| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Common gallinule | *Gallinula galeata* | R |
| Common ground dove | *Columbina passerina* | R |
| Common loon | *Gavia immer* | M |
| Common nighthawk | *Chordeiles minor* | SR |
| Common pauraque | *Nyctidromus albicollis* | SR |
| Common poorwill | *Phalaenoptilus nuttallii* | M |
| Common tern | *Sterna hirundo* | M |
| Common yellowthroat | *Geothlypis trichas* | WR |
| Cooper's hawk | *Accipiter cooperii* | WR |
| Couch's kingbird | *Tyrannus couchii* | R |
| Crested caracara | *Caracara plancus* | R |
| Curve-billed thrasher | *Toxostoma curvirostre* | R |
| Dark-eyed junco | *Junco hyemalis* | WR |
| Dickcissel | *Spiza americana* | M |
| Double-crested cormorant | *Nannopterum auritum* | WR |
| Dunlin | *Calidris alpine* | M |
| Eared grebe | *Podiceps nigricollis* | WR |
| Eastern bluebird | *Sialia sialis* | WR |
| Eastern kingbird | *Tyrannus tyrannus* | M |
| Eastern meadowlark | *Sturnella magna* | R |
| Eastern phoebe | *Sayornis phoebe* | WR |
| Eastern screech-owl | *Megascops asio* | R |
| Eastern wood-pewee | *Contopus virens* | M |
| Eurasian-collared dove | *Streptopelia decaocto* | R |
| European starling | *Sturnus vulgaris* | R |
| Ferruginous hawk | *Buteo regalis* | WR |
| Field sparrow | *Spizella pusilla* | WR |
| Franklin's gull | *Leucophaeus pipixcan* | M |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Forster's tern | *Sterna forsteri* | WR |
| Fulvous whistling-duck | *Dendrocygna bicolor* | R |
| Gadwall | *Mareca strepera* | WR |
| Golden-crowned kinglet | *Regulus satrapa* | WR |
| Golden-fronted woodpecker | *Melanerpes aurifrons* | R |
| Grasshopper sparrow | *Ammodramus savannarum* | R |
| Gray catbird | *Dumetella carolinensis* | WR |
| Gray-cheeked thrush | *Catharus minimus* | M |
| Gray hawk | *Buteo plagiatus* | R |
| Great blue heron | *Ardea herodias* | R |
| Great crested flycatcher | *Myiarchus crinitus* | M |
| Great egret | *Ardea alba* | R |
| Great kiskadee | *Pitangus sulphuratus* | R |
| Greater roadrunner | *Geococcyx californianus* | R |
| Greater white-fronted goose | *Anser albifrons* | WR |
| Great horned owl | *Bubo virginianus* | R |
| Greater yellowlegs | *Tringa melanoleuca* | WR |
| Great-tailed grackle | *Quiscalus mexicanus* | R |
| Green heron | *Butorides virescens* | R |
| Green kingfisher | *Chloroceryle americana* | R |
| Green jay | *Cyanocorax yncas* | R |
| Green-tailed towhee | *Pipilo chlorurus* | WR |
| Green-winged teal | *Anas crecca* | WR |
| Groove-billed ani | *Crotophaga sulcirostris* | R |
| Harris's hawk | *Parabuteo unicinctus* | R |
| Hermit thrush | *Catharus guttatus* | WR |
| Herring gull | *Larus smithsonianus* | WR |
| Hooded merganser | *Lophodytes cucullatus* | WR |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Hooded oriole | *Icterus cucullatus* | SR |
| Hooded warbler | *Setophaga citrina* | M |
| Hook-billed kite | *Chondrohierax uncinatus* | R |
| Horned lark | *Eremophila alpestris* | R |
| House finch | *Haemorhous mexicanus* | R |
| House sparrow | *Passer domesticus* | R |
| Hudsonian godwit | *Limosa haemastica* | M |
| Inca dove | *Columbina inca* | R |
| Indigo bunting | *Passerina cyanea* | SR |
| Kentucky warbler | *Geothlypis Formosa* | M |
| Killdeer | *Charadrius vociferus* | R |
| Ladder-backed woodpecker | *Dryobates scalaris* | R |
| Lark bunting | *Calamospiza melanocorys* | WR |
| Lark sparrow | *Chondestes grammacus* | R |
| Laughing gull | *Leucophaeus atricilla* | WR |
| Least bittern | *Ixobrychus exilis* | R |
| Least flycatcher | *Empidonax minimus* | M |
| Least grebe | *Tachybaptus dominicus* | R |
| Least sandpiper | *Calidris minutilla* | WR |
