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PUC DOCKET NO. 57245

APPLICATION OF AEP TEXAS INC.	**§**	
TO AMEND ITS CERTIFICATE OF	**§**	**BEFORE THE**
CONVENIENCE AND NECESSITY	**§**	
FOR THE MEDIO CREEK-TO-LON	**§**	**PUBLIC UTILITY COMMISSION**
HILL 138-KV CUT-IN TO PORTILLA	**§**	
SUBSTATION DOUBLE-CIRCUIT	**§**	**OF TEXAS**
TRANSMISSION LINE IN SAN	**§**	
PATRICIO COUNTY	**§**	

APPLICATION

NOVEMBER 20, 2024

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Files provided electronically on the PUCT Interchange

Attachment 1 Environmental Assessment and Routing Study_Table 4-1.xlsx
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APPLICATION OF AEP TEXAS INC. TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE MEDIO CREEK-TO-LON HILL 138-KV CUT-IN TO PORTILLA SUBSTATION DOUBLE-CIRCUIT TRANSMISSION LINE IN SAN PATRICIO COUNTY

DOCKET NO. 57245

Submit seven (7) copies of the application and all attachments supporting the application. If the application is being filed pursuant to P.U.C. Subst. R. 25.101(b)(3)(D) or P.U.C. Subst. R. 25.174, include in the application all direct testimony. The application and other necessary documents shall be submitted to:

Public Utility Commission of Texas
Attn: Filing Clerk
1701 N. Congress Ave.
Austin, Texas 78711-3326

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

Service Contact:

Leila Melhem
State Bar No. 24083492
AEP Service Corporation
400 W. 15th Street, Suite 1520
Austin, Texas 78701
(512) 481-3320 (Telephone)
(512) 481-4591 (Facsimile)
lmmelhem@aep.com

Kerry McGrath
State Bar No. 13652200
Duggins, Wren, Mann & Romero, LLP
600 Congress Ave., Suite 1900
Austin, Texas 78701
(512) 744-9300 (Telephone)
(512) 744-9399 (Facsimile)
kmcgrath@dwmrlaw.com

Attorneys for AEP Texas Inc.

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

Certificate Number: 30028[1]

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

Mailing Address: 400 W. 15th St., Suite 1520
Austin, TX 78701

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.

Not applicable.

3. Person to Contact: Kensley L. Greuter

Title/Position: Regulatory Case Manager – AEP Texas Inc.

Phone Number: (512) 391-6314

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

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Alternate Contact: Chad Tomanec

Title/Position: Regulatory Consultant – AEP Texas Inc.

Phone Number: (361) 881-5703

Mailing Address: 400 W. 15th Street, Suite 1520
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Legal Counsel: Kerry McGrath

Phone Number: (512) 744-9300

Mailing Address: 600 Congress Ave., Suite 1900
Austin, TX 78701

Email Address: kmcgrath@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 Proposed Medio Creek-to-Lon Hill 138-kV Cut-in to Portilla Substation Double-Circuit Transmission Line in San Patricio County (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 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.

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

AEP Texas Inc. (AEP Texas) is proposing to construct, own, and operate the new Medio Creek to Lon Hill Cut-in 138-kilovolt (kV) Double-Circuit Transmission Line (Project) north of the City of Sinton in San Patricio County, Texas. The Project will begin at one of four potential tap point options along AEP Texas' existing Medio Creek-Lon Hill 138-kV transmission line, where Tap Point 1 is located approximately 1.6 miles northwest, Tap Point 2 is located 1.8 miles north-northwest, Tap Point 3 is located 2.0 miles north, and Tap Point 4 is located 2.5 miles north-northeast of the intersection of United States Highway (US Hwy) 77 and State Highway (SH) 89.

The Project will terminate at the new AEP Texas 138-kV Portilla Substation located approximately 1.0 mile northeast of the intersection of US Hwy 77 and SH 89. The new Portilla Substation has been determined by AEP Texas as necessary to serve continuing load growth in the area and to address current loading issues at other substations in the general area. The Project will be designed and operated at 138-kV with both 138-kV circuits terminating at the new AEP Texas Portilla Substation. Specifically, each 138-kV circuit for the Project will extend to a substation bus that will provide transmission service to a single high-side transformer disconnect. They will also extend to two new transmission circuit disconnects connecting each of the new transmission circuits with a center disconnect switch for single circuit isolation, as needed. This would result in one 138-kV transmission circuit creating a transmission path from the existing AEP Texas Medio Creek 138-kV Substation located to the north and the other 138-kV circuit creating a transmission path from the AEP Texas Lon Hill 138-kV Substation located to the south.

Construction of the new Portilla Substation was reported separately through the AEP Texas Monthly Construction Progress Report (MCPR) to the PUC on August 15, 2024 under Project Number DP21X0008 / T10471611 (DP21X08D0) in accordance with 16 Tex. Admin. Code (TAC) §25.83(a)(3). The in-service date for the Portilla Substation is expected to be March 30, 2026. The referenced August 15, 2024 MCPR filing is included in Attachment DPR-1 to the direct testimony of Damian P. Raab, the Project Manager.

Maps showing the locations of the existing Medio Creek to Lon Hill 138-kV transmission line, the new AEP Texas Portilla Substation, and the Alternative Routes (and links) for consideration are provided in Figures B-1 and B-2 located in Appendix B of the *Medio Creek – Lon Hill 138-kV Cut-in to Portilla Substation Double-Circuit Transmission Line Environmental Assessment and Alternative Route Analysis* (EA) that is provided as Attachment 1 to this Application.

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. The Project will be owned solely by AEP Texas.

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 conductor used for the Project will be 795 thousand circular mils (kcmil) 26/7 Drake Aluminum Conductor Steel Supported/AW.

Number of Conductors Per Phase

The Project will be constructed with one (1) conductor per phase for each of the circuits.

Continuous Summer Static Current Rating (A)

The Continuous Summer Static Current Rating for the Project is 2,039 Amps.

Continuous Summer Static Line Capacity at Operating Voltage (MVA)

The Continuous Summer Static Line Capacity at Operating Voltage for the Project is 487 mega volt amperes (MVA).

Continuous Summer Static Line Capacity at Design Voltage (MVA)

The Continuous Summer Static Line Capacity at Design Voltage for the Project is 487 MVA.

Type and Composition of Structures

The Project will be constructed primarily using double-circuit tubular steel monopole structures on a combination of direct-embedded monopoles for tangent structures and two-pole structures on concrete pier foundations for dead-end and angle structures. Alternative structure types may be used if engineering constraints are encountered. Constraints may include items such as Federal Aviation Administration (FAA) height limitations, underground and overhead obstructions, or existing line or highway crossings. Two dead-end turning structures will be located at the connection point of this new double-circuit transmission line with the existing Medio Creek to Lon Hill 138-kV transmission line.

Height of Typical Structures

The typical double-circuit structure height for the Project will be between 86.5 to 92.0 feet. The height may vary depending on location, clearance requirements due to the terrain, span lengths, and overhead obstructions.

Estimated Maximum Height of Typical Structures

The estimated maximum height of a typical structure for the Project will be 117.0 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 primarily open rangeland. Access roads to most of the area in general are available from the west and southeast off major highways, but there are limited roads to most interior areas. There are a few pipelines, some abandoned based on Texas Railroad Commission data, that traverse the area east to west and north to south and that will need to be crossed during construction. Because of these existing constraints and construction parameters for the Project, monopole steel structures were determined to be the most cost effective solution and easiest to construct for this Project.

Dimensional drawings of the monopole structures are included as Figures 1-2 through 1-4 of the Environmental Assessment (EA) (Attachment 1 in the Application), which was prepared by AEP Texas' routing consultant, POWER Engineers, Inc. (POWER).

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. This is not a joint application.

6. Right-of-way:

Miles of Right-of-Way

AEP Texas developed five alternative routes for the Project. Those routes are identified in Table 4-1 and are shown on Figures B-1 and B-2 in Appendix B of the EA (Attachment 1 to this Application). The miles of right-of-way (ROW) for the alternative routes range from 1.59 miles for Route B to 2.61 miles for Route E. The length of ROW for each alternative route is presented in Table 4-1 of the EA (Attachment 1 to this Application) and in Attachment 2 to this Application.

Miles of Circuit

The Project will be a double-circuit transmission line and the number of circuit miles will range from 3.18 to 5.22 miles in length. The final miles of circuit will depend on the route selected by the PUC. The length of circuit miles is presented in Attachment 2 to this Application.

Width of Right-of-Way

The typical ROW for the Project will be 100 feet in width.

Percent of Right-of-Way Acquired

None of the ROW has been acquired for the Project.

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. This is not a joint application.

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 located in San Patricio County. The Study Area is predominantly open rangeland. Few habitable structures are located within the area and most of the habitable structures are associated with dwellings on the ranches.

The study area is located within the Gulf Coastal Prairies Physiographic Province. The terrain is nearly flat with elevations ranging from approximately 70 to 55 feet above mean sea level. Specific discussions regarding the existing environment, including natural, human, and cultural resources in the Project area, are set forth in Section 3.0 of the EA (Attachment 1 to this Application).

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.

There are no existing HVDC converter stations, substations, or switching station directly associated with the Project.

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.

The Project will provide transmission service to the new Portilla Substation. The transmission-related equipment needed to serve the future Portilla Substation include all the transmission equipment necessary to cut into the existing Medio Creek to Lon Hill 138-kV transmission line and terminate the new double-circuit transmission line into a new high-side substation bus at the Portilla Substation. In particular, the construction activities for the Portilla Substation include the following:

- Construct 138-kV capable in and out ring bus laid out for six (6) positions;
- Install two 138-kV circuit switchers, and all associated material;
- Install five 138-kV MOABs for the line terminals;
- Install four 3000A 40kA circuit breakers;
- Install 2-14.4 MVAR cap banks;
- Install Transmission RTU; and,
- Install 138/12.47-kV transformer for station service.

8. Estimated Schedule:

Estimated Dates Of:	Start	Completion
Right-of-Way Acquisition	*06/22/2024*	*03/30/2025*
Engineering and Design	*06/01/2024*	*08/01/2025*
Material and Equipment Procurement	*06/30/2024*	*01/05/2026*
Construction of Facilities	*05/01/2025*	*05/01/2026*
Energize Facilities	*N/A*	*05/01/2026*

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.

Not Applicable. The study area is not located within a municipal boundary.

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 does not utilize municipal public right-of-way.

11. Affected Utilities:

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

There is no other electric utility served by or directly connected to this Project.

Describe how any other electric utilities 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.

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 showing the estimated cost of the transmission line facilities for each alternative route for this Project are included as Attachment 2. The transmission-side substation costs associated with the new Portilla Substation were reported separately through the AEP Texas MCPR as submitted to the PUC on August 15, 2024 under Project Number DP21X0008 / T10471611 (DP21X08D0) in accordance with 16 TAC §25.83(a)(3) and are not included in the estimated costs identified in Attachment 2.

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

Not applicable. This is not a joint application.

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.

This Project is needed to provide increased electric service to meet the increasing load growth in north-central San Patricio County anticipated in 2025 and beyond. In addition to general area load growth, multiple commercial customers have submitted specific capacity requests totaling 45 MVA north of the City of Sinton, Texas. These are generally commercial customers that will be engaged in metal manufacturing. The existing permanent substations in the Sinton area include the AEP Texas Sinton, Pirate, and Haisley Substations. As detailed below, these existing facilities are insufficient to serve the new load on top of generalized growth. Temporary "skid" substations were installed to meet the customer load requests on a temporary basis while a more permanent solution was developed. The Project along with the new Portilla Substation will provide the more permanent solution.

The Pirate Substation was energized in 2020 to relieve loading at the Sinton Substation, the same year the Company received the requests to serve 45 MVA of new load in the area. The existing Pirate Substation, located approximately 3.1 miles southwest of the future Portilla Substation, cannot support the additional capacity requests due to voltage drop issues resulting from the distance from customer locations and capacity limitations at the substation site itself and at the next closest substation, the existing AEP Texas Sinton Substation, located approximately 2.8 miles southwest of the future Portilla Substation, in which the Pirate Substation was built to relieve.

The Haisley Substation north of Sinton provides service to an existing customer facility and does not have sufficient spare capacity or space for expansion to meet the projected load considering the new service requests.

In light of the new load requests, two temporary AEP Texas skid[2] substations (Haisley Skid and Bullmoose Skid) were installed in 2021 and 2022, respectively, to support existing customer load until a new substation could be constructed to permanently support the expected load growth. The future AEP Texas Portilla Substation is needed to replace the temporary skid substations and permanently transfer approximately 45 MVA of load to maintain system reliability and provide necessary capacity for the continued load demand forecasted in the area.

[2] A skid is a temporary substation on a moveable platform to provide service until a permanent substation can be built.

With regard to review by a PURA §39.151 organization, the Project is considered Tier 4 Neutral and therefore does not require a formal Electric Reliability Council of Texas (ERCOT) Regional Planning Group (RPG) submission.

An overview map of the future Portilla Substation projected service area is provided as Attachment 3a in this Application. An overview map of the local distribution of primary feeders and substations surrounding the projected Portilla Substation service area is provided as Attachment 3b in this Application.

