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APPLICATION OF THE CITY OF SAN ANTONIO, ACTING BY AND THROUGH THE CITY PUBLIC SERVICE BOARD (CPS ENERGY) TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE PROPOSED O.W. SOMMERS SWITCHYARD TO PADUA GRID BESS 138 KV TRANSMISSION LINE IN BEXAR COUNTY, TEXAS

DOCKET NO. 54308

Submit seven (7) copies of the application and all attachments supporting the application. If the application is being filed pursuant to 16 Tex. Admin. Code § 25.101(b)(3)(D) (TAC) or 16 TAC § 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

Note: As used herein, the term "joint application" refers to an application for proposed transmission facilities for which ownership will be divided. All applications for such facilities should be filed jointly by the proposed owners of the facilities.

1. **Applicant (Utility) Name:** City of San Antonio, acting by and through the City Public Service Board (CPS Energy)

   Certificate Number: 30031

   Street Address: 500 McCullough Ave.
   San Antonio, TX 78215

   Mailing Address: 500 McCullough Ave.
   San Antonio, TX 78215

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.**

   CPS Energy will hold the sole interest in the project that is the subject of this Application. No entities will hold an ownership or investment interest in the project that are not subject to the jurisdiction of the Public Utility Commission of Texas (PUC or Commission).

3. **Person to Contact:** Antonio DeMendonca
   Title/Position: EDS Project Manager, Project Management & Performance Improvement
   Phone Number: (210) 353-5318
   500 McCullough Ave.
   San Antonio TX 78215
   Email Address: ademendonca@cpsenergy.com

   Alternate Contact: Ricardo Renteria
   Title/Position: Senior Director, Substation & Transmission
   Phone Number: (210) 353-6108
   Mailing Address: 500 McCullough Ave.
   San Antonio TX 78215
   Email Address: rrenteria@cpsenergy.com

Legal Counsel: Kirk Rasmussen
Phone Number: (512) 236-2310
Mailing Address: Jackson Walker LLP
100 Congress Avenue, Suite 1100
Austin, TX 78701
Email Address: krasmussen@jw.com

4. Project Description:
Name or Designation of Project

O.W. Sommers Switchyard to Padua Grid BESS 138 kV Transmission Line in Bexar County, Texas (the Proposed Project).

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.

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.).

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

General Description of Project

The Proposed Project is a new single circuit 138 kilovolt (kV) transmission line located wholly in Bexar County, Texas. The Proposed Project consists of constructing a new single circuit 138 kV transmission line connecting the new Padua Grid Battery Energy Storage System (BESS) to the electric grid from CPS Energy's existing O.W. Sommers Switchyard, located at the O.W. Sommers Power Plant (also owned by CPS Energy). The new transmission line will be approximately two miles (1.96 miles) in length.

The Proposed Project will be constructed on single-circuit monopole structures. To connect the new transmission line to the existing electric transmission system, the Proposed Project will interconnect at the existing O.W. Sommers Switchyard.

Please see Figure 1-1 in the *Transmission Interconnect – Padua Grid BESS Project Environmental Assessment and Route Analysis, Bexar County, Texas* (EA), incorporated herein by reference for all purposes and included as Attachment No. 1 to this Application, which shows the location of the Proposed Project end points.

The Proposed Project is not located, all or in part, within a Competitive Renewable Energy Zone (CREZ). No substation reactive compensation and no series elements such as sectionalizing switching devices or series line compensation will be constructed as part of the Proposed Project.

The Proposed Project is located wholly on only two landowners: CPS Energy and Padua Grid, LLC (Padua) (the owner of the Padua Grid BESS). Padua has provided a written consent for the Proposed Project to cross its property, and such written consent is attached to this application as Attachment No. 2. Two existing CPS Energy 138 kV transmission lines provide a generally straight path between the O.W. Sommers Switchyard and the Padua Grid BESS. A CPS Energy 345 kV transmission line parallels the existing 138 kV transmission lines for approximately half of the distance between the O.W. Sommers Switchyard and the Padua Grid BESS (on the eastern side of the existing lines). As a result, this Application includes one proposed route, paralleling the western edge of the existing 138 kV transmission lines for approximately 75 percent of the route (the Proposed Route). Figures 4-1 and 4-2 of the EA, which are also being electronically filed separately, show the location of the Proposed Route.

Ownership Arrangements

CPS Energy will design, procure, construct, operate, and maintain all transmission line facilities for the Proposed Project, including all conductors, wires, structures, hardware, and rights-of-way (ROW). The Proposed Project will interconnect to the existing electric grid at the O.W. Sommers Switchyard.

Deviation from original PURA § 39.151 organization (ERCOT)

The Proposed Project has not been submitted to a PURA § 39.151 organization for review. The Proposed Project is a Tier 4 Neutral project pursuant to the classifications established by the Electric Reliability Council of Texas (ERCOT). Accordingly, the Proposed Project is not required to be submitted to the ERCOT Regional Planning Group for review and comment. CPS Energy has concluded that the Proposed Project will not result in any violation of North American Electric Reliability Corporation (NERC) or ERCOT performance requirements.

5. Conductor and Structures:

Conductor Size and Type:	1272 kcmil ACSS/TW "Pheasant"
Number of conductors per phase:	One conductor per phase

Continuous Summer Static Current Rating (A):	1,848
Continuous Summer Static Line Capacity at Operating Voltage (MVA):	441
Continuous Summer Static Line Capacity at Design Voltage (MVA):	441
Type and Composition of Structures:	CPS Energy proposes to use 138 kV single-circuit pole structures for typical tangent and dead-end structures.
Height of Typical Structures:	The heights of typical structures proposed for the project range from 70 to 130 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.

CPS Energy engineers selected steel monopoles as the structure type for the Proposed Project. Steel monopoles are the least-cost structure alternative, generally require a smaller footprint, and are typically the most favored structure type by landowners. For a detailed discussion of the proposed typical structures and their requirements please refer to Section 1.3.2 of the EA.

Please refer to Figures 1-2 through 1-3 in the EA for drawings of the typical structures proposed to be used for the Proposed Project.

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:	Approximately two miles (1.96 miles) of ROW will be required for the Proposed Project.
Miles of Circuit:	Approximately two miles (1.96 miles) of circuit will be required for the Proposed Project.
Width of Right-of-Way:	The typical ROW width for the Proposed Project is estimated to be 75 feet.
Percent of Right-of-Way Acquired/ Donated/Available for use:	All of the ROW necessary for the Proposed Project will be located on land owned by either CPS Energy or Padua. As noted previously, Padua has provided written consent for the Proposed Project to cross its property, and such consent is Attachment No. 2 to this application.

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 new transmission line will connect the Padua Grid BESS located east of the intersection of Burshard Road and Gardner Road to the existing O.W. Sommers Switchyard at the southern end of Gardner Road. The area of the Proposed Project is located southeast of the municipal boundaries of the City of San Antonio (City) in south central Texas within Bexar County.

Land uses within the study area are a mixture of urban/developed, planned land use, agriculture, oil and gas facilities, transportation/aviation/utility features, communication towers, and parks and recreation areas.

The study area of the Proposed Project is oriented in a north to south direction with the existing O.W. Sommers Switchyard located in the southern portion of the study area and the proposed Padua Grid BESS located in the northern portion of the study area. The study area is shown in Figure 2-1 of the EA

Specific discussion regarding natural, human, and cultural resources in the study area is set forth in the EA, Section 3.0, pages 3-1 through 3-52.

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 stations associated with the Proposed Project. CPS Energy is the owner of the O.W. Sommers Switchyard, which is the point of interconnection for the Padua Grid BESS.

8. Estimated Schedule:

Estimated Dates of:	Start	Completion
Right-of-way and Land Acquisition	N/A	N/A
Engineering and Design	July 05, 2022	January 13, 2023
Material and Equipment Procurement	November 21, 2022	June 06, 2023
Construction of Facilities	June 05, 2023	November 10, 2023
Energize Facilities		November 17, 2023

9. Counties:

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

The Proposed Route is located wholly within Bexar County. Please refer to Figures 4-1 and 4-2 in the EA for the location of the Proposed Route.

10. Municipalities:

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

The Proposed Route is not located within an incorporated municipality.

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.

Authority for CPS Energy to provide transmission service within Bexar County is contained in, among other dockets, Docket No. 59.

11. Affected Utilities:

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

No other electric utility is served by or connected to the proposed facilities in this Application.

Describe how any other electric utility will be affected and the extent of the other utilities' involvement in the construction of this project. Include any other electric 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.

See the response above.

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.

CPS Energy will finance the facilities included in the Application in a manner similar to that which has been used for projects previously constructed by CPS Energy. Such financing may include a combination of tax-exempt commercial paper, tax-exempt private revolving note, or taxable commercial paper, and, subsequent to project completion, fixed rate debt. Interest on the debt may be capitalized until the project is in service, at which point it is intended that both the principal and interest will be serviced with Transmission Cost of Service revenues.

CPS Energy is the sole applicant, and, therefore, no other party will be reimbursed for any portion of the project.

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.

	Transmission Facilities	Substation Facilities
Right-of-way and Land Acquisition	N/A	N/A
Engineering and Design (Utility)	$326,000	$226,000
Engineering and Design (Contract)		N/A
Procurement of Material and Equipment (including stores)	$1,275,000	$420,000
Construction of Facilities (Utility)	N/A	$393,638
Construction of Facilities (Contract)	$1,596,000	N/A
Other (all costs not included in the above categories)	$76,000	
Estimated Total Cost	$3,273,000	$1,039,638

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.

The Proposed Project is needed to provide the Padua Grid BESS access to the ERCOT transmission grid. The Padua Grid BESS consists of two 138/34.5/13.8 kV main power transformers with each main power transformer connecting to 35 BESS blocks each rated for 3.15 MVA for a combined gross output of 202.6 MW. Generation of this capacity requires transmission-level facilities to interconnect to the grid. CPS Energy received a valid request for interconnection from Padua and a full interconnection study was conducted in accordance with ERCOT requirements, with all studies deemed complete by ERCOT on July 21, 2021. Padua requested for CPS Energy to provide interconnection facilities to connect this new BESS facility to the CPS Energy-owned portion of the

ERCOT transmission grid, and has subsequently entered into an agreement for CPS Energy to design and construct said facilities, as evidenced by Attachment No. 3a, which is *ERCOT Standard Generation Interconnection Request 22INR0368*, dated November16, 2021 and Attachment No. 3b, which is *First Amendment to Generation Interconnection Agreement*, dated May 13, 2022.

The Proposed Project is an ERCOT generation interconnection project needed to connect the 202.6 MW Padua Grid BESS facility to the ERCOT transmission grid. CPS Energy, as a transmission service provider (TSP), is obligated to provide transmission service to any transmission service customer if a valid interconnection request is received, an interconnection agreement has been executed for service between the TSP and the interconnecting transmission service customer, and the transmission service customer has complied with all applicable ERCOT protocol provisions pursuant to 16 Texas Administrative Code (TAC) § 25.198(b). Furthermore, a TSP is required to interconnect its facilities with new generation sources and construct facilities needed for such an interconnection in accordance with 16 TAC § 191(d)(3). Because Padua is a power generation company and a transmission service customer under 16 TAC § 25.5(139), CPS Energy, as a TSP, is obligated under the provisions outlined above to provide the interconnection requested and to provide transmission service.

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.

Not applicable to the Proposed Project.

For all projects, provide any documentation of the review and recommendation of a PURA § 39.151 organization.

Because this project is for the interconnection of new generation, ERCOT characterizes it as a Tier 4 "neutral project" which is not submitted for ERCOT regional planning group review. However, ERCOT has performed a confidential screening study in accordance with its protocols as part of ERCOT's full interconnection study process. The full interconnection study includes a number of sub-studies, including a steady-state analysis, short-circuit analysis, stability analysis, and a facility study.

The facility study was submitted for ERCOT and other utilities' review and comment, and CPS Energy received no objections or comments within the 10-business-day timeframe prescribed by ERCOT Nodal Protocol 3.11.4.3(2)(a). A confidential copy of the final ERCOT facility study is included in this Application as Attachment No. 4.

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.

Due to the location of the proposed Padua Grid BESS and the current transmission system configuration in the vicinity of that proposed facility, no viable alternatives were identified for the Proposed Project. Interconnecting the Padua Grid BESS requires transmission-level service; thus, distribution alternatives are insufficient.

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 of CPS Energy's transmission system in the proximate area of the project is included with this Application as Attachment No. 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.

CPS Energy retained POWER Engineers, Inc. (POWER) to prepare the EA for the Project, included as Attachment No. 1. The objective of the EA was to provide information in support of this Application in addressing the requirements of PURA § 37.056(c)(4)(A)-(D), the PUC CCN Application form, and PUC Substantive Rule 25.101 (16 TAC § 25.101). By examining existing environmental conditions, including the human and natural resources that are located in the area of the Proposed Project, the EA evaluates the environmental effects that could result from the construction, operation, and maintenance of the Proposed Project. The EA will also be used in support of any additional local, state, or federal permitting activities that may be required for the Proposed Project.

To assist POWER in its evaluation, CPS Energy provided information regarding the project endpoints, the need for the project, engineering and design requirements, construction practices, and ROW requirements for the Proposed Project.

Selecting the Study Area

POWER, with input and assistance from CPS Energy, delineated the study area within which to review the existing environment and to locate the Proposed Route. The boundaries of the study area were determined by the existing project endpoints (the location of the proposed Padua Grid BESS and the location of the O.W. Sommers Switchyard), other existing ROW (e.g., roadways and existing transmission lines), and existing cultural and land use features across the study area. The final study area, shown in Figure 2-1 of the EA, is approximately 2.25 miles long by 0.5 miles wide, and encompasses an area of approximately 1.0 square miles (700 acres).

Route Constraints

Once the study area was defined, data related to land use, aesthetics, ecology, and cultural resources were collected by POWER through: conducting ground reconnaissance; reviewing available maps and aerial photography; reviewing previous studies conducted in the area; contacting a variety of local, state, and federal agencies; and considering criteria established in PURA § 37.056(c)(4)(A)-(D), the PUC's CCN Application form, and PUC Substantive Rule 25.101. Using this information, the locations of any sensitive features and other constraints were identified.

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. No public meeting or open house is required for this Project. Pursuant to 16 TAC § 22.52(a)(4), a public meeting is only required when 25 or more people are entitled to receive direct notice of the project. Here, there are only two landowners entitled to receive direct notice of the Proposed Project (CPS Energy and Padua). Consistent with 16 TAC § 22.52(a)(4), in the absence of a public meeting, CPS Energy notified the Department of Defense Siting Clearinghouse (or, as it is currently known, the Military Aviation and Installation Assurance Siting Clearinghouse) prior to completion of the

routing study of CPS Energy's intent to file this application. A copy of this letter is included as Attachment No. 6 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).

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.

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.

Base Maps

EA Figure 4-2, titled *Habitable Structures and Land Use Features in the Vicinity of the Proposed Route*, consists of aerial photography produced at a scale of 1 inch = 500 feet using recent aerial imagery (2022). The aerial photo-based map includes parcel boundaries identified from a review of the tax appraisal district records and combined, as appropriate, to reflect instances where multiple parcels are owned by a single individual or group in the study area. The locations of all known habitable structures within 300 feet of the centerline of the Proposed Route are also identified on Figure 4-2.

Base maps include sufficient cultural and natural features to permit location of the proposed route in the field, and they depict existing electric transmission lines (based on information available to POWER), and major public roads located within the study area, as applicable.

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.

Upon approval of the Application by the PUC, the following permits/approvals would be required and obtained prior to the commencement of construction:

- Since more than one acre will be disturbed during construction of the project, a Storm Water Pollution Prevention Plan (SWPPP) will be necessary. Further, because more than five acres will be disturbed, a Notice of Intent (NOI) will be prepared by CPS Energy for the Texas Commission on Environmental Quality (TCEQ). The controls specified in the SWPPP will be monitored in the field.

- Upon approval of the Application and prior to construction, a detailed Natural Resources Assessment (NRA) and Cultural Resources Assessment (CRA) will be performed on the approved route. Depending on the results of these assessments, permits or regulatory approvals may be required from the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), TCEQ, or Texas Historical Commission/State Historic Preservation Officer. Such permits or regulatory approvals will be obtained by CPS Energy prior to construction.

- After alignments and structure locations/heights are designed and engineered, CPS Energy will make a final determination of the need for Federal Aviation Administration (FAA) notification, based on structure locations and designs. In some areas, if necessary, CPS Energy could use lower-than-typical structure heights and could add marking and/or lighting to certain structures to avoid or accommodate FAA requirements.

- CPS Energy will report the status of the Proposed Project to the PUC on CPS Energy's Monthly Construction Progress Report, beginning with the first report following the filing of a CCN application, and in each subsequent monthly progress report until construction is completed and actual project costs have been reported. As required by the PUC, CPS Energy will submit locational and attribute data for the new facilities along the approved route after it is constructed.

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 four known habitable structures within 300 feet of the Proposed Route. All of the directly affected habitable structures are owned and operated by CPS Energy in conjunction with the O.W. Sommers Power Plant.

22. Electronic Installations:

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

There are no known commercial AM radio transmitters located within 10,000 feet of the Proposed Route. There are no known communication towers (FM radio transmitters, microwave towers, or other electronic communications towers) that are located within 2,000 feet of the Proposed Route. The Proposed Route is not anticipated to have any impact on existing communication towers.

23. Airstrips:

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

closest point of the closest landing and takeoff area of the heliport. Provide a general description of each listed private airstrip, registered airport, and heliport; and state the distance of each from the center line of each route. Locate and identify all listed airstrips, airports, and heliports on a routing map.

POWER's review of federal and state aviation/airport maps and directories, aerial photo interpretation and reconnaissance surveys, as well as information received from the TxDOT Division of Aviation, identified no FAA registered heliports located within 5,000 feet of the centerline of the Proposed Route, no FAA registered public or military airport with a runway longer than 3,200 feet within 20,000 feet of the Proposed Route, and no FAA registered public or military airports with runways shorter than 3,200 feet within 10,000 feet of the Proposed Route. No private airstrips were identified within 10,000 feet of the centerline of the Proposed Route. One private heliport associated with the O.W. Sommers Power Plant was identified within 5,000 feet of the centerline of the Proposed Route. The Proposed Route will not have any impact on existing airstrips or heliports.

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.

Based on POWER's review of aerial photography and field reconnaissance, the route for the Proposed Project does not cross any known cropland or pastureland irrigated by traveling irrigation systems, either rolling or pivot type.

25. Notice:

Notice is to be provided in accordance with 16 TAC 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.

CPS Energy and Padua are the only directly affected landowners entitled to notice of the Application. A copy of the written direct mail notice provided to Padua is included as Attachment No. 7.

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

A copy of the written notice sent to Floresville Electric Light & Power System, the only electric utility located within five miles of the Proposed Project, is included as Attachment No. 8 to this Application.

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 copy of the written notice sent to county and municipal authorities and the Department of Defense Siting Clearinghouse (or, as it is currently known, the Military Aviation and Installation Assurance Siting Clearinghouse) (the "Clearinghouse") is included as Attachment No. 8 to this Application. The names and addresses of county and municipal authorities and the Clearinghouse to whom the written notices were sent are included in Attachment No. 9 to this Application. The Texas Office of Public Utility Counsel was hand delivered a notice of the Application in accordance with the provisions of 16 TAC 22.74(b).

