
9f	Notice – Intervenor Form
9g	Notice – Landowner List
10a	Notice – Utilities Letter *
10b	Notice – Utilities List
11a	Notice – County Officials Letter *
11b	Notice – County Officials List
11c	Notice – Department of Defense Siting Clearinghouse Open House and Intent to File Letter
11d	Notice – Department of Defense Siting Clearinghouse *
12a	Notice – Newspaper Publication
12b	Notice – Newspaper Publication List
13	Notice – Office of Public Utility Counsel *
14a	Letter of Transmittal of Application to the Texas Parks and Wildlife Department
14b	Affidavit Transmittal of Application to the Texas Parks and Wildlife Department
15	Application Affidavit of Regulatory Consultant

** Excluding Maps and Route Descriptions provided in Attachment 9 set of documents*

June 2025

AEP TEXAS INC.

Aransas Pass-to-Gregory 138-kV Transmission Line

Environmental Assessment and Alternative Route Analysis

San Patricio County, Texas

Docket No. 58264

PROJECT NUMBER:
0249460

PROJECT CONTACT:
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POWER ENGINEERS

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APPENDICES

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Appendix C Project Maps

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LIST OF ACRONYMS AND ABBREVIATIONS

Abbreviation	Term/Phrase/Name
AEP Texas	AEP Texas Inc.
amsl	above mean sea level
ANSI	American National Standards Institute
APLIC	Avian Power Line Interaction Committee
Atlas	Texas Archeological Sites Atlas
BEG	Bureau of Economic Geology
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
BP	before present
CCN	Certificate of Convenience and Necessity
CFR	Code of Federal Regulations
CLF	civilian labor force
CMP	Coastal Management Program
CNRA	coastal natural resource area
Company	AEP Texas Inc.
Consultant	POWER Engineers, Inc.
CWA	Clean Water Act
DoD	Department of Defense
EA	Environmental Assessment and Alternative Route Analysis
EDC	San Patricio County Economic Development Corporation
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
ESSS	Ecologically Significant Stream Segments
FAA	Federal Aviation Administration
FAQ	Frequently Asked Questions
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency

Abbreviation	Term/Phrase/Name
FM	Farm-to-Market Road
FVZ	foreground visual zone
GIS	geographic information system
GLO	Texas General Land Office
HPA	high probability area
IPaC	Information for Planning and Consultation
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MVA	megavolt ampere
NCED	National Conservation Easement Database
NDD	TPWD's Natural Diversity Database
NERC	North American Electric Reliability Corporations
NESC	National Electrical Safety Code
NHD	National Hydrography Dataset
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OTHM	Official Texas Historical Marker
POWER	POWER Engineers, Inc.
Project	Aransas Pass-to-Gregory 138-kV Transmission Line Project
PUC	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
RM	Ranch-to-Market

Abbreviation	Term/Phrase/Name
ROW	right-of-way
RRC	Railroad Commission of Texas
RTEST	Rare, Threatened, and Endangered Species of Texas
RTHL	Recorded Texas Historic Landmark
SAL	State Antiquities Landmark
SH	State Highway
SPCDD	San Patricio County Drainage District
SWPPP	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
TARL	Texas Archeological Research Laboratory
TCEQ	Texas Commission on Environmental Quality
TDC	Texas Demographic Center
THC	Texas Historical Commission
TLC	Texas Land Conservancy
TNC	The Nature Conservancy
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
US Hwy	United States Highway
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	waters of the United States

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1.0 DESCRIPTION OF THE PROPOSED PROJECT

1.1 Scope of Project

AEP Texas Inc. (AEP Texas or the Company) is proposing to rebuild the existing Aransas Pass-to-Gregory Pass 69-kilovolt (kV) transmission line in San Patricio County, Texas. The overall project involves rebuilding the existing AEP Texas Aransas Pass-to-Gregory 69-kV transmission line with a steel monopole, 138-kV design to be operated at 69 kV. The focus of this study is the rebuild and relocation of an approximate 2-mile portion of the transmission line within and adjacent to City of Gregory (the Project). The Project will begin at a tap point along the existing transmission line located on the northwest side of Avenue C/Farm-to-Market (FM) 3284 approximately 0.06 mile north-northeast of the intersection of Avenue C/FM 3284 and 9th Street in the City of Gregory. The Project will terminate at the existing AEP Texas Gregory 69-kV Substation located on the northwest side of FM 2986 approximately 0.61 mile south-southwest of the intersection of United States Highway (US Hwy) 181 and FM 2986. The new transmission line will require a 100-foot-wide right-of-way (ROW). The Project area is characterized by development, infrastructure, and some agriculture (**Figure 1-1**).

The Company contracted with POWER Engineers, Inc. (POWER or the "Consultant") to prepare the Environmental Assessment and Alternative Route Analysis (EA). This EA supports the Company's application to amend its Certificate of Convenience and Necessity (CCN) to be submitted to the Public Utility Commission of Texas (PUC). This EA may also be used to support any additional local, state, or federal permitting activities that may be required prior to construction of the proposed Project.

The Project EA discusses the environmental and land use constraints identified within the study area as defined in Section 2.7.1, documents routing methodologies, documents public involvement, and provides an evaluation of Alternative Routes from an environmental and land use perspective. The EA provides the basis for the Company to identify an Alternative Route that best addresses the requirements under the Public Utility Regulatory Act (PURA) and 16 Texas Administrative Code (TAC) § 25.101. The EA also provides information and addresses the requirements of Section 37.056(c)(4)(A-D) of the Texas Utilities Code, the PUC's CCN application form, and the PUC's policy of prudent avoidance.

To assist the Consultant in its evaluation of the proposed Project, the Company provided the Consultant with the Project endpoints and information regarding the need for the Project, future construction practices, transmission line design, clearing methods, ROW requirements, and maintenance procedures for the Project.

Figure 1-1: Project Location

1.2 Purpose and Need

AEP Texas' annual transmission planning assessment carried out in 2021 identified thermal overloads on the Aransas Pass-to-Gregory 69-kV transmission line and Gregory to Rincon 69-kV transmission line under certain contingency scenarios. N-G-1 and N-1-1 contingency events showed potential for violation of thermal ratings on the line in the 2026 summer peak case build. Recent analysis performed in 2024 utilizing Steady State Working Group power-flow cases released in October 2023 identified potential overload condition of the Aransas Pass-to-Gregory 69-kV line still exists for specific N-1-1 (maintenance outage) contingency event. Per Electric Reliability Council of Texas (ERCOT) planning guide section 4, Transmission Service Providers must consider maintenance outage criteria in consideration of potential transmission system upgrades. Analyses indicate that unavailability of the Dupont Switch Ingleside to Ingleside City 138-kV transmission circuit followed by loss of the Rockport to Rincon 138-kV transmission circuit would overload the Aransas Pass-to-Gregory 69-kV line to 115 percent of its emergency rating. The Gregory to Rincon 69-kV line is approximately 7.50 miles long. The majority of the line was previously rebuilt to 138-kV standards due to rehabilitation needs. Approximately 0.03 mile of line will need to be rebuilt to achieve ratings increase. The existing line has a 98-megavolt ampere (MVA) emergency rating. The Aransas Pass-to-Gregory 69-kV line is approximately 8.5 miles long. Currently, the entire line contains 336 ACSR conductor and will need to be rebuilt. The existing line has a 63-MVA emergency rating. To address thermal loading issues, the American Electric Power Service Corporation recommends rebuilding the Aransas Pass-to-Gregory and Gregory to Rincon 69-kV circuits to 2,000 ampere capability, including necessary station terminal upgrades. The Aransas Pass-to-Gregory line will be built to 138-kV design standards and operated at 69 kV.

1.3 Description of Proposed Design and Construction

1.3.1 Loading, Weather Data, and Design Criteria

The Company's proposed 138-kV transmission line is in the American National Standards Institute (ANSI) National Electrical Safety Code (NESC) Light Loading District and will be designed to meet or exceed NESC 2023 loading criteria (ANSI C2-2023). Depending on the type of structure used, various combinations of unbalanced vertical, transverse (wind), and longitudinal loadings (with and without ice) were analyzed for their effects on the structures. The Project will be constructed using the Company's concrete tangent and galvanized steel running corner and dead-end poles with a typical height ranging from 75 to 100 feet and a maximum height of 175 feet, depending on clearance requirements. The new 138-kV transmission line will use 795 KCM 26/7 Drake ACSS conductors with one optical ground wire.

1.3.2 Structural and Geotechnical Design Criteria

All structure components, conductors, and overhead ground wires will be designed using the appropriate overload capacity factors, strength reduction factors, and tension limits as given in NESC 2023 and the manufacturer's recommended strength ratings for hardware. In conjunction with NESC 2023, the Company's transmission line engineering standards will be used. The NESC Medium Loading District design criteria, extreme wind and ice loading conditions, will be used to determine tension limits for all wires.

All structures will be designed to support conductors and shield wires as specified above. The configuration of the conductor and shield wires will provide lightning protection and the appropriate clearances for operation of a 138-kV transmission line. The geometry of a typical tangent structure, running corner structure, and dead-end structure are shown respectively on **Figures 1-2**, **1-3**, and **1-4**. Geotechnical considerations will include soil borings and in-situ soils testing to provide the parameters for foundation design for the structures.

1.4 Construction Considerations

Projects of this type require surveying, ROW clearing, foundation installation, structure assembly and erection, conductor and shield wire installation, and cleanup when the Project is completed. The following information regarding these activities was provided to the Consultant by the Company.

1.4.1 Clearing

Any required clearing of the ROW will be performed by the contractor under the direction of the Company. Available methods of disposal are mulching, brush piling, and salvaging. Woody vegetation within the ROW will be cleared to allow safe construction, operation, and maintenance of the line. Tree stumps will be cut to ground level and left in place. The cleared ROW will be utilized for access during construction and additional ingress and egress may be required across private property to access the ROW. In these circumstances, existing private roads will be used where possible, taking into consideration the preference of affected property owners. Temporary culverts might be installed to cross small streams and creeks, where necessary. Larger creeks are typically not crossed with equipment; rather, they are spanned by the transmission line with structures located on both sides of the creek crossing. Clearing will be accomplished to comply with the North American Electric Reliability Corporation's (NERC's) reliability standards.

Figure 1-2: Typical Tangent Structure

Figure 1-3: Typical Running Angle Structure

Figure 1-4: Typical Dead-End Structure

Clearing plans, methods, and practices are extremely important for success in any program designed to minimize the adverse effects of electric transmission lines on the natural environment. The following measures, thoughtfully implemented and applied to this Project, will help meet this goal:

1. Clearing will be performed in a manner that will maximize the preservation and conservation of natural resources and minimize impacts to waters in the activity area.
2. The timing and method of clearing ROW will consider soil stability, the protection of natural vegetation and sensitive habitats, the protection of adjacent resources such as natural habitat for plants and wildlife, and the prevention of silt deposition in watercourses.
3. The Company will use the most efficient and effective method to remove undesirable vegetation species. Hydro-axes and flail mowers might be used in clearing operations where such use will preserve the cover crop of grass and similar vegetation. If deemed appropriate, United States Environmental Protection Agency (USEPA)-approved herbicides will be applied and handled in accordance with the product manufactures' published recommendations and specifications, and as directed by appropriate, qualified staff.

1.4.2 Construction

After regulatory approval, ROW is obtained, surveyed, and then cleared of woody vegetation according to Company ROW-clearing specifications. Structure locations are surveyed and marked for construction. Structure components and associated line construction hardware are transported to each structure location. Structures will be installed on concrete foundations or direct embedded. Once the structures have been erected, the conductor is pulled through stringing blocks or pulleys, which are attached to the insulators on the structures. This process is repeated for all three conductor assemblies and static wire assembly. Once all the conductors have been pulled through, the wire is then tensioned based on wire sag data. The wire is then permanently "clipped" into conductor clamps located at the attachment end of the insulator.