A summary of the historic actual peak load data and the forecasted load growth data with and without the Portilla Substation is provided as Attachment 4a in this Application. More detailed information on the actual and projected load for each of the area substations is presented in Attachments 4b through 4e in this Application. The projected loading for the Sinton, Pirate, Bullmoose, Haisley, and Portilla Substations once the Portilla Substation is in service is provided as Attachment 4f in this Application.

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.

From a distribution alternatives perspective, the closest distribution substations to the area of need are the Haisley, Sinton, and Pirate Substations. Haisley substation is a dual bank substation and cannot support a third power bank transformer without purchasing land to expand the station footprint. There is no land available to convert the high side bus into a ring bus configuration necessary to support breaker and capacitor bank installations.

Regarding the Sinton Substation, there is no room available for rebuilding the station. The site would need to be expanded or a new site is needed to construct a new station in the clear. This substation has limited capacity to serve large customer requests due to the size of the transformer banks at the station.

Regarding the Pirate Substation, there is space to install a second bank at this substation. Further, any second bank would not be large enough to serve the entire 45 MVA requested by customers. Moreover, this solution doesn't allow for future load capacity requests planned in the area.

The addition of Portilla Substation would be a reliable solution to support the existing customers and bring additional capacity to future customer requests. Therefore, there are no other practical distribution alternatives solution to address the need for this project.

From a transmission alternatives perspective, the proposed cut-in to the existing AEP Texas Medio Creek to Lon Hill transmission line is the closest and the best transmission source to Portilla Substation. The next closest existing transmission sources would be (1) the AEP Texas Beeville to Sinton 138-kV transmission line, which is at least 2.7 miles south-southwest from the Portilla Substation as the crow flies, and (2) the AEP Texas Angstrom to SDI-Buffalo 345-kV transmission line, which is more than 3 miles east of the Portilla Substation as the crow flies. In addition to being further away from the Portilla Substation, both of these sources would require multiple highway crossings; the Angstrom to SDI-Buffalo 345-kV transmission line would require more extensive transformation equipment due to the voltage differences; and, the Beeville to Sinton 138-kV transmission line has capacity limitations that would need to be further 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 schematic 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 EA that was prepared by POWER is included as Attachment 1 of this Application. The EA presents the analysis that was conducted by POWER and the land use and environmental data for all of the 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, alternative route analysis and impact assessment, and finally the recommendation by POWER of alternative routing to AEP Texas, 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. ESRI-hosted world imagery (2015-2022), United States Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP) imagery (2022), Google Earth imagery (2024), United States Geological Survey (USGS) 7.5-minute quadrangle topographic maps, USGS National Hydrography dataset (NHD), United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), USFWS National Wetlands Inventory (NWI) maps, Texas Parks and Wildlife Department (TPWD) Ecological Mapping Systems of Texas, TPWD Natural Diversity Database (NDD), Federal Emergency Management Agency (FEMA) maps, Railroad Commission of Texas (RRC), Texas Archeological Sites Atlas (Atlas) through the Texas Archeological Research Laboratory (TARL) and Texas Historical Commission (THC), a drone survey, and a ground reconnaissance survey were used throughout the evaluation of the alternative routes.

Ground reconnaissance and drone imagery of the study area and computer-based evaluation of digital aerial imagery were 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 B-1 and the aerial map is included as Figure B-2 located in Appendix B of Attachment 1 of this application.

Using the constraint maps, electrical system maps, field inspection, and input from AEP Texas, POWER designated a total of 12 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 overall length of route and length of route crossing upland woodland/brushland.

A public open house meeting was not held for this project because 25 or less persons were entitled to receive direct mail notice of AEP Texas' Certificate of Convenience and Necessity (CCN) application.. A notification of the CCN application filing will be sent to the directly impacted landowners.

Based on information obtained from meetings and communications with local, state, and federal agencies and discussions with AEP Texas, POWER modified some of the preliminary alterative links and eliminated others and ultimately identified a total of 10 primary alternative links for further consideration. 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 AEP Texas project team to develop five alternative routes for evaluation. POWER identified potentially affected resources and considered each during this 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 archeology) and the POWER project manager evaluated the primary 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 the PUC Substantive Rules from an environmental and land use perspective, and 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 address the requirements of PURA and the PUC Substantive Rules from an environmental and land use perspective, followed by Alternative Routes C, D, A, and E.

AEP Texas considered all of the certification criteria in PURA and the PUC Substantive Rules and the environmental and land use recommendation of its routing consultant, POWER. The Applicant also evaluated each alternative route from an engineering, design, construction, operations, and maintenance perspective, and considered the estimated cost for each of the primary alternative routes.

Based on its evaluation of all these factors, AEP Texas believes that Alternative Route B provides the best balance of routing characteristics and best addresses the requirements of PURA and the PUC Substantive Rules. A discussion of this belief is included as Attachment 6 of this Application.

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 16 TAC § 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.

Not Applicable. Because fewer than 25 persons would be entitled to receive direct notice of the Application, no public meeting was held prior to filing of this Application. However, AEP personnel have been in contact with property owners identified as being impacted by routes being presented in this Application.

PUC Procedural Rule 16 TAC § 22.52 (a)(4), requires a utility to notify the Department of Defense Siting Clearinghouse (DoD) of any public meeting to be held during the route evaluation process. In the event that no public meeting is held due to a small number of affected landowners, the utility is required to provide written notice to the DoD of the utility's intent to file an application at the PUC. AEP Texas provided notice to DoD of its intent to file an application with the PUC to amend its CCN to construct, own, and operate the Project on September 26, 2024. This notice is included as Attachment 11c to this Application.

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 B-1 is a topographic-based map (scale of 1 inch = 600 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 B of the EA. Figure B-2 is an aerial-based map (scale of 1 inch = 600 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 B 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 B-2 in Appendix B of the EA (Attachment 1 to this Application) is an aerial photograph-based map 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.

An aerial photograph-based property ownership map with a scale of 1 inch = 400 feet is included in this application as Attachment 7 and shows the approximate boundaries of all properties that are directly affected by all routes according to the best information available from San Patricio County 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.

There are no habitable structures located within 320 feet of the alternative routes. Note that in the EA, because of potential scaling errors found in some mapping information, POWER expanded the review of habitable structures to 320 feet.

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.

- A floodplain development permit 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 Texas Department of Transportation will be obtained as necessary.
- Cultural resource clearance will be obtained from the Texas Historical Commission for the approved Project right-of-way as necessary.
- A Storm Water Pollution Prevention Plan (SWPPP) is 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 (GLO) will be obtained as necessary for any ROW that crosses a state-owned riverbed or navigable stream, if applicable. The portion of the study area east of United States Highway (US Hwy) 77 is located within the Coastal Management Program (CMP) boundary; however, none of the proposed alternative routes are located within the CMP. Following PUC approval of a route for this Project, AEP Texas will coordinate with the GLO as required.
- Notification to the Federal Aviation Administration (FAA) might 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.
- 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 alternative routes for this Project cross 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.

Further discussion of permitting that may be required for the Project is included in Section 2.3 of the EA in Attachment 1 of this Application.

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.

There are no habitable structures identified within 300 feet of the centerline of any of the alternative routes. Note that in the EA, because of potential scaling errors found in some mapping information, POWER expanded its review of habitable structures to 320 feet to better ensure its identification of habitable structures that may be within 300 feet of the alternative routes.

22. Electronic Installations:

For each route, list all commercial AM radio transmitters located within 10,000 feet of the centerline of the route and all FM radio transmitters, microwave relay stations, or other similar electronic installations located within 2,000 of the centerline 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.

No commercial AM radio towers are located within 10,000 feet of the centerlines of any of the primary alternative routes. One FM radio transmitter, microwave relay station, or other similar electronic installation is located within 2,000 feet of the centerlines of two primary alternative routes (see Section 4.3.6 of the EA for details).

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 50:1 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. In addition, FAA Regulations require notification of the construction of any object that is greater than 200 feet above ground level and within 3 miles of an airport with a runway more than 3,200 feet in

length. Typical structure heights for this Project will be approximately 86.5 to 92.0 feet with a maximum height of up to 117.0 feet, depending on location and design.

There is one public FAA-registered airport, Alfred C. "Bubba" Thomas Airport, where at least one runway is longer than 3,200 feet and located within 20,000 feet of all of the alternative routes. There are no FAA-registered airports where the runway is no longer than 3,200 feet located within 10,000 feet of any of the alternative routes. There are no known private airstrips located within 10,000 feet of any of the alternative routes and no known heliports located within 5,000 feet of any of the alternative routes.

General descriptions of the 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.

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 primary 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 to owners of directly affected land is provided in Attachment 9a in both English and in Spanish. The locations of the landowners are provided in Attachment 9b. Alternative Route Link Descriptions, the PUC landowner brochure, comment form, intervenor form, and landowner list are provided in Attachments 9c through 9g, respectively.

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/.

A sample copy of the written notice to county and municipal authorities is provided as Attachment 11a. The list of the names and addresses of these authorities is provided in Attachment 11b. A copy of the written notice to the Department of Defense Siting Clearinghouse is provided as 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 newspapers that will publish the notice for this Application is provided as Attachment 12b.

For a CREZ application, in addition to the requirements of 16 TAC § 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.

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.

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. A reconnaissance survey was also conducted to identify any additional park or recreational areas that are located within the study area.

None of the alternative routes cross any parks or recreational areas and none of the alternative routes are located within 1,000 feet of a 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 Archeological 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 such as National Historic Landmarks, National Monuments, National Memorials, National Historic Sites, and National Historical Parks 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.

General descriptions of the historical and archeological resources are provided in Section 3.9 of the EA. No recorded cultural resource sites are crossed by the alternative routes. None of the primary alternative routes cross or are located within 1,000 feet of any NRHP-listed property. One cemetery is located within 1,000 feet of the primary alternative routes: the Welder Ranch Grave is 896 feet from alternative route A.

Because a cultural resource survey has not been conducted for the alternative routes, additional cultural resource sites that have not yet been recorded or evaluated might 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. HPAs were identified along the alternative routes near buildings depicted on historic topographic quadrangles and along an

unnamed intermittent stream. 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 five primary alternative routes cross HPAs for potential archeological sites or other prehistoric cultural resources. The length of ROW across HPAs ranges from 0.14 mile to 0.60 mile. 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 of Coastal Natural Resource Area (s) impacted by any part of the route and/or facilities.

None of the primary alternative routes of the Project are located within the CMP boundary as defined in 31 TAC § 503.1.

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 developed 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), USDA NAIP imagery (2022), Google Earth imagery (2024), USGS 7.5-minute quadrangle topographic maps, USGS NHD, USFWS IPaC, USFWS NWI maps, TPWD Ecological Mapping Systems of Texas, TPWD NDD, FEMA maps, RRC maps and data, and the Atlas through the TARL and THC were used throughout the evaluation of the alternative routes. Ground reconnaissance and drone surveys 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 Case Manager for this Project is included with this Application as Attachment 15.

CCN Application - List of Attachments

1	Environmental Assessment and Routing Study
2	Estimated Length & Cost of Alternative Routes
3a	Overview Map of Portilla Substation Projected Service Area
3b	Local Distribution Primary Feeders Map
4a	Actual and Forecasted Load Summary
4b	Sinton Substation Load Data and Forecast
4c	Pirate Substation Load Data and Forecast
4d	Bullmoose Substation Load Data and Forecast
4e	Haisley Substation Load Data and Forecast
4f	Portilla Substation Transfer and Forecast
5	Diagram of Transmission System in Project Area
6	PURA and PUC Best Meets Route
7	Property Ownership Map
8	Property Ownership List and Habitable Structure Cross-Reference Table
9a	Notice – Landowner Letter (English)
9a	Notice – Landowner Letter (Spanish)
9b	Notice – Map
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	AEP Texas Letter of Public Meeting and Intent to File CCN Application to DoD
11d	Notice – Department of Defense (DoD) Siting Clearinghouse *
12a	Notice – Newspaper Publication
12b	Notice – Newspaper Publication List

CCN Application - List of Attachments (Continued)

13 Notice – Office of Public Utility Counsel *

14a Letter of Transmittal of Application to the Texas Parks and Wildlife Department (TPWD)
14b Affidavit Transmittal of Application to TPWD

15 Application Affidavit of Regulatory Case Manager

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

November 2024

AEP TEXAS INC.

Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation Double-circuit Transmission Line

Environmental Assessment and Alternative Route Analysis

San Patricio County, Texas

Docket No. 57245

PROJECT NUMBER:
0251937

PROJECT CONTACT:
Kathleen Cooney
EMAIL:
kathleen.cooney@powereng.com
PHONE:
512-735-1823

POWER ENGINEERS

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APPENDICES

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
POWER	POWER Engineers, Inc.
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
ERCOT	Electric Reliability Council of Texas
ESA	Endangered Species Act
ESSS	Ecologically Significant Stream Segments
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FM	Farm-to-Market Road

Abbreviation	Term/Phrase/Name
FVZ	foreground visual zone
GIS	geographic information system
GLO	Texas General Land Office
HPA	high probability area
IPaC	Information for Planning and Consultation
ISD	Independent School District
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MVA	mega volt amperes
NCED	National Conservation Easement Database
NDD	TPWD's Natural Diversity Database
NERC	National American Electric Reliability Corporation
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
Project	Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation Double-circuit Transmission Line Project
PUC	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
ROW	right-of-way
RRC	Railroad Commission of Texas

Abbreviation	Term/Phrase/Name
RTEST	Rare, Threatened, and Endangered Species of Texas
SDI	Steel Dynamics, Inc.
SH	State Highway
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
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
US Hwy	United States Highway
WOTUS	waters of the United States

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1.0 DESCRIPTION OF THE PROPOSED PROJECT

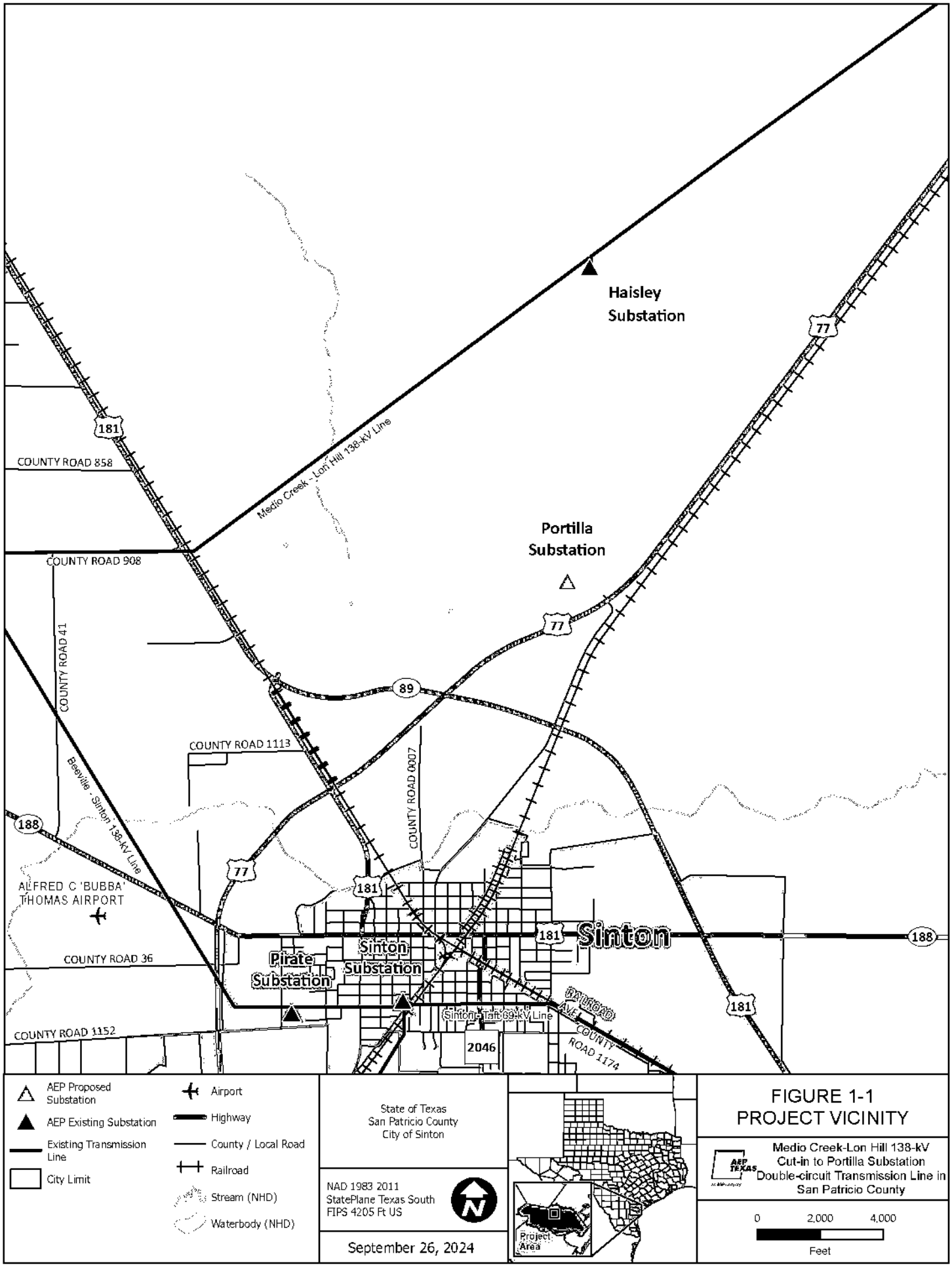
1.1 Scope of Project

AEP Texas Inc. (AEP Texas or the "Company") is proposing to construct the new Medio Creek-Lon Hill 138-kilovolt (kV) Cut-in to Portilla Double-circuit Transmission Line Project (the "Project") north of the City of Sinton in San Patricio County, Texas. The Project will begin at one of four potential tap point options along AEP Texas' existing Medio Creek-Lon Hill 138-kV transmission line, where Tap Point 1 is located approximately 1.6 miles northwest, Tap Point 2 is located 1.8 miles north-northwest, Tap Point 3 is located 2.0 miles north, and Tap Point 4 is located 2.5 miles north-northeast of the intersection of United States Highway (US Hwy) 77 and State Highway (SH) 89. The Project will terminate at the future AEP Texas 138-kV Portilla Substation located approximately 1.0 mile northeast of the intersection of US Hwy 77 and SH 89. The new transmission line will require a 100-foot-wide right-of-way (ROW). The Project area is rural and is characterized by pastureland and oil and gas infrastructure. See **Figure 1-1**.

The Company contracted with POWER Engineers, Inc. (POWER or "the Consultant") to prepare the Environmental Assessment and Alternative Route Analysis (EA). The EA supports the Company's application to amend their Certificate of Convenience and Necessity (CCN) to be submitted to the Public Utility Commission of Texas (PUC). The 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 2.6.1, 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.


Haisley Substation
Portilla Substation
Pirate Substation
Sinton Substation
Sinton
Medio Creek - Lon Hill 138-kV Line
Beeville - Sinton 138-kV Line
Sinton - Taft 69-kV Line
COUNTY ROAD 858
COUNTY ROAD 908
COUNTY ROAD 41
COUNTY ROAD 1113
COUNTY ROAD 0007
COUNTY ROAD 36
COUNTY ROAD 1152
COUNTY ROAD 1174
RAILROAD AVE
ALFRED C 'BUBBA' THOMAS AIRPORT
2046
77
89
181
188
AEP Proposed Substation
AEP Existing Substation
Existing Transmission Line
City Limit
Airport
Highway
County / Local Road
Railroad
Stream (NHD)
Waterbody (NHD)
State of Texas
San Patricio County
City of Sinton
NAD 1983 2011
StatePlane Texas South
FIPS 4205 Ft US
September 26, 2024
Project Area
FIGURE 1-1
PROJECT VICINITY
Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County
0
2,000
4,000
Feet

1.2 Purpose and Need

This Project is needed to provide increased electric service to meet the increasing load growth in north-central San Patricio County anticipated in 2025 and beyond. In addition to general load growth in the area, multiple customers have submitted capacity requests totaling 45 mega volt amperes (MVA) north of the City of Sinton, Texas. These are generally commercial customers that will be engaged in metal manufacturing. The existing permanent substations in the Sinton area include the AEP Texas Sinton, Pirate, and Haisley substations. As detailed below, these existing facilities are insufficient to serve the new load on top of generalized growth. Temporary "skid" substations were installed to meet the customer load requests on a temporary basis while a more permanent solution was developed. The Project, along with the new Portilla Substation, will provide the more permanent solution.

The Pirate Substation was energized in 2020 to relieve loading at the Sinton Substation, the same year the Company received the requests to serve 45 MVA of new load in the area. The Pirate Substation, located approximately 3.1 miles southwest of the future Portilla Substation, cannot support the additional capacity requests due to voltage drop issues resulting from the distance from customer locations and capacity limitations at the substation site itself and at the closest substation, the Sinton Substation, located approximately 2.8 miles southwest of the future Portilla Substation, which the Pirate Substation was built to relieve. The Pirate Substation was expected to exceed its transformer and feeder capacity in 2021. The Haisley Substation north of Sinton provides service to an existing customer facility and does not have sufficient spare capacity or space for expansion to meet the projected load considering the new service requests.

In light of the new load requests, two temporary AEP Texas skid substations (Haisley Skid and Bullmoose Skid) were installed in 2021 and 2022, respectively, to support existing customer load until a new substation could be constructed to permanently support the expected load growth. The future AEP Texas Portilla Substation is needed to replace the temporary skid substations and permanently transfer approximately 45 megavolt amps of load to maintain system reliability and provide necessary capacity for the continued load demand forecasted in the area.

This Project is considered Tier 4 Neutral and, therefore, does not require a formal Electric Reliability Council of Texas (ERCOT) Regional Planning Group submission.

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 138-kV double-circuit steel poles with a typical height ranging from approximately 86.5 to 92.0 feet and a maximum height of 117.0 feet, depending on clearance requirements. The new 138-kV transmission line will use 795 thousand circular mils 26/7 Drake ACSS/AW conductors with two optical ground wires.

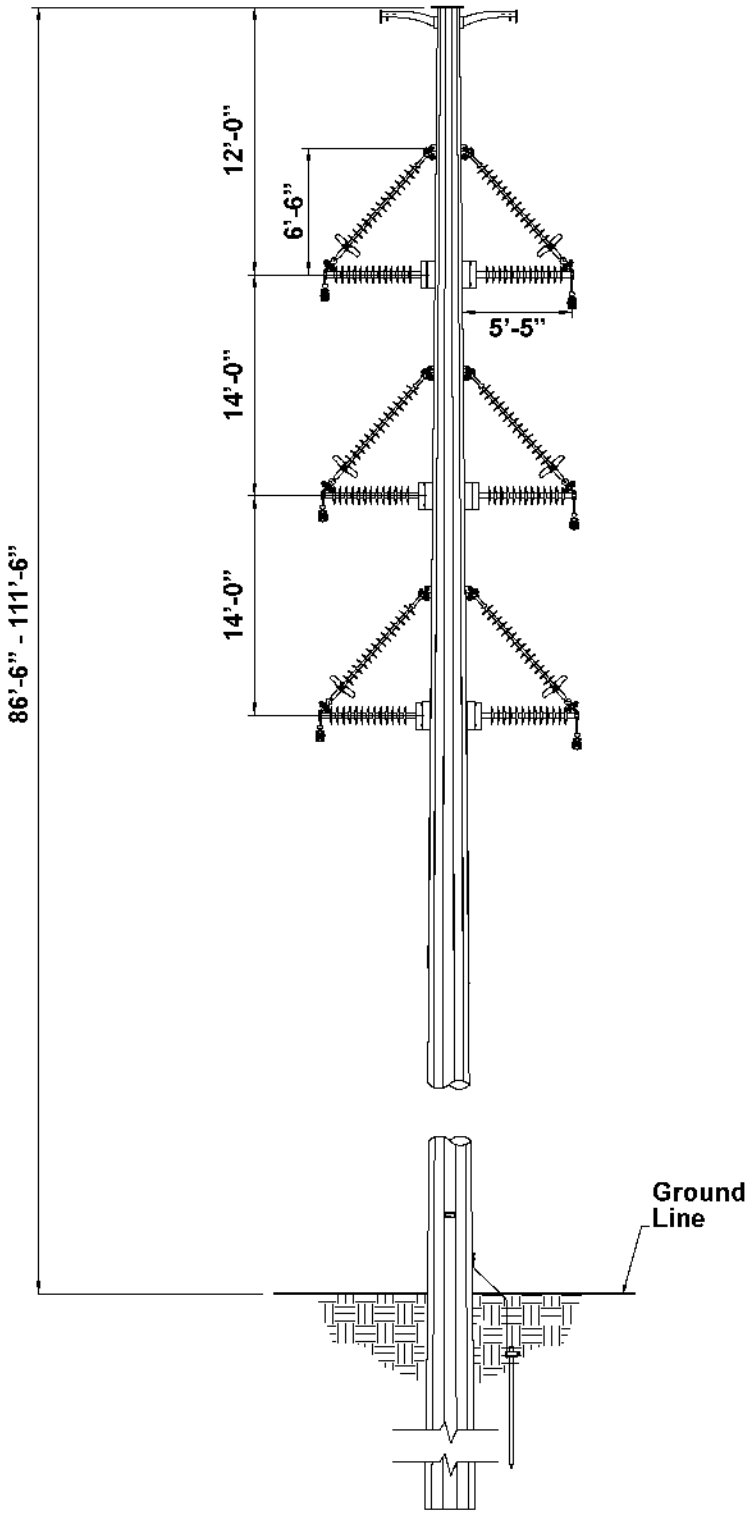
1.3.2 Structural and Geotechnical Design Criteria

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 138-kV, double-circuit single-pole steel tangent structure, two-pole steel running angle structure, and two-pole steel dead-end structure are shown on **Figures 1-2**, **1-3**, and **1-4**, respectively. 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.