| LeConte's sparrow | *Ammospiza lecontei* | WR |
| Lesser black-backed gull | *Larus fuscus* | WR |
| Lesser goldfinch | *Spinus psaltria* | R |
| Lesser nighthawk | *Chordeiles acutipennis* | SR |
| Lesser scaup | *Aythya affinis* | WR |
| Lesser yellowlegs | *Tringa flavipes* | WR |
| Lincoln's sparrow | *Melospiza lincolnii* | WR |
| Little blue heron | *Egretta caerulea* | R |
| Long-billed curlew | *Numenius americanus* | WR |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Long-billed dowitcher | *Limnodromus scolopaceus* | WR |
| Long-billed thrasher | *Toxostoma longirostre* | R |
| Long-eared owl | *Asio otus* | WR |
| Loggerhead shrike | *Lanius ludovicianus* | R |
| Louisiana waterthrush | *Parkesia motacilla* | M |
| Magnolia warbler | *Setophaga magnolia* | M |
| Mallard | *Anas platyrhynchos* | WR |
| Marsh wren | *Cistothorus palustris* | WR |
| Masked duck | *Nomonyx dominicus* | R |
| Merlin | *Falco columbarius* | WR |
| Mottled duck | *Anas fulvigula* | R |
| Mississippi kite | *Ictinia mississippiensis* | M |
| Mountain plover | *Charadrius montanus* | WR |
| Mourning dove | *Zenaida macroura* | R |
| Mourning warbler | *Geothlypis philadelphia* | M |
| Muscovy duck | *Cairina moschata* | R |
| Nashville warbler | *Leiothlypis ruficapilla* | M |
| Neotropic cormorant | *Nannopterum brasilianus* | R |
| Northern aplomado falcon | *Falco femoralis septentrionalis* | R |
| Northern bobwhite | *Colinus virginianus* | R |
| Northern cardinal | *Cardinalis cardinalis* | R |
| Northern flicker | *Colaptes auratus* | WR |
| Northern harrier | *Circus hudsonius* | WR |
| Northern house wren | *Troglodytes aedon* | WR |
| Northern mockingbird | *Mimus polyglottos* | R |
| Northern parula | *Setophaga americana* | M |
| Northern pintail | *Anas acuta* | WR |
| Northern rough-winged swallow | *Stelgidopteryx serripennis* | R |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Northern shoveler | *Spatula clypeata* | WR |
| Northern waterthrush | *Parkesia noveboracensis* | M |
| Olive-sided flycatcher | *Contopus cooperi* | M |
| Olive sparrow | *Arremonops rufivirgatus* | R |
| Orchard oriole | *Icterus spurius* | M |
| Orange-crowned warbler | *Leiothlypis celata* | WR |
| Osprey | *Pandion haliaetus* | WR |
| Ovenbird | *Seiurus aurocapilla* | M |
| Painted bunting | *Passerina ciris* | SR |
| Pectoral sandpiper | *Calidris melanotos* | M |
| Peregrine falcon | *Falco peregrinus* | WR |
| Philadelphia vireo | *Vireo philadelphicus* | M |
| Pied-billed grebe | *Podilymbus podiceps* | R |
| Pine siskin | *Spinus pinus* | WR |
| Piping plover | *Charadrius melodus* | M |
| Plain chachalaca | *Ortalis vetula* | R |
| Prairie falcon | *Falco mexicanus* | WR |
| Purple gallinule | *Porphyrio martinica* | SR |
| Purple martin | *Progne subis* | SR |
| Pyrrhuloxia | *Cardinalis sinuatus* | R |
| Red-billed pigeon | *Patagioenas flavirostris* | R |
| Red-breasted merganser | *Mergus serrator* | M |
| Red-eyed vireo | *Vireo olivaceus* | M |
| Redhead | *Aythya americana* | WR |
| Red knot | *Calidris canutus rufa* | M |
| Red-shouldered hawk | *Buteo lineatus* | WR |
| Red-tailed hawk | *Buteo jamaicensis* | R |
| Red-winged blackbird | *Agelaius phoeniceus* | R |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Ring-billed gull | *Larus delawarensis* | WR |
| Ringed kingfisher | *Megaceryle torquate* | R |
| Ring-necked duck | *Aythya collaris* | WR |
| Rock pigeon | *Columba livia* | R |
| Rock wren | *Salpinctes obsoletus* | M |
| Roseate spoonbill | *Platalea ajaja* | M |
| Rose-breasted grosbeak | *Pheucticus ludovicianus* | M |
| Ross's goose | *Anser rossii* | WR |
| Ruby-crowned kinglet | *Corthylio calendula* | WR |