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.

A copy of the public notice that will be published in the *San Antonio Express News* (a newspaper of general circulation in Bexar County where the transmission facilities are to be constructed) once for one week after the Application is filed with the PUC is included as Attachment No. 10 to the Application. A publisher's affidavit and tear sheet will be filed with the PUC showing proof of notice as soon as available after filing of the Application.

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.

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 reviewed USGS topographic maps, TxDOT county highway maps, recent aerial photography, and field reconnaissance to identify parks and recreation areas within the study area. Based on this review, POWER identified no parks or recreation areas located within 1,000 feet of the centerline of the Proposed Route. The Proposed Route is not anticipated to have any significant impact on the use of parks and recreation facilities.

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.

POWER conducted a literature review and records search at the Texas Historical Commission and The Texas Archeological Research Laboratory at the University of Texas at Austin to identify known historical and archeological sites located within 1,000 feet of the centerline of the Proposed Route. For more information regarding site descriptions and the evaluation of the historical and archeological sites located within the study area, see Section 3.5 and Section 4.5 of the EA.

Based on POWER's review, four recorded archeological sites are located within the ROW of the Proposed Route. Seven additional archeological sites are located within 1,000 feet of the centerline of the Proposed Route. These 11 sites are listed and described with the approximate distance from the centerline of the Proposed Route in Table 4-2 of the EA. For the protection of these sites, they are not shown on Figure 4-2. The description of each site is included in Section 4.5.3 of the EA. The Proposed Route is not anticipated to have any significant impact on the archeological sites identified within 1,000 feet.

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 TAC §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 TAC §19.2(a)(21). Using the designations in 31 TAC §501.3(b), identify the type(s) of Coastal Natural Resource Area(s) impacted by any part of the route and/or facilities.

No part of the Proposed Route is located within the Coastal Management Program 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 applicant shall file an affidavit confirming that the letter of transmittal and studies/assessments were sent to TPWD.

The EA describes the natural resources, cultural resources, land uses, and other sensitive areas that may occur within the study area. The EA also describes how the Proposed Project may impact such resources. Specifically, the EA includes data obtained from TPWD, including the Texas Natural Diversity Database (TXNDD) and a list of Ecologically Significant Stream Segments (ESSS) in the study area.

CPS Energy will deliver a copy of the EA to TPWD on the date the Application is filed. A copy of the letter of transmittal of the EA to TPWD is provided as Attachment No. 11.

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.

A sworn affidavit is attached below.

AFFIDAVIT OF ANTONIO DEMENDONCA

STATE OF TEXAS §
§
§

Before me, the undersigned authority, Antonio DeMendonca, being first duly sworn, deposes and states:

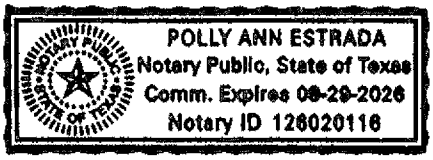
"My name is Antonio DeMendonca. I am an Energy Delivery Services (EDS) Project Manager for CPS Energy (CPS Energy). I am over the age of twenty-one, and am competent to make the following affidavit:

On behalf of CPS Energy and in my capacity as an EDS Project Manager, I am authorized to file and verify the CCN Application for CPS Energy. I am personally familiar with the documents filed with this application, and I have complied with all the requirements contained in the application; furthermore, all such statements made and matters set forth therein with respect to CPS Energy are true and correct."

Antonio DeMendonca
Affiant

SUBSCRIBED AND SWORN TO BEFORE ME, a Notary Public in and for the State of Texas, this 9 day of NOVEMBER, 2022.

POLLY ANN ESTRADA
Notary Public



ATTACHMENTS TO THE APPLICATION

LIST OF ATTACHMENTS

1	Environmental Assessment and Route Analysis
2	Landowner Consent
3a	ERCOT Standard Generation Interconnection Request 22INR0368
3b	First Amendment to Generation Interconnection Agreement
4	CONFIDENTIAL Facility Study Report for Padua Grid Bess
5	Area Transmission System
6	DoD Notice of Intent to File CCN Application - Padua Bess
7	Copy of Written Direct Notice Provided to Landowner Padua Grid, LLC
8	Representative Copy of Written Direct Notice Provided to Neighboring Utility Within 5 Miles and Agencies/Gov't Officials
9	Written Direct Notice Contact List
10	Copy of Public Notice to Be Published in the *San Antonio Express News*
11	Copy of TPWD Environmental Assessment Transmittal Letter*
*	Excluding the copy of the EA and this Application, which were provided as enclosures under cover of the transmittal letter

ATTACHMENT NO. 1

ENVIRONMENTAL ASSESSMENT AND ROUTE ANALYSIS

October 2022

CPS ENERGY

Transmission Interconnect – Padua Grid BESS Project
Environmental Assessment and Route Analysis

Bexar County, Texas

PROJECT NUMBER:
179566

PROJECT CONTACT:
Lisa Barko Meaux
EMAIL:
lisa.barko@powereng.com
PHONE:
281-765-5507

POWER ENGINEERS

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Transmission Interconnect - Padua Grid BESS Project

PREPARED FOR: *CPS ENERGY*

PREPARED BY: *POWER ENGINEERS, INC.*
HOUSTON, TEXAS

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C Figure 4-2 Habitable Structures and Other Land Use Features in the Vicinity of the Proposed Route (Aerial Base Map)

FIGURES:

TABLES:

ACRONYMS AND ABBREVIATIONS

AM radio	Amplitude modulation radio
amsl	above mean sea level
BEG	Bureau of Economic Geology
BESS	Battery Energy Storage System
BGEPA	Bald and Golden Eagle Protection Act
BMP(s)	Best Management Practice(s)
BP	Before Present
CCN	Certificate of Convenience and Necessity
C.F.R.	Code of Federal Regulations
CLF	civilian labor force
CMP	Costal Management Program
CMZ	Coastal Management Zone
CPS Energy	City Public Service Energy
CWA	Clean Water Act
DoD	Department of Defense
EA	Environmental Assessment and Alternative Route Analysis
EAA	Edwards Aquifer Authority
EOR	Element of occurrence record
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
FM radio	Frequency modulation radio
GIS	Geographic Information Systems
GLO	Texas General Land Office
HPA	high probability area
HTC	Historic Texas Cemeteries
IH	Interstate Highway
IPaC	Information for Planning and Consultation
kcmil	thousand circular mils
kV	kilovolt
MBTA	Migratory Bird Treaty Act

MVA	Megavolt-amperes
NCED	National Conservation Easement Database
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NHD	National Hydrography Dataset
NOI	Notice of Intent
NOT	Notice of Termination
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
OHP	City of San Antonio Office of Historic Preservation
OTHM	Official Texas Historical Marker
POWER	POWER Engineers, Inc.
Project	Transmission Interconnect - Padua Grid BESS
PUC	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
ROW	right-of-way
RRC	Railroad Commission of Texas
SAL	State Antiquities Landmark
SAWS	San Antonio Water Systems
SH	State Highway
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
TAC	Texas Administrative Code
TARL	Texas Archeological Research Laboratory
TASA	Texas Archeological Sites Atlas
TCEQ	Texas Commission on Environmental Quality
THC	Texas Historical Commission
THSA	Texas Historical Sites Atlas
TLC	Texas Land Conservancy
TPWC	Texas Parks and Wildlife Code
TPWD	Texas Parks and Wildlife Department
TSS	Texas Speleological Survey
TWDB	Texas Water Development Board

TxDOT	Texas Department of Transportation
TXNDD	Texas Natural Diversity Database
TXSDC	Texas State Data Center
US	United States
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
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 the Project

The City of San Antonio, acting by and through City Public Service Board (CPS Energy), is proposing to construct a new single-circuit 138 kilovolt (kV) transmission line within Bexar County (Figure 1-1) but outside of the municipal boundaries of the City of San Antonio (San Antonio). The Transmission Interconnect - Padua Grid Battery Energy Storage System (BESS) Project (Project) will connect the existing O. W. Sommers Switchyard, located at the O. W. Sommers Power Plant at the southern end of Gardner Road, to the Padua Grid BESS Switchyard. The new 138 kV transmission line will extend approximately two miles from the O. W. Sommers Switchyard to the proposed Padua Grid BESS Switchyard, located east of the intersection of Burshard Road and Gardner Road. Subject to appropriate regulatory approvals for the Project, the Project is anticipated to be in service by fall of 2023. Because the Project is located outside the municipal boundaries of San Antonio, CPS Energy is seeking an amendment to its Certificate of Convenience and Necessity (CCN) from the Public Utility Commission of Texas (PUC) to construct, own, and operate the Project. CPS Energy contracted with POWER Engineers, Inc. (POWER) to prepare this Environmental Assessment and Route Analysis (EA) for the Project. The EA will support CPS Energy's CCN application to be submitted to the PUC (Application). The EA may also be used to support any additional federal, state, or local permitting activities that might be required in association with construction of the Project.

The EA discusses and documents the environmental and land use constraints identified within the Project study area, routing methodologies, and public involvement. The EA additionally provides an evaluation of the route for the Project from an environmental and land-use perspective. CPS Energy will use the data presented in the EA to address how the route proposed in the Application (the Proposed Route) best addresses the requirements of the Public Utility Regulatory Act (PURA) and 16 Texas Administrative Code (TAC) § 25.101.

To assist POWER in its evaluation of the Project, CPS Energy provided POWER with information regarding the Project endpoints, the Proposed Route, the need for the Project, proposed construction practices, transmission line design, clearing methods, right-of-way (ROW) requirements, and maintenance procedures.

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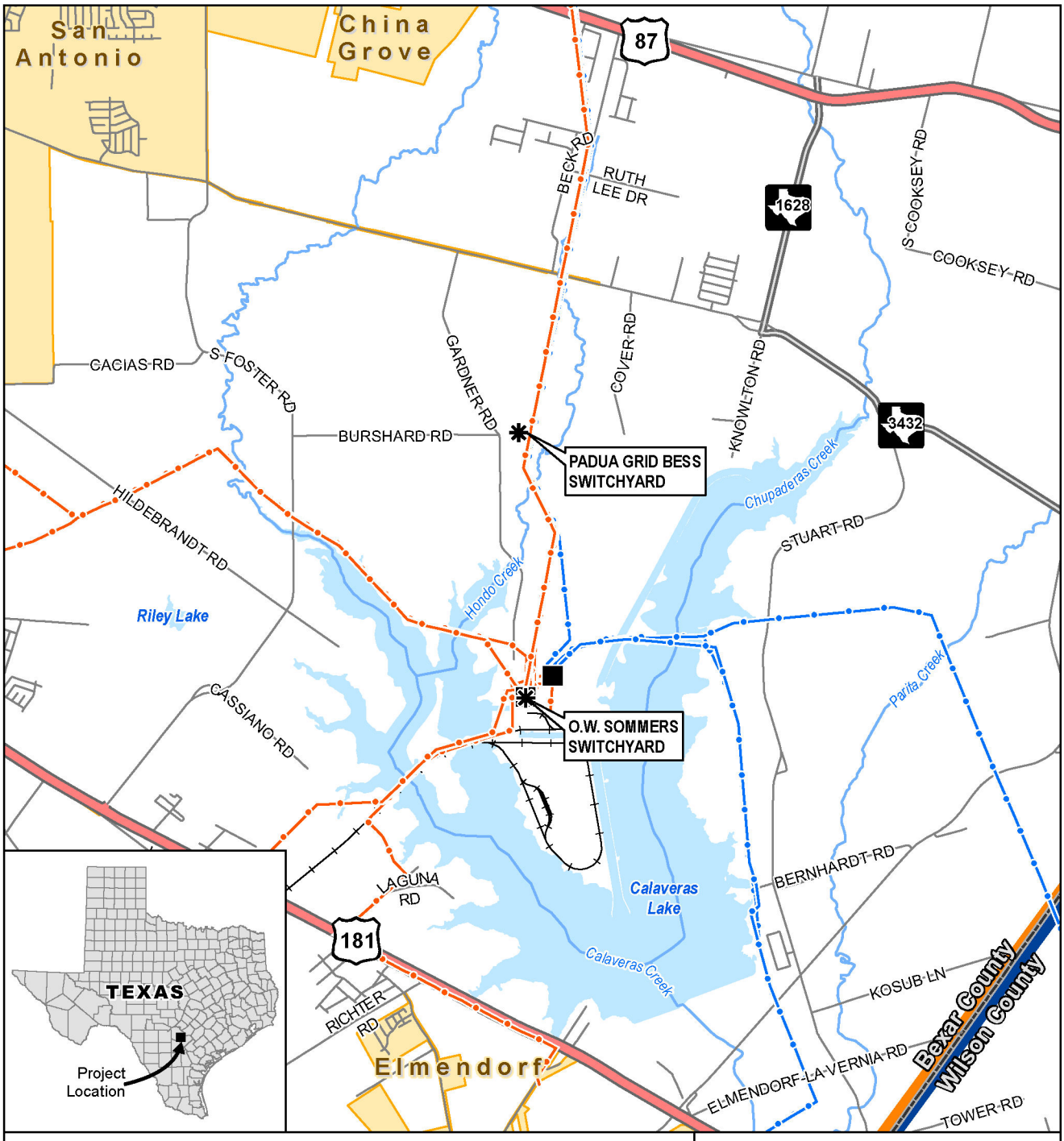

Project Components
- Switchyard
- CPS Energy Service Boundary

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

Transportation Features
- US Highway
- FM Road
- Local Road
- Railroad

Surface Waters
- River / Stream
- Waterbody

Administrative Features
- City Boundary
- County Boundary

TRANSMISSION INTERCONNECT - PADUA GRID BESS PROJECT

Figure 1-1
Project Vicinity

0 1 2
Miles

Date: 9/27/2022

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1.2 Purpose and Need

CPS Energy received a request from Padua Grid, LLC to interconnect the Padua Grid BESS to the Electric Reliability Council of Texas (ERCOT) at CPS Energy's existing O. W. Sommers Switchyard. As a Municipally Owned Utility (MOU) and Transmission Service Provider (TSP) within Texas, CPS Energy has an obligation to interconnect the Padua Grid BESS pursuant to PURA Chapter 35 and 16 TAC § 25.191(d). A CCN amendment is required because the requested transmission line facilities are more than one mile; therefore, the Project is not considered a routine activity.

1.3 Description of Proposed Design

A general description of the transmission line design is provided below. Some details of the proposed installation will be determined following approval of the route.

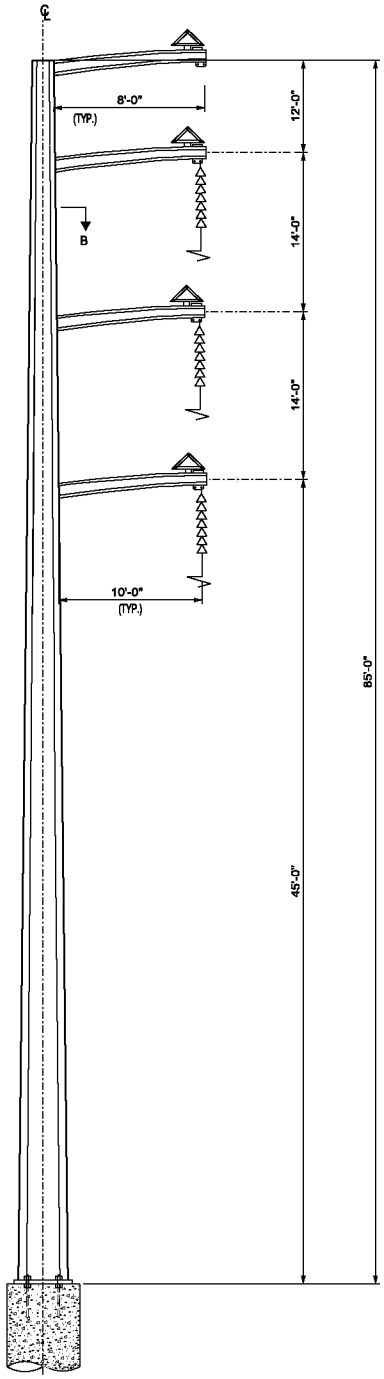
1.3.1 Transmission Line Design

The Project will be operated as a 138 kV transmission line with 1272 thousand circular mils (kcmil) aluminum conductor, steel-supported Pheasant with one conductor per phase and one static wire per circuit. In most areas, the transmission line will be installed on new structures and within new easements. ROW widths will typically be 75 feet to accommodate constraints and to meet engineering clearance specifications.

The Project will be rated for operation at 1,848 Amperes, yielding a nominal 441-megavolt ampere (MVA) capacity. The configurations of the conductor and shield wire will provide adequate clearance for operation at 138 kV, considering icing and wind conditions. The Project will be designed and constructed to meet or exceed the specifications set forth in the current edition of the National Electrical Safety Code (NESC) and will comply with all applicable state and federal statutes and regulations.

1.3.2 Typical Transmission Line Structures and Easements

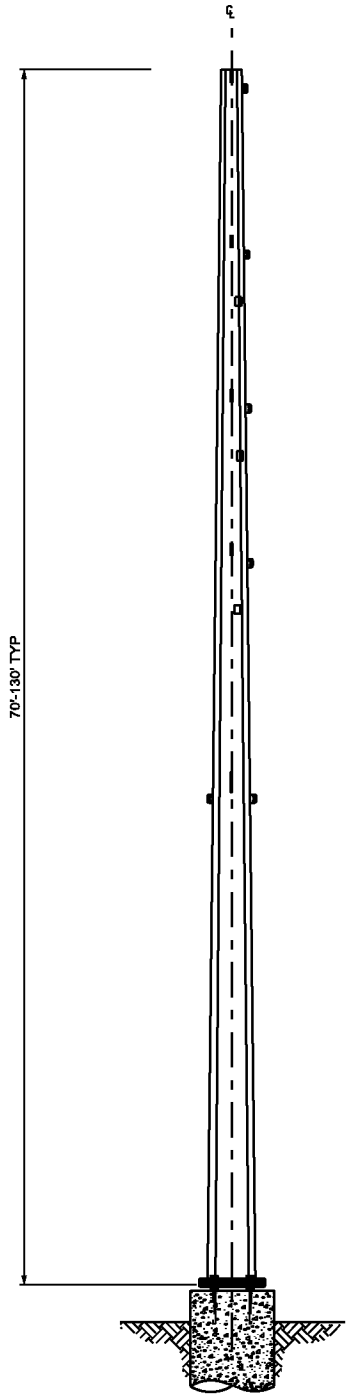
CPS Energy proposes to use 138 kV single-circuit pole structures for typical tangent and dead-end structures. The geometries of the proposed typical tangent and dead-end structures are shown on Figures 1-2 through 1-3. All structure geometries are illustrative. In some areas shorter than typical, taller than typical, or alternative structure types may be utilized. Actual structure types may differ slightly based on new or different designs available at the time of construction.