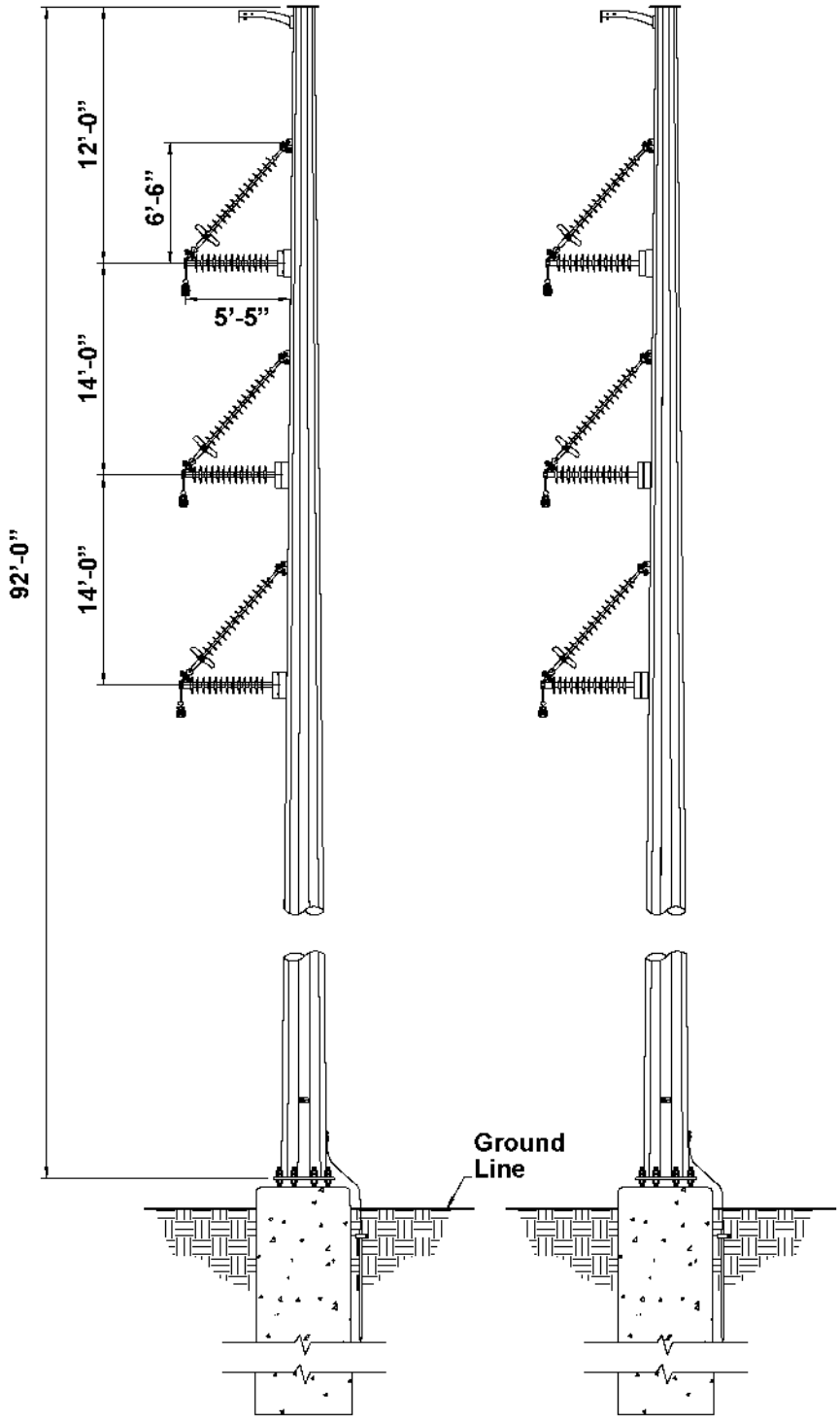
Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation
Double-circuit Transmission Line Project

Figure 1-2

TYPICAL SINGLE-POLE STEEL TANGENT STRUCTURE

AEP TEXAS
An AEP Company

POWER ENGINEERS



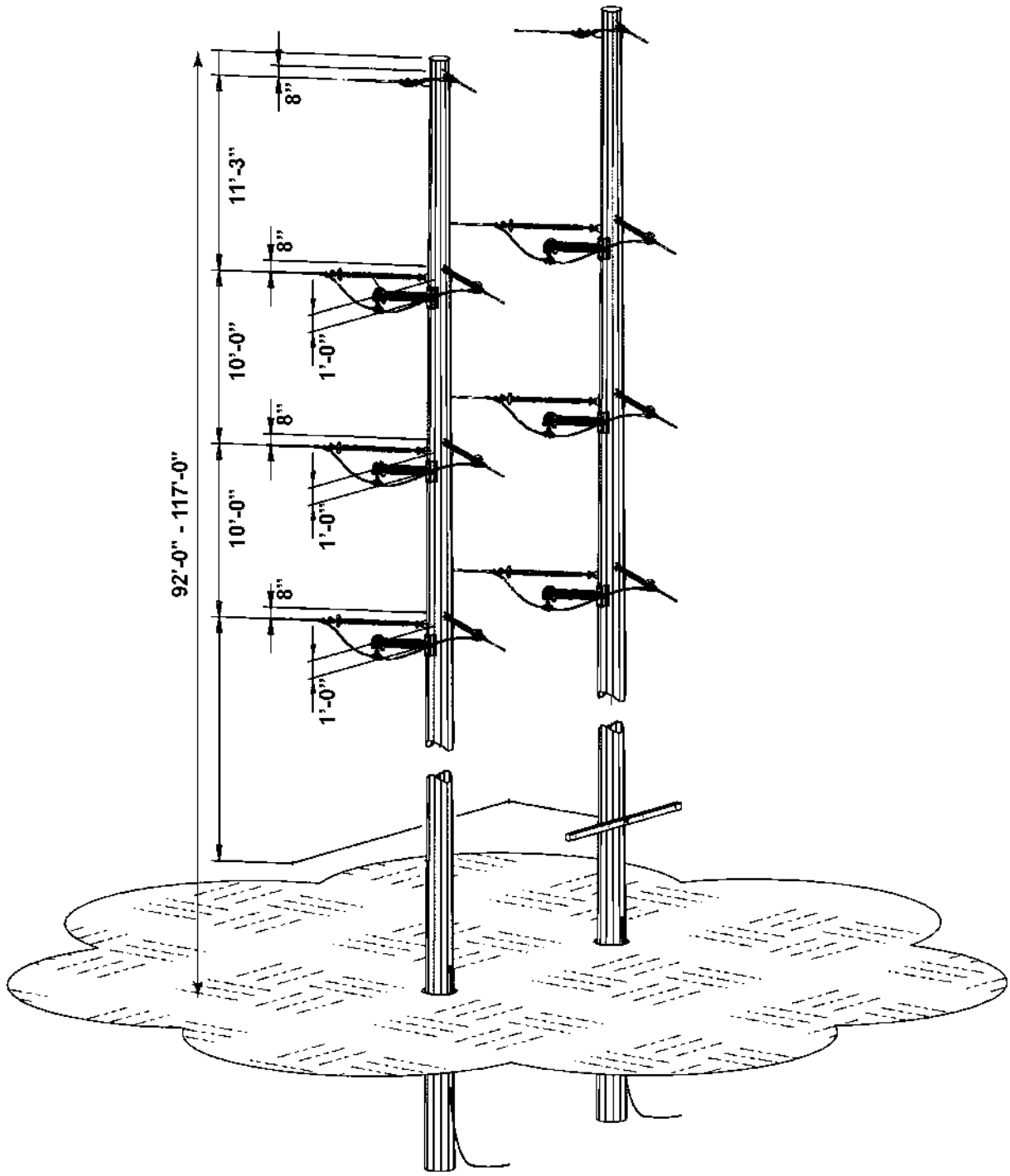
Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation
Double-circuit Transmission Line Project

Figure 1-3

TYPICAL TWO-POLE STEEL RUNNING ANGLE STRUCTURE

AEP TEXAS
An AEP Company

POWER ENGINEERS



Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation
Double-circuit Transmission Line Project

Figure 1-4

TYPICAL TWO-POLE STEEL DEAD-END STRUCTURE

AEP TEXAS
An AEP Company

POWER ENGINEERS

1.4.1 Clearing

ROW clearing will be performed by a 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.

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 manufacturers' 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 assemblies. Once all the wires have been pulled through, 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 evenly spread 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 and local officials. 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 apparent 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 substation site selection and line 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 preliminary link and route development to extent practical:

- Maintain at least 500 feet separation when paralleling existing transmission pipelines and, when feasible, existing gathering pipelines.
- When crossing a transmission pipeline, cross at 90 degrees, if possible, but no less than 60 degrees.
- Maintain 520 feet separation from wind turbines or other meteorological towers.
- Maintain 250 feet separation from oil and gas wells.
- 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 were 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 were drawn from a variety of sources, including:

- Published literature (documents, reports, maps, aerial photography, etc.) (see Section 7.0, References)
- Information from federal, state, and local 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 (2024)
- 7.5-minute United States Geological Survey (USGS) topographic maps
- USGS National Hydrography Dataset (NHD)
- Federal Emergency Management Authority (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)
- Texas Railroad Commission (RRC)
- TPWD Ecological Mapping Systems of Texas
- Texas Archeological Sites Atlas (Atlas) through the Texas Archeological Research Laboratory (TARL) and Texas Historical Commission (THC)
- 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 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 airstrips 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 are 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. Regulatory guideline 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 June 6, 2024. Notice of intent to file a CCN application was submitted to the DoD on September 30, 2024. 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 the 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 are 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, 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 portion of the study area east of US Hwy 77 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 or email on June 6, 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)
- Natural Resources Conservation Service (NRCS)
- USACE
- USEPA

State

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

County

- San Patricio County Judge
- San Patricio County Commissioner
- San Patricio County Drainage District
- San Patricio County Floodplain Administrator
- San Patricio County Parks

Local Jurisdictions

- City of Sinton City Manager
- City of Sinton Mayor
- Sinton Independent School District (ISD)

Additional Contacts

- Alfred C. "Bubba" Thomas Airport
- 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 June 6, 2024 have been received from the following agencies and officials: FAA, FEMA, GLO, NRCS, RRC, Sinton ISD, and THC. Copies of all responses are included in Appendix A.

In addition to letters and emails sent to the agencies on June 6, 2024, the Consultant also reviewed the NDD Element Occurrence Records from the TPWD, the IPaC from the USFWS, TARL records, and the THC Restricted 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.

- The FAA responded on June 20, 2024 stating that FAA Form 7460-1 must be file electronically if any construction or alterations may affect navigable airspace.
- FEMA responded on June 11, 2024 requesting that the Community Floodplain Administrator be contacted for possible permit requirements for the project and provided contact information for the San Patricio County administrator.
- The GLO responded on June 13, 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 July 11, 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 RRC responded on June 12 and 13, 2024 stating that information concerning existing oil and gas well and pipeline locations is available on the RRC's Geographic Information System (GIS). The RRC provided links to the GIS viewer website, oil and gas drilling permits and pipeline permitting information website, and surface mining operations website.

- The Sinton ISD responded with a phone call on July 9, 2024 stating that the Project area does not affect the Sinton ISD.
- The THC responded on July 3, 2024 stating that there are no known cultural resources within the study area; however, there have been 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.

In addition, the Consultant accessed the IPaC system several times 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 and endangered species and species proposed to be listed, 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 3, 2024 is included in Appendix A.

Other stakeholders were also identified and contacted as part of the public input process. Input received from stakeholders was used in the development and modification of routes.