| Ruby-throated hummingbird | *Archilochus colubris* | M |
| Ruddy duck | *Oxyura jamaicensis* | WR |
| Ruddy turnstone | *Arenaria interpres* | M |
| Rufous hummingbird | *Selasphorus rufus* | M |
| Sage thrasher | *Oreoscoptes montanus* | WR |
| Sanderling | *Calidris alba* | M |
| Sandhill crane | *Antigone canadensis* | WR |
| Savannah sparrow | *Passerculus sandwichensis* | WR |
| Say's phoebe | *Sayornis saya* | WR |
| Scaled quail | *Callipepla squamata* | R |
| Scarlet tanager | *Piranga olivacea* | M |
| Scissor-tailed flycatcher | *Tyrannus forficatus* | SR |
| Sedge wren | *Cistothorus stellaris* | WR |
| Semipalmated plover | *Charadrius semipalmatus* | M |
| Semipalmated sandpiper | *Calidris pusilla* | M |
| Sharp-shinned hawk | *Accipiter striatus* | WR |
| Short-billed dowitcher | *Limnodromus griseus* | M |
| Short-eared owl | *Asio flammeus* | WR |
| Snow goose | *Anser caerulescens* | WR |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Snowy egret | *Egretta thula* | R |
| Snowy plover | *Charadrius nivosus* | R |
| Solitary sandpiper | *Tringa solitaria* | WR |
| Song sparrow | *Melospiza melodia* | WR |
| Sora | *Porzana carolina* | WR |
| Sprague's pipit | *Anthus spragueii* | WR |
| Spotted sandpiper | *Actitis macularius* | WR |
| Spotted towhee | *Pipilo maculatus* | WR |
| Stilt sandpiper | *Calidris himantopus* | M |
| Summer tanager | *Piranga rubra* | M |
| Swainson's hawk | *Buteo swainsoni* | M |
| Swainson's thrush | *Catharus ustulatus* | M |
| Swallow-tailed kite | *Elanoides forficatus* | M |
| Swamp sparrow | *Melospiza georgiana* | WR |
| Tennessee warbler | *Leiothlypis peregrina* | M |
| Tree swallow | *Tachycineta bicolor* | WR |
| Tricolored heron | *Egretta tricolor* | R |
| Tropical kingbird | *Tyrannus melancholicus* | R |
| Tropical parula | *Setophaga pitiayumi* | SR |
| Turkey vulture | *Cathartes aura* | R |
| Upland sandpiper | *Bartramia longicauda* | M |
| Varied bunting | *Passerina versicolor* | SR |
| Veery | *Catharus fuscescens* | M |
| Vermilion flycatcher | *Pyrocephalus rubinus* | R |
| Verdin | *Auriparus flaviceps* | R |
| Vesper sparrow | *Pooecetes gramineus* | WR |
| Virginia rail | *Rallus limicola* | M |
| Warbling vireo | *Vireo gilvus* | M |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Western burrowing owl | *Athene cunicularia hypugaea* | R |
| Western kingbird | *Tyrannus verticalis* | SR |
| Western meadowlark | *Sturnella neglecta* | WR |
| Western sandpiper | *Calidris mauri* | WR |
| Western tanager | *Piranga ludoviciana* | M |
| Whip-poor-will | *Antrostomus vociferus* | M |
| White-crowned sparrow | *Zonotrichia leucophrys* | WR |
| White-eyed vireo | *Vireo griseus* | R |
| White-faced ibis | *Plegadis chihi* | WR |
| White ibis | *Eudocimus albus* | R |
| White-rumped sandpiper | *Calidris fuscicollis* | M |
| White-tailed hawk | *Geranoaetus albicaudatus* | R |
| White-tailed kite | *Elanus leucurus* | R |
| White-throated sparrow | *Zonotrichia albicollis* | WR |
| White-tipped dove | *Leptotila verreauxi* | R |
| White-winged dove | *Zenaida asiatica* | SR |
| Wild turkey | *Meleagris gallopavo* | R |
| Willet | *Tringa semipalmata* | M |
| Willow flycatcher | *Empidonax traillii* | M |
| Wilson's phalarope | *Phalaropus tricolor* | M |
| Wilson's snipe | *Gallinago delicata* | WR |
| Wilson's warbler | *Cardellina pusilla* | M |
| Wood duck | *Aix sponsa* | WR |
| Wood stork | *Mycteria americana* | WR |
| Wood thrush | *Hylocichla mustelina* | M |
| Worm-eating warbler | *Helmitheros vermivorum* | M |
| Yellow-bellied flycatcher | *Empidonax flaviventris* | M |
| Yellow-bellied sapsucker | *Sphyrapicus varius* | WR |