Construction operations will be conducted with attention to the preservation and the conservation of natural resources. The following criteria will be used to attain this goal. These criteria are subject to adjustment according to the rules and judgments of any public agencies whose lands might be crossed by the proposed line or that may have regulatory authority over the construction activities.

1. Clearing and grading of construction areas such as storage areas, setup sites, etc., will be minimal. These areas will be graded in a manner that will minimize erosion and conform to the natural topography.
2. Soil that has been excavated during construction and not used will be spread evenly onto a cleared area or removed from the site. The soil will be sloped gradually to conform to the terrain and the adjacent land. If natural seeding will not provide ground cover in a reasonable length of time, appropriate reseeding will be performed.
3. Erosion control devices will be constructed where necessary to reduce soil erosion in the ROW.
4. Construction crews will take care to minimize damage to the ROW by minimizing the number of pathways traveled.
5. Roads will not be constructed on unstable slopes.
6. Clearing and construction activities near streambeds will be performed in a manner to minimize damage to the natural condition of the area. Stream banks will be restored as necessary to minimize erosion.
7. Efforts will be made to prevent and remediate accidental oil spills and other types of pollution, particularly while performing work near streams, lakes, and reservoirs.
8. Precautions will be taken to prevent the possibility of accidentally starting forest/range fires.
9. Precautions will be taken to protect natural features and cultural resources identified along the ROW.
10. If federally protected species habitat is present, guidance from the United States Fish and Wildlife Service (USFWS) will be obtained prior to all clearing and construction activities.
11. Soil disturbance during construction will be kept to a minimum and restorative measures will be taken in a reasonable length of time.
12. Construction operations will comply with any applicable permitting and required regulatory approval.

1.4.3 Cleanup

The cleanup operation involves the leveling of all disturbed areas to existing contours, the removal of all construction debris, and ROW restoration. The following criteria provide for the cleanup of construction debris and ROW restoration. Restoration activities will be coordinated with property owners when possible.

1. If site factors make it unusually difficult to establish a protective vegetative cover, other restoration procedures will be used such as the use of gravel, rocks, concrete, etc.
2. Sears, cuts, fill, or other aesthetically degraded areas will be allowed to seed naturally or might be reseeded with native species to reduce erosion, restore a natural appearance, and to provide food and cover for wildlife.
3. If temporary roads are removed, the original contours will be restored to the extent practicable.
4. Construction equipment and supplies will be dismantled and removed from the ROW when construction is complete.
5. Clearing down to the mineral soil might be required for road access. In this case, water diversion berms, velocity dissipaters, or other erosion-control devices will be used to reduce erosion potential.
6. Construction debris will be removed prior to completion of the Project.
7. Replacement of soil adjacent to water crossing locations for access roads will be at slopes less than the normal angle of repose for the soil type involved and will be stabilized/revegetated to avoid erosion.
8. Cleanup operations will comply with any applicable permitting and required regulatory approval.

1.5 Maintenance Considerations

The following information regarding maintenance of the facilities was provided to the Consultant by the Company. Maintenance of the facilities will include periodic inspection of the line and repair of damaged structures due to structural component failures, accidents, or natural phenomena such as wind or lightning. In areas where treatment of vegetation within the ROW is required, mowing, pruning, and/or application of USEPA-approved herbicides will be conducted as necessary. While maintenance patrols will vary, aerial, vehicle, and foot patrols will be performed periodically. In cropland areas and properly managed grazing lands, little or no vegetation control will be required due to existing land-use practices. The major maintenance item will be the trimming of trees that pose a potential danger to the conductors or structures. Trimming will provide a safe and reliable power line.

The maintenance of the Company's transmission ROW occurs through the implementation of a comprehensive, systematic, integrated vegetation management program designed to ensure that the vegetation along each transmission line is managed at the proper time and in the most cost-effective and environmentally sound manner. Vegetation is managed on a prescriptive basis. Ongoing evaluation of the system through ground and aerial inspections provides the basic information used by the Company to develop an annual plan. Circuit criticality, historical data, line voltage, location, vegetative inventory information, and land use are among the factors considered in developing the annual vegetation management plan. The plans are modified as required by vegetation patrols and changed conditions.

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2.0 DEVELOPMENT AND EVALUATION OF ALTERNATIVE ROUTES

2.1 Routing Study Methodology

The objective of this study was to develop and evaluate an adequate number of Alternative Routes that are feasible from economic, engineering, and environmental standpoints and ultimately identify the route that best addresses the requirements of PURA § 37.056(c)(4)(A)-(D), 16 TAC § 22.52(a)(4), and 16 TAC § 25.101(b)(3)(B), including the PUC's policy of prudent avoidance. The study methodology used by the Consultant for this EA included study area delineation based on the Project endpoints, identification and characterization of existing land use and environmental constraints, and identification of areas of potential routing opportunity located within the Project study area. The Consultant developed Preliminary Alternative Links taking into consideration potentially affected resources and input from regulatory agencies, local officials, and the public. Modifications to the Preliminary Alternative Links were completed, resulting in a set of Primary Alternative Links.

Alternative Routes were developed from the Primary Alternative Links that were feasible, geographically diverse, and forward progressing. The Alternative Routes were comparatively analyzed using evaluation criteria to determine potential impacts to existing land use and environmental resources. The route selection process culminated with the ranking of the Alternative Routes by the Consultant's routing team from an environmental and land use perspective. The Company considered the Consultant's Alternative Route ranking, in addition to engineering and construction constraints, grid reliability and security issues, and estimated construction costs, to identify one Alternative Route that they believe best addresses the requirements of PURA and the PUC Substantive Rules and will describe their selection in the CCN application.

2.1.1 General Routing Guidelines

At the onset of the Project, a team of Company staff and external consultants with diverse expertise, including transmission line and substation siting, distribution planning, impact assessment for natural and human environments, impact mitigation, engineering, construction management, regulatory, project management, ROW, and public relations, was assembled ("the Siting Team"). To the extent reasonable and practical, the Siting Team used the following general siting guidelines to help develop the Preliminary Alternative Links:

- Avoid crossing or minimize conflict with designated public conservation and protected lands such as national and state forests and parks and local conservation easements.
- Avoid or minimize new crossings of large lakes, rivers and large wetland complexes, critical and protected habitats, and other unique or distinct natural resources.
- Avoid or minimize habitat fragmentation in unfragmented areas and impacts on designated areas of biodiversity concern.
- Maximize the separation distance from and/or minimize impact on dwellings and community facilities, cemeteries, schools, daycare facilities, hospitals, historic resources, and designated landmarks.
- Avoid or minimize visibility from designated scenic resources.
- Avoid or minimize conflict with existing land uses and future development with a proposed plan, schedule, and permitting process underway.
- Minimize interference with existing and future economic activities, natural gas activities, mining operations, and industrial facilities.
- Consider using or paralleling existing ROWs or other linear features and infrastructure when feasible. When paralleling existing facilities, however, reliability issues and mitigation requirements must be evaluated.
- Consider paralleling property lines or other natural or cultural features.
- Consider stakeholder input.
- Avoid conflicts with designated public and military aviation facilities.
- Minimize environmental impact and construction/maintenance costs by selecting shorter, direct routes.
- Consider safety with respect to construction, maintenance, and operation of the facilities.
- Consider construction concerns such as access, road traffic control, outages, pipeline mitigations, railroad interactions, existing telecommunication line and distribution line conflicts, etc.
- Consider routes through terrain and land use where economical construction and environmental best management practices (BMPs) can be employed.
- Minimize environmental impact by considering routes that minimize the overall length of access roads, length on steep slopes, and waterbody crossings.
- Consider state-specific regulatory siting guidelines if available.
- The routes will fairly consider the environmental impacts on the surrounding community and area.

2.1.2 Technical Guidelines

Technical guidelines are driven by the physical characteristics and engineering limitations of the structures and lines themselves, design criteria necessary to meet Company design standards, NERC reliability standards, NESC standards, and industry best practices for construction. The technical guidelines were informed by (1) the technical expertise of engineers and other industry professionals responsible for the reliable, safe, and economical construction, operation, and maintenance of electric system facilities; (2) NERC reliability standards as implemented by ERCOT; and (3) industry best practices.

The Siting Team considered the following technical guidelines during study segment and route development to extent practical:

- Maintain a minimum of 100 feet of centerline-to-centerline separation when paralleling 138-kV or lower voltage transmission lines.
- When crossing a transmission pipeline, cross at a 60- to 90-degree angle.
- Maintain 520 feet separation from wind turbines or other meteorological towers.
- Minimize structure angles greater than 65 degrees.
- Locate proposed lines near future load growth areas.
- Minimize distribution underbuild or co-location on transmission structures if possible.

2.2 Data Collection

The following sources of information were used to develop data for the EA. Data was reviewed and collected for existing and historic land uses, natural resources, cultural resources, transportation facilities, and existing utility and linear features. The Siting Team collected and reviewed the data, as described in the following sections, to support the EA.

Data used by the Consultant in the evaluation of the Project was drawn from a variety of sources, including:

- Published literature (documents, reports, maps, aerial photography, etc.) (see Section 7, References)
- Information from local, state, and federal agencies
- Site-specific studies or investigations performed by others

- Recent aerial imagery
    - Esri World Imagery (mosaic of Maxar Vivid satellite imagery, 2015-2022)
    - 2022 United States Department of Agriculture (USDA) National Agriculture Imagery Program
    - Bing Maps, November 2021 to January 2022
    - Google Earth (2023)
- 7.5-minute United States Geological Survey (USGS) topographic maps
- USGS National Hydrography Dataset (NHD)
- Federal Emergency Management Agency (FEMA) maps
- USFWS National Wetlands Inventory (NWI) maps
- USFWS Information for Planning and Consultation (IPaC)
- Texas Parks and Wildlife Department (TPWD) Natural Diversity Database (NDD)
- TPWD Ecological Mapping Systems of Texas
- Texas Archeological Sites Atlas (Atlas) through the Texas Archeological Research Laboratory (TARL) and Texas Historical Commission (THC)
- Texas Railroad Commission (RRC)
- Ground reconnaissance surveys

2.3 Federal, State, and Local Governing Agencies

Numerous federal, state, and local regulatory agencies and organizations have promulgated rules and regulations regarding the routing and potential impacts associated with the proposed Project. Listed below are the major regulatory agencies involved in project planning and permitting of transmission lines in Texas. Construction documents and specifications may indicate any special construction measures needed to comply with the regulatory requirements determined through the permitting process. In addition, depending upon the location of the transmission line structures, floodplain development permits and road crossing permits may be required by San Patricio County.

2.3.1 Federal Aviation Administration

According to Federal Aviation Administration (FAA) regulations, Title 14 Code of Federal Regulations (CFR) Part 77.9, the construction of a transmission line requires FAA notification if a transmission tower structure height will exceed 200 feet or the height of an imaginary surface extends outward and upward at one of the following slopes:

- A 100:1 slope for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport as described in paragraph (d) of 14 CFR Part 77.9 having at least one runway longer than 3,200 feet.
- A 50:1 slope for a horizontal distance of 10,000 feet from the nearest runway of each airport as described in paragraph (d) of 14 CFR Part 77.9 where no runway is longer than 3,200 feet.
- A 25:1 slope for a horizontal distance of 5,000 feet for heliports as described in paragraph (d) of 14 CFR Part 77.9.

Paragraph (d) of 14 CFR Part 77.9 includes public-use airports listed in the Chart Supplement (formerly the Airport/Facility Directory), public-use or military airports under construction, airports operated by a federal agency or the Department of Defense (DoD), or an airport or heliport with at least one FAA-approved instrument approach procedure.

Notification is not required for structures that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height and will be located in a congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.