2.5 Field Reconnaissance

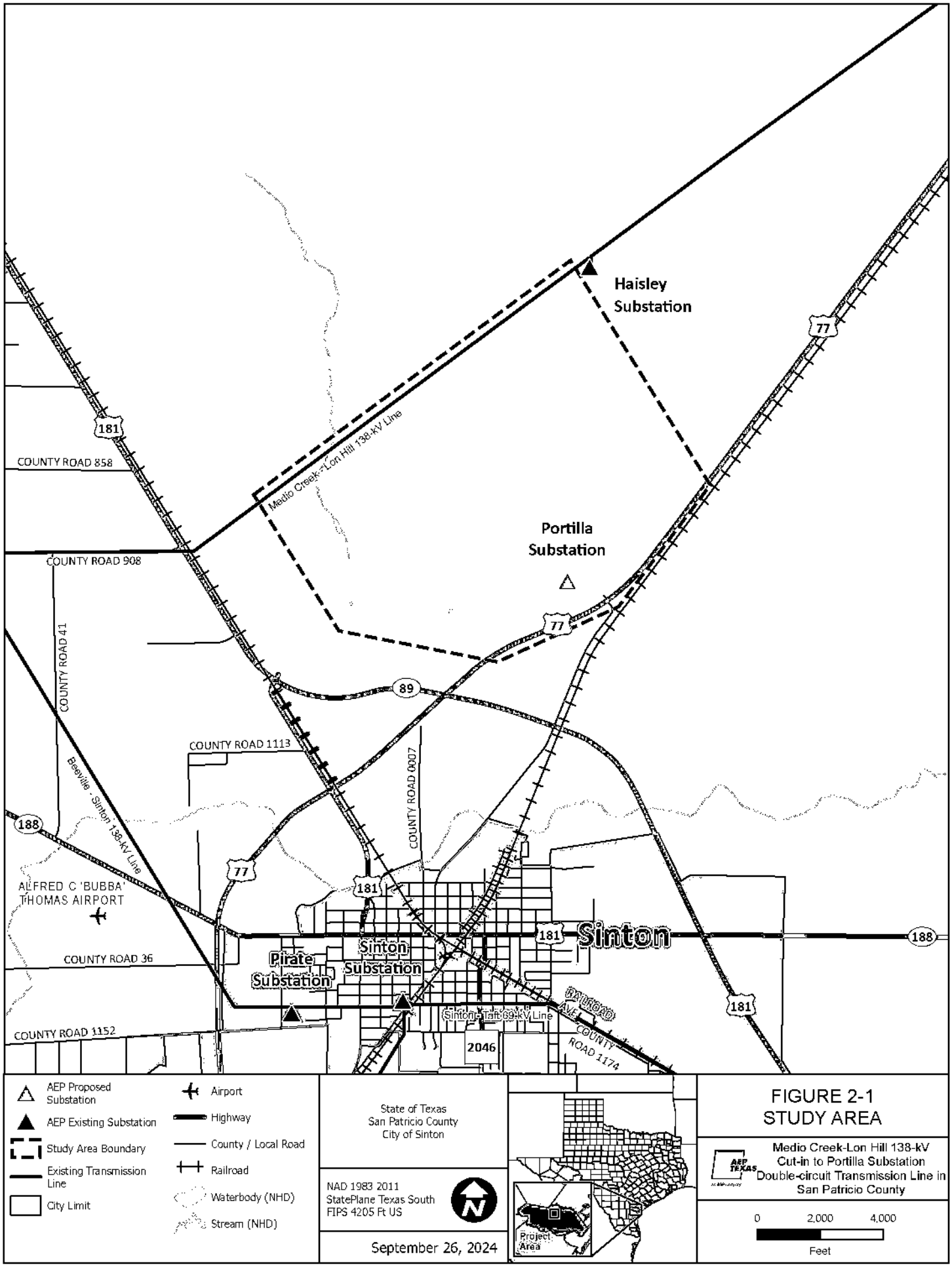
Ground reconnaissance and drone footage of the study area along with computer-based evaluation of digital aerial imagery were used for both refinement and evaluation of the Preliminary Alternative Links. A field inspection was conducted within the study area during the routing process on June 20, 2024. Members of the Siting Team examined the Preliminary Alternative Links by drone and 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 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 and private access (with landowner permission).

2.6 Alternative Route Identification

2.6.1 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 2,437 acres (3.81 square miles) in San Patricio County, Texas (the "Study Area," see **Figure 2-1**). AEP Texas' Medio Creek-Lon Hill 138-kV transmission line is a Project endpoint that defines the northwest Study Area boundary. To the northeast, the Study Area is bound by an oil and gas pipeline corridor due to engineering challenges. The Study Area is bound by US Hwy 77 to the southeast and Rob and Bessie Welder Park to the southwest.


Haisley Substation
Portilla Substation
Pirate Substation
Sinton Substation
Sinton
Medio Creek-Lon Hill 138-kV Line
Beeville - Sinton 138-kV Line
Sinton-Taft 69-kV Line
COUNTY ROAD 858
COUNTY ROAD 908
COUNTY ROAD 41
COUNTY ROAD 1113
COUNTY ROAD 0007
COUNTY ROAD 36
COUNTY ROAD 1152
COUNTY ROAD 1174
RAILROAD AVE
ALFRED C 'BUBBA' THOMAS AIRPORT
2046
77
89
181
188
AEP Proposed Substation
AEP Existing Substation
Study Area Boundary
Existing Transmission Line
City Limit
Airport
Highway
County / Local Road
Railroad
Waterbody (NHD)
Stream (NHD)
State of Texas
San Patricio County
City of Sinton
NAD 1983 2011
StatePlane Texas South
FIPS 4205 Ft US
September 26, 2024
Project Area
FIGURE 2-1
STUDY AREA
Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County
0
2,000
4,000
Feet

2.6.2 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 using Google Earth (2004) imagery as well as a USGS topographic base map **(Appendix B, Figures B-1 and B-2**, map pockets). 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 typically displayed on the base map include:

- Major land jurisdictions and uses
- Cities and towns
- Major roads (including county roads, Farm-to-Market [FM] roads, US Highways, State Highways, 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 pipelines and oil and gas infrastructure. Further details on utility features and oil and gas facilities are included in Section 3.8.6.

2.6.3 Preliminary Alternative Links

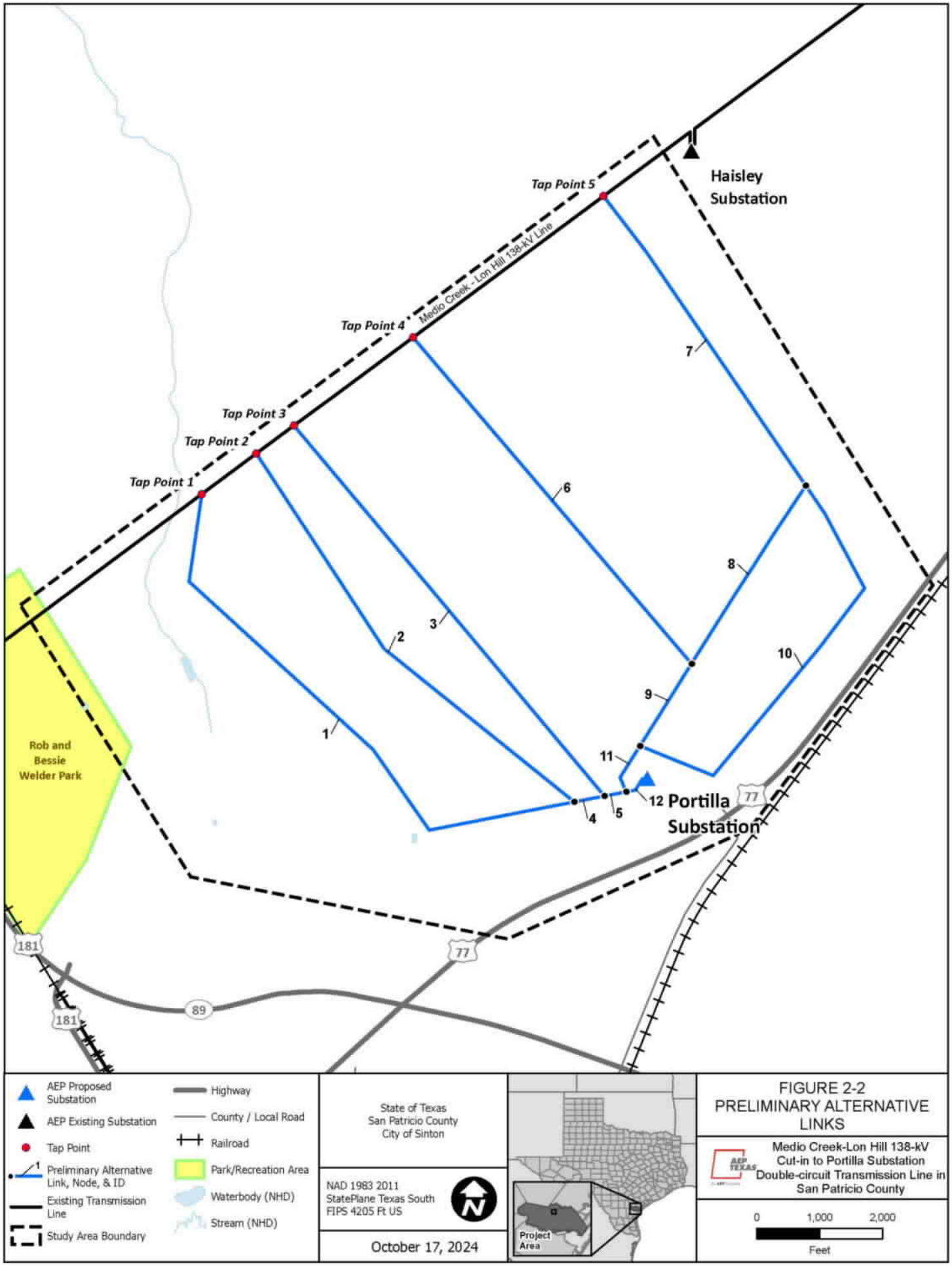
The Consultant identified 13 Preliminary Alternative Links, which were presented to the Company for review and comment. These Preliminary Alternative Links were examined in the field by the Consultant from publicly accessible and private locations and via drone footage on June 20, 2024. The Project team made modifications to the Preliminary Alternative Links based on the results of the field evaluations and stakeholder input. The Preliminary Links were adjusted to avoid heritage trees and to parallel an existing AEP Texas distribution line. The resulting 12 Preliminary Alternative Links are shown on **Figure 2-2**.

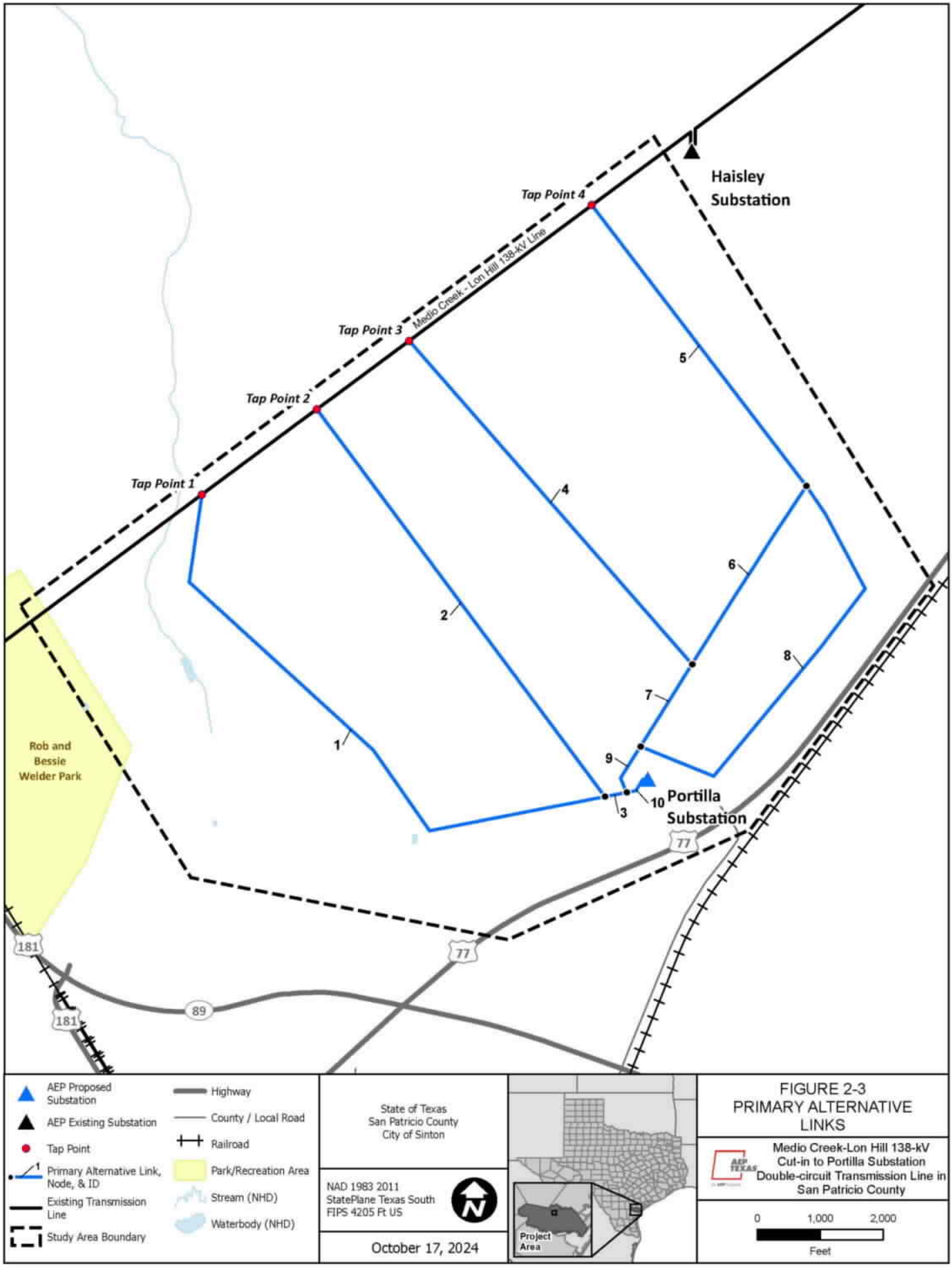
2.6.4 Public Involvement

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. A public open house meeting was not held for this Project because it did not meet the PUC public involvement threshold of 25 directly impacted landowners. A Project website was created where landowners can access Project information and review an interactive map during the filing and PUC approval process. The website link is AEPTexas.com/Portilla. A notification of the CCN filing will be sent to the directly impacted landowners.

2.6.5 Modifications to Preliminary Alternative Links

Preliminary Alternative Links were evaluated and refined using updated mapping in an attempt to avoid or minimize impacts to Study Area resources. As a result, some Links were removed or modified. These modifications resulted in a total of 10 Primary Alternative Links, which are shown on **Figure 2-3** and used in the compilation of the Alternative Routes.