TRANSMISSION INTERCONNECT - PADUA GRID BESS PROJECT

Figure 1-2

Typical 138-KV Single Circuit Tangent Structure



TRANSMISSION INTERCONNECT - PADUA GRID BESS PROJECT

Figure 1-3

Typical 138 kV Single Circuit Dead-end 90 Degree Structure

CPS ENERGY

POWER ENGINEERS

The Project will be constructed in new ROW, within easements typically 75 feet in width, using spans that typically range from approximately 600 to 1,000 feet. In some areas, easement width and span length could be more or less than the typical depending on terrain and other engineering considerations. Access easements and/or temporary construction easements may be needed in some areas.

1.3.3 Construction Schedule

Subject to appropriate regulatory approvals for the Project, CPS Energy plans to construct the Project primarily between June 2023 and November 2023. The specific construction schedule will be refined following PUC approval of the Project as the ROW is acquired and surveyed, engineering designs are finalized, and any necessary species accommodations are considered. The transmission line is proposed to be constructed by a combination of contractor and CPS Energy crews.

1.4 Construction Considerations

Projects of this type require clearing, structure assembly and erection, conductor and shield wire installation, and clean up when the project is completed. The following criteria will be taken into consideration (these criteria are subject to adjustment befitting the rules and judgments of any public agencies whose lands may be crossed by the proposed line):

1. Clearing and grading of construction areas such as storage areas, setup sites, etc., will be minimized to the extent practicable. 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 backfilled onto a cleared area or removed from the site. The backfilled soil will be sloped gradually to conform to the terrain and the adjacent land. All disturbed areas as a result of construction activity will be restored and re-vegetated with native grass.
3. Soil disturbance during construction will be minimized and erosion control devices will be utilized where necessary. The Project will comply with Texas Commission on Environmental Quality (TCEQ), Bexar County, and the City of San Antonio requirements for stormwater discharges.
4. Clearing and construction activities in the vicinity of streambeds will be performed in a manner to minimize damage to the natural condition of the area. Where feasible, service and access roads will be constructed jointly. Roads will not be constructed on unstable slopes and as required, side drainage ditches and culverts will be utilized to prevent soil or road erosion. Construction of

access roads and drainage structures required for the Project will comply with any applicable local, state, or federal permit requirements.

5. Tension stringing of conductors may be employed to reduce the amount of vegetation clearing before final conductor locations are established.
6. When possible, in areas of high wildlife use or in areas of known endangered or threatened species habitat, construction will be performed during seasons of low wildlife occurrence, such as between periods of peak waterfowl migrations (generally spring and fall) and during nonbreeding season (species dependent).
7. If any archeological materials are uncovered during construction, construction will cease in the immediate area of the discovery and the discovery will be evaluated.

1.4.1 Clearing and ROW Preparation

Clearing plans, methods, and practices are extremely important to minimize the potential adverse effects of transmission lines on the environment. The ROW will not be clear cut, unless necessary in very limited circumstances. Only trees and vegetation that may interfere with the construction, operation, and maintenance of the transmission line will be removed in accordance with the San Antonio tree ordinance requirements. Trees and brush that are removed will be mulched and spread in the ROW to help stabilize the ground and prevent erosion. CPS Energy does not intend to use herbicides in ROW clearing and preparation.

1.4.2 Structure Assembly and Erection

Survey crews will stake or otherwise mark structure locations. Construction crews will install structures by excavating holes and placing a reinforced concrete drilled pier foundation. After the foundations have cured sufficiently, crews will set the structures and install the conductor and shield wire suspension assemblies. Since a large amount of vehicular traffic will occur during this operation, construction crews will take care to minimize impacts to the ROW by minimizing the number of pathways traveled.

1.4.3 Conductor and Shield Wire Installation

The conductors and shield wires are typically installed via a tensioning system. Conductors and shield wires are pulled by ropes and held tight by tensioner to keep the wires from coming in contact with the ground and other objects that could be damaging to the wire. Guard structures (temporary wood-pole structures) will be installed where the transmission line crosses overhead electric power lines, overhead telephone lines, roadways, or other areas requiring sag. After the wire is pulled, it is placed in suspension

and dead-end clamped for permanent attachment. In some areas, use of helicopters may be utilized for conductor and shield wire installation.

1.4.4 Cleanup

The cleanup operation typically involves returning disturbed areas to as close to the original contour as possible, the removal of debris, and the restoration of any items damaged by construction of the Project. Upon the completion of the construction work, all scrap, trash, excavated materials, waste materials, and debris resulting from construction of the transmission line will be promptly removed. All construction equipment and materials will be removed from the site, and waste disposal will be conducted in a legal manner. All disturbed areas will be re-vegetated with native grass seed mixture.

1.5 Maintenance Considerations

Following construction, CPS Energy will periodically inspect the substation, transmission line ROW, structures, and line to ensure the safe and reliable operation of the facilities. The primary maintenance for the completed project will be the removal or trimming of trees that pose a potential danger to the conductors or structures. Preservation of natural resources requires a thoughtful, comprehensive maintenance program. The following factors are key components of CPS Energy's maintenance program that will be utilized for the Project.

1. Native vegetation, particularly that of value to fish and wildlife that does not have the potential to grow close enough to the transmission line so as to pose a hazard to the safe operation and maintenance of the transmission line, will be allowed to grow in the ROW. Likewise, if ecologically appropriate, native grass cover and low-growing shrubs will be left in the areas immediately adjacent to transmission structures. Where grading is necessary, access roads will be graded to the proper slope to prevent soil erosion.
2. A cover of vegetation will be maintained within the ROW in a manner that minimizes erosion and does not interfere with the safe and reliable operation of the transmission facilities.
3. If used, United States Environmental Protection Agency (USEPA)-approved herbicides will be carefully selected to have a minimal effect on desirable indigenous plant life, and selective application will be used whenever appropriate.
4. CPS Energy performs routine maintenance inspections at appropriate intervals. Routine maintenance will be performed, when possible, when access roads are firm or dry.

5. Aerial and ground maintenance inspection activities of the transmission line facility will include observation of soil erosion problems, fallen timber, and conditions of the vegetation that require attention. Where necessary, on the basis of erosion control, native shrubs or grasses may be planted.

6. CPS Energy intends for the ROW to be utilized for compatible uses as long as the activity does not impact public safety or inhibit the safe operation and maintenance of the electrical system. The results of natural resources and cultural resources assessments will be followed as necessary and appropriate during maintenance of the ROW.

1.6 Agency Actions

The proposed transmission line is not located within, or across, the ROW of any county or state-maintained roads or highways. However, if required, CPS Energy will obtain the appropriate permit(s) from the controlling governing entity. Since more than one acre will be cleared or disturbed during construction, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared, a Notice of Intent (NOI) will be submitted to the Texas Commission on Environmental Quality (TCEQ), and a construction notice will be submitted to San Antonio Water System (SAWS). The controls specified in each SWPPP will be monitored in the field. Permits or regulatory approvals may also be required from the TCEQ, Texas Historical Commission (THC), United States Army Corps of Engineers (USACE), and the United States Fish and Wildlife Service (USFWS). Following the identification of environmental and ROW concerns, appropriate measures will be taken during engineering design to incorporate special provisions in construction documents, specifications, or other instructions. Following completion of the design, a preconstruction conference will be held, which will include a review of these provisions. Physical inspections of the Project will be performed to assure all appropriate measures have been taken during construction.

Numerous federal, state, and local regulatory agencies and organizations have developed rules and regulations regarding the routing and potential impacts associated with the construction of the Project. This section describes the major regulatory agencies and additional issues that are involved in project planning and permitting of transmission lines in Texas. POWER solicited comments from various regulatory entities during the development of this document, and records of correspondence and additional discussions with these agencies and organizations are provided in Appendix A.

1.6.1 Public Utility Commission of Texas

The PUC regulates CPS Energy's routing of transmission lines in Texas under Sections 37.051(g) and 37.056(c)(4)(A)-(D) of the Public Utilities Regulatory Act (PURA). In addition to the specific legislative requirements in PURA, the PUC regulatory guidelines for routing transmission lines in Texas include:

- 16 Texas Administrative Code (TAC) 25.101(b)(3)(B) (including the PUC's policy of prudent avoidance)
- 16 TAC 22.52(a)(4)
- The PUC's CCN application requirements
- PUC precedent related to transmission line applications

This EA has been prepared by POWER in support of CPS Energy's CCN application for this project to be filed at the PUC for its consideration.

1.6.2 United States Army Corps of Engineers

The USACE is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 United States Code [U.S.C.] § 403) and Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344) to implement these statutes. Under Section 10, the USACE regulates all work or structures in or affecting the course, condition, or capacity of navigable waters of the United States (WOTUS). The intent of this law is to protect the navigable capacity of waters important to interstate commerce. Under Section 404, the USACE regulates the discharge of dredged and fill material into all WOTUS, including associated wetlands. The intent of this law is to protect the WOTUS and aquatic ecosystems from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical, and biological integrity. The Project is located within the jurisdiction of the USACE – Fort Worth District.

Review of the National Hydrography Dataset (NHD) and National Wetland Inventory (NWI) maps indicate surface WOTUS and associated areas of potential wetlands may occur within the study area. Upon PUC approval of a route, additional coordination, jurisdictional wetland verifications and permitting with the USACE – Fort Worth District for a Section 404 Permit might be required. Based on the Project footprint and construction techniques proposed, the construction of the Project will likely meet the criteria for the Nationwide Permit (NWP) No. 57 – Electricity Utility Line and Telecommunications Activities. A Section 10 permit is not anticipated for this project.

1.6.3 United States Fish and Wildlife Service

The USFWS is charged with the responsibility for enforcement of federal wildlife laws and providing comments on proposed construction projects with a federal nexus under the National Environmental Policy Act (NEPA) and within the framework of several federal laws including the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA). POWER reviewed the USFWS' Information for Planning and Conservation (IPaC) (Project Code:2022-0064416) website for federally protected species and designated critical habitats within the study area.

Upon PUC approval of a route and prior to construction, surveys will be completed as determined necessary and appropriate to identify any potentially suitable habitat for federally listed species. If suitable habitat is identified, then informal consultation with the USFWS – Austin Ecological Services Field Office might need to occur to determine the need for any required species-specific surveys and/or permitting under Section 10 of the ESA.

1.6.4 Federal Aviation Administration

According to Federal Aviation Administration (FAA) regulations, Title 14 Code of Federal Regulations (C.F.R.) 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 extending 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 described in paragraph (d) of 14 C.F.R. 77.9 having at least one runway longer than 3,200 feet, excluding heliports;
- A 50:1 slope for a horizontal distance of 10,000 feet from the nearest runway of a public or military airport described in paragraph (d) of 14 C.F.R. 77.9 where its longest runway is no longer than 3,200 feet in length, excluding heliports; or
- A 25:1 slope for a horizontal distance of 5,000 feet for a heliport described in paragraph (d) of 14 C.F.R. 77.9.

Paragraph (d) of 14 C.F.R. 77.9 includes public-use airports listed in the Airport/Facility Directory (currently the Chart Supplement), 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.

It is not currently anticipated that any route for the Project will require FAA notification. Following PUC approval of a route for the proposed transmission line, CPS Energy 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 30 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.

The PUC CCN application also requires listing private airports within 10,000 feet of any alternative route centerline.

1.6.5 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 electrical transmission towers, may degrade military testing and training operations. The electromagnetic interference from electricity transmission lines can impact critical DoD testing activities. Title 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. The DoD shall also be provided written notice of the public meeting and if a public meeting is not held, the DoD shall be noticed of the planned filing of the application prior to the completion of the routing study. On July 12, 2022, the DoD was contacted about the proposed Project to provide notification and to solicit any input from the DoD about the proposed Project. Further, on September 1, 2022, prior to completion of this routing study, a letter was sent to DoD Military Aviation and Installation Assurance Siting Clearinghouse providing notice of the intent to file the CCN application (because a public meeting was not held). A notice of the filing of the application will be sent to the DoD Military Aviation and Installation Assurance Siting Clearinghouse when the CCN application is filed with the PUC.

1.6.6 Texas Parks and Wildlife Department

The Texas Parks and Wildlife Department (TPWD) is the state agency with the primary responsibility for protecting the state's fish and wildlife resources in accordance with the Texas Parks and Wildlife Code (TPWC) Sections 12.0011(b), 64.003, 68.015 and 1.011. POWER solicited comment from TPWD during the scoping phase of the Project, and a copy of this EA will be submitted to TPWD when the CCN amendment application is filed with the PUC. POWER also reviewed the Texas Natural Diversity Database (TXNDD) records of state-listed species occurrences and sensitive vegetation communities. POWER considered these during the route development process. Once the PUC approves a route, additional coordination with TPWD may be necessary to determine the need for any additional surveys, and to avoid or minimize any potential adverse impacts to sensitive habitats, threatened or endangered species, and other state regulated fish and wildlife resources.

1.6.7 Floodplain Management

Floodplain maps published by the Federal Emergency Management Agency (FEMA) were reviewed to identify the mapped 100-year floodplains within the study area. The mapped 100-year floodplains are typically associated with the larger creeks and streams or within the boundaries of a river. The 100-year floodplain represents a flood event that has a one percent chance of being equaled or exceeded for any given year. The construction of the proposed transmission line is not anticipated to create any significant permanent changes in the existing topographical grades and will not significantly increase the stormwater runoff within the study area due to increased areas of impermeable surfaces. Additional coordination with the study area county floodplain administrator may be required after PUC route approval to determine if any permits or mitigation is necessary.

1.6.8 Texas Commission on Environmental Quality

The TCEQ is the state agency with the primary responsibility for protecting the state's water quality. 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. Construction activities will be compliant with the TXR150000 permit conditions.

1.6.9 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 C.F.R. 60) or under state guidance (13 TAC § 2.26 (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. POWER contacted THC to identify known cultural resource sites within the study area boundary. POWER also reviewed Texas Archeological Research Laboratory (TARL) records for known locations of cultural resource sites and the THC's online, restricted-access Texas Archeological Sites Atlas (TASA) and Texas Historical Sites Atlas (THSA) for the locations of recorded cemeteries, NRHP properties, State Antiquities Landmarks (SALs) and Official Texas Historical Markers (OTHMs). Once the 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. CPS Energy proposes to implement an unanticipated discovery procedure during construction activities. If artifacts are discovered during construction, activities will cease near the discovery, and will notify the State Historic Preservation Office (SHPO) for additional consultation.

1.6.10 Texas Department of Transportation

POWER notified the Texas Department of Transportation (TxDOT) of the Project during the development of the EA. The proposed route does not cross and will not occupy any TxDOT ROW; however, if applicable the route approved by the PUC will be constructed in accordance with the rules, regulations, and policies of TxDOT. Best Management Practices (BMPs) will be used as required to minimize erosion and sedimentation resulting from construction. Revegetation 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.

1.6.11 Texas General Land Office

The Texas General Land Office (GLO) requires a miscellaneous easement for ROWs within any state-owned riverbeds or navigable streams or tidally influenced waters. Coordination with the GLO will be completed after PUC approval of the route.

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 well-being of the Texas coast through proper management of coastal natural resource areas. The Texas CMP has federal and state project and permit action review processes to evaluate consistency with the program. As specified in the Coastal Coordination Act of 1991, the CMP of the Texas GLO must develop and implement a comprehensive plan for managing natural resources within the CMP boundary along the Texas coastline. The CMP boundary, as defined by 31 TAC § 503.1,

delineates the coastal zone of Texas. The Proposed Route is not located within the Coastal Management Zone, and no permitting action will be required under this program.

1.6.12 City of San Antonio

The Project area is within the extra territorial jurisdiction of San Antonio; therefore, San Antonio has jurisdiction on tree mitigation according to San Antonio Unified Development Code Section 35-523. Throughout the process of designing the Project and clearing the site for the Padua Grid BESS for the safe and reliable operation of the transmission line and substation, CPS Energy will make every effort to save tree canopy and heritage trees where possible. The construction of the Project will require a tree permit from San Antonio upon approval of a route by the PUC.

1.6.13 Bexar County

Bexar County will require a Storm Water Quality Permit, Post Construction Permit, and Floodplain Permit for the construction of the Project, as applicable. These permits will be completed after PUC approval of the Project route.

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2.0 ROUTE SELECTION METHODOLOGY

2.1 Objective of Study

The objective of this EA is to evaluate the Proposed Route for compliance with Section 37.056(c)(4)(A)-(D) of PURA, the PUC's Substantive Rules located at 16 TAC § 25.101(b)(3)(B), including the PUC's policy of prudent avoidance, the PUC's CCN application requirements, and the precedent established by the PUC for transmission line certification projects and CPS Energy's transmission line routing manual. The study methodology utilized by POWER for this EA included study area delineation based on the Project endpoints; identification and characterization of existing land use and environmental constraints; and evaluation of the route and potential impacts in relation to the environmental constraints. POWER identified potentially affected resources and considered each during the route development process. Input from regulatory agencies and local officials was also considered during the route development process.

The route was analyzed using evaluation criteria to determine potential impacts to existing land use and environmental resources. CPS Energy also will consider all of the certification criteria in PURA and the PUC Substantive Rules, engineering and construction constraints, grid reliability and security issues, and estimated costs to evaluate the route as it relates to the requirements of PURA and PUC Substantive Rules. This route will be submitted to the PUC in the CCN application.

2.2 Study Area Delineation

The study area is southeast of the city of San Antonio in south central Texas within Bexar County. The study area boundaries for the data collection process needed to encompass the Project termination points and include a large enough area within which to adequately evaluate the proposed transmission line in support of CPS Energy's application to amend its CCN.

The extent of the Project endpoints and the study area are described below and are illustrated in Figure 2-1. The study area is oriented in a north to south direction with the existing O. W. Sommers Switchyard located in the southern portion of the study area and the proposed Padua Grid BESS Switchyard located in the northern portion of the study area.

More specifically, the O. W. Sommers Switchyard is located at the O. W. Sommers Power Plant at the southern end of Gardner Road. The Padua Grid BESS Switchyard is located east of the intersection of Gardner Road and Burshard Road.