| Common Name | Scientific Name | Likely Seasonal Occurrence |
|---|---|---|
| Yellow-billed cuckoo | *Coccyzus americanus* | SR |
| Yellow-breasted chat | *Icteria virens* | M |
| Yellow-crowned night-heron | *Nyctanassa violacea* | SR |
| Yellow-headed blackbird | *Xanthocephalus xanthocephalus* | WR |
| Yellow-rumped warbler | *Setophaga coronata* | WR |
| Yellow-throated warbler | *Setophaga dominica* | WR |
| Yellow-throated vireo | *Vireo flavifrons* | M |
| Yellow warbler | *Setophaga petechia* | M |

Sources: Cornell Lab of Ornithology (Cornell), 2025; eBird, 2025; NatureServe Explorer, 2025; Sibley, 2003.

Note Any species determined to potentially reside within the Study Area permanently may also breed within the Study Area.

R - Resident: Occurring regularly in the same general area throughout the year-implies breeding

SR - Summer Resident: Implies breeding but may include nonbreeders

WR - Winter Resident: Occurring during winter season

M - Migrant: Occurs as a transient passing through the area either in spring or fall or both

#### 3.6.3.4 Mammals

A representative list of common mammals that may occur in the Study Area is included as **Table 3-5**.

**Table 3-5: Representative List of Mammalian Species of Potential Occurrence in the Study Area**

| Common Name | Scientific Name |
|---|---|
| **Order Artiodactyla (even-toed ungulates)** | |
| Barbary sheep | *Antilope lervia Pallas* |
| Collared peccary | *Pecari tajacu* |
| Feral pig | *Sus scrofa* |
| White-tailed deer | *Odocoileus virginianus* |
| **Order Carnivora (carnivores)** | |
| American badger | *Taxidea taxus* |

| Common Name | Scientific Name |
|---|---|
| American hog-nosed skunk | *Conepatus leuconotus* |
| Bobcat | *Lynx rufus* |
| Common gray fox | *Urocyon cinereoargenteus* |
| Common raccoon | *Procyon lotor* |
| Cougar | *Puma concolor* |
| Coyote | *Canis latrans* |
| Eastern spotted skunk | *Spilogale putorius* |
| Hog-nosed skunk | *Conepatus leuconotus* |
| Jaguarundi | *Puma yagouaroundi* |
| Long-tailed weasel | *Mustela frenata* |
| Mountain lion | *Felis concolor* |
| Northern river otter | *Lontra canadensis* |
| Ocelot | *Leopardus pardalis* |
| Ringtail | *Bassariscus astutus* |
| Striped skunk | *Mephitis mephitis* |
| Western hog-nosed skunk | *Conepatus leuconotus* |
| Western spotted skunk | *Spilogale gracilis* |
| White-nosed coati | *Viverra narica* |
| **Order Chiroptera (bats)** | |
| Big brown bat | *Eptesicus fuscus* |
| Big free-tailed bat | *Nyctinomops macrotis* |
| Brazilian free-tailed bat | *Tadarida brasiliensis* |
| Cave myotis bat | *Myotis velifer* |
| Eastern red bat | *Lasiurus borealis* |
| Evening bat | *Nycticeius humeralis* |
| Hoary bat | *Lasiurus cinereus* |
| Mexican long-tongued bat | *Choeronycteris mexicana* |
| Northern yellow bat | *Lasiurus intermedius* |

| Common Name | Scientific Name |
|---|---|
| Pallid bat | *Antrozous pallidus* |
| Peter's ghost-faced bat | *Mormoops megalophylla* |
| Silver-haired bat | *Lasionycteris noctivagans* |
| Southern yellow bat | *Lasiurus ega* |
| Tricolored bat | *Perimyotis subflavus* |
| **Order Cingulata (armadillos and allies)** | |
| Nine-banded armadillo | *Dasypus novemcinctus* |
| **Order Lagomorpha (hares, rabbits, and picas)** | |
| Black-tailed jackrabbit | *Lepus californicus* |
| Desert cottontail | *Lepus audubonii* |
| Eastern cottontail | *Sylvilagus floridanus* |
| **Order Didelphimorphia (opossums and allies)** | |
| Virginia opossum | *Didelphis virginiana* |
| **Order Rodentia (rodents)** | |
| American beaver | *Castor canadensis* |
| Black rat | *Rattus rattus* |
| Coues' rice rat | *Oryzomys couesi aquaticus* |
| Eastern fox squirrel | *Sciurus niger* |
| Fulvous harvest mouse | *Reithrodontomys fulvescens* |
| Gulf coast kangaroo mouse | *Dipodomys compactus* |
| Hispid cotton rat | *Sigmodon hispidus* |
| Hispid pocket mouse | *Chaetodipus hispidus* |
| House mouse | *Mus musculus* |
| Long-tailed weasel | *Mustela frenata* |
| Merriam's pocket mouse | *Perognathus merriami* |
| Mexican ground squirrel | *Spermophilus mexicanus* |
| Mexican spiny pocket mouse | *Heteromys irroratus* |
| North American deermouse | *Peromyscus maniculatus* |