The PUC CCN application also requires listing private airports within 10,000 feet of any Alternative Route centerline. Following PUC approval of a route for the proposed transmission line, the Company will make a final determination of the need for FAA notification based on specific structure locations and design. If any of the FAA notification criteria are met for the approved route, a Notice of Proposed Construction or Alteration, FAA Form 7460-1, will be completed and submitted to the FAA Southwest Regional Office in Fort Worth, Texas, at least 45 days prior to construction. The result of this notification, and any subsequent coordination with the FAA, could include changes in line design and/or potential requirements to mark and/or light the structures.

2.3.2 United States Army Corps of Engineers

Under Section 404 of the Clean Water Act (CWA), activities in waters of the United States (WOTUS), including wetlands, are regulated by the United States Army Corps of Engineers (USACE), in conjunction with the USEPA. Certain construction activities that potentially impact WOTUS may be authorized by one of the USACE's Nationwide Permits (NWPs). Permits that may apply to placement of support structures and associated activities are NWP 25 (Structural Discharges) and NWP 57 (Electric Utility Line and Telecommunications Activities). NWP 25 generally authorizes the discharge of concrete, sand, rock, etc.,

into tightly sealed forms or cells where the material is used as a structural member for standard pile-supported structures (linear projects, not buildings or other structures).

NWP 57 generally authorizes discharges associated with the construction of utility lines within WOTUS and additional activities affecting WOTUS, such as those associated with the construction and maintenance of utility line substations; foundations for overhead utility line towers, poles, and anchors; and access roads for the construction and maintenance of utility lines. Construction of this transmission line Project will likely meet the criteria for NWP 57. If necessary, the Company will coordinate with the USACE prior to clearing and construction to ensure compliance with the appropriate regulations associated with construction-related impacts to waterbodies and wetland features.

Under Section 10 of the Rivers and Harbors Act of 1899, 33 United States Code § 403, the USACE is directed by Congress to regulate all work and structures in, or affecting the course, condition, or capacity of navigable WOTUS, including tidal waters. No navigable waters occur within the study area that would require permitting under this Act.

2.3.3 United States Fish and Wildlife Service

The USFWS enforces federal wildlife laws and provides comments on proposed projects under the jurisdiction of the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA). Additionally, USFWS oversight includes review of projects with a federal nexus under the National Environmental Policy Act.

Upon PUC approval of the proposed Project, a survey may be necessary to identify any potential suitable habitat for federally protected species. If suitable habitat is identified, then informal consultation with the USFWS may be conducted to determine if permitting or other requirements associated with possible impacts to protected species under the ESA, MBTA, or BGEPA is necessary.

2.3.4 Federal Emergency Management Agency

The Consultant reviewed the Flood Insurance Rate Maps, published by FEMA, for the study area. The construction of the proposed transmission line is not anticipated to create any significant changes in the existing topographical grades and is not anticipated to significantly alter existing flow regimes within the floodplain. Coordination with the local floodplain administrator will be completed after the PUC route approval to determine if any permits are necessary.

2.3.5 Military Aviation and Installation Assurance Siting Clearinghouse

The DoD Military Aviation and Installation Assurance Siting Clearinghouse works with industry to overcome risks to national security while promoting compatible domestic energy development. Energy production facilities and transmission projects involving tall structures, such as electric transmission towers, may degrade military testing and training operations. The electromagnetic interference from electric transmission lines can impact critical DoD testing activities. 16 TAC § 22.52 states that upon filing of the application, the DoD shall be notified and an affidavit attesting to the notification shall also be provided with the applicant's proof of notice. Furthermore, the utility is required to provide written notice of the public meeting or, if no public meeting is held, to provide written notice to the DoD of the planned filing of an application prior to completion of the routing study. The Consultant contacted the DoD regarding the proposed Project to provide notification and to solicit input with a letter dated April 30, 2024. In addition, on June 4, 2024, and in accordance with 16 TAC § 22.52 (a)(4), public meeting notice was provided via email to the DoD Military Aviation and Installation Assurance Siting Clearinghouse. A notice of the filing of the application will be sent to the DoD Military Aviation and Assurance Siting Clearinghouse when the CCN application is filed with the PUC.

2.3.6 The Public Utility Commission of Texas

The PUC regulates the routing of transmission lines in Texas under Section 37.056(c)(4)(A)-(D) of PURA. The PUC regulatory guidelines for routing transmission lines in Texas include:

- 16 TAC § 25.101(b)(3)(B)
- 16 TAC § 22.52(a)(4)
- Policy of prudent avoidance as defined in 16 TAC § 25.101(a)(6)
- CCN application requirements

The Project EA has been prepared by the Consultant in support of the Company's application for the Project to be filed at the PUC for its consideration.

2.3.7 Texas Parks and Wildlife Department

The TPWD is the state agency with the primary responsibility of protecting the state's fish and wildlife resources in accordance with the Texas Parks and Wildlife Code Section 12.0011(b). The Consultant solicited comments from the TPWD during the Project scoping phase and a copy of this EA will be submitted to TPWD when the CCN application is filed with the PUC. The Consultant also reviewed the NDD records of state-listed species occurrences and sensitive vegetation communities. The Consultant

considered these during the route development process. Once the PUC approves a route, the Company will complete a field review of the proposed ROW if it is determined to be necessary to identify potential suitable habitat for state-listed species. If suitable habitat is identified, additional coordination with the TPWD may be necessary to determine avoidance or impact minimization measures to state-listed threatened or endangered species and other state-regulated fish and wildlife resources.

2.3.8 Texas Commission on Environmental Quality

The Texas Commission on Environmental Quality (TCEQ) is the state agency with the primary responsibility for protecting the state's water quality. The construction of the Project will require a Texas Pollution Discharge Elimination System General Construction Permit (TXR150000) as implemented by the TCEQ under the provisions of Section 402 of the CWA and Chapter 26 of the Texas Water Code. The TCEQ has developed a three-tiered approach for implementing this permit that is dependent on the acreage of disturbance. No permit is required for land disturbances of less than 1 acre (Tier I). Disturbance of more than 1 acre, but less than 5 acres, would require implementation of a Stormwater Pollution Prevention Plan (SWPPP) (Tier II). If more than 5 acres of land are disturbed, the requirements mentioned above for Tier II are necessary and the submittal of a Notice of Intent and Notice of Termination to the TCEQ is also required (Tier III). Once a route is approved by the PUC, the Company will determine the amount of ground disturbance and the appropriate tier and conditions of the TX150000 permit. Construction activities will comply with the TXR150000 permit conditions.

2.3.9 Texas Department of Transportation

The Texas Department of Transportation (TxDOT) has been notified of the proposed Project. If the route approved by the PUC crosses or occupies TxDOT ROW, it will be constructed in accordance with the rules, regulations, and policies of TxDOT. BMPs will be used as required to minimize erosion and sedimentation resulting from construction within TxDOT easements. Revegetation within TxDOT easements will occur as required under the "Revegetation Special Provisions" and contained in TxDOT Form 1023 (Rev. 9-93). Traffic-control measures will comply with applicable portions of the Texas Manual of Uniform Traffic Control Devices.

2.3.10 Texas Historical Commission

Cultural resources are protected by federal and state laws if they have some level of significance under the criteria of the National Register of Historic Places (NRHP) (36 CFR Part 60) or under state guidance (TAC, Title 13, Part 2, Chapter 26.7–8). Chapter 26 of the TAC requires state agencies and political subdivisions of the state to notify the THC of ground-disturbing activity on public land. The Consultant contacted the

THC to identify known cultural resource sites within the study area. The Consultant also reviewed TARL records for known locations of cultural resource sites and the THC's online, restricted-access Atlas and Texas Historical Sites Atlas for the locations of recorded cemeteries, NRHP properties, State Antiquities Landmarks (SALs), and Official Texas Historical Markers (OTHMs).

Once a route is approved by the PUC, depending on a state or federal nexus, additional coordination with the THC might be required to determine the need for archeological surveys or additional permitting requirements. The Company proposes to implement an unanticipated discovery procedure during construction activities. If artifacts are discovered during construction, activities will cease near the discovery, and the Company will notify the State Historic Preservation Office for additional consultation.

2.3.11 Texas General Land Office

The Texas General Land Office (GLO) requires a Miscellaneous Easement for any ROW crossing a state-owned riverbed, navigable stream, tidally influenced water, or Permanent School Fund lands.

The Texas Land Commissioner administers the Texas Coastal Management Program (CMP) under the GLO, which has the responsibility for implementing the Texas CMP. This program intends to help ensure the environmental and economic wellbeing of the Texas coast through proper management of coastal natural resource areas (CNRAs). The Texas CMP has federal and state project and permit action review processes to evaluate consistency with the program. As specified in the Coastal Coordination Act of 1991, the CMP of the Texas GLO must develop and implement a comprehensive plan for managing natural resources within the CMP boundary along the Texas coastline. The CMP boundary, as defined by 31 TAC § 503.1, delineates the coastal zone of Texas. The proposed Project is located within the CMP boundary. Following PUC approval of a route for this Project, the Company will coordinate with the GLO as required.

2.4 Correspondence with Agencies and Officials

The Consultant contacted the following federal, state, county, and local agencies and officials by letter on April 30, 2024 to solicit comments, concerns, and information regarding potential environmental impacts, permits, or approvals for the construction of the Project within the study area. A map of the study area was included with each letter. An example of the letters and copies of the responses received are included in Appendix A (Agency Correspondence).

Federal

- DoD Military Aviation and Installation Assurance Siting Clearinghouse
- FAA
- FEMA
- National Parks Service (NPS)
- National Resources Conservation Service (NRCS)
- USACE
- USEPA
- USFWS

State

- GLO
- RRC
- TCEQ
- Texas Water Development Board (TWDB)
- THC
- TPWD
- TxDOT

County

- San Patricio County Judge
- San Patricio County Commissioners
- San Patricio County Drainage District (SPCDD)
- San Patricio County Floodplain Administrator
- San Patricio County Historical Commission
- San Patricio Municipal Water District

Local Jurisdictions

- City of Gregory Mayor
- City of Gregory Municipal Court Clerk
- Gregory-Portland Independent School District
- McCampbell-Porter-Ingleside Airport

Additional Contacts

- Coastal Bend Audubon Society
- Coastal Bend Council of Governments
- Texas Agricultural Land Trust
- Texas Land Conservancy (TLC)
- Texas Land Trust Council
- The Nature Conservancy of Texas (TNC)

As of the date of this document, written replies to the letters sent on April 30, 2024 have been received from the following agencies and officials: FEMA, GLO, NRCS, San Patricio County, SPCDD, THC, and USACE. Copies of all responses are included in Appendix A.

In addition to letters sent to the agencies on April 30, 2024, the Consultant also reviewed the NDD Element of Occurrence Records from the TPWD, the IPaC from the USFWS, TARL records, and the THC restricted-access Atlas to verify or update cultural and natural resource records for the study area. All agency comments, concerns, and information received were taken into consideration by the Consultant in the preparation of this EA and in the evaluation of the Alternative Routes. Additionally, the information received from the agencies will be taken into consideration before and during construction of the Project. The following is a summary of the comments provided by federal, state, county, and local officials that have responded as of this writing.

- FEMA responded on May 7, 2024 requesting that the local floodplain administrator be contacted for possible permit requirements for the Project.
- The GLO responded on May 9, 2024 stating that the GLO does not have environmental issues or land use constraints at this time and requesting to be contacted when a final route has been determined so they can assess the route for streambed or Permanent School Fund land crossings that would require an easement from the GLO.
- The NRCS responded on May 30, 2024 stating that the Project does not involve any USDA-NRCS easements. The NRCS provided the Web Soil Survey map and reports and requested that the information be considered during Project construction.
- The San Patricio County responded on June 13, 2024 stating that a Notice of Proposed Utility Line Activity is required to be submitted to the San Patricio County Engineers Office for the Project and provided the Notice.