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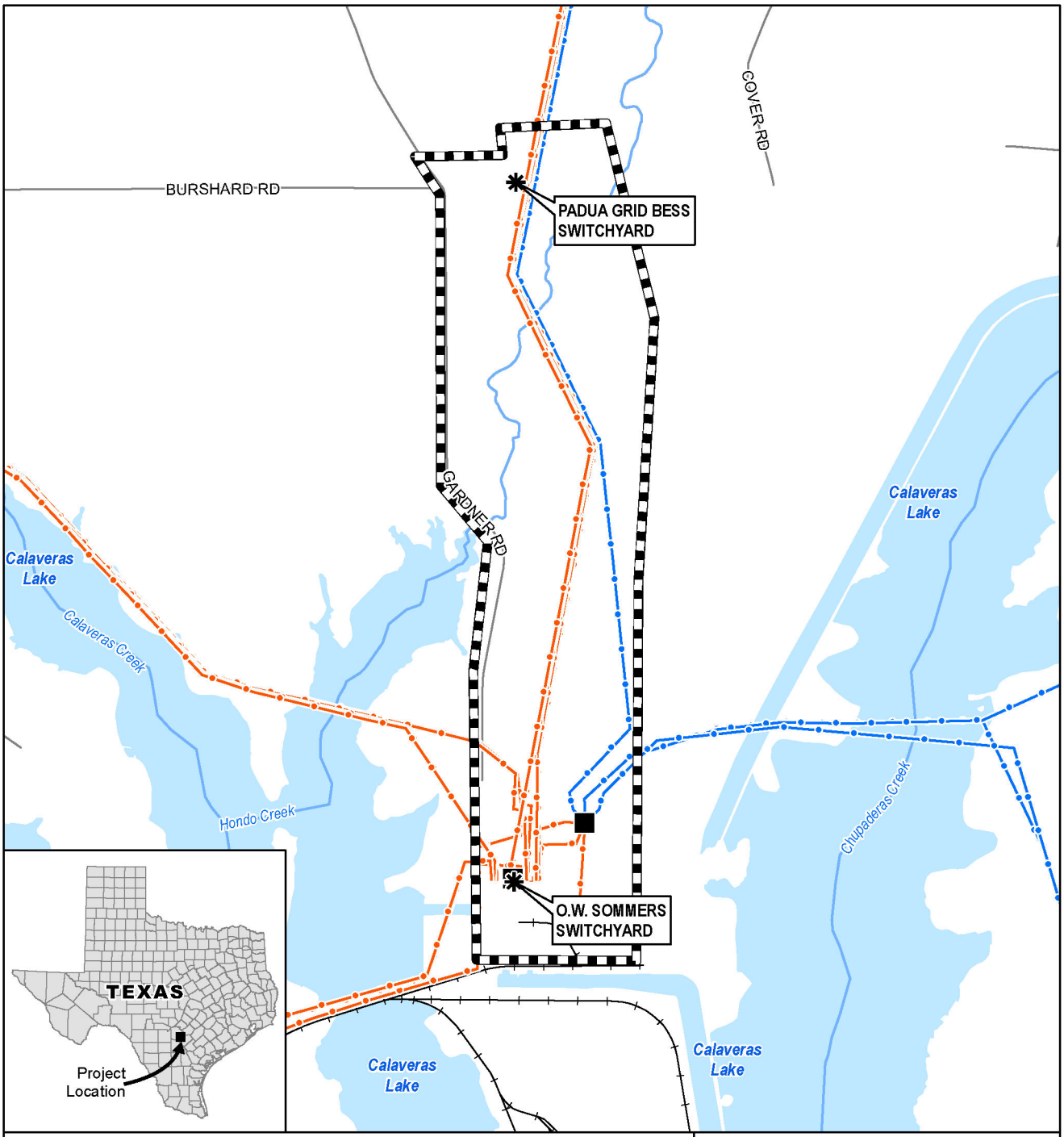
BURSHARD RD
COVER RD
GARDNER RD
PADUA GRID BESS SWITCHYARD
O.W. SOMMERS SWITCHYARD
Calaveras Lake
Calaveras Creek
Hondo Creek
Chupaderas Creek
TEXAS
Project Location
Project Components
Switchyard
Study Area Boundary
Existing Utility Features
Existing Substation
138 kV Transmission Line
345 kV Transmission Line
Transportation Features
Local Road
Railroad
Surface Waters
River / Stream
Waterbody
TRANSMISSION INTERCONNECT - PADUA GRID BESS PROJECT
Figure 2-1
Study Area
0
2,000
4,000
Feet
Date: 9/27/2022

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2.3 Data Collection and Constraints Mapping

After delineation of the study area, a constraints map was prepared and used to initially display resource data and constraints for the Project area. The constraints map provides a broad overview of various resource locations indicating both routing constraints and areas of potential routing opportunities.

Several methodologies were utilized to collect and review environmental and land use data, including incorporation of readily available Geographic Information System (GIS) coverage with associated metadata; review of maps and published literature; and review of files and records from numerous federal, state, and local agencies. Data collected for each resource area was mapped within the study area utilizing GIS layers. The conditions of the existing environment are discussed throughout Section 3.0 of this document. Section 5.0 and Appendix A provide information regarding correspondence with agencies and officials.

Maps and/or data layers reviewed include (but are not limited to) United States Geological Survey (USGS) 7.5 minute topographic maps, NWI maps, TxDOT county highway maps, and recent aerial photography. USGS topographic maps and recent aerial photography (January 2019) were used as the background for the environmental and land use constraint maps (see Appendices C and D [map pockets]).

Data typically displayed on the constraints map includes, but is not limited to:

- Major land jurisdictions and uses.
- Major roads including local roads, county roads, Farm-to-Market (FM) Roads, United States Highways (US Hwy), State Highways (SH), and Interstate Highways (IH).
- Existing transmission line and pipeline corridors.
- Airports, private airstrips, and heliports.
- Communication towers.
- Recreational areas.
- Major political subdivision boundaries.
- Lakes, reservoirs, rivers, streams, canals, and ponds.
- FEMA 100-year floodplains.
- NWI mapped wetlands.
- Mobile irrigation systems.
- Wells (including identifiable water, oil, and gas).

2.4 Agency Consultation

In consultation with CPS Energy, POWER developed a list of federal, state, and local regulatory agencies, elected officials, and organizations to receive a consultation letter regarding the Project. The purpose of the letter was to inform the various agencies and officials of the Project and provide them with an opportunity to provide information regarding resources and potential issues within the study area. A list of agencies contacted, and a summary of responses are included in Section 5.0. Copies of all correspondence with the various state/federal regulatory agencies and local/county officials and departments are included in Appendix A.

2.5 Public Involvement

The proposed Project is located entirely on two landowners, CPS Energy and the operator of the proposed Padua Grid BESS. Pursuant to 16 TAC § 22.53, since the Project will directly affect fewer than 25 landowners, a public meeting is not required and was not held.

2.6 Route Development and Evaluation Criteria

The Proposed Route was reviewed by CPS Energy to determine engineering requirements, constructability, and long-term maintenance considerations. The POWER planning team reviewed the route using the environmental and land use constraints map while considering resource sensitivity. The Proposed Route was also reviewed in accordance with Section 37.056(c)(4)(A)-(D) of PURA, the PUC CCN application, and 16 TAC § 25.101, including the PUC's policy of prudent avoidance, and consistency with CPS Energy's transmission line routing manual. The route was reviewed considering such factors as community values, parks and recreational areas, historical and aesthetic values, environmental integrity, route length utilizing and parallel to existing compatible corridors or parallel to apparent property boundaries, and prudent avoidance.

CPS Energy and POWER reviewed and refined the Proposed Route as more information became available. In evaluating the Proposed Route, land use and environmental evaluation criteria were developed to reflect accepted practices for routing electric transmission lines in the state of Texas (see Table 2-1). Evaluation criteria were further refined based on data collection and reconnaissance surveys.

The Proposed Route is shown in relation to environmental and other land use constraints on topographic base in Figure 4-1 and on aerial photographic base in Figure 4-2. For the purposes of this analysis, only one route is addressed in this report. The analysis of the route involved inventorying and tabulating the number or quantity of each environmental criterion located along the route (e.g., number of habitable structures within 300 feet). The number or amount of each factor was determined by POWER using GIS layers, maps, recent aerial photography, and field verification from publicly accessible areas where practical. Potential environmental impacts are addressed in Section 4.0 of this document.

TABLE 2-1 LAND USE AND ENVIRONMENTAL EVALUATION CRITERIA

EVALUATION CRITERIA	
Land Use	
1	Length of alternative route (miles)
2	Number of habitable structures[1] within 300 feet of the route centerline
3	Length of ROW using existing transmission line ROW
4	Length of ROW parallel and adjacent to existing transmission line ROW
5	Length of ROW parallel and adjacent to other existing ROW (roadways, railways, utilities, etc.)
6	Length of ROW parallel and adjacent to apparent property lines[2] or other natural or cultural features
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[3]
10	Number of additional parks/recreational areas[3] within 1,000 feet of ROW centerline
11	Length of ROW across cropland
12	Length of ROW across pasture/rangeland
13	Length of ROW across land irrigated by traveling systems (rolling or pivot type)
14	Length of route across conservation easements and/or mitigation banks (Special Management Area)
15	Length of route across gravel pits, mines, or quarries
16	Length of ROW parallel and adjacent to pipelines[4]
17	Number of pipeline crossings[4]
18	Number of transmission line crossings
19	Number of IH, US and state highway crossings
20	Number of FM road crossings
21	Number of FAA registered public/military airports[5] with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline
22	Number of FAA registered public/military airports[5] having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline
23	Number of private airstrips within 10,000 feet of the ROW centerline
24	Number of heliports within 5,000 feet of the ROW centerline
25	Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline
26	Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline
27	Number of identifiable existing water wells within 200 feet of the ROW centerline
28	Number of oil and gas wells within 200 feet of the ROW centerline (including dry or plugged wells)
Aesthetics	
29	Estimated length of ROW within foreground visual zone[6] of IH, US and state highways
30	Estimated length of ROW within foreground visual zone[6] of FM/Ranch-to-Market roads
31	Estimated length of ROW within foreground visual zone[6][7] of parks/recreational areas[3]
Ecology	
32	Length of ROW through upland woodlands/brushlands
33	Length of ROW through bottomland/riparian woodlands
34	Length of ROW across NWI mapped wetlands
35	Length of ROW across critical habitat of federally listed threatened or endangered species
36	Length of ROW across open water (lakes, ponds)
37	Number of stream crossings
38	Length of ROW parallel (within 100 feet) to streams
39	Length of ROW across Carrizo-Wilcox Aquifer Zones
40	Length of ROW across FEMA mapped 100-year floodplain
Cultural Resources	
41	Number of cemeteries within 1,000 feet of the ROW centerline
42	Number of recorded cultural resource sites crossed by ROW
43	Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline

TABLE 2-1 LAND USE AND ENVIRONMENTAL EVALUATION CRITERIA

EVALUATION CRITERIA	
44	Number of NRHP-listed or determined-eligible properties crossed by ROW
45	Number of additional NRHP-listed or determined-eligible properties within 1,000 feet of ROW centerline
46	Length of ROW across areas of high archeological site potential

Notes: All length measurements are shown in miles unless noted otherwise.

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

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

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

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

[5]As listed in the Chart Supplement South Central US (FAA 2022b formerly known as the Airport/Facility Directory South Central US) and FAA 2022a.

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

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

2.7 Field Reconnaissance

A reconnaissance survey of the study area (from public viewpoints) was conducted by POWER personnel to confirm the findings of the research and data collection activities, identify changes in land use occurring after the date of the aerial photography, and to identify potential unknown constraints that may not have been previously noted in the data. A reconnaissance survey of the study area was conducted by POWER and CPS Energy personnel on June 28, 2022.

3.0 NATURAL RESOURCES/ENVIRONMENTAL INTEGRITY

3.1 Natural Resources/Environmental Integrity

Resource inventory data were collected for physiography, geology, soils, surface waters, wetlands, and ecological resource areas. These data were obtained from readily available sources and mapped within the study area utilizing GIS layers. Additional data collection activities consisted of file and record reviews conducted utilizing the various state and federal regulatory agencies, a review of published literature, and review of various maps and aerial photographs. Maps and data layers reviewed include USGS 7.5-minute topographic maps, aerial imagery, Bureau of Economic Geology (BEG) Geologic Atlas, NWI maps, TxDOT county highway maps, and county appraisal district land parcel boundary maps.

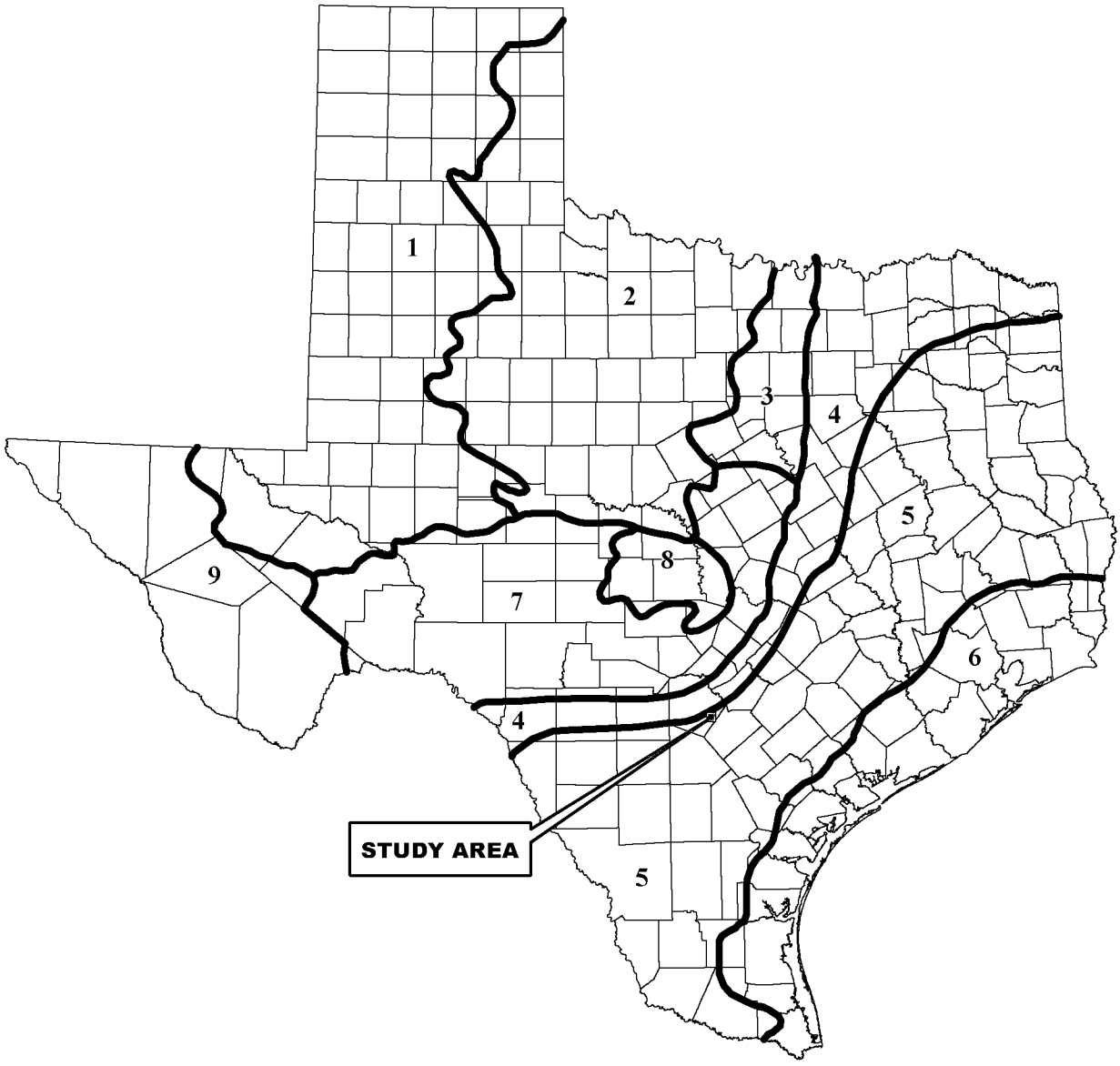
3.1.1 Physiography and Geology

As shown in Figure 3-1, the study area is located along the transitional area between the Blackland Prairies and the Interior Coastal Plains physiographic subprovince (BEG 1996). The Blackland Prairies are characterized by low, rolling terrain that has been cleared of most natural vegetation and is cultivated for crops. Bedrock chalks and marls are tilted south and east and weather to deep, black, fertile clay soils. Elevations in the Blackland Prairies range from 450 to 1,000 feet above mean sea level (amsl) (BEG 1996). The Interior Coastal Plains is punctuated by parallel ridges and valleys. West and south, tree density continuously declines, pines disappear in Central Texas, and chaparral brush and sparse grasses dominate between San Antonio and Laredo. Bedrock types of sand and mud are titled towards the Gulf of Mexico and erode into long, sandy ridges and clay. Interior Coastal Plain elevations range between 300 and 800 amsl (BEG 1996).

The BEG (1981) geologic atlas maps were reviewed for geologic formations that occur within the study area. Underlying formation includes the Tertiary aged Wilcox Group (USGS 2022b; BEG 1981). The Wilcox Group is comprised of predominantly mudstone with varying amounts of sandstone and lignite and ranges between 440 to 1,200 feet in thickness (BEG 1981; USGS 2022a and 2022b).

Significant Geological Features

Several geological features potentially affecting construction and operation of a transmission line were reviewed within the study area. Geological related issues reviewed include karst areas with known karst/cave locations, fault lines, and subsurface contamination. Review of the Geologic Atlas of Texas (BEG 1981; USGS 2022b) maps did not identify any faults occurring within the study area.



N

0 50 100 200

Miles

Source: Texas Bureau of Economic Geology, 1996

Date: 9/27/2022

Legend

Physiographic Region Bounday
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

TRANSMISSION INTERCONNECT
- PADUA GRID BESS PROJECT

Figure 3-1
Location of the Study Area In Relation to the Physiographic Regions of Texas

CPS ENERGY

POWER ENGINEERS

The geology within the study area is not conducive to the formation of karst features (Griffith et al. 2007). Review of the Bexar County, Texas Karst zones identified the study area not occurring within any known karst features or zones (TPWD 2014).

Subsurface contamination (soils or groundwater) from previous commercial activities or dumps/landfills may require additional considerations during transmission routing and/or may create a potential hazard during construction activities. Review of the Superfund/National Priority List (USEPA 2022a), Texas' Index of Superfund sites (TCEQ 2022a), and state solid waste facilities data (TCEQ 2022b) did not indicate any superfund or active landfill sites within the study area.

Review of the Railroad Commission of Texas ([RRC] 2016, 2022a, and 2022b) and BEG (1996) data did not indicate any historical or current coal/uranium mining activities within the study area.

3.1.2 Soils

Soil Associations

Natural Resources Conservation Service (NRCS) Web Soil Survey data was reviewed for Bexar County. Descriptions of soil associations occurring within the study area are summarized in Table 3-1. A soil association is a group of soils defined as a single unit that is geographically associated in a characteristic repeating pattern (NRCS 2022).

TABLE 3-1 MAPPED SOIL UNITS OCCURRING WITHIN THE STUDY AREA

SOIL MAP UNIT	LANDFORM	HYDRIC	PRIME FARMLAND
Aluf sand, 0 to 5 percent slopes	Sand sheets	No	Farmland of statewide importance
Gowen clay loam, 0 to 2 percent slopes, occasionally flooded	Flood plains	No	Not prime farmland
Floresville fine sandy loam, 1 to 3 percent slopes	Ridges	No	Prime farmland if irrigated
Floresville fine sandy loam, 1 to 5 percent slopes, eroded	Ridges	No	Prime farmland if irrigated
Miguel fine sandy loam, 2 to 5 percent slopes, eroded	Low hills	No	Not prime farmland
San Antonio clay loam, 1 to 3 percent slopes	Stream terraces	No	All areas are prime farmland
San Antonio clay loam, 3 to 5 percent slopes	Stream terraces	No	All areas are prime farmland
San Antonio clay loam, 3 to 5 percent slopes, eroded	Stream terraces	No	Not prime farmland
Tinn and frio soils, 0 to 1 percent slopes, frequently flooded	Flood plains	No	Not prime farmland
Wilco loam fine sand, 0 to 3 percent slopes	Interfluves	No	Prime farmland if irrigated

TABLE 3-1 MAPPED SOIL UNITS OCCURRING WITHIN THE STUDY AREA

SOIL MAP UNIT	LANDFORM	HYDRIC	PRIME FARMLAND
Wilco loam fine sand, 3 to 5 percent slopes	Interfluves/backslopes	No	Prime farmland if irrigated
Wilco loam fine sand, 3 to 5 percent slopes, eroded	Interfluves/backslopes	No	Not prime farmland

Source: NRCS 2022.