Haisley Substation
Tap Point 5
Medio Creek - Lon Hill 138-kV Line
Tap Point 4
Tap Point 3
Tap Point 2
Tap Point 1
1
2
3
4
5
6
7
8
9
10
11
12
Portilla Substation
Rob and Bessie Welder Park
181
89
77
AEP Proposed Substation
AEP Existing Substation
Tap Point
Preliminary Alternative Link, Node, & ID
Existing Transmission Line
Study Area Boundary
Highway
County / Local Road
Railroad
Park/Recreation Area
Waterbody (NHD)
Stream (NHD)
State of Texas
San Patricio County
City of Sinton
NAD 1983 2011
StatePlane Texas South
FIPS 4205 Ft US
October 17, 2024
Project Area
FIGURE 2-2
PRELIMINARY ALTERNATIVE LINKS
Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County
0
1,000
2,000
Feet


Haisley Substation
Tap Point 4
Medio Creek - Lon Hill 138-kV Line
Tap Point 3
Tap Point 2
Tap Point 1
1
2
3
4
5
6
7
8
9
10
Portilla Substation
Rob and Bessie Welder Park
181
181
89
77
77
AEP Proposed Substation
AEP Existing Substation
Tap Point
Primary Alternative Link, Node, & ID
Existing Transmission Line
Study Area Boundary
Highway
County / Local Road
Railroad
Park/Recreation Area
Stream (NHD)
Waterbody (NHD)
State of Texas
San Patricio County
City of Sinton
NAD 1983 2011
StatePlane Texas South
FIPS 4205 Ft US
October 17, 2024
Project Area
FIGURE 2-3
PRIMARY ALTERNATIVE LINKS
Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County
0
1,000
2,000
Feet

2.6.6 Alternative Routes

It was the Consultant's and the Company's intent to identify Primary 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 Primary Alternative Links appear in at least one route. Five 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 on **Figures B-1 and B-2** (map pockets).

Table 2-1: Alternative Route Composition and Length for the Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation Double-circuit Transmission Line in San Patricio County

Route[a]	Component Alternative Links	Length (Miles)
A	1-3-10	1.98
B	2-3-10	1.59
C	4-7-9-10	1.81
D	5-6-7-9-10	2.22
E	5-8-9-10	2.61

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

2.7 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 stakeholder 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 June 20, 2024. The field evaluations were conducted from publicly accessible areas, private property with landowner permission, and via drone. 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 Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation Double-circuit Transmission Line in San Patricio County

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, U.S. 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
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

Table 2-2: Environmental Criteria for Alternative Route Evaluation for Medio Creek-Lon Hill 138-kV Cut-in to Portilla Substation Double-circuit Transmission Line in San Patricio County

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 U.S. 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 critical 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 rank the Alternative Routes from an environmental and land use perspective between the proposed Portilla 138-kV Substation and the existing Medio Creek-Lon Hill 138-kV transmission line. 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 2024) and by field verification, where possible. The environmental criteria were then evaluated for each Alternative Route. 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.

3.0 EXISTING ENVIRONMENT

3.1 Physiography

As shown on **Figure 3-1**, the Study Area is located within the Gulf Coastal Prairies Physiographic 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). Within the Study Area, elevations range from approximately 70 feet amsl in the northeast to 55 feet amsl in the southwest (USGS 2024a).

3.2 Geology

The major geologic formation underlying the Study Area is the Lissie Formation. This formation is comprised of sand, silt, clay, and minor amounts of gravel of moderate permeability of the Middle Pleistocene age and has a thickness of up to approximately 200 feet (BEG 1976a).

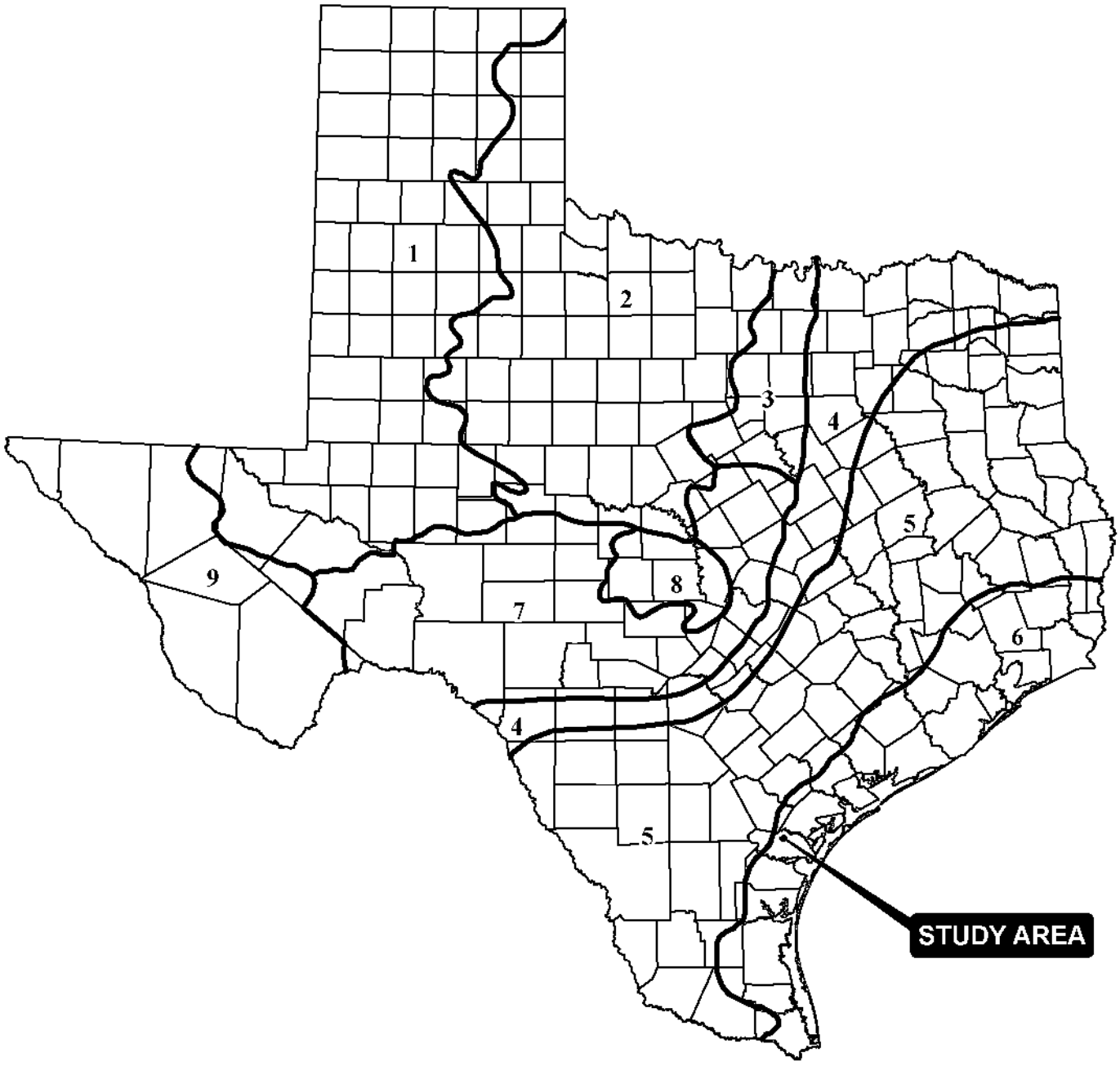
No faults were identified within or in the immediate vicinity of the Study Area (USGS 2024b).

3.3 Soils

The NRCS (2024) Web Soil Survey data 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, six general soil map units/associations occur within the Study Area.



Physiographic Region Boundary
1 High Plains
2 North-Central Plains
3 Grand Prairie
4 Blackland Prairies
5 Interior Coastal Plains
6 Gulf Coastal Prairies
7 Edwards Plateau
8 Central Texas Uplift
9 Trans-Pecos Basin and Range

County Boundary

State of Texas
San Patricio County
City of Sinton

NAD 1983 Lambert
Conformal Conic

N

September 09, 2024

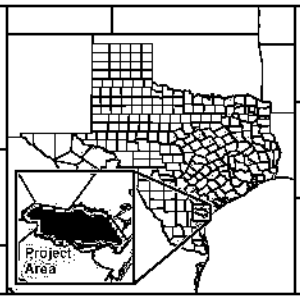


FIGURE 3-1
LOCATION OF THE STUDY AREA IN RELATION TO THE PHYSIOGRAPHIC PROVINCES OF TEXAS

AEP TEXAS

Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County

0 50 100

Miles

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 2.4 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 68.1 acres within the Study Area.

3.3.1.3 Edroy clay, 0 to 1% slopes, occasionally ponded

Edroy clay, 0 to 1% slopes, occasionally ponded occurs along closed depressions, is considered hydric, and the potential for corrosion of steel is high. This map unit makes up approximately 2.0 acres within the Study Area.

3.3.1.4 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 3.0 acres within the Study Area.

3.3.1.5 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 508.1 acres within the Study Area.

3.3.1.6 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 1,862.6 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 is 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 three 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. However, a review of the TCEQ's Aggregate Production Site Maps (TCEQ 2024a) identified an aggregate operation within the Study Area operated by GP Transport Inc. for sand material.

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. Five 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 2024a). 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 River Basin (TWDB 2024a). Mapped and named surface waters within the Study Area were not identified. However, one mapped unnamed surface water includes a stream that appears to end within the Study Area. Water generally flows north to south (USEPA 2024b).

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 § 357.8, the TPWD has designated Ecologically Significant Stream Segments (ESSS) based on habitat value, threatened and endangered species, species diversity, and aesthetic value criteria. Review of the TPWD ESSS listings did not indicate the presence of designated ESSS 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 Texas Integrated Report of Surface Water Quality (TCEQ 2024c and 2020) did not identify impaired 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 in any given year. FEMA 100-year floodplain data is mapped along the unnamed stream on the west side of the Study Area and has a connection to Chiltipin Creek, a regulatory floodway outside the Study Area to the south (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 Study Area is located outside an area that is considered at risk of storm surge (NOAA 2024a).

3.5.3 Groundwater

The major groundwater aquifer mapped within the Study Area is the Gulf Coast Aquifer system (TWDB 2016). The Gulf Coast Aquifer system parallels the Gulf of Mexico coastline from Louisiana to the Mexico border. It consists of several aquifers, including the Jasper, Evangeline, and Chicot aquifers, and is composed of discontinuous sand, silt, clay, and gravel beds. The maximum total sand thickness of the Gulf Coast Aquifer is approximately 700 feet within its southern extent. Water quality varies with depth and locality with water quality declining toward the south, where total dissolved solids range from 1,000 to more than 10,000 milligrams per liter with high levels of naturally occurring radionuclides. Aquifer

productivity decreases in the southern extent (TWDB 2016). Three water wells are mapped within the Study Area (TWDB 2024a). No natural springs (TWDB 1975 and 2024a) are mapped within the Study Area.

3.6 Ecological Resources

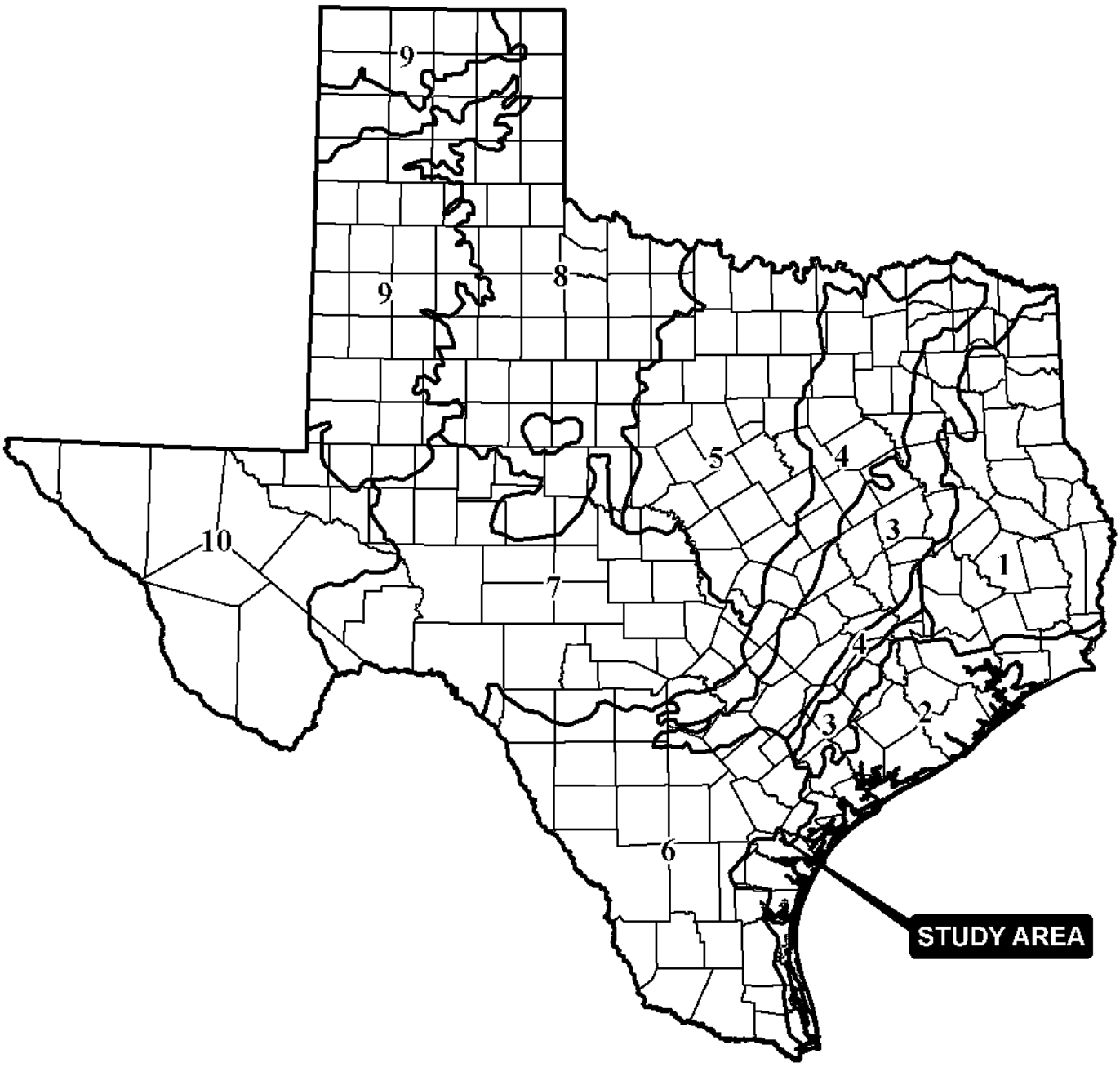
3.6.1 Vegetation

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 Gulf Coast: Coastal Prairie, South Texas: Sandy Mesquite Woodland and Shrubland, and Native Invasive: Huisache Woodland or Shrubland.