- The SPCDD responded on May 14, 2024 providing information about the existing drainage easements in the study area and requesting a PDF or KMZ file of the final alignment so the SPCDD can provide detailed information about any drainage easements crossed. On May 15, 2024, the SPCDD followed up with additional drainage easement information not included in the original response.
- The THC responded on June 6, 2024 stating that there are no known cultural resources within the study area; however, there have been very few archeological investigations within the study area and there are mapped soil units that would indicate a moderate likelihood of buried archeological sites. The THC recommended consulting with a professional archeologist early in the process to perform a comprehensive records search.
- The USACE responded on May 1, 2024 stating that the letter was forwarded to the Legal Instruments Examiner for entry into the USACE's system. Also on May 1, 2024, the USACE responded with an announcement of the launch of its Regulatory Request System. In a third response on May 1, 2024, the USACE stated that the Project has been assigned file number SWG-2024-00315. The USACE also responded on August 16, 2024 describing the federal regulations and stating that if any activity is performed that triggers any of the federal regulations, a USACE permit will be required prior to the activity occurring.

The Company and the Consultant also met in person and virtually with the following agencies and officials: City of Gregory, City of Portland, San Patricio County Commissioners of Precincts 1 and 2, San Patricio County Economic Development Corporation (EDC), SPCDD, and TxDOT. The following is a summary of the meetings. Meeting notes are included in Appendix A.

- A virtual meeting was held during the City of Gregory council meeting on June 24, 2024 to present the Project.
- A virtual meeting was held with the City of Portland on July 11, 2024 to discuss the City's annexation of roads inside the Project study area. The City determined that the study area was not within their jurisdiction.
- An in-person meeting was held with the San Patricio County Commissioner of Precinct 1, Sonia Lopez, on June 26, 2024. Ms. Lopez suggested that the Company meet with the City of Portland about possible annexation of roads inside the Project study area and that the Company meet with the Commissioner for Precinct 2.

- A virtual meeting was held with the San Patricio County Commissioner of Precinct 2, Tom Yardley, on July 26, 2024. Mr. Yardley confirmed that the Project study area is outside the jurisdiction of Precinct 2 and recommended that the Company meet with the San Patricio County EDC.
- A virtual meeting was held with the San Patricio County EDC on August 1, 2024. The President of the EDC stated that there are no proposed developments within the Project study area.
- An in-person meeting was held with the SPCDD on June 26, 2024. There was a discussion about the drainage ditch in the study area.
- A virtual meeting was held with TxDOT on February 23, 2024 to discuss crossing US Hwy 181. TxDOT indicated that they prefer to use the existing alignment, which does not cross at 90 degrees, instead of a new, separate crossing. A second virtual meeting was held with TxDOT on March 27, 2024 to discuss engineering specifics.

In addition, the Consultant accessed the IPaC system to request an Official Species List, which also generates an official consultation response letter and tracking number. IPaC provided a species list identifying federally threatened, endangered, and proposed to be listed species; designated critical habitat; and candidate species that may occur within the study area county or may be affected by the proposed Project. A copy of the response letter generated by IPaC on June 16, 2024 is included in Appendix A.

Other stakeholders and individual landowners were identified and contacted as part of the public input process. Input received from public open houses was used in the development and modification of routes and is discussed further in Section 2.7.

2.5 Field Reconnaissance

Ground reconnaissance of the study area and computer-based evaluation of digital aerial imagery were used for both refinement and evaluation of the Preliminary Alternative Links. Field inspections were conducted within the study area during the routing process on February 12 and June 26, 2024. Members of the Siting Team examined the Preliminary Alternative Links by automobile from public roads and other points of public access and correlated observed features to information shown on aerial photography, USGS 7.5-minute topographic maps, road maps, and geographic information systems (GIS) sources, as appropriate. Field visits provided a high-level understanding of the Project area and the opportunity to review the Preliminary Alternative Links in the field from points of public access.

2.6 Public and Stakeholder Input

The consideration of public and stakeholder input is critical to the route development process. Landowners and stakeholders provide information and recommendations to aid the team in the development and refinement of the Preliminary Alternative Links. Typically, a project-specific outreach plan is developed and can include open houses, websites, mailings, advertising, etc. More information on how public and stakeholder input was used for the Project can be found in Section 2.7.4.

2.7 Alternative Route Identification

2.7.1 Study Area Delineation

The study area is the territory in which Alternative Routes can be sited to feasibly meet the Project's functional requirements and reasonably minimize environmental impacts and Project costs. The boundaries of the study area were determined by the geographic area encompassing the Project endpoints. The purpose of delineating a study area for the Project was to establish boundaries and limits in which to identify environmental and land use constraints during the information-gathering process to properly identify and map various items included within the PUC's CCN application. Given these considerations, the Siting Team identified a study area encompassing approximately 1,553 acres (2.42 square miles) in San Patricio County, Texas (the "Study Area," see **Figure 2-1**). The northern extent of the Study Area generally encompasses the US Hwy 181 overpass and the Gregory Substation defines the eastern Study Area boundary. The Study Area is bound by State Highway (SH) 35 to the south and the tap point on the existing Aransas Pass-to-Gregory 69-kV transmission line to the west.

2.7.2 Constraint Mapping

To minimize impacts to sensitive environmental and land use features, a constraints mapping process was used in the development and refinement of the Preliminary Alternative Links. The geographic location of environmentally sensitive and other restrictive areas within the Study Area were located and considered during the Preliminary Alternative Link development. These constraints were mapped onto an aerial base map as well as a USGS topographic base map created using Google Earth (2023) imagery. Generally, impacts from Alternative Routes are reduced by avoiding, to the greatest extent practicable, constraints such as oil and gas wells and pipelines, wind farms, airports and airstrips, communities, concentrated residential and commercial development, community facilities, cemeteries, historic and archeological sites, wetland areas, parks, places of worship, schools, and by paralleling existing compatible ROW, including transmission lines and roadways, and paralleling approximate property lines, where possible.

Data displayed on the base map include:

- Major land jurisdictions and uses
- Cities and towns
- Major roads (including county roads, FM roads, US Hwys, SHs, and Interstate Highways)
- Existing transmission lines and pipelines
- Oil and gas wells
- Water wells
- Wind farms
- Airports, private airstrips, and communication facilities
- Parks and wildlife management areas
- Major political subdivision boundaries
- Lakes, reservoirs, rivers, streams, and ponds
- Wetlands
- Floodplains
- Parcel boundaries
- Conservation easements
- Cemeteries
- Railroads

The primary constraints in the Study Area are residential and commercial development and highway infrastructure. Further details on land use and transportation are included in Sections 3.8.1 and 3.8.5, respectively.

2.7.3 Preliminary Alternative Links

The Consultant identified numerous Preliminary Alternative Links, which were presented to the Company for review and comment. These Preliminary Alternative Links were examined in the field from publicly accessible locations by the Consultant on February 12 and June 26, 2024. The Project team made modifications to the Preliminary Alternative Links based on the results of the field evaluations and stakeholder input, ultimately resulting in 34 Preliminary Alternative Links. These 34 links, shown on **Figure 2-2**, were presented to the public at one open-house meeting held in the Study Area on June 27, 2024 in Gregory, Texas.

Figure 2-1: Study Area

Figure 2-2: Preliminary Alternative Links

2.7.4 Public Involvement

The Company hosted a public open house meeting with the affected community to solicit comments, concerns, and input from residents, landowners, public officials, and other interested parties regarding the Preliminary Alternative Links. The meeting was held on June 27, 2024 at the Gregory Municipal Complex Community Center at 310 Ayers Street in Gregory, Texas.

Landowners who own property along the Preliminary Alternative Links were invited to attend. The public open house was intended to solicit comments from landowners and other interested parties concerning the proposed Project. In addition to gathering public input, the purpose of the meeting was to:

- Promote a better understanding of the proposed Project, including the purpose and need for the Project, the benefits and potential impacts of the new transmission line, and the PUC regulatory approval process.
- Inform and educate the public about the routing procedure, schedule, and link development and route selection process.
- Ensure that the decision-making process adequately identifies and considers the values and concerns of the landowners and other interested parties in the Study Area.

A public open house invitation letter was sent by priority mail on June 3, 2024 to landowners who own property located within 300 feet of the Preliminary Alternative Link centerlines. Additionally, the City of Gregory mayor and two council members each from Wards I, II, and III were provided notice of the meetings. In all, 78 landowners were notified of the open house meetings. Each landowner also received a fact sheet with a Project map showing the Preliminary Alternative Links and photos of typical structures, a PUC Regulatory Process Frequently Asked Questions (FAQ) document, a comment card, and a postage-paid return envelope. The invitation letter, fact sheet, FAQ, and comment card were also provided in Spanish.

Each of the individuals and entities who received an invitation letter also received a door hanger and a postcard in both English and Spanish inviting them again to the public open house meeting. An example of the invitation letter and a copy of the attachments as well as the door hanger, postcard, and public meeting trifold are provided in Appendix B.

Rather than a formal presentation in a speaker-audience format, the public meeting was held in an open-house format. Several information stations were set up around the meeting room. Each station was devoted to a particular aspect of the routing study and was manned by Company representatives and appropriate subject matter experts. Large displays of maps, illustrations, photographs, and/or text explaining each topic were presented at the stations.

One GIS station was available to provide additional detail on the Preliminary Alternative Links and property ownership boundaries using recent aerial photography of the Study Area. Staff at the GIS station was available to answer questions such as the distance from a Preliminary Alternative Link centerline to the nearest corner of a habitable structure.

Attendees were encouraged to visit each station in a particular order so the entire process and general Project development sequence could be explained clearly. The open-house format is advantageous because it facilitates one-on-one discussions and encourages personalized landowner interactions. The open-house format also encourages more interaction from landowners who might be hesitant to participate in a speaker-audience format. Spanish-speaking representatives were also available.

At the first station, everyone in attendance was asked to sign their name on a sign-in sheet and was provided with a Project map, comment card, and FAQ sheet. The comment card provided information to assist the landowner in locating their property/properties on the aerial map boards and map books, solicited comments on the Project, and requested an evaluation of the information presented at the public meeting. A Spanish version of the comment card was also available.

Additional stations provided information regarding the PUC regulatory process, the purpose and need for the Project, the Project's typical structure types, agencies that were contacted, and link development criteria. In addition, general overview maps showing the Study Area and the Preliminary Alternative Links, constraint maps, and detailed aerial photography-based maps were available for discussion and comment. After visiting the information stations, individuals were asked to complete the comment card. Completed comment cards were returned either at the meeting or later by mail; however, not all respondents answered every question. In addition, follow-up project feedback trifolds were mailed on June 28, 2024 after the meetings with a request for feedback regarding the landowner's property.

Project Website

The Project website (AEPTexas.com/GregoryArea) includes a map of the Preliminary Alternative Links and end points, a Project fact sheet, and an online feedback form. As of October 11, 2024, there have been a total of 770 website views. The website also includes a virtual open house that includes the following slides:

- How the System Works
- Project Need & Benefits
- Project Timeline
- Proposed Structures
- Right-of-Way Activities
- Vegetation Management
- Construction Process
- Transmission Routing Process
- Field Activities
- Project Map
- Project Review Process
- Agencies Contacted
- Land Use Criteria
- Thank You

Open House Responses

A total of 11 individuals attended the public open house meeting according to the sign-in sheets. A total of seven individuals commented on the Project, with five individuals submitting questionnaire responses and two individuals submitting feedback regarding their property via the website. Results from the questionnaires were reviewed and analyzed. Five of the respondents (100%) agreed that the content provided was informative, while zero (0%) said it was not.