| Common Name | Scientific Name |
|---|---|
| North American porcupine | *Erethizon dorsatum* |
| Northern grasshopper mouse | *Onychomys leucogaster* |
| Northern pygmy mouse | *Baiomys taylori* |
| Norway rat | *Rattus norvegicus* |
| Nutria | *Myocastor coypus* |
| Ord's kangaroo rat | *Dipodomys ordii* |
| Rio Grande Ground Squirrel | *Ictidomys parvidens* |
| Southern plains woodrat | *Neotoma micropus* |
| Spotted ground squirrel | *Xerospermophilus spilosoma* |
| Strecker's Pocket Gopher | *Geomys streckeri* |
| Texas pocket gopher | *Geomys personatus personatus* |
| White-ankled deermouse | *Peromyscus pectoralis* |
| White-footed mouse | *Peromyscus leucopus* |
| White-nosed coati | *Nasua narica* |
| Yellow-faced pocket gopher | *Cratogeomys castanops* |
| **Order: Soricomorpha (moles and shrews)** | |
| Eastern mole | *Scalopus aquaticus* |
| Desert shrew | *Notiosorex crawfordi* |
| Least shrew | *Cryptotis parva* |

Sources: Schmidly and Bradley, 2016; NatureServe Explorer, 2025; GBIF, 2025.

### 3.6.4 Recreationally and Commercially Important Species

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

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

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

According to the USFWS, more than two million people annually engage in recreational hunting within west south-central U.S., which includes Texas, Oklahoma, Arkansas, and Louisiana, each year (USFWS, 2022). Hunting adds billions of dollars to the state's economy each year through fees to hunt on public land, private leases, equipment costs, and travel-related expenses. These numbers include hunters that are residents of Texas as well as those that travel to the state to hunt. Within Webb County, established hunting seasons exist for the species listed in **Table 3-6**.

**Table 3-6: Game Species with Potential to Occur in the Study Area**

| Common Name | Scientific Name |
|---|---|
| American alligator | *Alligator mississippiensis* |
| White-winged dove and mourning dove | *Zenaida asiatica; Zenaida macroura* |
| Duck and coot | Numerous species |
| Light and dark geese | Numerous species |
| Javelina | *Tayassu tajacu* |
| Northern bobwhite quail | *Colinus virginianus* |
| Rails, gallinules, and moorhens | Numerous species |
| Sandhill crane | *Grus canadensis* |
| Squirrels | Numerous species |
| Teal duck | *Anas discors; Anas crecca; Spatula cyanoptera* |
| Wild Turkey | *Meleagris gallopavo* |
| White-tailed deer | *Odocoileus virginianus* |
| Snipe and woodcock | *Gallinago delicata; Scolopax minor* |

Source: TPWD, 2025d.

### 3.6.5 Endangered and Threatened Species

An endangered species is one that is in danger of extinction throughout all or a significant portion of its natural range, while a threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A candidate species is one that is currently in the assessment process to determine if listing is appropriate using the listing factors in Section 4 of the ESA.

#### 3.6.5.1 Plant Species

Available information from USFWS (2025b; 2025c), TPWD (2025b), and TPWD NDD (TPWD, 2024) were reviewed to identify federally-listed threatened, endangered, or proposed plant species that could potentially occur within the Study Area. USFWS and TPWD lists for Webb County include one federally-listed endangered plant species: Ashy Dogweed (*Thymophylla tephroleuca*).

##### 3.6.5.1.1 Ashy Dogweed

The ashy dogweed is a perennial species that flowers from March to May. Preferred habitat includes fine sand or sandy-loam soils overlaid by level to rolling grasslands with a scattered shrub layer (NatureServe Explorer, 2025b; TPWD, 2025b). The current range includes areas of southwestern Texas including the Laredo area (USFWS, 2025b). One record is included in the TXNDD located approximately 18 miles southeast of the Study Area (TPWD, 2024). Due to the potential for sandy loam soils within the Study Area, ashy dogweed may occur within the Study Area.

##### 3.6.5.1.2 Sensitive Plant Communities

No sensitive vegetation community was identified in the TXNDD database search as occurring within the Study Area (TPWD, 2024).

#### 3.6.5.2 Federally Listed Fish and Wildlife Species

Available information from USFWS (2025b; 2025c) and TPWD (2025b), and TPWD NDD (TPWD, 2024) included 10 federally-listed threatened, endangered, or proposed fish and wildlife species that may occur in Webb County. It should be noted that inclusion in the table does not imply that a species is known to occur in the Study Area but only acknowledges the potential for occurrence. An estimate of the likelihood of a species to occur within the Study Area is based on an analysis of existing habitat that is available and the known habitat preferences for each species.