3.6.1.1 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. Carpetgrasses (*Axonopus* spp.), rat-tail smutgrass (*Sporobolus indicus*), broomsedge bluestem (*Andropogon virginicus*), silver bluestem (*Bothriochloa laguroides* ssp. *torreyana*), and Texas wintergrass (*Nassella leucotricha*) may be particularly noticeable on over-grazed sites. 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*). Forbs that may often be encountered include gayfeathers (*Liatris* spp.), meadow pink (*Sabatia campestris*), western ragweed (*Ambrosia psilostachya*), snow-on-the-prairie (*Euphorbia bicolor*), goldenrods (*Solidago* spp.), blackeyed



Vegetational Areas Boundary

1 Pineywoods
2 Gulf Prairies and Marshes
3 Post Oak Savannah
4 Blackland Prairies
5 Cross Timbers and Prairies
6 South Texas Plains
7 Edwards Plateau
8 Rolling Plains
9 High Plains
10 Trans-Pecos

County Boundary

State of Texas
San Patricio County
City of Sinton

NAD 1983 Lambert
Conformal Conic

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September 09, 2024

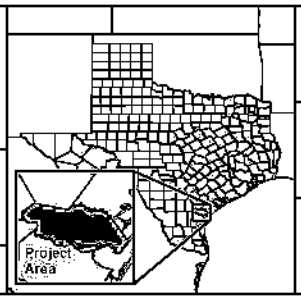


FIGURE 3-2
LOCATION OF THE STUDY AREA IN RELATION TO THE VEGETATIONAL AREAS OF TEXAS

AEP TEXAS

Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County

0 50 100

Miles

Susan (*Rudbeckia hirta*), low wild petunia (*Ruellia humilis*), green milkweed (*Asclepias viridis*), partridge pea (*Chamaecrista fasciculata*), narrowleaf sunflower (*Helianthus angustifolius*), goldentops (*Euthamia* spp.), Mexican hat (*Ratibida columnifera*), heath aster (*Symphyotrichum ericoides*), compassplant (*Silphium laciniatum*), wild indigo (*Baptisia* spp.), narrowleaf sumpweed (*Iva angustifolia*), button snakeroot (*Eryngium yuccifolium*), smallhead doll's daisy (*Boltonia diffusa*), and yellow neptunia (*Neptunia lutea*). 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*).

3.6.1.2 South Texas: Sandy Mesquite Woodland and Shrubland

The overstory is dominated by woodlands or shrublands on sandy substrate where honey mesquite and huisache are present. Other species, including granjeno (*Celtis ehrenbergiana*), may also occur in the canopy. A diverse shrub layer may be present with species such as Texas persimmon (*Diospyros texana*), colima (*Zanthoxylum fagara*), brasil (*Condalia hookeri*), and blackbrush (*Acacia rigidula*).

3.6.1.3 Native Invasive: Huisache Woodland or Shrubland

This broadly defined vegetation type often is dominated by invasive shrubs or small trees such as huisache, honey mesquite, sugar hackberry, cedar elm (*Ulmus crassifolia*), gum bumelia (*Sideroxylon lanuginosum*), water oak (*Quercus nigra*), or Chinese tallow. Plateau live oak (*Quercus fusiformis*) or coastal live oak (*Quercus virginiana*) may be present in the tree layer. Other common species include granjeno, elbow bush (*Forestiera angustifolia*), guajillo (*Acacia berlandieri*), Texas prickly pear (*Opuntia engelmannii* var. *lindheimeri*), Texas persimmon, and Macartney rose.

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 water or groundwater 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 maps and USGS NHD maps encompassing the Study Area indicate the presence of wetland and open-water habitat features throughout the Study Area. 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 emergents, emergent mosses, or lichens; and (2) habitats with water containing ocean-derived salts exceeding 0.5% (Cowardin et al. 1979). Mapped within the Study Area are freshwater emergent wetlands, freshwater forested/shrub wetlands, freshwater ponds, and a riverine system.

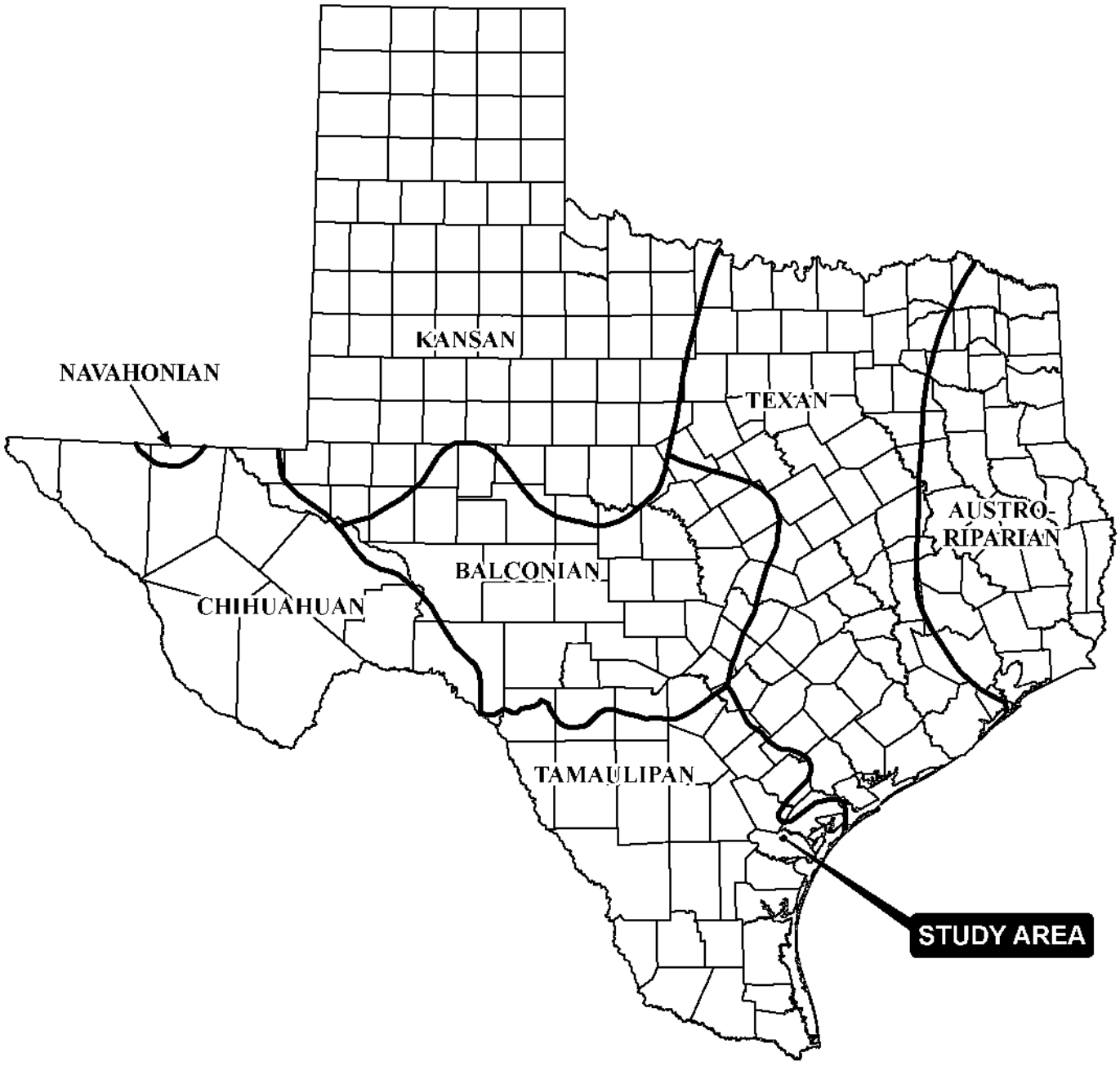
Hydric and aquatic habitats may be considered regulated wetlands by the USACE. Construction activities resulting in the discharge of dredged or fill materials within WOTUS are subject to the regulations and restrictions outlined in Section 404 of the CWA and may require coordination with the USACE to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

3.6.3 Wildlife

The Study Area is located within the Tamaulipan Biotic Province (see **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.

3.6.3.1 Fish

One mapped stream is documented as ending within the Study Area. Based on aerial imagery, it appears that the stream has been anthropogenically influenced to carry water southwest to a vegetated roadside ditch. It is unlikely that fish species occupy this waterbody.



Biotic Province Boundary

County Boundary

State of Texas
San Patricio County
City of Sinton

NAD 1983 Lambert
Conformal Conic

September 09, 2024

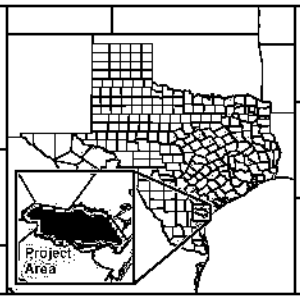


FIGURE 3-3
LOCATION OF THE STUDY AREA IN RELATION TO THE BIOTIC PROVINCES OF TEXAS

AEP TEXAS

Medio Creek-Lon Hill 138-kV
Cut-in to Portilla Substation
Double-circuit Transmission Line in
San Patricio County

0 50 100

Miles

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 3-1.

Table 3-1: 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 treefrog	*Hyla chrysoscelis*
Couch's spadefoot	*Scaphiopus couchii*
Gray treefrog	*Hyla versicolor*
Green treefrog	*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	*Hypopachus variolosus*
Southern leopard frog	*Lithobates sphenocephala*
Spotted chorus frog	*Pseudacris clarkii*
Squirrel treefrog	*Hyla squirella*
Texas toad	*Anaxyrus speciosus*
Upland chorus frog	*Pseudacris 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 3-1: 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 racerunner	*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*
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 3-1: 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 kingsnake	*Lampropeltis calligaster*
Red-bellied mudsnake	*Farancia abacura*
Rough earthsnake	*Haldea striatula*
Rough greensnake	*Opheodrys aestivus*
Saltmarsh snake	*Nerodia clarkii*
Scarletsnake	*Cemophora coccinea*
Schott's whipsnake	*Coluber schotti*
Southern watersnake	*Nerodia fasciata*
Texas coralsnake	*Micrurus tener*
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 3-1: 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 3-2.