Respondents were then asked if there are any features on their property in the Study Area. Written responses included:

- Septic lines
- Underground utilities or pipelines
- Shed

Comment card respondents were then presented with a list of 13 factors that are taken into consideration for a routing study (see a complete list of the criteria on the questionnaire in Appendix B). They were asked to rank each of these criteria on a scale from 1 to 5, with 1 being the least important factor and 5 being the most important factor. Of those attendees that ranked the criteria, the average rating for each factor (in descending order of importance) is as follows:

- Maintain distance from residences, businesses, and schools – 5.0
- Maximize distance from parks and recreational facilities – 5.0
- Maximize length along property boundary lines – 5.0
- Minimize visibility of the line – 5.0
- Minimize impacts on streams and rivers – 4.3
- Maximize length along highways or other roads – 3.7
- Minimize total length of line (reduces cost of line) – 3.7
- Minimize length through wetlands/floodplains – 3.7
- Maximize length along existing transmission lines – 3.5
- Minimize length through grassland or pasture – 3.0
- Minimize impacts to archeological and historic sites – 3.0
- Minimize loss of trees – 2.3
- Minimize length across cropland – 2.3

Respondents were asked if there are other factors that should be considered, and if they had any comments regarding the listed factors. Written responses included concerns about:

- Health
- Impacts on business

Comment card respondents were asked if they had concerns with any of the Preliminary Alternative Links. Two respondents listed concerns with Preliminary Alternative Link 8 due to health and impacts on business.

The comment card provided a space for respondents to include any additional comments. No additional comments were received.

Two individuals responded via the website and voiced concerns about:

- Property devaluation
- Disruption to farming operations
- Road and other damage during construction
- Access to property during construction

2.7.5 Modifications to Preliminary Alternative Links

Preliminary Alternative Links were evaluated and refined using public and stakeholder input, updated mapping, and additional field inspections in an attempt to avoid or minimize impacts to Study Area resources. As a result, some Alternative Links were removed and modified as described below:

- Preliminary Alternative Link 12 was removed because there was no benefit to making a loop using Preliminary Alternative Links 9-29-12.
- Preliminary Alternative Link 21 was removed because an RV park was constructed after the initial site visit in February 2024 and RVs would be located under the link.

These modifications resulted in a total of 33 Primary Alternative Links, which are shown on **Figure 2-3** and used in the compilation of Alternative Routes.

Figure 2-3: Primary Alternative Links

2.7.6 Alternative Routes

It was the Consultant's and the Company's intent to identify Alternative Links that, when combined, would form an adequate number of reasonable and geographically diverse Alternative Routes that reflect the previously discussed routing considerations.

Alternative Routes were created so that each of the Alternative Links appear in at least one route. Ultimately, 11 Alternative Routes were selected for in-depth study and evaluation. These Alternative Routes, their link compositions, and approximate lengths are presented in Table 2-1 and shown in Appendix C on **Figures C-1 and C-2** (map pockets) and on **Figure 2-3**.

Table 2-1: Alternative Route Composition and Length for the Aransas Pass-to-Gregory 138-kV Transmission Line

Route[a]	Component Alternative Links	Length (Miles)
A	1-25-26-27	1.78
B	2-20-22-35-24-26-27	1.67
C	2-19-25-26-27	1.82
D	3-6-7-18-22-35-23-27	1.81
E	3-6-8-9-29-30-31-32-33-34	1.82
F	28-4-6-8-10-11-13-31-32-33-34	1.79
G	28-4-6-8-10-14-15-32-33-34	1.79
H	3-6-8-10-14-16-33-34	1.65
I	3-6-8-10-11-13-31-32-33-34	1.65
J	3-6-7-17-20-22-35-24-26-27	1.96
K	3-5-20-22-35-24-26-27	1.69

(a) For Alternative Route locations, see Figures C-1 and C-2 (map pockets).

2.8 Evaluation of Alternative Routes

Land use and environmental evaluation criteria were developed to reflect accepted practices for routing electric transmission lines in the State of Texas. Emphasis was placed on acquiring information identified in Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code, the PUC CCN application, and 16 TAC § 25.101, including the policy of prudent avoidance. Evaluation criteria were further refined based on data collection, reconnaissance surveys, and public input. The Alternative Route development process was conducted with consideration and incorporation of the evaluation criteria.

Evaluation of the Alternative Routes for the Project involved reviewing a variety of environmental factors. Each of the Alternative Routes, where access allowed, was examined in the field on February 12 and June 26, 2024. The field evaluations were conducted from publicly accessible areas. In evaluating the Alternative Routes, 41 environmental criteria were considered. These criteria are presented in Table 2-2.

Table 2-2: Environmental Criteria for Alternative Route Evaluation for the Aransas Pass-to-Gregory 138-kV Transmission Line

No.	Criterion
Land Use	
1	Length of Alternative Route
2	Number of habitable structures[a] within 300 feet[b] of ROW centerline
3	Length utilizing existing transmission line ROW
4	Length of ROW parallel to existing transmission line ROW
5	Length of ROW parallel to other existing compatible ROW (roads, highways, railways, etc. – excluding oil and gas pipelines)
6	Length of ROW parallel to apparent property lines (not following existing ROW)[c]
7	Sum of evaluation criteria 4, 5, and 6
8	Percent of evaluation criteria 4, 5, and 6
9	Length of ROW across parks/recreational areas[d]
10	Number of additional parks/recreational areas[d] within 1,000 feet of ROW centerline
11	Length of ROW across cropland
12	Length of ROW across pastureland/rangeland
13	Length of ROW across cropland or pastureland with mobile irrigation systems
14	Length of ROW parallel to existing pipeline[e] ROW <500 feet from route centerline
15	Number of pipeline crossings[e]
16	Number of transmission line crossings
17	Number of Interstate, United States, and State highway crossings
18	Number of Farm-to-Market (FM)/Ranch-to-Market (RM) road crossings
19	Number of FAA-registered public/military airfields[f] within 20,000 feet of ROW centerline (with runway >3,200 feet)
20	Number of FAA-registered public/military airfields[f] within 10,000 feet of ROW centerline (with runway <3,200 feet)
21	Number of private airstrips within 10,000 feet of ROW centerline
22	Number of heliports within 5,000 feet of ROW centerline

Table 2-2: Environmental Criteria for Alternative Route Evaluation for the Aransas Pass-to-Gregory 138-kV Transmission Line

23	Number of commercial AM radio transmitters within 10,000 feet of ROW centerline
24	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline
25	Number of recorded water wells within 200 feet of ROW centerline
26	Number of recorded oil and gas wells within 250 feet of ROW centerline
Aesthetics	
27	Estimated length of ROW within foreground visual zone[g] of Interstate, United States, and State highways
28	Estimated length of ROW within foreground visual zone[g] of FM/RM roads
29	Estimated length of ROW within foreground visual zone[g] of parks/recreational areas[d]
Ecology	
30	Length of ROW across upland woodland/brushland
31	Length of ROW across bottomland/riparian woodland/brushland
32	Length of ROW across potential wetlands[h]
33	Length of ROW across known occupied habitat of federally endangered or threatened species
34	Number of stream crossings
35	Length of ROW parallel (within 100 feet) to streams
36	Length of ROW across open water (ponds, lakes, etc.)
37	Length of ROW across 100-year floodplains
Cultural Resources	
38	Number of recorded cultural resource sites within 1,000 feet of ROW centerline
39	Number of cemeteries within 1,000 feet of ROW centerline
40	Number of NRHP-listed or determined-eligible sites within 1,000 feet of ROW centerline
41	Length of ROW crossing areas of high archeological/historical site potential

(a) Single-family and multifamily dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, places of worship, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis.
(b) Due to the potential inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) Property lines created by existing road, highway, or railroad ROW are not double counted in the "Length of ROW parallel to property lines" criterion.
(d) Defined as parks and recreational areas owned by a governmental body or an organized group, club, or place of worship.
(e) Pipelines 8.0 inches diameter or greater.
(f) As listed in the Chart Supplement South Central U.S. (formerly known as the Airport/Facility Directory South Central U.S.).
(g) 0.5 mile, unobstructed.
(h) As mapped by the USFWS NWI.

The goal of this evaluation was to provide comparative environmental data for the Alternative Routes, to select a recommended route from an environmental perspective, and to identify the top five Alternative Routes from an environmental and land use perspective between the tap point along the existing transmission line and the existing AEP Texas Gregory Substation. The analysis of each Alternative Route involved the inventory and tabulation of the number or quantity of each environmental criterion located along each Alternative Route (e.g., number of habitable structures within 300 feet of the centerline, the length paralleling existing compatible ROW). The number or amount of each criterion was determined by using GIS software, reviewing various maps and recent aerial imagery (Maxar 2022; Google Earth 2023) and by field verification, where possible. The environmental criteria of each Alternative Route were then evaluated. Potential environmental impacts of the Alternative Routes are addressed in Section 4.0 of this document. Comparative environmental data for the Alternative Routes are provided in Table 4-1 in Section 4.0.

The Consultant's evaluation and selection of a recommended Alternative Route from an environmental perspective is discussed in Section 5.1. After the Consultant considered their ranking of Alternative Routes, the Company undertook a further evaluation in which the Consultant's environmental evaluations were considered in conjunction with the Company's assessment of the reliability, constructability, maintenance, operation, and cost to construct each Alternative Route.

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3.0 EXISTING ENVIRONMENT

3.1 Physiography

As shown on **Figure 3-1**, the Study Area is located within the Gulf Coastal Plains Physiographic Province and the Coastal Prairies Physiographic Sub-province. The Gulf Coastal Prairies landscape consists of nearly flat prairie comprised of strata of deltaic sands and muds with elevations ranging from 0 to 300 feet above mean sea level (amsl) (Bureau of Economic Geology [BEG] 1996). Elevations within the Study Area range from approximately 30 to 35 feet amsl (USGS 2024a).

3.2 Geology

The Beaumont Formation is the only geologic formation underlying the Study Area (USGS 2024a). This formation has a thickness of approximately 100 feet and is comprised of mostly clay, silt, sand, and gravel and commonly includes aquatic features such as stream channels, point bars, natural levees, and backswamp deposits (BEG 1976a).

No geologic faults were identified within or in the immediate vicinity of the Study Area (USGS 2024b).

3.3 Soils

The NRCS Web Soil Survey data (NRCS 2024) were reviewed to identify and characterize mapped soils within the Study Area. Soil map units represent a collection of delineated areas defined and named the same in terms of their soil components (e.g., series). Mapped soils within the Study Area are listed below, including a brief description of the soil unit, landform of occurrence, hydric status, and potential for corrosion.

3.3.1 Soil Associations

The NRCS defines a soil association as "a group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit." A soil association typically consists of one or more major soils, for which it is named, and some minor soils. Soils making up one unit can also occur in other units in a different pattern. According to the General Soil Map and the Soil Surveys of San Patricio County, seven general soil map units/associations occur within the Study Area.

Figure 3-1: Location of the Study Area in Relation to the Physiographic Provinces of Texas

3.3.1.1 Delfina loamy fine sand, 0 to 3% slopes

Delfina loamy fine sand, 0 to 3% slopes occurs along low hills, is not considered hydric, and the potential for corrosion of steel is high. This map unit makes up approximately 2.8 acres within the Study Area.

3.3.1.2 Banquete clay, 0 to 1% slopes

Banquete clay, 0 to 1% slopes occurs along flats, is considered hydric, and the potential for corrosion of steel is moderate. This map unit makes up approximately 306.8 acres within the Study Area.

3.3.1.3 Orelia fine sandy loam, 0 to 1% slopes

Orelia fine sandy loam, 0 to 1% slopes occurs along flats, is considered hydric, and the potential for corrosion of steel is moderate. This map unit makes up approximately 46.2 acres within the Study Area.

3.3.1.4 Calallen sandy clay loam, 0 to 1% slopes

Calallen sandy clay loam, 0 to 1% slopes occurs along flats, is considered hydric, and the potential for corrosion of steel is moderate. This map unit makes up approximately 135.4 acres within the Study Area.

3.3.1.5 Papalote fine sandy loam, 0 to 1% slopes

Papalote fine sandy loam, 0 to 1% slopes occurs along flats, is considered hydric, and the potential for corrosion of steel is moderate. This map unit makes up approximately 63.6 acres within the Study Area.