Hydric Soils

The National Technical Committee for Hydric Soils defines hydric soils as soils formed under conditions of saturation, flooding, or ponding long enough during growing seasons to develop anaerobic conditions in the upper soil horizons. These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support growth and reproduction of hydrophytic vegetation (NRCS 2022).

Map units dominantly comprised of hydric soils might have small inclusions of non-hydric soils in higher areas of the landform. Conversely, map units dominated by non-hydric soils might have small inclusions of hydric soils in lower areas of the landform. According to NRCS Web Soil Survey data for Bexar County within the study area, only the Gowen clay loam, 0 to 2 percent slopes, occasionally flooded soil unit is classified as hydric (NRCS 2022).

Prime Farmland

The Secretary of Agriculture within 7 U.S.C. § 4201 defines prime farmland soils as those soils with the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Prime farmlands have the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed with acceptable farming methods. Additional potential prime farmlands contain soils that meet most of the prime farmland requirements but lack the installation of water management facilities or sufficient natural moisture. The United States Department of Agriculture (USDA) would consider these soils prime farmland if such practices were installed.

Construction of transmission line projects are typically not subject to requirements of the Farmland Protection Policy Act unless they are associated with federal funding.

3.1.3 Surface Water

The study area is located within the San Antonio (HUC 121003) watershed and in the Upper Calaveras Creek (HUC 121003010302) subwatershed (USEPA 2022b). Named surface waters within the study area include Hondo Creek. Review of the 2017 Texas Water Development Board (TWDB) State Water Plan and the 2016 Regional

Water Plan for South Central Texas did not indicate any proposed surface water developments within the study area (TWDB 2016; South Central Texas Regional Water Planning Group 2021).

Special Status Waters

Under 31 TAC § 357.43 and 31 TAC § 358.2, TPWD has designated Ecologically Significant Stream Segments (ESSS) based on habitat value, threatened and endangered species, species diversity, and aesthetic value criteria (TPWD 2022a). No designated ESSS were identified within the study area (TPWD 2022a).

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. Review of TCEQ's (2020) Texas Integrated Report of Surface Water Quality does not indicate any surface waters within the study area that do not meet their water quality standards.

3.1.4 Groundwater

The study area is located within the Edwards Aquifer Authority (EAA) Jurisdictional Boundary. The EAA has regulatory jurisdiction in Bexar County and authorizes groundwater withdrawals for municipal, industrial, and irrigation purposes (EAA 2022).

The major ground water aquifers mapped within the study area include the Carrizo-Wilcox aquifer. The Carrizo-Wilcox aquifer is one the of largest aquifers in Texas. The aquifer extends as a wide band adjacent to the Gulf of Mexico from the border of Mexico to the Louisiana border. The aquifer is approximately 3,000 feet thick and is comprised of sand interbedded with gravel, silt, clay, and lignite (TWDB 2011).

No other groundwater resources are located within the study area (TWDB 2022a and 1975).

3.1.5 Floodplains

FEMA's Flood Insurance Rate Maps and National Flood Hazard Layer were reviewed for the study area. The 100-year floodplains are primarily associated with Hondo Creek, Calaveras Lake, and their tributaries. The 100-year flood (1.0 percent flood or base flood) represents a flood event that has a 1.0 percent chance of being equaled or exceeded for any given year (FEMA 2022).

3.1.6 Wetlands

NWI mapped wetland data are based on topography and interpretation of infrared satellite data and color aerial photographs and are classified under the Cowardin Classification System (Cowardin et al. 1979). Two NWI

wetlands, both palustrine scrub-shrub (PSS) and palustrine forested (PFO), were identified within the study area (USFWS 2022a).

PSS wetlands are wetland areas dominated by hydrophytic shrubs that constitute 30 percent or greater of the aerial vegetation coverage. One PSS wetland is associated with low lying areas, depressions, and streams within the study area. Within the study area, woody species potentially occurring in PSS wetlands may include common buttonbush (*Cephalanthus occidentalis*), green ash (*Fraxinus pennsylvanica*), Mexican ash (*Fraxinus berlandieriana*), swamp privet (*Forestiera accuminata*), dwarf palmetto (*Sabal minor*), possumhaw (*Ilex decidua*), American elm (*Ulmus americana*), cedar elm (*Ulmus crassifolia*), pecan (*Carya illnoinensis*), black willow (*Salix nigra*), and sugarberry (*Celtis laevigata*) (Chadde 2012b).

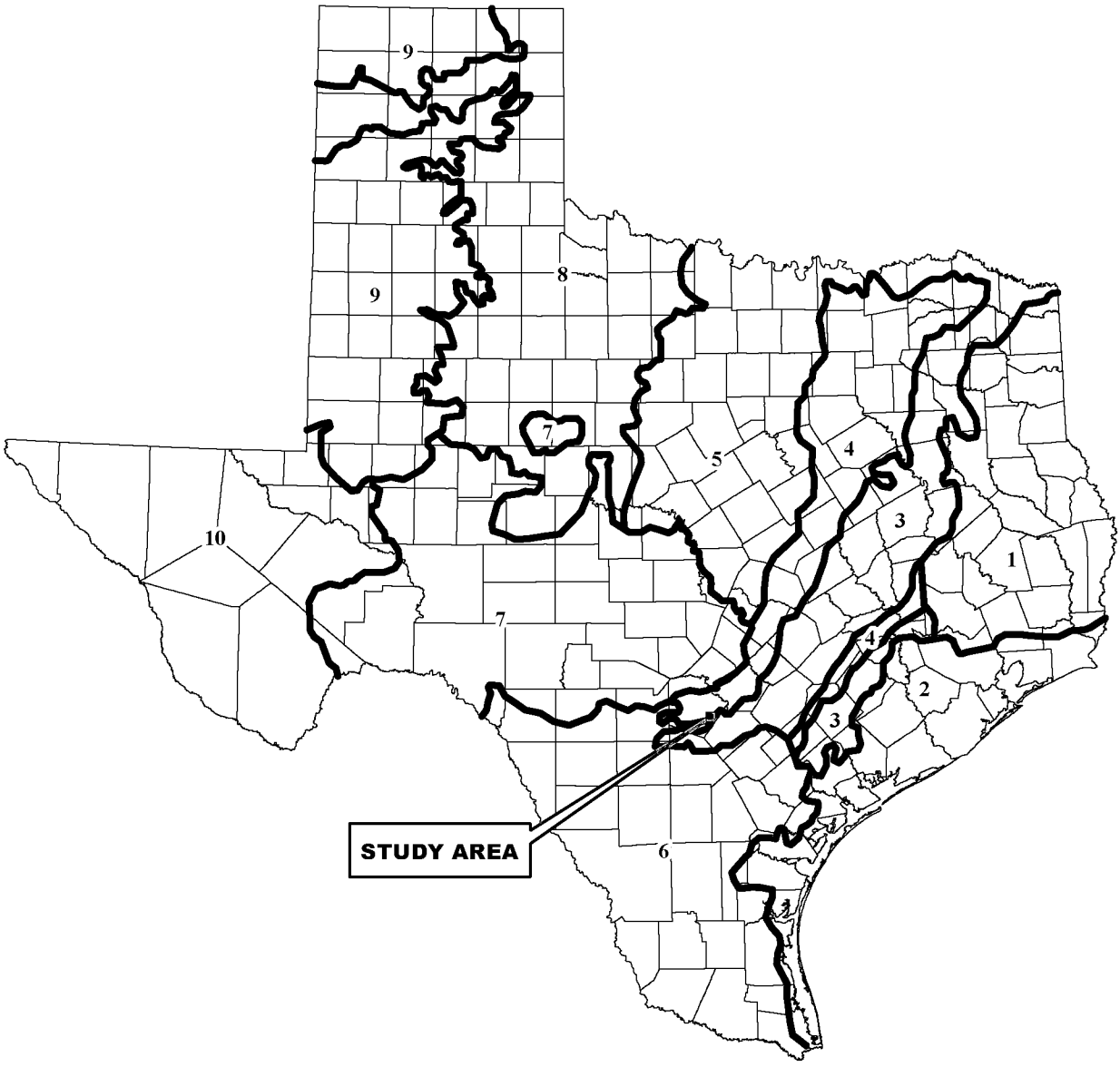
PFO wetlands are wetlands that have more than 30 percent canopy cover of merchantable tree species. One PFO wetland is mapped in association with low lying areas and depressions throughout the study area. Within the study area common tree species within forested wetlands include American Elm (*Ulmus americana*), cedar elm (*Ulmus crassifolia*), pecan, black willow, sugarberry, cottonwood (*Populous deltoides*), American sycamore (*Platanus occidentalis*), Carolina ash (*Fraxinus caroliniana*), and water oak (*Quercus nigra*) (Chadde 2021b).

3.1.7 Coastal Management Program

The PUC must comply with CMP policies when approving CCNs for electric transmission lines that are located within the Coastal Management Zone (CMZ) under the Coastal Zone Management Act of 1972. The study area is not located within the CMZ boundary as defined in 31 TAC § 503.1 and this excludes the Project from CMP conditions.

3.1.8 Vegetation

Data and information on ecological resources within the study area were obtained from a variety of sources, including aerial photograph interpretation, field reconnaissance surveys, correspondence with the USFWS, TPWD, and published literature and technical reports.



0 50 100 200

Miles

Source: Gould, F.W., Hoffman, G.O., and Rechenthin, C.A. 1960, modified

Date: 9/27/2022

Legend

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

TRANSMISSION INTERCONNECT
- PADUA GRID BESS PROJECT

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

CPS ENERGY

POWER ENGINEERS

Ecological Region

The study area is located within the USEPA Northern Texas Blackland Prairies Level IV of the Texas Blackland Prairies Level III Ecoregion and within the Blackland Prairies Level IV Ecoregion (Griffith et al. 2007). As shown in Figure 3-2, the study area is located within the Blackland Prairies Vegetational Area (Gould et al. 1960). A general description of the historical climax vegetation community of the Northern Blackland Prairies Level IV ecoregion is included below. For the vegetation community, plant species composition and density are dependent on location, hydrology, soils, and disturbance history or land management activities.

Northern Blackland Prairies Ecoregion

The Northern Blackland Prairies Level IV Ecoregion spans over 300 miles from the Red River in the north and San Antonio in the south. This ecoregion is predominantly nearly level plains overlaying soils comprised of fine-textured, dark, calcareous Vertisols that shrink when dry and swell when wet, causing cracks significant soil movement and cracks. Historical vegetative communities were tall grass prairies dominated by herbaceous species including shore little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), Indiangrass (*Sorghastrum nutans*), eastern gamagrass (*Tripsacum dactyloides*), switchgrass (*Panicum virgatum*), Silveanus dropseed (*Sporobolus silveanus*), Mead's sedge (*Carex meadii*), and longspike tridens (*Tridens strictus*). Riparian areas are typically wooded with bur oak (*Quercus macrocarpa*), Shumard's oak (*Quercus shumardii*), sugarberry, elm (*Ulmus* spp.), eastern cottonwood (*Populus deltoides*), and pecan (*Carya illinoinensis*) (Griffith et al. 2007).

Vegetation Types

Review of the TPWD (2022e) Texas Ecosystem Analytical Mapper indicates the dominant vegetation types within the Study area include: Blackland Prairie: Disturbance or Tame Grassland, Central Texas: Floodplain Hardwood Forest, Central Texas: Floodplain Herbaceous Vegetation, Post Oak Savanna: Live Oak Motte and Woodland, Post Oak Savanna: Post Oak Motte and Woodland, Post Oak Savanna: Savanna Grassland, Native Invasive: Deciduous Woodland, Native Invasive: Mesquite Shrubland, Native Invasive; Huisache Woodland or Shrubland, Urban High Intensity, Urban Low Intensity, and Barren.

Blackland Prairie: Disturbance or Tame Grassland

Blackland Prairie: Disturbance or Tame Grassland is characterized by Bermudagrass (*Cynodon dactylon*), yellow bluestem (*Bothriochloa ischaemum*), mesquite (*Prosopis* spp.), cedar elm, eastern redcedar (*Juniperus virginiana*), sugarberry, and sweet acacia (*Vachellia farnesiana*) (TPWD 2022e).

Central Texas: Floodplain Hardwood Forest

Central Texas: Floodplain Hardwood Forest overstory trees are dominated by pecan, post oak (*Quercus stellata*), cedar elm, American elm, sugarberry, sweetgum (*Liquidambar styraciflua*), and willow (*Salix* spp.) (TPWD 2022e).

Central Texas: Floodplain Herbaceous Vegetation

Central Texas: Floodplain Herbaceous Vegetation are successional grasslands that are dominated by Bermudagrass, Johnsongrass (*Sorghum halepense*), bahiagrass (*Paspalum notatum*), Indian woodats (*Chasmanthium latifolium*), vine mesquite (*Panicum obtusum*), Eastern gamagrass (*Tripsacum dactyloides*), and switchgrass (*Pancium virgatum*) (TPWD 2022e).

Post Oak Savanna: Live Oak Motte and Woodland

Post Oak Savanna: Live Oak Motte and Woodlands are dominated by live oak (*Quercus virginiana*) mottes, in the west, and coastal live oak (*Quercus agrifolia*) mottes, in the east, and characterized with a yaupon (*Ilex vomitoria*), American beautyberry (*Callicarpa americana*), and gum bully (*Sideroxylon lanuginosum*) understory (TPWD 2022e).

Post Oak Savanna: Post Oak Motte and Woodland

Post Oak Savanna: Post Oak Motte and Woodland overstorys are dominated by cedar elm, blackjack oak (), sugarberry, water oak (*Quercus nigra*), southern red oak (*Quercus falcata*), black hickory (*Carya texana*), Texas live oak (*Quercus fusiformis*) with a yaupon, common persimmon (*Diospyros virginiana*), possumhaw (*Ilex decidua*), winged elm (*Ulmus alata*), gum bully, American beautyberry, and eastern redcedar understory (TPWD 2022e).

Post Oak Savanna: Savanna Grassland

Post Oak Savanna: Savanna Grassland includes disturbance and tame grasslands that are dominated by yellow bluestem, Bermudagrass, bahiagrass, little bluestem (*Schizachyrium scoparium*), Indiangrass (*Sorghastrum nutans*), silver bluestem (*Bothriochloa saccharoides*), Texas wintergrass (*Nassella leucotricha*), composite dropseed (*Sporobolus compositus*), brownseed paspalum (*Paspalum picatulum*), prairie broomweed (*Amphiachyris dracunculoides*), Cuman ragweed (*Ambrosia psilostachya*), hogwart (*Croton capitatus*) with sparse woodlands of post oak, mesquite, eastern redcedar, water oak, and yaupon being common throughout (TPWD 2022e).

Native Invasive: Deciduous Woodland

Native Invasive: Deciduous Woodlands are broadly defined areas that often be heavily grazed, plowed, or fire suppressed and are dominated by mesquite, sugarberry, cedar elm, and juniper (*Juniperus* spp.) (TPWD 2022e).

Native Invasive: Mesquite Shrubland

Native Invasive: Mesquite Shrublands are broadly defined areas, typically occurring on former prairie or savanna soils, that are dominated by mesquite, lotebush (*Ziziphus obtusifolia*), sugarberry, prickly pear species (*Opuntia* spp.), and algerita (Mahonia trifoliolata) (TPWD 2022e).

Native Invasive: Huisache Woodland or Shrubland

Native Invasive: Huisache Woodland or Shrublands represents areas that have been heavily grazed or plowed that are dominated by shrubs or small trees species such as sweet acacia (*Vachellia farnesiana*), mesquite, cedar elm, eastern redcedar, Macartney rose (*Rosa bracteata*), and live oak (TPWD 2022e).

Urban High Intensity

Urban High Density are built-up areas with wide transportation corridors that are dominated by impervious cover (TPWD 2022e).

Low Urban Intensity

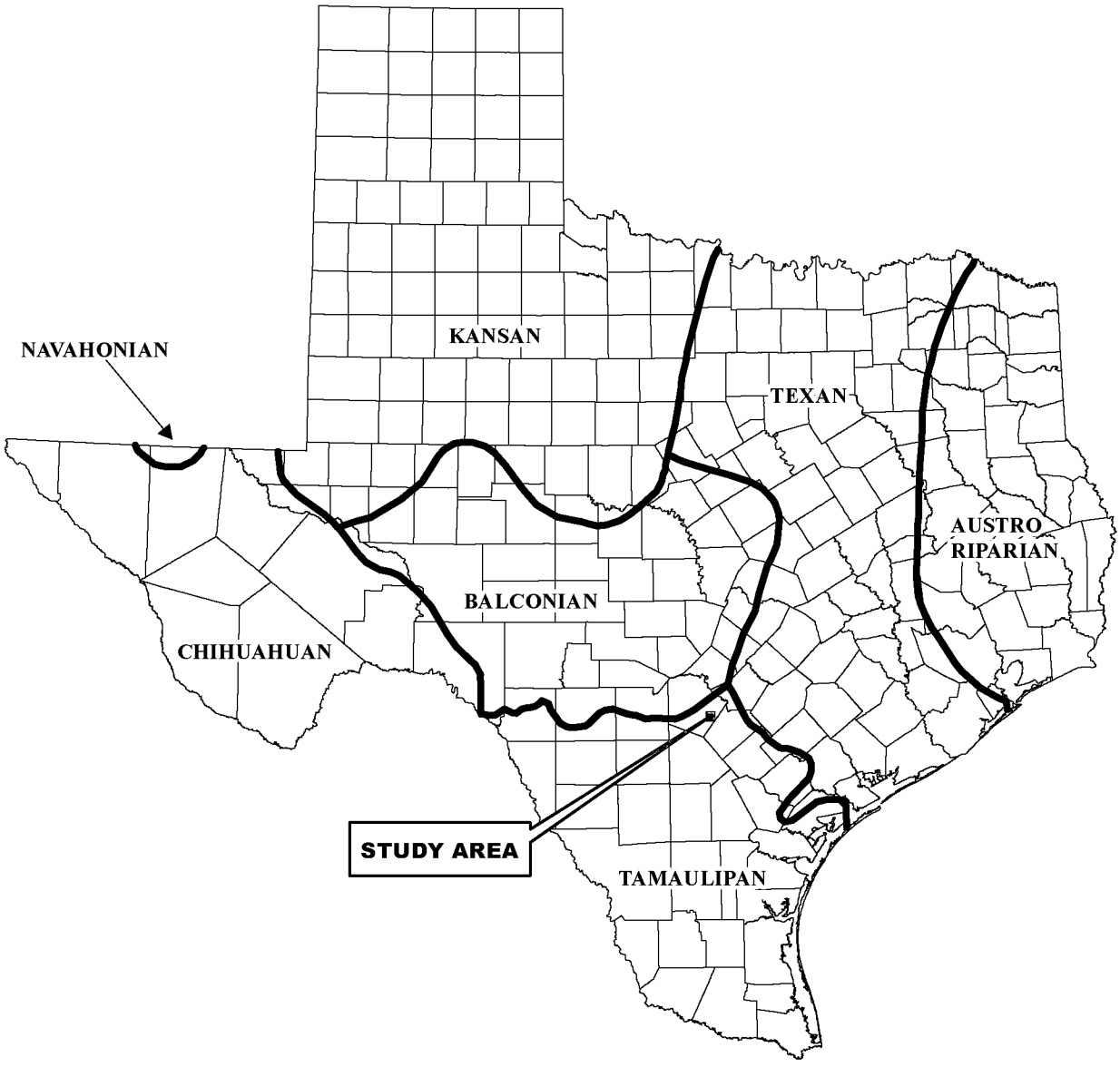
Low Urban Intensity are built-up areas that are not fully covered by impervious cover (TPWD 2022e).