**Table 3-7: Federally Listed Fish and Wildlife Species for the Study Area Counties**

| Common Name | Scientific Name | Status | Potential for Occurrence in the Study Area |
|---|---|---|---|
| | | USFWS | |
| **Birds** | | | |
| Cactus Ferruginous Pygmy-owl | *Glaucidium brasilianum cactorum* | Threatened | Likely |
| Piping plover [b] | *Charadrius melodus* | Threatened | Not Likely [a] |
| Rufa red knot [b] | *Calidris canutus rufa* | Threatened | Not Likely [a] |
| Yellow-billed cuckoo | *Coccyzus americanus* | Threatened | Likely |
| **Insects** | | | |
| Monarch butterfly | *Danaus plexippus* | Proposed Threatened | Likely [a] |
| **Mammals** | | | |
| Tricolored bat | *Perimyotis subflavus* | Proposed Endangered | Likely |
| Ocelot | *Leopardus pardalis* | Endangered | Not Likely |
| **Mollusks** | | | |
| Mexican fawnsfoot | *Truncilla cognata* | Proposed Endangered | Likely |
| Salina mucket | *Potamilus metnecktayi* | Proposed Endangered | Likely |
| Texas hornshell | *Popenaias popeii* | Endangered | Likely |

Sources: USFWS,2025b, 2025c; TPWD, 2024, 2025b

(a) Assumed to be a transient species, potentially migrating through the Study Area and using suitable habitat for stopovers.

(b) According to USFWS IPAC, the assessment of these species in the Study Area is only necessary for wind energy projects.

#### 3.6.5.2.1 Cactus Ferruginous Pygmy-owl

The ferruginous pygmy-owl inhabits deserts, woodlands, savannas, and shrublands with its range extending from Arizona to northeastern Mexico. In Texas, the current largest population is located in coastal sand plains with forests that include honey mesquite and live oak (NatureServe Explorer, 2025). Given the adaptability of the species to mesquite woodlands, it is possible the ferruginous pygmy-owl to occur in the Study Area.

#### 3.6.5.2.2 Piping Plover

Piping plovers nest on sandy beaches along the ocean or lakes. Along rivers, piping plovers use the bare areas of islands or sandbars. They also nest on the pebbly mud of interior alkali lakes and ponds. During the winter, piping plovers use algal, mud, and sand flats along the Gulf Coast. According to eBird sightings, the piping plover was spotted approximately 95 miles east of the Study Area in Kaufer-Hubert Memorial Park. Piping plovers migrate through Texas each spring and fall (eBird, 2025; TPWD, 2025c). Based on relevant background information, no suitable nesting habitat exists within the Study Area. As such, occurrence of the piping plover within the Study Area is unlikely.

#### 3.6.5.2.3 Rufa Red Knot

The rufa red knot is a small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Red knots migrate long distances in flocks northward through the contiguous U.S. mainly April through June, and flocks southward in July through October. In Texas, this bird winters along the Gulf Coast. The rufa red knot prefers the shoreline of coast and bays and uses mudflats during rare inland encounters. Habitat consists primarily of seacoasts on tidal flats and beaches, herbaceous wetland, and tidal flat/shore. Based on relevant background information, no suitable nesting habitat exists within the Study Area. As such, occurrence of the rufa red knot within the Study Area is unlikely (Cornell, 2025; eBird, 2025; Sibley, 2003; TPWD, 2025c).

#### 3.6.5.2.4 Yellow-billed Cuckoo

The yellow-billed cuckoo is slender, long-tailed, long-distance migrant bird that is often found in densely covered deciduous woodlands near to water sources such as streams and marshes. Nests are often created in oak, beech, hawthorn, and ash trees. Species range maps indicate the Study Area is within the breeding range of this species. According to eBird sightings, the yellow-billed cuckoo has been spotted numerous times in the City of Laredo and Lake Casa Blanca Internation State Park with the closest record approximately 3 miles southwest of the Study Area near Rio Bravo (Cornell, 2025; eBird, 2025). It is likely for the yellow-billed cuckoo to be present in the Study Area during the breeding season.

#### 3.6.5.2.5 Monarch Butterfly

In the southwestern states, migrating monarch butterflies tend to occur more frequently near water sources such as rivers, creeks, roadside ditches, and irrigated gardens. Monarch butterflies would be found during the later spring and summer migrations through Texas. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (*Asclepias spp.*). Given the large migration corridor through this region of Texas, there is limited potential that the monarch butterfly may be present within the Study Area during migration (TPWD, 2016).

#### 3.6.5.2.6 Tricolored Bat

The tricolored bat is associated with forested habitats, where it can forage near trees and along waterways and as such, it is frequently observed foraging among riparian corridors. The tricolored bat appears to prefer woodlands over open habitats, even though they have been occasionally spotted flying among agricultural fields. The current known extent includes most of Texas, excluding the western portions of the state. There is potential for the tricolored bat to be present within the Study Area due to the riparian corridors of San Idelfonso Creek and Becerra Creek (Schmidly and Bradley, 2016; IUCN, 2025).