3.3.1.6 Raymondville clay loam, 0 to 1% slopes

Raymondville clay loam, 0 to 1% slopes occurs along meander scrolls, is not considered hydric, and the potential for corrosion of steel is high. This map unit makes up approximately 272.0 acres within the Study Area.

3.3.1.7 Victoria clay, 0 to 1% slopes

Victoria clay, 0 to 1% slopes occurs along flats, is not considered hydric, and the potential for corrosion of steel is high. This map unit makes up approximately 691.8 acres within the Study Area.

3.3.2 Prime Farmland Soils

The Secretary of Agriculture, in United States Code §7-4201(c)(1)(A), defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary. Additional potential prime farmlands are

those soils that meet most of the requirements of prime farmland but fail because they lack sufficient natural moisture, or they lack the installation of water management facilities. Such soils would be considered prime farmland if these practices were implemented.

According to the NRCS (2024), Papalote fine sandy loam, 0 to 1% slopes; Raymondville clay loam, 0 to 1% slopes; and Victoria clay, 0 to 1% slopes are considered prime farmland, while Delfina loamy fine sand, 0 to 3% slopes is considered prime farmland if irrigated within the Study Area. Banquete clay, 0 to 1% slopes is considered farmland of statewide importance, while the remaining two soil map units are not considered prime farmland.

3.4 Mineral and Energy Resources

A data review of mineral and energy resources was conducted congruently with potential geologic hazards that could affect the construction and operation of a transmission line within the Study Area. Hazardous features included active or historical coal and uranium mining locations, aggregate quarries, oil/gas wells, potential subsurface contamination, and landfills.

A review of the Mineral Resources of Texas map (BEG 1979) determined that no mineral resources are mapped within the Study Area. Additionally, a review of the TCEQ's Aggregate Production Site Maps (TCEQ 2024a) did not identify any aggregate production operations within the Study Area.

A review of the Energy Resources of Texas map (BEG 1976b) determined that active and inactive oil and gas horizons are mapped in and around the Study Area.

No active (RRC 2024a, 2024b, and 2024c) or historical (RRC 2024d) mining locations are mapped within the Study Area. Numerous dry holes and plugged oil and/or gas well locations were mapped throughout the Study Area. Three permitted well locations were identified within the Study Area (RRC 2024c).

No subsurface contamination sites, including state or federal superfund sites, were identified within the Study Area (USEPA 2024). Additionally, no landfills were identified within the Study Area (TCEQ 2024b).

3.5 Water Resources

3.5.1 Surface Water

The Study Area is located within the San Antonio-Nueces Coastal Basin and the Nueces-Rio Grande Coastal Basin and within the Aransas, Aransas Bay, and North Corpus Christi Bay Sub-basins (TWDB

2024a). Mapped and named surface waters within the Study Area were not identified. However, there are several unnamed canals, ditches, and ponds throughout the Study Area.

In accordance with Section 10 of the Rivers and Harbors Act, the USACE regulates all work or structures in or affecting the course and condition of navigable WOTUS to protect their navigable capacity pertaining to interstate commerce. No Section 10 waters were identified within the Study Area.

In accordance with 31 TAC § 357.43 and 31 TAC § 358.2, the TPWD has designated Ecologically Significant Stream Segments (ESSS) based on habitat value, threatened and endangered species, species diversity, and aesthetic value criteria. No designated ESSS were identified within the Study Area (TPWD 2024a).

In accordance with Section 303(d) and 304(a) of the CWA, the TCEQ identifies surface waters for which effluent limitations are not stringent enough to meet water quality standards and for which the associated pollutants are suitable for measurement by total maximum daily load. The TCEQ's Texas Integrated Report of Surface Water Quality (TCEQ 2024c and 2022) did not identify 303(d) or 304(a) impaired surface waters within the Study Area.

3.5.2 Floodplains

The 100-year flood (1% flood or base flood) represents a flood event that has a 1% chance of being equaled or exceeded for any given year. FEMA 100-year floodplain data is mapped along low-elevation urban areas adjacent to an unnamed drainage ditch within the town of Gregory (FEMA 2024). In coastal Texas, low-lying flood hazard areas are primarily influenced by storm-surge events from tropical storm systems. When storm surge coincides with normal high tide, the rise in water levels can cause extreme flooding. To assess storm-surge flooding vulnerability from hurricanes in coastal areas of the United States, the National Oceanic and Atmospheric Administration (NOAA) produces the National Storm Surge Hazard Maps. The northern and eastern portions of the Study Area that are less than 3.0 feet aboveground are located inside an area that is considered at risk of storm surge from a Category 5 hurricane (NOAA 2024a).

3.5.3 Groundwater

There are no major or minor aquifers underlying the Study Area (TWDB 2024b).

3.6 Ecological Resources

3.6.1 Vegetation

As shown on **Figure 3-2**, the Study Area is located within the Gulf Prairies and Marshes Vegetational Area of Texas (Gould et al. 1960). The Gulf Prairies and Marshes Vegetational Area encompasses approximately 9.5 million acres of Gulf Prairies and 500,000 acres of Gulf Marshes. The principal climax plants of the prairie sites are tall bunch-grass, including big bluestem (*Andropogon gerardii*), coastal little bluestem (*Schizachyrium littorale*), Indiangrass (*Sorghastrum nutans*), eastern gamagrass (*Tripsacum dactyloides*), switchgrass (*Panicum virgatum*), and gulf cordgrass (*Spartina spartinae*). Seashore saltgrass (*Distichlis spicata*) occurs frequently on moist saline sites (Gould et al. 1960).

A review of the TPWD (2024b) Texas Ecosystem Analytical Mapper indicates that dominant vegetation types within the Study Area include Row Crops, Urban Low Intensity, Gulf Coast: Coastal Prairie, Urban High Intensity, and Barren.

3.6.1.1 Row Crops

This vegetation type includes all cropland where fields are fallow for some portion of the year. Some fields may rotate in and out of cultivation frequently. Year-round cover crops and tame hay field are generally mapped as grassland.

3.6.1.2 Urban Low Intensity

Urban Low Intensity includes areas that are developed but not entirely covered by impervious cover and includes most of the developed nonindustrial areas within the Study Area.

Figure 3-2: Location of the Study Area in Relation to the Vegetational Areas of Texas

3.6.1.3 Gulf Coast: Coastal Prairie

This mid- to tallgrass prairie occupies Pleistocene surfaces of the Texas and Louisiana coast on non-saline soils of level to gently rolling topography. It is dominated by graminoid species such as little bluestem (*Schizachyrium scoparium*), Indiangrass, brownseed paspalum (*Paspalum plicatulum*), switchgrass, big bluestem, tall dropseed (*Sporobolus compositus*), thin paspalum (*Paspalum setaceum*), hairy fimbry (*Fimbristylis puberula*), fewflower panicgrass (*Dichanthelium oligosanthes*), beaksedges (*Rhynchospora* spp.), Florida paspalum (*Paspalum floridanum*), Gulf muhly (*Muhlenbergia capillaris*), longspike tridens (*Tridens strictus*), sideoats grama (*Bouteloua curtipendula*), bushy bluestem (*Andropogon glomeratus*), and eastern gamagrass. Non-native graminoids that may be conspicuous to dominant components include bermudagrass (*Cynodon dactylon*), deep-rooted sedge (*Cyperus entrerianus*), King Ranch bluestem (*Bothriochloa ischaemum* var. *songarica*), old world bluestems (*Dichanthium* spp.), Italian ryegrass (*Lolium perenne*), tall fescue (*Schedonorus phoenix*), bahiagrass (*Paspalum notatum*), and dallisgrass (*Paspalum dilatatum*). Woody species may invade this typically herbaceous vegetation, including Macartney rose (*Rosa bracteata*), huisache (*Acacia farnesiana*), Chinese tallow (*Triadica sebifera*), baccharis (*Baccharis halimifolia*), sugar hackberry (*Celtis laevigata*), and honey mesquite (*Prosopis glandulosa*).

3.6.1.4 Urban High Intensity

Urban High Intensity consists of developed areas and wide transportation corridors that are dominated by impervious cover with little to no notable vegetation.

3.6.1.5 Barren

This type includes areas where little to no vegetation cover existed at the time of image data collection. Many areas mapped as this type are human-associated land clearings.

3.6.2 Aquatic Resources

WOTUS include, but are not limited to, territorial seas, lakes, rivers, streams, oceans, bays, ponds, and other special aquatic features, including wetlands. The USACE regulates WOTUS, including wetlands, under Section 404 of the CWA. The USACE and USEPA jointly define wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include bogs, seeps, marshes, swamps, forested bottomland wetlands, and other similar areas (40 CFR Part 230.3[t]). Wetlands are defined in a broad sense as transitional areas

(ecotones) between terrestrial and aquatic systems where the water table is usually at or near the ground surface, or where shallow water covers the land (Cowardin et al. 1979).

The USFWS NWI data indicate the presence of a wetland habitat feature in the northwest corner Study Area. According to the Cowardin Classification System (Cowardin et al. 1979), aquatic features in the Study Area are classified as palustrine and riverine. Palustrine systems include vegetated, freshwater wetlands and small (less than 20 acres), non-vegetated freshwater wetlands that are both shallow (deepest point less than 6.6 feet at low water) and lack an active wave-formed or bedrock shoreline (Cowardin et al. 1979). Riverine systems include all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergent vegetation, emergent mosses, or lichens; and (2) habitats with water containing ocean-derived salts exceeding 0.5%. (Cowardin et al. 1979). Riverine systems usually contain flowing water and are generally bounded to upland areas to the lateral edges of the channel. Mapped within the Study Area is a freshwater emergent wetland, riverine features, and freshwater ponds.

Hydric and aquatic habitats may be considered regulatory wetlands by the USACE. Construction activities resulting in the discharge of dredged or fill materials within WOTUS are subject to the regulations and restrictions outlined in Section 404 of the CWA and may require coordination with the USACE to ensure compliance.

3.6.3 Wildlife

The Study Area is located within the Tamaulipan Biotic Province (**Figure 3-3**) as described by Blair (1950). The following sections list species that may occur in and characterize the current faunal diversity of the Study Area.

Figure 3-3: Location of the Study Area in Relation to the Biotic Provinces of Texas

3.6.3.1 Fish

A representative list of fish species of potential occurrence in the Study Area is included as Table 3-1.