Barren

Barren areas are areas with little to no vegetation (TPWD 2022e).

3.1.9 Wildlife

The study area occurs within the Tamaulipan Biotic Province (see Figure 3-3) as described by Blair (Blair 1950). The Tamaulipan province's faunal composition is characterized as a mixture of plains, woodlands, and desert-adapted taxa. The following sections list species that may occur in Bexar County and may represent the faunal diversity of the study area today.



0 50 100 200
Miles

Source: Blair, 1950, modified
Date: 9/27/2022

Legend

Biotic Province Boundary

County Boundary

TRANSMISSION INTERCONNECT
- PADUA GRID BESS PROJECT

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

CPS ENERGY

POWER ENGINEERS

Amphibians

Amphibian species (frogs, toads, and salamanders) that may occur within Bexar County are listed in Table 3-2. The likelihood for occurrence of each species within the study area will depend upon suitable habitat. Frogs and toads may occur in all vegetation types, while salamanders are typically restricted to hydric habitats (Tipton et al. 2012).

TABLE 3-2 AMPHIBIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME
Frogs/Toads	
Blanchard's chirping frog	*Acris crepitans blanchardi*
Bullfrog	*Rana catesbeiana*
Cliff's chirping frog	*Syrrhophus marnocki*
Cope's gray tree frog	*Hyla chrysoscelis*
Couch's spadefoot	*Scaphiopus couchi*
Eastern barking frog	*Eleutherodactylus augsti latitans*
Eastern green toad	*Bufo debilis debilis*
Great Plains narrowmouth toad	*Gastophryne olivacea*
Green tree frog	*Hyla cinerea*
Gulf Coast toad	*Bufo valliceps valliceps*
Hurter's spadefoot	*Scaphiopus hurteri*
Red-spotted toad	*Bufo punctatus*
Rio Grande chirping frog	*Syrrhophus cystignathoides campi*
Rio Grande leopard frog	*Rana berlandieri*
Southern leopard frog	*Rana sphenocephala*
Spotted chorus frog	*Pseudacris clarki*
Strecker's chorus frog	*Pseudacris streckeri*
Texas toad	*Bufo speciosus*
Woodhouse's toad	*Bufo woodhousii woodhousii*
Salamanders	
Eastern tiger salamander	*Ambystoma tigrinum tigrinum*
Small mouth salamander	*Ambystoma texanum*
Western slimy salamander	*Plethodon albagula*

Source: Dixon 2013.

Reptiles

Reptiles (turtles, lizards and snakes) that may occur in Bexar County are listed in Table 3-3. The likelihood for occurrence of each species within the study area will depend upon suitable habitat. These include those species that are more commonly observed near water (e.g., aquatic turtles) and those that are more common in terrestrial habitats (Dixon 2013).

TABLE 3-3 REPTILIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME
Turtles	
Common snapping turtle	*Chelydra serpentina sepentina*
Texas tortoise	*Gopherus berlanderi*
Cagle's map turtle	*Grapetmys caglei*
Yellow mud turtle	*Kinosternon flavescens flavescens*
Mississippi mud turtle	*Kinosternon subrubrum hippocrepis*
Texas river cooter	*Pseudemys texana*
Stinkpot	*Sternotherus odoratus*
Tree-toed box turtle	*Terrapene carolina triunguis*
Orante box turtle	*Terrapene ornata ornata*
Red-eared slider	*Trachemys scripta elegans*
Guadalupe spiny soft-shelled turtle	*Trionyx spiniferus guadalupensis*
Alligators	
American alligator	*Alligator mississippiensis*
Lizards	
Brown anole	*Anolis sagrei*
Crevice spiny lizard	*Sceloporus poinsetti poinsettia*
Eastern collared lizard	*Crotaphytus collaris collaris*
Eastern tree lizard	*Sceloporus ornatus ornatus*
Great plains skink	*Eumeces obsoletus*
Green anole	*Anolis carolinensis*
Ground skink	*Scincella lateralis*
Keeled earless lizard	*Holbrookia propinqua propinqua*
Mediterranean gecko	*Hemidactylus turcicus turcicus*
Rose-bellied lizard	*Sceloporus variabilis marmoratus*
Short-lined skink	*Eumeces tetragrammus brevilineatus*
Six-lined race runner	*Cnemidophorus sexlineatus sexlineatus*
Southern earless lizard	*Holbrookia lacerata subcaudalis*
Southern prairie lizard	*Sceloporus undulatus consobrinus*
Southern prairie skink	*Eumeces septentrionalis obtusirostris*
Texas alligator lizard	*Gerrhonotus infernalis*
Texas banded gecko	*Coleonyx brevis*
Texas earless lizard	*Cophosaurus texanus texanus*
Texas horned lizard	*Phrynosoma cornutum*
Texas spiny lizard	*Sceloporus olivaceus*
Texas spotted whiptail	*Cnemidophorus gularis gularis*
Western slender glass lizard	*Ophisaurus attenuates*
Snakes	
Black-tailed rattlesnake	*Crotalus molossus molossus*
Blotched water snake	*Nerodia erythrogaster transversa*
Broad-banded copperhead	*Agkistrodon contortrix laticinctus*

TABLE 3-3 REPTILIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME
Bull snake	*Pituophis catenifer sayi*
Canebrake rattlesnake	*Crotalus horridus atricaudatus*
Central Texas whip snake	*Masticophis taeniatus girardi*
Checkered garter snake	*Thamnophis marcianus marcianus*
Desert king snake	*Lampropeltis getula splendida*
Diamondback water snake	*Nerodia rhombifer rhombifer*
Dusky hog-nosed snake	*Heterodon nasicus gloydi*
Eastern black-necked garter snake	*Thamnophis cyrptopsis ocellatus*
Eastern hog-nosed snake	*Heterodon platirhinos*
Eastern yellow-bellied racer	*Coluber constrictor flaviventris*
Flatheaded snake	*Tantilla gracilis*
Graham's crayfish snake	*Regina grahami*
Ground snake	*Sonora semiannulata semiannulata*
Mexican milk snake	*Lampropeltis triangulum annulata*
Plains black-headed snake	*Tantilla nigriceps nigriceps*
Plains blind snake	*Leptotyphlops dulcis dulcis*
Prairie king snake	*Lampropeltis calligaster calligaster*
Prairie ringed-necked snake	*Diadophis punctatus arnyi*
Red-stripped ribbon snake	*Thamnophis proximus proximus*
Rough earth snake	*Virginia striatula*
Rough green snake	*Opheodrys aestivus*
Schott's whipsnake	*Masticophis schotti schotti*
South Texas ground snake	*Sonora semiannulata taylori*
Texas brown snake	*Storeria dekayi texana*
Texas coral snake	*Micrurus fulvius tenere*
Texas garter snake	*Thamnophis sirtalis annectens*
Texas glossy snake	*Ariona elegans arenicola*
Texas indigo snake	*Drymarchon corais erebennus*
Texas line snake	*Tropidoclonion lineatum texanum*
Texas long-nosed snake	*Rhniocheilus lecontei tessellatus*
Texas night snake	*Heterodon torquata jani*
Texas patched-nose snake	*Salvadora grahamiae lineata*
Texas rat snake	*Elaphe obsoleta lindheimeri*
Western coachwhip	*Masticophis flagellum testaceus*
Western cottonmouth	*Agkistrodon piscivorus leucostoma*
Western diamonback rattlesnake	*Crotalus atrox*
Western earth snake	*Virginia valeriae elegans*

Source: Dixon 2013.

Birds

Texas Ornithological Society (Lockwood and Freeman 2014) data and TPWD ecoregion specific avian check lists (Lockwood 2008) were reviewed for species distribution and life history information. Avian species potentially

occurring within Bexar County include year-round residents and summer, and/or winter migrants as shown in Table 3-4. Additional transient bird species may migrate within or through Bexar County in the spring and fall and/or use the area to nest (spring/summer) or overwinter. The likelihood for the occurrence of each species depends upon availability of suitable habitat and season. Migratory bird species that are native to the US or its territories are protected under the MBTA.

TABLE 3-4 AVIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME	RESIDENT	SUMMER	WINTER
ACCIPITRIFORMES: Accipitridae				
Broad-winged hawk	*Buteo platypterus*		X	
Cooper's hawk	*Accipiter cooperii*			X
Harris's hawk	*Parabuteo unicinctus*	X		
Mississippi kite	*Ictinia mississippiensis*		X	
Northern harrier	*Circus cyaneus*			X
Red-tailed hawk	*Buteo jamaicensis*	X		X
Sharp-shinned hawk	*Accipiter striatus*			X
Swainson's hawk	*Buteo swainsoni*		X	
White-tailed kite	*Elanus leucurus*	X		
ACCIPITRIFORMES: Cathartidae				
Black vulture	*Coragyps atratus*	X		
Turkey vulture	*Cathartes aura*	X		
ACCIPITRIFORMES: Pandionidae				
Osprey	*Pandion haliaetus*			X
ANSERIFORMES: Anatidae				
American wigeon	*Mareca americana*			X
Black-bellied whistling-duck	*Dendrocygna autumnalis*	X		
Blue-winged teal	*Spatula discors*			X
Bufflehead	*Bucephala albeola*			X
Canvasback	*Aythya valisineria*			X
Gadwall	*Anas strepera*			X
Greater white-fronted goose	*Anser albifrons*			X
Green-winged teal	*Anas crecca*			X
Lesser scaup	*Aythya affinis*			X
Mallard	*Anas platyrhynchos*	X		X
Northern pintail	*Anas acuta*			X
Northern shoveler	*Anas clypeata*			X
Redhead	*Aythya americana*			X
Ring-necked duck	*Aythya collaris*			X
Ruddy duck	*Oxyura jamaicensis*			X
Snow goose	*Chen caerulescens*			X
Wood duck	*Aix sponsa*	X		X
APODIFORMES: Apodidae				
Chimney swift	*Chaetura pelagica*		X	

TABLE 3-4 AVIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME	RESIDENT	SUMMER	WINTER
APODIFORMES: Trochilidae				
Buff-bellied hummingbird	*Amazilia yucatanensis*		X	
Ruby-throated hummingbird	*Archilochus colubris*		X	
CAPRIMULGIFORMES: Caprimulgidae				
Chuck-will's-widow	*Antrostomus carolinensis*		X	
Common nighthawk	*Chordeiles minor*		X	
Lesser nighthawk	*Chordeiles acutipennis*		X	
CHARADRIIFORMES: Charadriidae				
Killdeer	*Charadrius vociferus*	X		
Semipalmated plover	*Charadrius semipalmatus*		X	
CHARADRIIFORMES: Laridae				
Black tern	*Chlidonias niger*		X	
Franklin's gull	*Leucophaeus pipixcan*			X
Herring gull	*Larus argentatus*			X
Ring-billed gull	*Larus delawarensis*			X
CHARADRIIFORMES: Recurvirostridae				
American avocet	*Recurvirostra americana*			X
Black-necked stilt	*Himantopus mexicanus*	X		
CHARADRIIFORMES: Scolopacidae				
Dunlin	*Calidris alpina*			X
Greater yellowlegs	*Tringa melanoleuca*		X	
Least sandpiper	*Calidris minutilla*			X
Long-billed curlew	*Numenius americanus*			X
Long-billed dowitcher	*Limnodromus scolopaceus*			X
Pectoral sandpiper	*Calidris melanotos*			X
Ruddy turnstone	*Arenaria interpres*			X
Sanderling	*Calidris alba*			X
Short-billed dowitcher	*Limnodromus griseus*			X
Spotted sandpiper	*Actitis macularius*	X		
Stilt sandpiper	*Calidris himantopus*		X	
Western sandpiper	*Calidris mauri*			X
Willet	*Tringa semipalmata*	X		
Wilson's phalarope	*Phalaropus tricolor*		X	
COLUMBIFORMES: Columbidae				
Common ground-dove	*Columbina passerina*	X		
Eurasian collared-dove	*Streptopelia decaocto*	X		
Inca dove	*Columbina inca*	X		
Mourning dove	*Zenaida macroura*	X		
Rock pigeon	*Columba livia*	X		
White-tipped dove	*Leptotila verreauxi*	X		
White-winged dove	*Zenaida asiatica*	X		
CORACIIFORMES: Alcedinidae				

TABLE 3-4 AVIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME	RESIDENT	SUMMER	WINTER
Belted kingfisher	*Megaceryle alcyon*			X
CUCULIFORMES: Cuculidae				
Greater roadrunner	*Geococcyx californianus*	X		
Groove-billed ani	*Crotophaga sulcirostris*		X	
FALCONIFORMES: Falconidae				
American kestrel	*Falco sparverius*			X
Crested caracara	*Caracara cheriway*	X		
GALLIFORMES: Cracidae				
Plain chachalaca	*Ortalis vetula*	X		
GALLIFORMES: Odontophoridae				
Northern bobwhite	*Colinus virginianus*	X		
GALLIFORMES: Phasianidae				
Wild turkey	*Meleagris gallopavo*	X		
GRUIFORMES: Gruidae				
Sandhill crane	*Grus canadensis*			X
GRUIFORMES: Rallidae				
American coot	*Fulica americana*			X
Common gallinule	*Gallinula galeata*	X		
Sora	*Porzana carolina*		X	
Virginia rail	*Rallus limicola*		X	
PASSERIFORMES: Bombycillidae				
Cedar waxwing	*Bombycilla cedrorum*			X
PASSERIFORMES: Cardinalidae				
Blue grosbeak	*Passerina caerulea*		X	
Dickcissel	*Spiza americana*		X	
Indigo bunting	*Passerina cyanea*		X	
Northern cardinal	*Cardinalis*	X		
Painted bunting	*Passerina ciris*		X	
Pyrrhuloxia	*Cardinalis sinuatus*	X		
Rose-breasted grosbeak	*Pheucticus ludovicianus*		X	
Summer tanager	*Piranga rubra*		X	
PASSERIFORMES: Corvidae				
Blue jay	*Cyanocitta cristata*	X		
Green jay	*Cyanocorax yncas*	X		
PASSERIFORMES: Emberizidae				
Black-throated sparrow	*Amphispiza bilineata*	X		
Chipping sparrow	*Spizella passerina*			X
Clay-colored sparrow	*Spizella pallida*			X
Grasshopper sparrow	*Ammodramus savannarum*	X		
Lark bunting	*Calamospiza melanocorys*			X
Lark sparrow	*Chondestes grammacus*	X		
Lincoln's sparrow	*Melospiza lincolnii*			X

TABLE 3-4 AVIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME	RESIDENT	SUMMER	WINTER
Olive sparrow	*Arremonops rufivirgatus*		X	
Savannah sparrow	*Passerculus sandwichensis*			X
Spotted towhee	*Pipilo maculatus*			X
Vesper sparrow	*Pooecetes gramineus*			X
White-crowned sparrow	*Zonotrichia leucophrys*			X
PASSERIFORMES: Fringillidae				
House finch	*Haemorhous mexicanus*	X		
PASSERIFORMES: Hirundinidae				
Bank swallow	*Riparia riparia*		X	
Barn swallow	*Hirundo rustica*		X	
Cave swallow	*Petrochelidon fulva*		X	
Cliff swallow	*Petrochelidon pyrrhonota*		X	
Northern rough-winged swallow	*Stelgidopteryx serripennis*		X	
Purple martin	*Progne subis*		X	
Tree swallow	*Tachycineta bicolor*			X
PASSERIFORMES: Icteridae				
Baltimore oriole	*Icterus galbula*		X	
Brewer's blackbird	*Euphagus cyanocephalus*			X
Bronzed cowbird	*Molothrus aeneus*	X		
Brown-headed cowbird	*Molothrus ater*	X		X
Eastern meadowlark	*Sturnella magna*	X		
Great-tailed grackle	*Quiscalus mexicanus*	X		
Orchard oriole	*Icterus spurius*		X	
Red-winged blackbird	*Agelaius phoeniceus*	X		X
Western meadowlark	*Sturnella neglecta*			X
PASSERIFORMES: Laniidae				
Loggerhead shrike	*Lanius ludovicianus*	X		
PASSERIFORMES: Mimidae				
Gray catbird	*Dumetella carolinensis*		X	
Long-billed thrasher	*Toxostoma longirostre*	X		
Northern mockingbird	*Mimus polyglottos*	X		
PASSERIFORMES: Motacillidae				
American pipit	*Anthus rubescens*			X
PASSERIFORMES: Paridae				
Black-crested titmouse	*Baeolophus atricristatus*	X		
Carolina chickadee	*Poecile carolinensis*	X		
PASSERIFORMES: Parulidae				
American redstart	*Setophaga ruticilla*		X	
Black-and-white warbler	*Mniotilta varia*		X	
Black-throated Green warbler	*Setophaga virens*			X
Chestnut-sided warbler	*Setophaga pensylvanica*		X	
Common yellowthroat	*Geothlypis trichas*		X	X

TABLE 3-4 AVIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME	RESIDENT	SUMMER	WINTER
Hooded warbler	*Setophaga citrina*		X	
Louisiana waterthrush	*Parkesia motacilla*		X	
Magnolia warbler	*Setophaga magnolia*		X	
Mourning warbler	*Geothlypis philadelphia*		X	
Nashville warbler	*Oreothlypis ruficapilla*		X	
Northern parula	*Setophaga americana*		X	
Northern waterthrush	*Parkesia noveboracensis*		X	
Orange-crowned warbler	*Oreothlypis celata*			X
Ovenbird	*Seiurus aurocapilla*		X	
Tennessee warbler	*Oreothlypis peregrina*		X	
Wilson's warbler	*Cardellina pusilla*		X	
Yellow warbler	*Setophaga petechia*		X	
Yellow-breasted chat	*Icteria virens*		X	
Yellow-rumped warbler	*Setophaga coronata*			X
Yellow-throated warbler	*Setophaga dominica*		X	
PASSERIFORMES: Passeridae				
House sparrow	*Passer domesticus*	X		
Blue-gray gnatcatcher	*Polioptila caerulea*		X	
PASSERIFORMES: Regulidae				
Ruby-crowned kinglet	*Regulus calendula*			X
Verdin	*Auriparus flaviceps*	X		
PASSERIFORMES: Sturnidae				
European starling	*Sturnus vulgaris*	X		
PASSERIFORMES: Troglodytidae				
Carolina wren	*Thryothorus ludovicianus*	X		
House wren	*Troglodytes aedon*			X
Marsh wren	*Cistothorus palustris*			X
Sedge wren	*Cistothorus platensis*			X
PASSERIFORMES: Turdidae				
American robin	*Turdus migratorius*			X
Swainson's thrush	*Catharus ustulatus*		X	
PASSERIFORMES: Tyrannidae				
Ash-throated flycatcher	*Myiarchus cinerascens*		X	
Brown-crested flycatcher	*Myiarchus tyrannulus*		X	
Couch's Kingbird	*Tyrannus couchii*		X	
Eastern kingbird	*Tyrannus tyrannus*		X	
Eastern phoebe	*Sayornis phoebe*			X
Eastern wood-pewee	*Contopus virens*		X	
Great crested flycatcher	*Myiarchus crinitus*		X	
Great kiskadee	*Pitangus sulphuratus*	X		
Least flycatcher	*Empidonax minimus*		X	
Olive-sided flycatcher	*Contopus cooperi*		X	