Table 3-2: 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 3-2: 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 3-2: 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 3-2: 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 3-2: 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 3-2: 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 3-2: 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 3-2: 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 3-2: 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

Table 3-2: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
PASSERIFOMES: Sturnidae		
European starling	*Sturnus vulgaris*	R
PASSERIFORMES: Troglodytidae		
Bewick's wren	*Thryomanes bewickii*	R
Cactus wren	*Campylorhynchus brunneicapillus*	R
Carolina wren	*Thryothorus ludovicianus*	R
House wren	*Troglodytes aedon*	WR
Marsh wren	*Cistothorus palustris*	WR
Sedge wren	*Cistothorus stellaris*	WR
Winter wren	*Troglodytes hiemalis*	WR
PASSERIFORMES: Turdidae		
American robin	*Turdus migratorius*	SR
Eastern bluebird	*Sialia sialis*	SR
Gray-cheeked thrush	*Catharus minimus*	M
Hermit thrush	*Catharus guttatus*	WR
Swainson's thrush	*Catharus ustulatus*	M
Veery	*Catharus fuscescens*	M
Wood thrush	*Hylocichla mustelina*	M
PASSERIFORMES: Tyrannidae		
Acadian flycatcher	*Empidonax virescens*	M
Ash-throated flycatcher	*Myiarchus cinerascens*	R
Brown-crested flycatcher	*Myiarchus tyrannulus*	SR
Couch's kingbird	*Tyrannus couchii*	SR
Eastern kingbird	*Tyrannus tyrannus*	M
Eastern phoebe	*Sayornis phoebe*	WR
Eastern wood-pewee	*Contopus virens*	M
Great crested flycatcher	*Myiarchus crinitus*	SR
Great kiskadee	*Pitangus sulphuratus*	R
Least flycatcher	*Empidonax minimus*	M
Olive-sided flycatcher	*Contopus cooperi*	M
Scissor-tailed flycatcher	*Tyrannus forficatus*	SR
Vermilion flycatcher	*Pyrocephalus rubinus*	SR
Western kingbird	*Tyrannus verticalis*	SR

Table 3-2: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Willow flycatcher	*Empidonax traillii*	M
Yellow-bellied flycatcher	*Empidonax flaviventris*	M
PASSERIFORMES: Vireonidae		
Bell's vireo	*Vireo bellii*	M
Blue-headed vireo	*Vireo solitarius*	WR
Philadelphia vireo	*Vireo philadelphicus*	M
Red-eyed vireo	*Vireo olivaceus*	M
Warbling vireo	*Vireo gilvus*	M
White-eyed vireo	*Vireo griseus*	SR
Yellow-throated vireo	*Vireo flavifrons*	M
PELECANIFORMES: Ardeidae		
American bittern	*Botaurus lentiginosus*	WR
Black-crowned night-heron	*Nycticorax nycticorax*	R
Cattle egret	*Bubulcus ibis*	R
Great blue heron	*Ardea herodias*	R
Great egret	*Ardea alba*	R
Green heron	*Butorides virescens*	R
Least bittern	*Ixobrychus exilis*	SR
Little blue heron	*Egretta caerulea*	SR
Snowy egret	*Egretta thula*	R
Tricolored heron	*Egretta tricolor*	R
PELECANIFORMES: Pelicanidae		
American white pelican	*Pelecanus erythrorhynchos*	WR
Brown pelican	*Pelecanus occidentalis*	M
PELECANIFORMES: Threskiornithidae		
Glossy ibis	*Plegadis falcinellus*	R
Roseate spoonbill	*Platalea ajaja*	R
White ibis	*Eudocimus albus*	R
White-faced ibis	*Plegadis chihi*	R
PICIFORMES: Picidae		
Golden-fronted woodpecker	*Melanerpes aurifrons*	R
Ladder-backed woodpecker	*Dryobates scalaris*	R
Northern flicker	*Colaptes auratus*	SR

Table 3-2: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Yellow-bellied sapsucker	*Sphyrapicus varius*	WR
PODICIPEDIFROMES: Podicipedidae		
Eared grebe	*Podiceps nigricollis*	WR
Least grebe	*Tachybaptus dominicus*	R
Pied-billed grebe	*Podilymbus podiceps*	R
STRIGIFORMES: Strigidae		
Barred owl	*Strix varia*	R
Burrowing owl	*Athene cunicularia*	WR
Eastern screech-owl	*Megascops asio*	R
Great horned owl	*Bubo virginianus*	R
Short-eared owl	*Asio flammeus*	WR
STRIGIFORMES: Tytonidae		
Barn owl	*Tyto alba*	R
SULIFORMES: Anhingidae		
Anhinga	*Anhinga anhinga*	R
SULIFORMES: Phalacrocoracidae		
Double-crested cormorant	*Nannopterum auritum*	M
Neotropic cormorant	*Nannopterum brasilianum*	R

Source: Lockwood and Freeman (2014).
Nomenclature follows: American Birding Association (2023).
(a) Likely seasonal occurrence abbreviations:
R – Resident: Occurring regularly in the same general area throughout the year-implies breeding
SR – Summer Resident: Implies breeding but may include nonbreeders
WR – Winter Resident: Occurs during winter season
M – Migrant: Occurs as a transient passing through the area either in spring or fall or both

3.6.3.4 Mammals

A representative list of common mammals that may occur in the Study Area is included in Table 3-3.

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

Common Name	Scientific Name
ARTIODACTYLA: Cervidae	
White-tailed deer	*Odocoileus virginianus*
ARTIODACTYLA: Tayassuidae	
Collared peccary	*Pecari tajacu*
CARNIVORA: Canidae	
Common gray fox	*Urocyon cinereoargenteus*
Coyote	*Canis latrans*
CARNIVORA: Felidae	
Bobcat	*Lynx rufus*
Mountain lion	*Puma concolor*
CARNIVORA: Mephitidae	
Eastern spotted skunk	*Spilogale putorius*
Hog-nosed skunk	*Conepatus leuconotus*
Striped skunk	*Mephitis mephitis*
CARNIVORA: Mustelidae	
American badger	*Taxidea taxus*
Long-tailed weasel	*Neogale frenata*
CARNIVORA: Procyonidae	
Raccoon	*Procyon lotor*
Ringtail	*Bassariscus astutus*
White-nosed coati	*Nasua narica*
CHIROPTERA: Molossidae	
Big free-tailed bat	*Nyctinomops macrotis*
Brazilian free-tailed bat	*Tadarida brasiliensis*

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

Common Name	Scientific Name
CHIROPTERA: Vespertilionidae	
Cave myotis	*Myotis velifer*
Eastern red bat	*Lasiurus borealis*
Evening bat	*Nycticeius humeralis*
Hoary bat	*Lasiurus cinereus*
Northern yellow bat	*Lasiurus intermedius*
Silver-haired bat	*Lasionycteris noctivagans*
Southern yellow bat	*Lasiurus ega*
Tricolored bat	*Perimyotis subflavus*
CINGULATA: Dasypodidae	
Nine-banded armadillo	*Dasypus novemcinctus*
DIDELPHIMORPHIA: Didelphidae	
Virginia opossum	*Didelphis virginiana*
EULIPOTYPHLA: Soricidae	
Crawford's desert shrew	*Notiosorex crawfordi*
Least shrew	*Cryptotis parva*
EULIPOTYPHLA: Talpidae	
Eastern mole	*Scalopus aquaticus*
LAGOMORPHA: Leporidae	
Black-tailed jackrabbit	*Lepus californicus*
Eastern cottontail	*Sylvilagus floridanus*
RODENTIA: Castoridae	
American beaver	*Castor canadensis*
RODENTIA: Cricetidae	
Fulvous harvest mouse	*Reithrodontomys fulvescens*
Hispid cotton rat	*Sigmodon hispidus*
North American deermouse	*Peromyscus maniculatus*

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

Common Name	Scientific Name
Northern grasshopper mouse	*Onychomys leucogaster*
Northern pygmy mouse	*Baiomys taylori*
Southern plains woodrat	*Neotoma micropus*
Texas marsh rice rat	*Oryzomys texensis*
White-footed deermouse	*Peromyscus leucopus*
RODENTIA: Geomyidae	
Attwater's pocket gopher	*Geomys attwateri*
Texas pocket gopher	*Geomys personatus*
RODENTIA: Heteromyidae	
Gulf Coast kangaroo rat	*Dipodomys compactus*
Hispid pocket mouse	*Chaetodipus hispidus*
Merriam's pocket mouse	*Perognathus merriami*
RODENTIA: Sciuridae	
Eastern fox squirrel	*Sciurus niger*
Rio Grande ground squirrel	*Ictidomys parvidens*
Spotted ground squirrel	*Xerospermophilus spilosoma*
RODENTIA: Myocastoridae	
Nutria	*Myocastor coypus*

Source: Schmidly and Bradley (2016).
Nomenclature follows: Revised Checklist of North American Mammals North of Mexico (Bradley et al. 2014).

3.6.4 Recreationally and Commercially Important Species

A species is considered important if one or more of the following criteria applies:

- The species is recreationally or commercially valuable;
- The species is endangered or threatened;
- The species affects the well-being of some important species within criterion (a) or (b);
- The species is critical to the structure and function of the ecological system; or
- The species is a biological indicator.

Wildlife resources within the Study Area provide human benefits resulting from both consumptive and nonconsumptive uses. Nonconsumptive uses include observing and photographing wildlife, birdwatching, and other similar activities. These uses, although difficult to quantify, deserve consideration in the evaluation of the wildlife resources of the Study Area. Consumptive uses, such as fishing, hunting, and trapping, are more easily quantifiable. Consumptive and nonconsumptive uses of wildlife are often enjoyed contemporaneously and are generally compatible. Many species occurring in the Study Area provide consumptive uses, and all provide the potential for nonconsumptive benefits.

The Study Area falls within the TPWD's Gulf Prairies and Marshes Ecological Region, which provides a variety of habitats to support hunting, fishing, trapping, and bird-watching opportunities. For quantifiable results for consumptive uses, the Consultant submitted a data request on June 6, 2024 to the TPWD for its 2023-2024 Big Game Harvest Survey results (Purvis 2024a) and 2023-2024 Small Game Harvest Survey results (Purvis 2024b).

A review of the Big Game Harvest Survey report identified the Study Area as falling within the Gulf Prairies and Marshes Ecological Region for white-tailed deer (*Odocoileus virginianus*) and Gulf Prairies for Javelina (*Pecari tajacu*). During the 2023-2024 hunting season, an estimated 14,533 white-tailed deer and 254 Javelina were harvested (Purvis 2024a). A review of the Small Game Harvest Survey report determined during the 2023-2024 hunting season, an estimated 511,609 doves, 373 turkeys, and 1,079,331 waterfowl were harvested within the Gulf Prairies (Purvis 2024b).

Waterfowl hunting and commercial fishing are economically important within this ecological region. However, due to the lack of large permanent waterbodies, little to no opportunity exists within the Study Area.

3.6.5 Endangered and Threatened Species

An endangered species is one that is in danger of extinction throughout all or a significant portion of its natural range, while a threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A candidate species is one that is currently in the assessment process to determine if listing is appropriate using the listing factors in Section 4.0 of the ESA.

3.6.5.1 Plant Species

A USFWS IPaC report (Consultation Code: 2024-0098462) and a TPWD Rare, Threatened, and Endangered Species of Texas (RTEST) report were submitted and received on June 3, 2024. The USFWS and TPWD reports identify federally listed threatened, endangered, and proposed species and designated critical habitat potentially occurring at a Study Area level (USFWS 2024a) and county level (TPWD 2024c). The Consultant also requested data of known occurrences for sensitive plant communities from the TPWD NDD (TPWD 2024d). For the purpose of this study, NDD information is not used as a substitute for a presence/absence survey, but as an indication of past observations of a species within suitable habitat. Only a site survey can determine whether a species or suitable habitat is present.

A review of the IPaC report (USFWS 2024a) identified one federally endangered plant species, the black lace cactus (*Echinocereus reichenbachii var. albertii*), that may occur within the Study Area. However, a review of RTEST did not identify the black lace cactus occurring within San Patricio County. A review of the NDD did not identify any known occurrences of threatened or endangered plant species or sensitive plant communities within the Study Area. No critical habitat was identified within the Study Area (TPWD 2024a).

3.6.5.1.1 Black Lace Cactus

The federally and state-listed black lace cactus is a succulent perennial that grows in clusters of 1 to 12 or more stems that are up to 20 centimeters tall. The USFWS considers the black lace cactus to occur in openings in mesquite brush along streams of the coastal plain at 50 meters or less in elevation, while the TPWD considers the black lace cactus to occur in coastal grasslands and openings in dense scrublands and woodlands within the South Texas Coastal Bend counties of Atascosa, Jim Wells, Kleberg, McMullen, and Refugio. The TPWD notes that the cactus has been given several scientific names since it was first described in 1969 (TPWD 2024c). The NDD indicates no documented records of the black lace cactus within 10 miles of the Study Area, and it is unlikely the species would occur due to the lack of suitable habitat (TPWD 2024d; USFWS 1987).

3.6.5.1.2 Sensitive Plant Communities

A review of the NDD did not identify any known occurrences of sensitive plant communities within the Study Area. No critical habitat was identified within the Study Area (TPWD 2024d).

3.6.5.2 Federally Listed Wildlife Species

The USFWS IPaC report and the RTEST database identified 20 federally listed fish and wildlife species for the Study Area (USFWS 2024a) and Study Area County (TPWD 2024c) (Table 3-4). A brief summary of each listed species' life history is provided below.

Table 3-4: Federally Listed Fish and Wildlife Species for the Study Area County

Common Name	Scientific Name	Status	Potential for Occurrence in the Study Area[a]
		USFWS	
Birds			
Eastern black rail	*Laterallus jamaicensis ssp. jamaicensis*	Threatened	Not Likely
Piping plover	*Charadrius melodus*	Threatened	Not Likely[a]
Rufa red knot	*Calidris canutus rufa*	Threatened	Not Likely[a]
Whooping crane	*Grus americana*	Endangered	Not Likely[a]
Fish			
Oceanic whitetip shark	*Carcharhinus longimanus*	Threatened	None
Insects			
Monarch butterfly	*Danaus plexippus*	Candidate	Likely
Mammals			
Blue whale	*Balaenoptera musculus*	Endangered	None
Gulf of Mexico Bryde's whale	*Balaenoptera ricei*	Endangered	None
Humpback whale	*Megaptera novaeangliae*	Endangered	None
North Atlantic right whale	*Eubalaena glacialis*	Endangered	None
Ocelot	*Leopardus pardalis*	Endangered	Not Likely[a]
Sei whale	*Balaenoptera borealis*	Endangered	None
Sperm whale	*Physeter macrocephalus*	Endangered	None
Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	Likely
West Indian manatee	*Trichechus manatus*	Threatened	None
Reptiles			
Green sea turtle	*Chelonia mydas*	Threatened	None
Hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	None