Table 3-1: Representative List of Fish Species of Potential Occurrence in the Study Area

Common Name	Scientific Name
ATHERINIDAE: Silversides	
Brook silverside	*Labidesthes sicculus*
Inland silverside	*Menidia beryllina*
Tidewater silverside	*Menidia peninsulae*
CATOSTOMIDAE: Suckers	
Blacktail redhorse	*Moxostoma poecilurum*
Blue sucker	*Cycleptus elongatus*
Creek chubsucker	*Erimyzon oblongus*
Lake chubsucker	*Erimyzon sucetta*
River carpsucker	*Carpiodes carpio*
Smallmouth buffalo	*Ictiobus bubalus*
Spotted sucker	*Minytrema melanops*
CENTRARCHIDAE: Black Basses and Sunfishes	
Bantam sunfish	*Lepomis symmetricus*
Black crappie	*Pomoxis nigromaculatus*
Bluegill	*Lepomis macrochirus*
Dollar sunfish	*Lepomis marginatus*
Flier	*Centrarchus macropterus*
Green sunfish	*Lepomis cyanellus*
Largemouth bass	*Micropterus salmoides*
Longear sunfish	*Lepomis aquilensis*
Orangespotted sunfish	*Lepomis humilis*
Redbreast sunfish	*Lepomis auritus*
Redear sunfish	*Lepomis microlophus*
Redspotted sunfish	*Lepomis miniatus*
Spotted bass	*Micropterus punctulatus*
Warmouth	*Lepomis gulosus*
White crappie	*Pomoxis annularis*

Table 3-1: Representative List of Fish Species of Potential Occurrence in the Study Area

CHARACIDAE: Characins	
Mexican tetra	*Astyanax argentatus*
CICLIIDAE: Cichlids	
Blue tilapia	*Oreochromis aurea*
CLUPEIDAE: Shads	
Gizzard shad	*Dorosoma cepedianum*
Threadfin shad	*Dorosoma petenense*
CYPRINIDAE: Carps and Minnows	
Blacktail shiner	*Cyprinella venusta*
Bullhead minnow	*Pimephales vigilax*
Common carp	*Cyprinus carpio*
Creek chub	*Semotilus atromaculatus*
Emerald shiner	*Notropis atherinoides*
Fathead minnow	*Pimephales promelas*
Ghost shiner	*Notropis buchanani*
Golden shiner	*Notemigonus crysoleucas*
Goldfish	*Carassius auratus*
Grass carp	*Ctenopharyngodon idella*
Mimic shiner	*Notropis volucellus*
Mississippi silvery minnow	*Hybognathus nuchalis*
Pallid shiner	*Hybopsis amnis*
Pugnose minnow	*Opsopoeodus emiliae*
Red shiner	*Cyprinella lutrensis*
Redfin shiner	*Lythrurus umbratilis*
Ribbon shiner	*Lythrurus fumeus*
Shoal chub	*Macrhybopsis hyostoma*
Weed shiner	*Notropis texanus*
CYPRINODONTIDAE: Pupfishes	
Sheepshead minnow	*Cyprinodon variegatus*

Table 3-1: Representative List of Fish Species of Potential Occurrence in the Study Area

ELASSOMATIDAE: Pygmy sunfishes	
Banded pygmy sunfish	*Elassoma zonatum*
FUNDULIDAE: Killifishes	
Blackspotted topminnow	*Fundulus olivaceus*
Blackstripe topminnow	*Fundulus notatus*
Golden topminnow	*Fundulus chrysotus*
Starhead topminnow	*Fundulus dispar*
MORONIDAE: Temperate Basses	
Striped bass	*Morone saxatilis*
White bass	*Morone chrysops*
Yellow bass	*Morone mississippiensis*
MUGILIDAE: Mullets	
Striped mullet	*Mugil cephalus*
PERCIDAE: Walleye and Darters	
Bigscale logperch	*Percina macrolepida*
Bluntnose darter	*Etheostoma chlorosoma*
Cypress darter	*Etheostoma proeliare*
Dusky darter	*Percina sciera*
Goldstripe darter	*Etheostoma parvipinne*
Harlequin darter	*Etheostoma histrio*
Mud darter	*Etheostoma asprigene*
Scaly Sand darter	*Ammocrypta vivax*
Slough darter	*Etheostoma gracile*
Western sand darter	*Ammocrypta clara*
POECILIIDAE: Livebearers	
Western mosquitofish	*Gambusia affinis*
SCIAENIDAE: Drums	
Freshwater drum	*Aplodinotus grunniens*

Source: Thomas et al. (2007).
Nomenclature follows: Hubbs et al. (2008).

3.6.3.2 Amphibians and Reptiles

A representative list of amphibian and reptile species of potential occurrence in the Study Area is included in Table 3-2.

Table 3-2: Representative List of Reptile and Amphibian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name
Frogs and Toads	
Blanchard's cricket frog	*Acris blanchardi*
Bullfrog	*Lithobates catesbeiana*
Chihuahuan green toad	*Anaxyrus debilis*
Cope's gray tree frog	*Hyla chrysoscelis*
Couch's spadefoot	*Scaphiopus couchii*
Gray treefrog	*Hyla versicolor*
Green tree frog	*Hyla cinerea*
Gulf Coast toad	*Incilius nebulifer*
Hurter's spadefoot	*Scaphiopus hurterii*
Rio Grande chirping frog	*Eleutherodactylus cystignathoides*
Rio Grande leopard frog	*Lithobates berlandieri*
Sheep frog	*Lithobates sphenocephala*
Southern leopard frog	*Lithobates sphenocephala*
Spotted chorus frog	*Pseudacris clarkii*
Squirrel tree frog	*Hyla squirella*
Texas toad	*Anaxyrus speciosus*
Upland chorus frog	*Pesudacris feriarum*
Western narrow-mouthed toad	*Gastrophryne olivacea*
Woodhouse's toad	*Anaxyrus woodhousii*
Salamanders	
Black-spotted newt	*Notophthalmus meridionalis*
Eastern newt	*Notophthalmus viridescens*
Lesser siren	*Siren intermedia*
Western tiger salamander	*Ambystoma mavortium*

Table 3-2: Representative List of Reptile and Amphibian Species of Potential Occurrence in the Study Area

Crocodiles	
Alligator	*Alligator mississippiensis*
Lizards	
Common spotted whiptail	*Aspidoscelis gularis*
Four-lined skink	*Plestiodon tetragrammus*
Great Plains skink	*Plestiodon obsoletus*
Green anole	*Anolis carolinensis*
Keeled earless lizard	*Holbrookia propinqua*
Little brown skink	*Scincella lateralis*
Mediterranean gecko	*Hemidactylus turcicus*
Prairie lizard	*Sceloporus consobrinus*
Prairie skink	*Plestiodon septentrionalis*
Rose-bellied lizard	*Sceloporus variabilis*
Six-lined race runner	*Aspidoscelis sexlineata*
Slender glass lizard	*Ophisaurus attenuatus*
Spot-tailed earless lizard	*Holbrookia lacerata*
Texas horned lizard	*Phrynosoma cornutum*
Texas spiny lizard	*Sceloporus olivaceus*
Snakes	
Central American indigo snake	*Drymarchon melanurus*
Checkered gartersnake	*Thamnophis marcianus*
Coachwhip	*Coluber flagellum*
Common gartersnake	*Thamnophis sirtalis*
DeKay's brownsnake	*Storeria dekayi*
Diamond-backed watersnake	*Nerodia rhombifer rhombifer*
Eastern copperhead	*Agkistrodon contortrix*
Eastern hog-nosed snake	*Heterodon platirhinos*
Eastern kingsnake	*Lampropeltis getula*
Eastern milksnake	*Lampropeltis triangulum*
Eastern patch-nosed snake	*Salvadora grahamiae*
Flat-headed snake	*Tantilla gracilis*

Table 3-2: Representative List of Reptile and Amphibian Species of Potential Occurrence in the Study Area

Glossy snake	*Arizona elegans*
Gophersnake	*Pituophis catenifer*
Great Plains ratsnake	*Pantherophis emoryi*
Long-nosed snake	*Rhinocheilus lecontei*
Mississippi green watersnake	*Nerodia cyclopion*
North American racer	*Coluber constrictor*
Northern cottonmouth	*Agkistrodon piscivorus*
Plain-bellied watersnake	*Nerodia erythrogaster*
Plains black-headed snake	*Tantilla nigriceps*
Prairie king snake	*Lampropeltis calligaster calligaster*
Red-bellied mudsnake	*Farancia abacura*
Rough earth snake	*Virginia striatula*
Rough green snake	*Opheodrys aestivus*
Saltmarsh watersnake	*Nerodia clarkii*
Scarlet snake	*Cemorpha coccinea*
Schott's whipsnake	*Coluber schotti*
Southern watersnake	*Nerodia fasciata*
Texas coral snake	*Micrurus fulvius tenere*
Texas threadsnake	*Rena dulcis*
Timber rattlesnake	*Crotalus horridus*
Western diamond-backed rattlesnake	*Crotalus atrox*
Western groundsnake	*Sonora semiannulata*
Western ratsnake	*Pantherophis obsoletus*
Western ribbonsnake	*Thamnophis proximus*
Turtles	
Berlandier's tortoise	*Gopherus berlandieri*
Diamond-backed terrapin	*Malaclemys terrapin*
Eastern mud turtle	*Kinosternon subrubrum*
Ornate box turtle	*Terrapene ornata*
Pond slider	*Trachemys scripta*
Snapping turtle	*Chelydra serpentina*

Table 3-2: Representative List of Reptile and Amphibian Species of Potential Occurrence in the Study Area

Spiny softshell	*Apalone spinifera*
Yellow mud turtle	*Kinosternon flavescens*

Source: Dixon (2013).
Nomenclature follows: Society for the Study of Amphibians and Reptiles (Crother 2017).

3.6.3.3 Birds

Avian species of potential occurrence in the Study Area include many year-round residents, migrants/summer residents, and migrants/winter residents. A representative list of bird species of potential occurrence in the Study Area is included in Table 3-3.

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
ACCIPITRIFORMES: Accipitridae		
Bald eagle	*Haliaeetus leucocephalus*	R
Broad-winged hawk	*Buteo platypterus*	M
Cooper's hawk	*Accipiter cooperii*	R
Harris's hawk	*Parabuteo unicinctus*	R
Mississippi kite	*Ictinia mississippiensis*	M
Northern harrier	*Circus hudsonius*	WR
Red-shouldered hawk	*Buteo lineatus*	R
Red-tailed hawk	*Buteo jamaicensis*	R
Sharp-shinned hawk	*Accipiter striatus*	WR
Swainson's hawk	*Buteo swainsoni*	M
Swallow-tailed kite	*Elanoides forficatus*	M
White-tailed hawk	*Geranoaetus albicaudatus*	R
White-tailed kite	*Elanus leucurus*	R
ACCIPITRIFORMES: Pandionidae		
Osprey	*Pandion haliaetus*	WR
ANSERIFORMES: Anatidae		
American wigeon	*Mareca americana*	WR
Black-bellied whistling duck	*Dendrocygna autumnalis*	SR
Blue-winged teal	*Spatula discors*	WR
Bufflehead	*Bucephala albeola*	WR
Cackling goose	*Branta hutchinsii*	WR
Canada goose	*Branta canadensis*	WR

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Canvasback	*Aythya valisineria*	WR
Cinnamon teal	*Spatula cyanoptera*	WR
Common goldeneye	*Bucephala clangula*	WR
Fulvous whistling-duck	*Dendrocygna bicolor*	SR
Gadwall	*Mareca strepera*	WR
Greater scaup	*Aythya marila*	WR
Greater white-fronted goose	*Anser albifrons*	WR
Green-winged teal	*Anas crecca*	WR
Hooded merganser	*Lophodytes cucullatus*	WR
Lesser scaup	*Aythya affinis*	WR
Mallard	*Anas platyrhynchos*	WR
Masked duck	*Nomonyx dominicus*	M
Mottled duck	*Anas fulvigula*	SR
Northern pintail	*Anas acuta*	WR
Northern shoveler	*Spatula clypeata*	WR
Red-breasted merganser	*Mergus serrator*	WR
Redhead	*Aythya americana*	WR
Ring-necked duck	*Aythya collaris*	WR
Ross's goose	*Anser rossii*	WR
Ruddy duck	*Oxyura jamaicensis*	WR
Snow goose	*Anser caerulescens*	WR
Wood duck	*Aix sponsa*	SR
APODIFORMES: Apodidae		
Chimney swift	*Chaetura pelagica*	SR
APODIFORMES: Trochilidae		
Allen's hummingbird	*Selasphorus sasin*	WR
Black-chinned hummingbird	*Archilochus alexandri*	R
Buff-bellied hummingbird	*Amazilia yucatanensis*	SR
Ruby-throated hummingbird	*Archilochus colubris*	M
Rufous hummingbird	*Selasphorus rufus*	WR
CAPRIMULGIFORMES: Caprimulgidae		
Chuck-will's-widow	*Antrostomus carolinensis*	M
Common nighthawk	*Chordeiles minor*	SR