#### 3.6.5.2.7 Ocelot

The ocelot's current range extent in Texas is limited to south Texas brush country and the lower Rio Grande Valley. This species is more common from Mexico to South and Central America. Preferred habitat includes forested wetlands and dense, thorny brush in chaparral thickets. Common species in these habitats include sugar hackberry and lotebush. Dens are made in caves, hollow trees, and thickets. Their home range is approximately one to 4 square miles. The ocelot can adapt to disturbed areas around cities, using man-made trails, and will do well in these habitats when not hunted (IUCN, 2025; NatureServe Explorer, 2025; TPWD, 2025c). The Study Area lies outside current know range in Texas range; therefore, it is unlikely for the ocelot to be present in the Study Area.

#### 3.6.5.2.8 Mexican Fawnsfoot

The Mexican fawnsfoot is endemic to the Rio Grande River basin in Texas and northern Mexico. This species is not generally found in reservoirs. Preferred habitat includes medium to large streams in portions that exhibit flow. Stream substrate ranges from soft unconsolidated sediment to mixed sand and gravel (Charles et al., 2023). Several records are included in the TXNDD, the closest of which is approximately 5 miles north of the Study Area (TPWD, 2024). The numerous streams and canals within the Study Area have confluence with the Rio Grande; therefore, it is possible for the Mexican fawnsfoot to be present in the Study Area.

##### 3.6.5.2.9 Salina Mucket

The salina mucket is found in the Rio Grande River basin in Texas and Mexico. This species is not found in highly disturbed environments such as reservoirs or impoundments. Salina muckets occur in large rivers with still to moderate flow. Stream substrate includes mud, sand, and gravel. Nearshore habitats with large rocks are preferred (Charles et al., 2023). While the numerous streams and canals within the Study Area have confluence with the Rio Grande; therefore, it is possible for the salina mucket to be present in the Study Area.

##### 3.6.5.2.10 Texas Hornshell

The Texas hornshell is found in the Rio Grande River basin in Texas, New Mexico, and Mexico downstream of its confluence with the Rio Conchos to Lake Falcon. This species is not generally found in reservoirs. Preferred habitat includes small to large streams that experience slow to moderate currents. Crevices of rocks and travertine shelves are common places to find this mollusk (Charles et al., 2023). Several records are included in the TXNDD, the closest of which is approximately 5 miles north of the Study Area (TPWD; 2024). The numerous streams and canals within the Study Area have confluence with the Rio Grande; therefore, there is potential for the Texas hornshell to be present in the Study Area.

#### 3.6.5.3 State-Listed Fish and Wildlife Species

State-listed species receive protection under state laws, such as Chapters 67, 68, and 88 of the TPWD Code, and sections 65.171–65.184 and 69.01–69.14 of Title 31 of the TAC. Fourteen species are protected at the state level and designated as threatened within the Study Area counties (**Table 3-8**) (TPWD, 2024, 2025b).

**Table 3-8: State-Listed Fish and Wildlife Species for the Study Area Counties**

| Common Name | Scientific Name | Status | Potential for Occurrence in the Study Area |
|---|---|---|---|
| | | TPWD | |
| **Amphibians** | | | |
| South Texas siren (Large Form) | *Siren sp. 1* | Threatened | Likely |
| **Birds** | | | |
| White-faced ibis | *Plegadis chihi* | Threatened | Likely |
| Wood stork | *Mycteria americana* | Threatened | Not Likely |
| Gray hawk | *Buteo plagiatus* | Threatened | Likely |
| Interior least tern | *Sternula antillarum athalassos* | Endangered | Likely |
| **Fishes** | | | |
| Tamaulipas shiner | *Notropis braytoni* | Threatened | Likely |
| Rio Grande shiner | *Notropis jemezanus* | Threatened | Likely |
| Speckled chub | *Macrhybopsis aestivalis* | Threatened | Likely |
| Rio Grande darter | *Etheostoma grahami* | Threatened | Likely |
| **Mammals** | | | |
| Black bear | *Ursus americanus* | Threatened | Not Likely |
| White-nosed coati | *Nasua narica* | Threatened | Likely |
| **Reptiles** | | | |
| Texas tortoise | *Gopherus berlandieri* | Threatened | Likely |
| Texas horned lizard | *Phrynosoma cornutum* | Threatened | Likely |
| Northern cat-eyed snake | *Leptodeira septentrionalis* | Threatened | Not Likely |

Sources: TPWD, 2024, 2025b.

#### 3.6.5.3.1 South Texas Siren (large form)

The South Texas siren is an aquatic salamander species that occupies permanent or temporary shallow bodies of water with thick submergent vegetation. Common habitats include ditches, canals, arroyos, streams, rice fields, or muddy ponds. During droughts this species goes dormant in mud as it requires some moisture (Conant and Collins, 1998; IUCN, 2025; NatureServe Explorer, 2025; USFWS, 2025b). Based on the presence of ditches and streams, it is likely the South Texas siren may be present in the Study Area.