TABLE 3-4 AVIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME	RESIDENT	SUMMER	WINTER
Say's phoebe	*Sayornis saya*			X
Scissor-tailed flycatcher	*Tyrannus forficatus*		X	
Vermilion flycatcher	*Pyrocephalus rubinus*		X	X
Western kingbird	*Tyrannus verticalis*		X	
Willow flycatcher	*Empidonax traillii*		X	
Yellow-bellied flycatcher	*Empidonax flaviventris*		X	
PASSERIFORMES: Vireonidae				
Red-eyed vireo	*Vireo olivaceus*		X	
White-eyed vireo	*Vireo griseus*		X	
PELECANIFORMES: Ardeidae				
American bittern	*Botaurus lentiginosus*			X
Black-crowned night-heron	*Nycticorax*			X
Cattle egret	*Bubulcus ibis*	X		
Great blue heron	*Ardea herodias*	X		
Great egret	*Ardea alba*	X		
Green heron	*Butorides virescens*		X	
Least bittern	*Ixobrychus exilis*		X	
Little Blue heron	*Egretta caerulea*		X	
Snowy egret	*Egretta thula*		X	
Tricolored heron	*Egretta tricolor*	X		
Yellow-crowned night-heron	*Nyctanassa violacea*		X	
PELECANIFORMES: Pelecanidae				
American white pelican	*Pelecanus erythrorhynchos*			X
PICIFORMES: Picidae				
Golden-fronted woodpecker	*Melanerpes aurifrons*	X		
Ladder-backed woodpecker	*Picoides scalaris*	X		
PODICIPEDIFORMES: Podicipedidae				
Eared grebe	*Podiceps nigricollis*			X
Pied-billed grebe	*Podilymbus podiceps*	X		
STRIGIFORMES: Strigidae				
Eastern screech-owl	*Megascops asio*	X		
Great Horned owl	*Bubo virginianus*	X		
STRIGIFORMES: Tytonidae				
Barn owl	*Tyto alba*	X		
SULIFORMES: Phalacrocoracidae				
Double-crested cormorant	*Phalacrocorax auritus*	X		

Source: Arvin 2007.

Mammals

Mammals that may occur in Bexar County are listed in Table 3-5 (Schmidly and Bradley 2016). The occurrence of each species within the study area is dependent on available suitable habitat.

TABLE 3-5 MAMMALIAN SPECIES POTENTIALLY OCCURRING WITHIN BEXAR COUNTY

COMMON NAME	SCIENTIFIC NAME
American perimyotis	*Perimyotis subflavus*
Black-tailed jackrabbit	*Lepus californicus*
Bobcat	*Lynx rufus*
Brazilian free-tailed bat	*Tadarida brasiliensis*
Collared peccary	*Tayassu tajacu*
Common gray fox	*Urocyon cinereoargenteus*
Common raccoon	*Procyon lotor*
Coyote	*Canis latrans*
Deer mouse	*Peromyscus maniculatus*
Desert cottontail	*Sylvilagus audubonii*
Eastern cottontail	*Sylvilagus floridanus*
Eastern fox squirrel	*Sciurus niger*
Eastern hog-nosed skunk	*Conepatus leuconotus*
Eastern mole	*Scalopus aquaticus*
Eastern red bat	*Lasiurus borealis*
Eastern spotted skunk	*Spilogale putorius*
Evening bat	*Nycticeius humeralis*
Feral pig	*Sus scrofa*
Fulvous harvest mouse	*Reithrodontomys fulvescens*
Ghost-faced bat	*Mormoops megalophylla*
Gulf Coast kangaroo rat	*Dipodomys compactus*
Hispid cotton rat	*Sigmodon hispidus*
Hispid pocket mouse	*Chaetodipus hispidus*
Hoary bat	*Lasiurus cinereus*
House mouse	*Mus musculus*
Least shrew	*Cryptotis parva*
Long-tailed weasel	*Mustela frenata*
Marsh rice rat	*Oryzomys palustris*
Merriam's pocket mouse	*Perognathus merriami*
Nine-banded armadillo	*Dasyppus novemcinctus*
Northern grasshopper mouse	*Onychomys leucogaster*
Northern pygmy mouse	*Baiomys taylori*
Northern yellow bat	*Lasiurus intermedius*
Norway rat	*Rattus norvegicus*
Nutria	*Myocastor coypus*
Ringtail	*Bassariscus astutus*
Roof rat	*Rattus rattus*
Southern plains woodrat	*Neotoma micropus*
Southern yellow bat	*Lasiurus ega*
Striped skunk	*Mephitis mephitis*
Virginia opossum	*Didelphis virginiana*
White-footed mouse	*Peromyscus leucopus*
White-tailed deer	*Odocoileus virginianus*

Source: Schmidly and Bradley 2016.

3.1.10 Aquatic Resources

Intermittent streams and creeks occur within the study area. Emergent wetlands may be located along the edges of ponds and streams during wetter periods and may be comprised of rushes (*Juncus* spp.), spikerushes (*Eleocharis* spp.), sedges (*Carex* spp.), and flatsedges (*Cyperus* spp.). Typical woody plant species in these wetland or riparian areas may include elms (*Ulmus* spp.), bald cypress (*Taxodium distichum*), American sycamore (*Platanus occidentalis*), pecan (*Carya illinoinensis*), cottonwood (*Populus deltoides*), and rattlebush (*Sesbania* spp.) (Chadde 2012a and 2012b).

Intermittent flowing streams support aquatic species primarily adapted to ephemeral pool habitats. Because intermittent streams consist of small headwater drainages, persistent flow is unlikely to be sufficient to support any substantial lotic species assemblage. Species in ephemeral aquatic habitats are typically adapted to rapid dispersal and completion of life cycles. In streams dominated by scoured, sandy-clay bottoms, accumulations of woody debris or leaf pack provide the most important feeding and refuge areas for invertebrates and forage fish. Softer, muddy bottoms generally harbor substantial populations of burrowing invertebrates (e.g., larval diptera and oligochaetes), which can be an important food source to higher trophic levels (Hubbs 1957).

Potential ponds located in the study area will exhibit variability in terms of their age, drainage, use by livestock, past fish stocking, and fertilization history. Typically for pond habitat, fluctuations in water levels are experienced during summer months because of high evaporation rates and repeated heavy rainfall required to fill ponds. Periods of extended drought in the region may reduce these seasonal water level fluctuations or dry ponds completely.

3.1.11 Threatened and Endangered Species

Information on sensitive wildlife and vegetation resources within the study area was obtained from a variety of sources, including correspondence with the USFWS and TPWD. Additional information was obtained from published literature and technical reports. Available biological resource data for the study area were mapped using GIS.

For the purpose of this EA, emphasis was placed on obtaining known occurrences of special status species and unique vegetation communities that have been previously documented within the study area. Special status species include those listed by the USFWS as threatened, endangered, proposed, or candidate; and those listed by TPWD as threatened, endangered, or as a rare species. Spatial data of known occurrences for listed species and/or sensitive vegetation communities was obtained from the TPWD's TXNDD on April 04, 2022 (TXNDD 2022). The TXNDD data provides a data record, known as an element of occurrence record (EOR), of state-listed rare or threatened/endangered species and rare vegetation communities that have been documented within a given area.

The TXNDD data does not preclude the potential for a species to exist within the study area. Only a species-specific survey within the study area can determine the presence or absence of a special status species.

A USFWS IPaC Official Species List and Resource List was received on July 11, 2022 (USFWS 2022c; Project Code: 2022-0062164). This report identifies potentially occurring federal-listed threatened, endangered, and candidate species and habitats within the study area. By definition, a threatened species is defined as likely to become endangered within the near foreseeable future throughout all or a significant portion of its range. An endangered species is in danger of extinction throughout all or a significant portion of its range. Candidate species are those that have sufficient information regarding their biological vulnerability and threat(s) to support listing as threatened or endangered and are likely to be proposed for listing in the near foreseeable future (USFWS 2022b).

The ESA also provides for the conservation of "designated critical habitat," which is defined as the areas of land, water, and air space that an endangered species needs for survival. No federally listed critical habitat was identified within the study area (USFWS 2022c).

Threatened and Endangered Plant Species

USFWS (2022c) IPaC species list for the study area and TPWD (2022b) county listings were reviewed for special status plant species potentially occurring within the study area. A brief description of these species' life history, habitat requirements, and documented occurrences within the study area are summarized.

Threatened and Endangered Animal Species

The USFWS (2022c) IPaC species report for the study area and TPWD (2022b) county listings were reviewed for special status animal species potentially occurring within the study area. Federally- and/or state-listed, and candidate status animal species potentially occurring within the study area are listed in Table 3-6. Federal status species listed in the TPWD Annotated County Lists of Rare Species have been included in Table 3-6 for consistency. Although only federally-listed threatened or endangered species are protected under the ESA, state-listed species may receive protection under other federal and/or state laws, such as the MBTA, BGEPA, Chapters 67, 68, and 88 of the Texas Parks and Wildlife Code, and Section 65.171–65.184 and 69.01–69.14 of Title 31 of the TAC. Brief descriptions of life history, habitat requirements, and documented occurrences within the study area are summarized below for each species.

TABLE 3-6 LISTED THREATENED AND ENDANGERED ANIMAL SPECIES FOR BEXAR COUNTY

SPECIES		LEGAL STATUS	
COMMON NAME	SCIENTIFIC NAME	USFWS[1]	TPWD[2]
Amphibians			
Cascade Caverns salamander	*Eurycea latitans*	-	T
San Marcos salamander	*Eurycea nana*	T	T
Texas blind salamander	*Typhlomolge rathbuni*	E	-
Texas salamander	*Eurycea neotenes*	-	T
Arachnids			
Bracken Bat Cave meshweaver	*Cicurina venii*	E	-
Cokendolpher Cave harvestman	*Texella cokendolpheri*	E	-
Government Canyon Bat Cave meshweaver	*Cicurina vespera*	E	-
Government Canyon Bat Cave spider	*Neoleptoneta microps*	E	-
Madla Cave meshweaver	*Cicurina madla*	E	-
Robber Baron Cave meshweaver	*Cicurina baronia*	E	-
Birds			
Golden-cheeked warbler	*Dendroica chrysoparia*	E	E
Piping plover	*Charadrius melodus*	T	T
Red Knot	*Calidris canutus rufa*	T	-
White-faced ibis	*Plegadis chihi*	-	T
Whooping crane	*Grus americana*	E	E
Wood stork	*Mycteria americana*	-	T
Crustaceans			
Peck's Cave amphipod	*Stygobromus (=Stygonectes) pecki*	E	-
Fishes			
Fountain darter	*Etheostoma fonticola*	E	-
Toothless blindcat	*Trogloglanis pattersoni*	-	T
Widemouth blindcat	*Satan eurystomus*	-	T
Insects			
Beetle (No designated common name)	*Rhadine exilis*	E	-
Beetle (No designated common name)	*Rhadine infernalis*	E	-
Comal Springs dryopid beetle	*Stygoparnus comalensis*	E	-
Comal Springs Riffle beetle	*Heterelmis comalensis*	E	-
Helotes mold beetle	*Batrisodea venyivi*	E	-
Monarch butterfly	*Danaus plexippus*	C	-
Mammals			
American black bear	*Ursus americanus*	-	T
White-nosed coati	*Nasua narica*	-	T
Mollusks			
False spike	*Fusconaia mitchelli*	-	T
Reptiles			
Cagle's map turtle	*Graptemys caglei*	-	T
Texas horned lizard	*Phrynosoma cornutum*	-	T
Texas tortoise	*Gopherus berlandieri*	-	T
Plants			
Black lace cactus	*Echinocereus reichenbachii var. albertii*	E	-

TABLE 3-6 LISTED THREATENED AND ENDANGERED ANIMAL SPECIES FOR BEXAR COUNTY

SPECIES		LEGAL STATUS	
Bracted twistflower	*Streptanthus bracteatus*	PT	-
Texas Wild-rice	*Zizania texana*	E	-

[1] USFWS 2022c, [2] TPWD 2022b.
E – Federal- or State-Listed Endangered
T – Federal- or State-Listed Threatened
C – Federal Candidate for Listing
PT – Federal Proposed Threatened

Federal Listed Species

AMPHIBIANS

San Marcos Salamander

The San Marcos salamander requires clear, constant flowing water with aquatic vegetation over sand and gravel substrates. Its reddish-brown color allows it to camouflage well with aquatic vegetation. The San Marcos salamander is restricted to the outflows of Spring Lake and the riffle just below Spring Lake dam near the City of San Marcos (Tipton et al. 2012). The Study area is outside the known range of the species thus the species is not anticipated to occur within the Study Area.

Texas Blind Salamander

The Texas blind salamander is white, like many other species adapted to living in aquatic caves of the Edwards Aquifer and measures up to five inches in length. Similar to the San Marcos salamander, the Texas blind salamander requires constant flow of clear water. This subterranean species is only seen above ground when strong water flows bring it to the surface. The Texas blind salamander is only known to occur in the Balcones Escarpment near the city of San Marcos and is found within subterranean streams of the Purgatory Creek (Tipton et al. 2012). The Study area is outside the known range of the species thus the species is not anticipated to occur within the Study area.

ARACHNIDS

Braken Bat Cave Meshweaver

The Braken Bat Cave meshweaver is a species of eyeless spider known only from a single specimen at the type locality, Braken Bat Cave, Bexar County, Texas. This invertebrate species is a troglobite, which is an organism that spends its entire life in subterranean environments (NatureServe 2022). Threats to this species include habitat loss from quarrying operations, cave filling, habitat degradation via pollution and alterations in water flow (USFWS 2012). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

Cokendolpher Cave Harvestman

The Cokendolpher Cave harvestman is a species of eyeless spider also referred to as the Robber Baron Cave harvestman. It is a troglobite (NatureServe 2022) endemic to Bexar County, Texas, where it has only been documented in Robber Baron Cave, a cave which runs underneath a heavily urbanized area in the City of San Antonio. Threats to this species include habitat loss from quarrying operations, cave filling, habitat degradation via pollution, and alterations in water flow (USFWS 2012). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

Government Canyon Bat Cave Meshweaver

The Government Canyon Bat Cave meshweaver is a spider endemic to Bexar County, Texas. It is a troglobite (NatureServe 2022) that is only known to occur in Bexar County at Government Canyon Bat Cave located within Government Canyon State Natural Area. Threats to this species include habitat loss from quarrying operations, cave filling, habitat degradation via pollution, and alterations in water flow (USFWS 2012). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

Government Canyon Bat Cave Spider

The Government Canyon Bat Cave spider is endemic to Bexar County, Texas. It is a troglobite (NatureServe 2022) that has only been documented in Bexar County at Government Canyon Bat Cave and Surprise Sink located within Government Canyon State Natural Area. Threats to this species include habitat loss from quarrying operations, cave filling, habitat degradation via pollution, and alterations in water flow (USFWS 2012). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

Madla Cave Meshweaver

The Madla Cave meshweaver is an eyeless spider endemic to Bexar County, Texas. It is a troglobite that has been observed in eight caves including Lost Pothole, Christmas Cave, Helotes Blowhole, Madla's Cave, Madla's Drop Cave, Headquarters Cave, the Hills and Dales Pit, and Robbers Cave within the University of Texas at San Antonio main campus (NatureServe 2022). Threats to this species include habitat loss from quarrying operations, cave filling, habitat degradation via pollution, and alterations in water flow (USFWS 2012). Genetic research of this species suggests that additional populations may exist outside the eight documented caves (Paquin and Hedin 2004). This species is not anticipated to occur within the Study Area.

Robber Baron Cave Meshweaver

The Robber Baron Cave meshweaver is an eyeless spider endemic to Bexar County, Texas. It is a troglobite (NatureServe 2022) that is only known from Robber Baron Cave within the Alamo Heights karst region. Threats to this species include habitat loss from quarrying operations, cave filling, habitat degradation via pollution, and

alterations in water flow (USFWS 2012). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

BIRDS

Golden-cheeked Warbler

The golden-cheeked warbler's entire nesting range is confined to habitat in 33 counties located in central Texas. Nesting typically occurs from March to May in mature oak-juniper woodland areas with a moderate to high density of mature Ashe juniper trees mixed with deciduous trees (e.g., oaks) creating dense foliage in the upper canopy (Pulich 1976; Campbell 2003). These oak-juniper woodland vegetation communities are typically located in moist areas along steep-sided slopes, drainages, and bottomlands. However, golden-cheeked warblers will also nest in upland oak-juniper woodlands on flat topography (Pulich 1976). The golden-cheeked warbler migrates southward to southern Mexico and northern Central America to overwinter. Due to the Study Area being outside the known breeding habitat distribution, this species may occur as a temporary migrant throughout the Study area.

Piping Plover

The piping plover is a small migratory shorebird that nests within the Great Lakes, Northern Great Plains or Atlantic Coast (TPWD 2022b). Primary fall migration to Texas is from July to early September, while spring migration occurs from March to early May. Piping plovers are common to locally uncommon winter residents along the Gulf of Mexico coastline (Lockwood and Freeman 2014). This species is not anticipated to occur within the study area due to lack of suitable habitat.

Red Knot

The red knot is a long-distance migrant that may travel up to 5,000 miles during migration without stopping. Red knots nest in the arctic tundra and overwinter along the Texas coastline. A spring migratory stopover is located in Delaware Bay where the species gorges on horseshoe crab eggs (NatureServe 2022). Winter foraging habitats include coastal beaches, tidal sand flats, mudflats, marsh, shallow ponds, and sand bars (Baker et al. 2020). This species is a rare to uncommon winter resident along the Texas coastline (Lockwood and Freeman 2014) and may occur temporarily within the Project Area if suitable stopover areas are available. Due to the transient and rare nature of potential occurrence for this species within the Project Area, no impacts are anticipated to occur to the red knot.