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Common pauraque	*Nyctidromus albicollis*	R
Eastern whip-poor-will	*Antrostomus vociferus*	M
Lesser nighthawk	*Chordeiles acutipennis*	SR
CATHARTIFORMES: Cathartidae		
Black vulture	*Coragyps atratus*	R
Turkey vulture	*Cathartes aura*	R
CHARADRIIFORMES: Charadriidae		
American golden-plover	*Pluvialis dominica*	M
Black-bellied plover	*Pluvialis squatarola*	M
Killdeer	*Charadrius vociferus*	M
Mountain plover	*Charadrius montanus*	WR
Piping plover	*Charadrius melodus*	M
Semipalmated plover	*Charadrius semipalmatus*	M
Snowy plover	*Charadrius nivosus*	M
CHARADRIIFORMES: Laridae		
Black tern	*Chlidonias niger*	M
Bonaparte's gull	*Chroicocephalus philadelphia*	WR
Caspian tern	*Hydroprogne caspia*	M
Common tern	*Sterna hirundo*	M
Forster's tern	*Sterna forsteri*	WR
Franklin's gull	*Leucophaeus pipixcan*	M
Gull-billed tern	*Gelochelidon nilotica*	M
Herring gull	*Larus argentatus*	WR
Laughing gull	*Leucophaeus atricilla*	R
Least tern	*Sternula antillarum*	M
Ring-billed gull	*Larus delawarensis*	WR
Sabine's gull	*Xema sabini*	M
CHARADRIIFORMES: Recurvirostridae		
American avocet	*Recurvirostra americana*	R
Black-necked stilt	*Himantopus mexicanus*	R
CHARADRIIFORMES: Scolopacidae		
Baird's sandpiper	*Calidris bairdii*	M
Buff-breasted sandpiper	*Calidris subruficollis*	M

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Greater yellowlegs	*Tringa melanoleuca*	WR
Hudsonian godwit	*Limosa haemastica*	M
Least sandpiper	*Calidris minutilla*	WR
Lesser yellowlegs	*Tringa flavipes*	WR
Long-billed curlew	*Numenius americanus*	WR
Long-billed dowitcher	*Limnodromus scolopaceus*	WR
Marbled godwit	*Limosa fedoa*	M
Pectoral sandpiper	*Calidris melanotos*	M
Red knot	*Calidris canutus*	M
Ruddy turnstone	*Arenaria interpres*	M
Sanderling	*Calidris alba*	M
Semipalmated sandpiper	*Calidris pusilla*	M
Short-billed dowitcher	*Limnodromus griseus*	M
Solitary sandpiper	*Tringa solitaria*	WR
Spotted sandpiper	*Actitis macularius*	WR
Stilt sandpiper	*Calidris himantopus*	WR
Upland sandpiper	*Bartramia longicauda*	M
Western sandpiper	*Calidris mauri*	WR
Whimbrel	*Numenius phaeopus*	M
White-rumped sandpiper	*Calidris fuscicollis*	M
Willet	*Tringa semipalmata*	M
Wilson's phalarope	*Phalaropus tricolor*	M
Wilson's snipe	*Gallinago delicata*	WR
CICONIIFORMES: Ciconiidae		
Wood stork	*Mycteria americana*	M
COLUMBIFORMES: Columbidae		
Common ground dove	*Columbina passerina*	R
Eurasian collared-dove	*Streptopelia decaocto*	R
Inca dove	*Columbina inca*	R
Mourning dove	*Zenaida macroura*	R
Rock pigeon	*Columba livia*	R
White-tipped dove	*Leptotila verreauxi*	R
White-winged dove	*Zenaida asiatica*	R

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
CORACIIFORMES: Alcedinidae		
Belted kingfisher	*Megaceryle alcyon*	WR
Green kingfisher	*Chloroceryle americana*	R
Ringed kingfisher	*Megaceryle torquata*	R
CUCULIFORMES: Cuculidae		
Black-billed cuckoo	*Coccyzus erythropthalmus*	M
Greater roadrunner	*Geococcyx californianus*	R
Groove-billed ani	*Crotophaga sulcirostris*	SR
Yellow-billed cuckoo	*Coccyzus americanus*	SR
FALCONIFORMES: Falconidae		
American kestrel	*Falco sparverius*	WR
Crested caracara	*Caracara plancus*	R
Merlin	*Falco columbarius*	WR
Peregrine falcon	*Falco peregrinus*	WR
Prairie falcon	*Falco mexicanus*	WR
GALLIFROMES: Odontophoridae		
Northern bobwhite	*Colinus virginianus*	R
GALLIFROMES: Phasianidae		
Wild turkey	*Meleagris gallopavo*	R
GAVIIFROMES: Gaviidae		
Common loon	*Gavia immer*	M
GRUIFORMES: Gruidae		
Sandhill crane	*Antigone canadensis*	WR
GRUIFORMES: Rallidae		
American coot	*Fulica americana*	R
Black rail	*Laterallus jamaicensis*	M
Common gallinule	*Gallinula galeata*	R
King rail	*Rallus elegans*	R
Purple gallinule	*Porphyrio martinicus*	SR
Sora	*Porzana carolina*	WR
Virginia rail	*Rallus limicola*	WR
Yellow rail	*Coturnicops noveboracensis*	M

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
PASSERIFORMES: Alaudidae		
Horned lark	*Eremophila alpestris*	R
PASSERIFORMES: Bombycillidae		
Cedar waxwing	*Bombycilla cedrorum*	WR
PASSERIFORMES: Cardinalidae		
Blue grosbeak	*Passerina caerulea*	SR
Dickcissel	*Spiza americana*	SR
Indigo bunting	*Passerina cyanea*	M
Northern cardinal	*Cardinalis cardinalis*	R
Painted bunting	*Passerina ciris*	SR
Pyrrhuloxia	*Cardinalis sinuatus*	R
Rose-breasted grosbeak	*Pheucticus ludovicianus*	M
Scarlet tanager	*Piranga olivacea*	M
Summer tanager	*Piranga rubra*	SR
PASSERIFORMES: Certhiidae		
Brown creeper	*Certhia americana*	WR
PASSERIFORMES: Corvidae		
Blue jay	*Cyanocitta cristata*	R
Green jay	*Cyanocorax yncas*	R
PASSERIFORMES: Fringillidae		
American goldfinch	*Spinus tristis*	WR
House finch	*Haemorhous mexicanus*	R
Lesser goldfinch	*Spinus psaltria*	R
Pine siskin	*Spinus pinus*	WR
PASSERIFORMES: Hirundinidae		
Bank swallow	*Riparia riparia*	M
Barn swallow	*Hirundo rustica*	SR
Cave swallow	*Petrochelidon fulva*	R
Cliff swallow	*Petrochelidon pyrrhonota*	SR
Northern rough-winged swallow	*Stelgidopteryx serripennis*	M
Purple martin	*Progne subis*	SR
Tree swallow	*Tachycineta bicolor*	WR

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
PASSERIFORMES: Icteridae		
Baltimore oriole	*Icterus galbula*	M
Bobolink	*Dolichonyx oryzivorus*	SR
Brewer's blackbird	*Euphagus cyanocephalus*	WR
Bronzed cowbird	*Molothrus aeneus*	R
Brown-headed cowbird	*Molothrus ater*	R
Bullock's oriole	*Icterus bullockii*	M
Common grackle	*Quiscalus quiscula*	WR
Eastern meadowlark	*Sturnella magna*	R
Great-tailed grackle	*Quiscalus mexicanus*	R
Orchard oriole	*Icterus spurius*	SR
Red-winged blackbird	*Agelaius phoeniceus*	R
Western meadowlark	*Sturnella neglecta*	WR
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	M
PASSERIFORMES: Icteriidae		
Yellow-breasted chat	*Icteria virens*	M
PASSERIFORMES: Laniidae		
Loggerhead shrike	*Lanius ludovicianus*	M
PASSERIFORMES: Mimidae		
Brown thrasher	*Toxostoma rufum*	WR
Curve-billed thrasher	*Toxostoma curvirostre*	R
Gray catbird	*Dumetella carolinensis*	WR
Long-billed thrasher	*Toxostoma longirostre*	R
Northern mockingbird	*Mimus polyglottos*	R
PASSERIFORMES: Motacillidae		
American pipit	*Anthus rubescens*	WR
Sprague's pipit	*Anthus spragueii*	WR
PASSERIFORMES: Parulidae		
American redstart	*Setophaga ruticilla*	M
Bay-breasted warbler	*Setophaga castanea*	M
Black-and-white warbler	*Mniotilta varia*	WR
Blackburnian warbler	*Setophaga fusca*	M
Blackpoll warbler	*Setophaga striata*	M

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Black-throated blue warbler	*Setophaga caerulescens*	M
Black-throated green warbler	*Setophaga virens*	M
Blue-winged warbler	*Vermivora cyanoptera*	M
Canada warbler	*Cardellina canadensis*	M
Cape May warbler	*Setophaga tigrina*	M
Cerulean warbler	*Setophaga cerulea*	M
Chestnut-sided warbler	*Setophaga pensylvanica*	M
Common yellowthroat	*Geothlypis trichas*	WR
Golden-winged warbler	*Vermivora chrysoptera*	M
Hooded warbler	*Setophaga citrina*	M
Kentucky warbler	*Geothlypis formosa*	M
Louisiana waterthrush	*Parkesia motacilla*	M
Magnolia warbler	*Setophaga magnolia*	M
Mourning warbler	*Geothlypis philadelphia*	M
Nashville warbler	*Leiothlypis ruficapilla*	M
Northern parula	*Setophaga americana*	M
Northern waterthrush	*Parkesia noveboracensis*	M
Orange-crowned warbler	*Leiothlypis celata*	WR
Ovenbird	*Seiurus aurocapilla*	M
Palm warbler	*Setophaga palmarum*	WR
Pine warbler	*Setophaga pinus*	WR
Prairie warbler	*Setophaga discolor*	M
Prothonotary warbler	*Protonotaria citrea*	M
Swainson's warbler	*Limnothlypis swainsonii*	M
Tennessee warbler	*Leiothlypis peregrina*	M
Wilson's warbler	*Cardellina pusilla*	M
Worm-eating warbler	*Helmitheros vermivorum*	M
Yellow warbler	*Setophaga petechia*	M
Yellow-rumped warbler	*Setophaga coronata*	WR
Yellow-throated warbler	*Setophaga dominica*	M
PASSERIFORMES: Paridae		
Black-crested titmouse	*Baeolophus atricristatus*	R
Carolina chickadee	*Poecile carolinensis*	R

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
PASSERIFORMES: Passeridae		
House sparrow	*Passer domesticus*	R
PASSERIFORMES: Passerellidae		
Black-throated sparrow	*Amphispiza bilineata*	R
Cassin's sparrow	*Peucaea cassinii*	R
Chipping sparrow	*Spizella passerina*	WR
Clay-colored sparrow	*Spizella pallida*	M
Eastern towhee	*Pipilo erythrophthalmus*	WR
Field sparrow	*Spizella pusilla*	WR
Grasshopper sparrow	*Ammodramus savannarum*	SR
Henslow's sparrow	*Centronyx henslowii*	WR
Lark bunting	*Calamospiza melanocorys*	SR
Lark sparrow	*Chondestes grammacus*	R
LeConte's sparrow	*Ammospiza leconteii*	WR
Lincoln's sparrow	*Melospiza lincolnii*	WR
Olive sparrow	*Arremonops rufivirgatus*	R
Savannah sparrow	*Passerculus sandwichensis*	WR
Song sparrow	*Melospiza melodia*	WR
Spotted towhee	*Pipilo maculatus*	WR
Swamp sparrow	*Melospiza georgiana*	WR
Vesper sparrow	*Pooecetes gramineus*	WR
White-crowned sparrow	*Zonotrichia leucophrys*	WR
White-throated sparrow	*Zonotrichia albicollis*	WR
PASSERIFORMES: Polioptilidae		
Blue-gray gnatcatcher	*Polioptila caerulea*	WR
PASSERIFORMES: Regulidae		
Golden-crowned kinglet	*Regulus satrapa*	WR
Ruby-crowned kinglet	*Corthylio calendula*	WR
PASSERIFORMES: Remizidae		
Verdin	*Auriparus flaviceps*	R
PASSERIFOMES: Sittidae		
Red-breasted nuthatch	*Sitta canadensis*	WR