Whooping Crane

The eastern half of the study area is located within the central migratory corridor for the whooping crane. The migration path includes a 220-mile-wide corridor that begins at their nesting site at Wood Buffalo National Park in Canada and continues south to their wintering grounds at the Aransas National Wildlife Refuge along the Texas coast. The migratory corridor contains 95 percent of all confirmed whooping crane stopover sightings, during

migration. Whooping cranes overwinter in the Aransas National Wildlife Refuge from November through March. During migration, they typically fly at altitudes greater than 1,000 feet but will roost and feed in areas away from human disturbance during nightly stopovers. Stopover areas include large rivers, lakes and associated wetlands, playa lakes, pastureland, and cropland (USFWS 2009). This species may occur within the study area as a rare transient during migration.

CRUSTACEANS

Little is known about the life history of the Peck's Cave amphipod, except that it is an eyeless cave obligate. This species has only been observed at spring openings of Comal and Hueco springs in the Edwards Aquifer area (NatureServe 2022). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

FISHES

Fountain Darter

The fountain darter is a species of perch that is endemic to the San Marcos and Comal River headwaters in Hays and Comal counties, Texas (Thomas et al. 2007). It inhabits clear waters with aquatic vegetation and constant water temperatures. Diet consists of small crustaceans and insect larvae. Females lay their eggs year-round and utilize calmer waters of the river. Fountain darters are often associated with algae mats (Thomas et al. 2007). Due to the Study area not being located within the known distribution the species is not anticipated to occur within the Study area.

INSECTS

Unnamed Beetle (*Rhadine exilis*)

This unnamed beetle species is endemic to Bexar County, Texas. It is an eyeless cave obligate that has been documented in about 50 different caves (NatureServe 2022). *Rhadine exilis* is known only from caves in the southern portion of Camp Bullis Military Base (Reddell and Cokendolpher 2004). Threats to this species include habitat loss from quarrying operations, cave filling, and habitat degradation via pollution, and alterations in water flow (USFWS 2012). Due to the lack of karst features within the Study Area, this species is not anticipated to occur within the Study Area.

Unnamed Beetle (*Rhadine infernalis*)

This unnamed beetle species is an eyeless cave obligate that has been documented in approximately 39 different caves in Bexar County, Texas (NatureServe 2022). Threats to this species include habitat loss from quarrying operations, cave filling, and habitat degradation via pollution, and alterations in water flow (USFWS 2012). Due to the lack of karst habitat, this species is not anticipated to occur within the Study Area.

Comal Springs dryopid beetle

The Comal Springs dryopid beetle is a small, eyeless aquatic insect. The larvae inhabit the ceilings of spring openings where organic soil and roots are present. Diet of the Comal Springs dryopid beetle is unknown; however, it may be like that of other dryopid beetles, which includes detritus and aquatic plants. It has only been collected from Comal Springs and Fern Bank Springs of the Edwards Aquifer (USFWS 2007). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

Comal Springs riffle beetle

The Comal Springs riffle beetle is approximately two millimeters long, with a reddish-brown exoskeleton. Diet consists of detritus and microorganisms. They are restricted to springs within the Edwards Aquifer and are only known to occur near headwaters of the Comal and San Marcos rivers (USFWS 2007). This species is not anticipated to occur within the study area due to the known range of suitable habitat.

Helotes Mold Beetle

The Helotes mold beetle is endemic to karst features within Texas. It has been documented in eight caves near Helotes, Texas, northwest of San Antonio. This species is a cave obligate, growing up to 2.4 millimeters long and is believed to be predatory in nature (USFWS 2012). Due to the lack of karst habitat, this species is not anticipated to occur within the Study area.

PLANTS

Black Lace Cactus

The black lace cactus is a low-growing cactus with cyndrical stems and pink flowers. Habitat includes dense mesquite shrublands and woodlands on poorly drained sandy soils within coastal grasslands of the Gulf Coastal Plain (TPWD 2022f). The species is typically found along streambeds and in slightly depressed areas that hold water for a period of time. The species may occur within the Study area wherever suitable habitat is found.

Bracted Twistflower

Bracted twistflower is endemic to the Edwards Plateau ecoregion. It is a short annual, growing to about eight inches tall. The entire plant is glabrous with pink to purple flowers. Bracted twist flower occurs on shallow, well-drained gravelly clays and clay loams over limestone in openings of oak juniper woodlands as well as in canyon bottoms It can be found growing amidst dense shrub areas however plants are often more robust in sites with plentiful sunlight. Associate plant species include shrubby boneset (*Ageratina havanensis*), desert barberry (*Berberis trifoliata*), Texas hog plum (*Colubrina texensis*), bush croton (*Croton fruticulosus*), Buckley oak (*Quercus buckleyi*), Mexican buckeye (*Ungnadia speciosa*), featherleaf desertpeony (*Acourtia runcinata*), green milkweed vine (*Matelea reticulata*), blue curls (*Phacelia congesta*), Buckley's fluffgrass (*Tridens buckleyanus*), little bluestem, and sideoats grama (*Bouteloua curtipendula*). Populations of this species may change extensively

between years depending on the amount winter rainfall. The primary causes for its decline are residential development and browsing by white-tailed deer (Poole et al. 2007).

Texas Wild-rice

Texas wild-rice is endemic Texas and only known to occur in portions of the Upper San Marcos River within Hays County. This species occurs in the spring-fed San Marcos River within clear, cool, swift water mostly less than three feet deep. Soils are typically coarse sandy soils and this species flowers year-round (Poole et al. 2007). This species is not anticipated to occur within the study due to a lack of suitable aquatic habitats.

Federal Candidate Species

Monarch Butterfly

The monarch butterfly ranges from North and South America to the Caribbean, Australia, New Zealand, the Pacific islands, and Western Europe. The species has been proposed as candidate species for protection under the ESA due to decreasing populations and habitat loss. Eastern and western monarch populations migrate both north and south on an annual basis. Populations usually overwinter in Mexico, Texas, Florida, and California and then spend the spring and summer months migrating back north. The entire migration cycle last for four generations of monarchs and no individual makes the round trip. Monarchs are heavily dependent on milkweed plants (*Asclepias* spp.) as larval hosts and to help produce poison. Preferred overwintering habitat includes appropriate roosting vegetation, dense tree cover, access to streams, and warm enough temperatures to allow for flight (NatureServe 2022). This species may be a potential migrant through the study area at specific times of year.

Other Federally Protected Species

Bald Eagle

The bald eagle was delisted in 2007 by the USFWS, because the population has recovered beyond the ESA criteria for listing. The status of the bald eagle population is currently monitored by USFWS and the species is still protected under the MBTA and the BGEPA. Bald eagles may nest and/or winter in Texas. Nests are built in treetops or on cliffs near rivers or large lakes. The bald eagle primarily preys on fish but will also eat birds, small mammals, and turtles and will often scavenge or steal carrion (Campbell 2003). This species may occur within the study area if suitable habitat is available.

State Listed Species

AMPHIBIANS

Cascade Caverns Salamander

The Cascade Caverns salamander is a small, subaquatic amphibian endemic to Texas. Its range includes springs and caves within the Edwards Aquifer area (TPWD 2022b). The salamander is pale brown to yellowish in color and grows up to four inches in length. Cave-dwelling forms of the Cascade Caverns salamander have greatly

reduced nonfunctional eyes and little skin pigmentation. Other populations of this species have more skin pigmentation and functional eyes (Powell et al. 2016). Due to the lack of karst habitat, this species is not anticipated to occur within the Study area.

Texas Salamander

The Texas salamander is endemic to Bexar and Kendall counties in Texas. It is adapted to living in subterranean streams and creeks. This subterranean species is capable of traversing upland habitats when conditions are wet but may rarely do so successfully (NatureServe 2022). This species may occur within the study area if suitable habitat is available

BIRDS

White-faced Ibis

The white-faced ibis prefers freshwater marshes, swamps, ponds, rivers, sloughs, and irrigated rice fields, but will also use brackish and saltwater habitats. This species is a colonial nester and forages on insects, newts, leeches, earthworms, snails, crayfish, frogs, and fish (TPWD 2022b). White-faced ibis commonly breeds and winters along the Texas Gulf Coast (Arvin 2007). This species may occur in the study area as a non-breeding migrant (Lockwood and Freeman 2014) if suitable habitat is available.

Wood Stork

The wood stork inhabits prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including saltwater areas. This species usually roosts communally in tall snags, sometimes in association with other wading birds and historically nested in Texas (TPWD 2022b). This species may occur in the Study area wherever suitable habitat is found.

FISHES

Toothless Blindcat

The toothless blindcat is a small, eyeless fish is restricted to five subterranean wells of the San Antonio Pool of the Edwards Aquifer that is located near and around San Antonio, Texas (NatureServe 2022). Due to the lack of habitat this species is not anticipated to occur within the Study Area.

Widemouth Blindcat

The widemouth blindcat is a small, white to pink eyeless fish restricted to subterranean freshwater pools within caves located in the Medina and Upper San Antonio River watersheds. Diet of the widemouth blindcat consists of shrimp, amphipods, and isopods (NatureServe 2022). Due to the lack of habitat this species not anticipated to occur within the Study Area.

MAMMALS

American Black Bear

The American black bear is listed as threatened due to similarities with the Louisiana black bear (*Ursus americanus luteolus*), which has now been federally delisted. The American black bear is a stocky, large, omnivore with black to cinnamon brown fur that consumes insects, roots, and tubers. Preferred habitat in Texas includes bottomland hardwood forest and large tracts of inaccessible forested areas (TPWD 2022b). This species historically inhabited large tracts of forest and woodland throughout Texas and was once thought to be extirpated from the state. In recent years sightings have increased near the Chisos Mountains in west Texas and the Texas Panhandle by bears dispersing from Mexico and New Mexico (Schmidly and Bradley 2016). Due to the rarity of sightings and lack of suitable habitat this species is not anticipated to occur within the Study area.

White-nosed Coati

The white-nosed coati is a member of the raccoon family (*Procyonidae*) that inhabits cropland/hedgerows, mesquite grasslands, oak scrub, riparian corridors, and canyons of south and west Texas. Denning occurs in snags or hollow trees. Adult males are solitary while females and young males travel in groups of 12 or more. White-nosed coatis are most active during mornings and evenings at which times they forage canopies and the ground for fruits, insects, birds, and small mammals (Schmidly and Bradley 2016; NatureServe 2022). This species may occur within the study area if suitable habitat is available.

MOLLUSKS

False Spike

The false spike mussel inhabits surface waters in the Rio Grande, Guadalupe, Colorado, and Brazos River systems, in Texas and New Mexico. Little is known about specific habitat requirements for this species, but it likely prefers medium to large rivers with substrates varying from mud through mixtures of sand, gravel and cobble (Howells et al. 2014). The Study area is outside the known range and thus this species is not anticipated to occur within the Study area.

REPTILES

Cagle's Map Turtle

The Cagle's map turtle habitat range is limited to the Guadalupe and San Antonio River basins, inhabiting the Guadalupe, San Antonio and San Marcos rivers. This species prefers rivers with slow to moderate flow and silt and gravel substrates. The optimal habitat includes riffles and pools. Like most other turtles, this species basks in the sun on brush piles along river and stream banks (Conant and Collins 1991; Dixon 2013). This species may occur within the Study area wherever suitable habitat is available.

Texas Horned Lizard

The Texas horned lizard inhabits open, arid to semiarid regions with sparse vegetation including open desert, grasslands, and shrubland containing bunch grasses, cacti and yucca. Preferred soils vary from pure sands and sandy loams to coarse gravels, conglomerates, and desert pavements (Henke and Fair 1998). Texas horned lizards are active between early spring to late summer and thermo-regulate by basking or burrowing into the soil. During winter inactivity periods, this species aestivates beneath the surface six to 12 inches deep under rocks, leaf litter, or abandoned animal burrows. Populations are thought to have decreased because of land use conversions, increased pesticide/herbicide use, collection, and increased fire ant populations. The Texas horned lizard forages primarily on the red harvester ant (*Pogonomyrmex barbatus*), but also consumes grasshoppers, beetles, and grubs (Dixon 2013; Henke and Fair 1998). This species may occur within the study area if suitable habitat is available.

Texas Tortoise

The Texas tortoise is a long-lived species with a shell that has characteristically yellowish-orange, bluntly-horned scutes (shell plates). Habitat preferences include arid brush, scrub woods, and grass-cactus associations with grassy understories (NatureServe 2022). The Texas tortoise is active during March to November and when inactive, it occupies shallow depressions at the base of bushes or cactus, underground burrows, or under other suitable objects such as trash. The tortoise feeds on fruits of prickly pear and other mostly succulent plants (TPWD 2022b). This species may occur within the study area if potential suitable habitat is available.

3.2 Human Resources/Community Values

3.2.1 Land Use

Jurisdiction does not necessarily represent land ownership. Potential conflicts that could arise from crossing jurisdictional boundaries were evaluated in this study. The study area is located within the jurisdictional boundary of Bexar County. A portion of the City of San Antonio extraterritorial jurisdiction is located within the study area.

The study area covers approximately one square mile in Bexar County. Land uses within the study area were identified and placed into the following categories: urban/developed, planned land use, agriculture, oil and gas facilities, transportation/aviation/utility features, communication towers, and parks and recreation areas. The primary sources of land use information were obtained from interpretation of aerial photographs, USGS topographical maps, and vehicular reconnaissance surveys from accessible public viewpoints. Planned land use features were limited to known features obtained from governmental entities and mobility authorities.

Residential Areas

The urban/developed classification represents concentrations of surface disturbing land uses, which include habitable structures and other developed areas, characterized with low, medium and high intensities. The various

levels of development include a mix of institutional, commercial, and/or industrial land uses. Developed low, medium, and high intensity areas were identified using aerial photograph interpretation and reconnaissance surveys. These classifications are described below:

- **Developed Low Intensity** areas typically include rural settings with single-family housing units.
- **Developed Medium Intensity** areas typically include single-family housing units that are grouped in residential subdivisions and might include peripheral commercial structures.
- **Developed High Intensity** includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses, and commercial/industrial parks. Areas with the highest concentration of development are typically located within or near the towns and communities in the study area.

The study area is located within Bexar County and partially within the City of San Antonio extraterritorial jurisdiction. The study area is partially wooded with industrial development, the O.W. Sommers Power Plant, concentrated in the southern portion of the study area. Existing transmission lines extend west, north and east from the power plant. The habitable structures in the study are all associated with the O.W. Sommers Power Plant and would be considered low intensity development. Habitable structures were identified using aerial photographs (Esri World Imagery 2022; NAIP 2020), Google Earth, and reconnaissance surveys. The PUC definition of a habitable structure was used for this routing study. The PUC's Substantive Rules (16 TAC § 25.101(a)(3)) define habitable structures as "structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis. Habitable structures include, but are not limited to, single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, and schools."

Schools

The study area is located within the East Central Independent School District. No schools were identified within the study area (Texas Education Agency 2022).

Planned Land Use

The planned land use component identifies objectives and/or policies regarding land use goals and plans, including conservation easements, managed lands, and proposed developments. Cities and counties typically prepare comprehensive land use plans to provide strategic direction by goals and objectives for the individual city or county. City and county websites were reviewed, and correspondence was submitted to local and county officials to identify potential planned land use conflicts. The City of San Antonio also has a Master Plan intended to provide guidance in future decisions related to land use, infrastructure improvements, transportation, and more (City of San Antonio 2022a and 2022b). Additionally, the City of San Antonio has set up zoning districts to

provide information on how a property may be developed. No Neighborhood Conservation Districts were identified within the study area, but there are platted subdivisions. Bexar County is implementing a parks master plan. No zoning was identified for Bexar County (Bexar County 2022).

Conservation Easements

A conservation easement is a restriction that property owners voluntarily place on specified uses of their property to protect natural, productive or cultural features. The property owner retains legal title to the property and determines the types of uses to allow or restrict. The property can still be bought, sold, and inherited, but the conservation easement is tied to the land and binds all present and future owners to its terms and restrictions. Conservation easement language will vary as to the individual property owner's allowances for additional developments on the land. The land trusts facilitate the easement and ensure compliance with the specified terms and conditions.

A review of numerous non-governmental groups (e.g., the Nature Conservancy, Texas Land Conservancy [TLC] and the National Conservation Easement Database [NCED]) that are land trusts and databases for conservation easements within Texas indicated there are no easements within the study area (Nature Conservancy 2022; TLC 2022; NCED 2022).

3.2.2 Agriculture

Agriculture is a significant segment of the economy throughout Texas, and although there are no known agricultural activities within the study area, Bexar County has an active agricultural sector. According to the USDA's National Agricultural Statistics Service's 2017 Census of Agriculture, the total market value for agricultural products sold for Bexar County was $67,877,000, a six percent decrease from the 2012 market value of $72,387,000. Livestock sales accounted for 26 percent of agricultural sales in Bexar County, while crop sales accounted for 74 percent of agricultural sales. The number of farms in Bexar County increased slightly from 2,457 in 2012 to 2,520 in 2017 (an increase of three percent) (USDA 2012 and 2017).

3.2.3 Transportation/Aviation

Transportation

Federal, state, and local roadways were identified using TxDOT county transportation maps, Texas Natural Resources Information System data, and field reconnaissance surveys. The roadway transportation system within the study area does not include any US Hwys, SHs, or FM roads. Two county roads, Gardner and Burshard Roads, were identified in the study area (TxDOT 2022a).

TxDOT's "Project Tracker," which contains detailed information by county for every project that is or could be scheduled for construction, was reviewed to identify any state roadway projects planned within the study area. The TxDOT Project Tracker indicated no state roadway projects planned within the study area (TxDOT 2022b). A review of the City of San Antonio Transportation and Capital Improvements did not indicate any city roadway projects planned within the study area (City of San Antonio 2022c).

There is one railroad spur identified within the southern portion of study area that enters the O.W. Sommers Power Plant (United States Department of Transportation 2022).

Aviation

POWER reviewed the San Antonio Sectional Aeronautical Chart (FAA 2022a) and the Chart Supplement for the South Central United States (US) (formerly the Airport/Facility Directory) (FAA 2022b) to identify FAA registered facilities within the study area subject to notification requirements listed in 14 C.F.R. 77.9. Facilities subject to notification requirements listed in 14 C.F.R. 77.9 include public-use airports listed in the Airport/Facility Directory (currently the Chart Supplement), public-use or military airports under construction, airports operated by a federal agency or DoD, or an airport or heliport with at least one FAA-approved instrument approach procedure.

The Chart Supplement for the South Central US used in conjunction with the San Antonio Sectional Aeronautical Chart, contains all public-use airports, seaplane bases and public-use heliports, military facilities, and selected private-use facilities specifically requested by the DoD for which a DoD Instrument Approach Procedure has been published in the US Terminal Procedures Publication.

No public-use or military FAA registered airports were identified within the study area (FAA 2022b).

Although pre-existing landing areas for air ambulance services may exist in the study area, no public-use heliports or heliports with an instrument approach procedure are listed for the study area in the Chart Supplement for the South Central US (FAA 2022b). However, a CPS Energy private-use heliport was identified within 5,000 feet of the Proposed Route centerline.

In addition, POWER also reviewed the FAA database (FAA 2022c), USGS topographic maps, recent aerial photography, and conducted field reconnaissance from publicly accessible areas to identify private-use airstrips and private-use heliports not subject to notification requirements listed in 14 C.F.R. 77.9. There were no private-use airstrips and no private-use heliports identified within the study area. However, there is one CPS Energy private-use heliport within 2,000 feet of the study area.