#### 3.6.5.3.2 White-faced Ibis

Habitat preference of the white-faced ibis includes freshwater marshes, sloughs, and irrigated rice fields. Occasionally, this species will occupy brackish and saltwater habitats. This colonial nesting species prefers to nest in low trees, in marshes, on the ground among bulrushes or reeds, or on floating mats. Large colonies, also referred to as rookeries, almost exclusively occur near the coast. Nests of the white-faced ibis often include human-made objects that individuals found. According to eBird sightings, the white-faced ibis has been spotted numerous times in the City of Laredo and Lake Casa Blanca International State Park with the closest record at Cielito Lindo Lake immediately north of the Study Area. It is possible this species would utilize the Study Area as a stopover for migration or for wintering. (Cornell, 2025; eBird, 2025; Sibley, 2003).

#### 3.6.5.3.3 Wood Stork

Wood storks prefer to nest in large tracts of bald cypress or red mangrove (*Rhizophora mangle*) and forages in shallow standing water environments of prairie ponds, flooded pastures or fields, ditches, or saltwater marshes. Roosts are found among tall standing snags, occasionally with other tree wading birds. Historically, this species did breed in Texas, but no breeding pair has been recorded since 1960. There is insufficient marsh and swamp habitat within the Study Area; therefore, there is limited to no potential for the wood stork to utilize the Study Area. Any sightings should be considered incidental relative to the large area considered as part of the migration corridor (Cornell, 2025; eBird, 2025; Sibley 2003).

#### 3.6.5.3.4 Gray Hawk

The gray hawk has a limited range extent in the U.S. occupying the southern tips of Arizona and the Lower Rio Grande Valley in Texas. This species is commonly found along streams, such as the Rio Grande, with riparian woodlands consisting of cottonwood and willow species. Mesquite woodland surrounding the riparian corridor is a preferred quality for nesting habitat. According to eBird sightings, the gray hawk was spotted several times has been spotted numerous times in the City of Laredo and more frequently along the Rio Grande one mile west of the Study Area (Cornell, 2025; eBird, 2025). Due to the proximity of the Rio Grande and preferred habitat, it is reasonable to conclude the gray hawk could occur in the Study Area.

#### 3.6.5.3.5 Interior Least Tern

The interior least tern is a small migratory seabird that breeds along inland river system such as that of the Red River and Rio Grande River in Texas and winters along the Texas Gulf Coast.

This species prefers open habitat that is sparsely vegetated such as sand and gravel bars within a wide, unobstructed river channel or open flats along lake or reservoir shorelines. Nesting will occur near foraging habitat and consist of a shallow depression in sand or gravel; however, due to the decline in suitable natural nesting habitat, the interior least tern has adapted to nesting in disturbed sites such as sand and gravel pits and other manmade sites. According to eBird sightings, this species has been spotted numerous times in the City of Laredo and along the Rio Grande River with the closest record approximately 5 miles northwest of the Study Area at Slaughter Park (Cornell, 2025; eBird, 2025; TPWD, 2025c). One record was included in the TXNDD from 1984 approximately 8 miles north of the Study Area at Lake Casa Blanca (TPWD, 2024). Due to the proximity of the Rio Grande, there is potential for the interior least tern to occur within the Study Area where suitable nesting habitat is present.

###### 3.6.5.3.6 Tamaulipas shiner

The Tamaulipas shiner is found across the Rio Grande drainage in Texas and northern Mexico. Preferred stream characteristics include medium to large size, open and weedless channels, substrates ranging from sand to rubble, and low to moderate gradients. This species is more tolerant of high velocity areas than other species residing in the Rio Grande (IUCN, 2025; NatureServe Explorer, 2025). Two occurrences are included in the TXNDD, the closest of which is located approximately 8 miles northwest of the Study Area in the Rio Grande River (TPWD, 2024). The streams within the Study Area have confluence with the Rio Grande; therefore, it remains possible for the Tamaulipas shiner to be present in the Study Area.

###### 3.6.5.3.7 Rio Grande Shiner

The Rio Grande shiner is a freshwater species that occurs in the Rio Grande drainage in Texas and Mexico. Preferred habitat includes weedless medium to large rivers with rubble, gravel, and sand overlain with silt substrates. Preferred flow is low to moderate gradients with pools (IUCN, 2025; NatureServe Explorer, 2025). One occurrence is included in the TXNDD located approximately 3 miles northwest of the Study Area in the Rio Grande River (TPWD, 2024). The streams within the Study Area have confluence with the Rio Grande; therefore, it remains possible for the Rio Grande shiner to be present in the Study Area.

#### 3.6.5.3.8 Speckled Chub

The speckled chub is found across the Rio Grande and Rio San Fernando drainages in New Mexico, Texas, and northeastern Mexico. This migratory freshwater species is found in medium to larger rivers with low gradients and substrates of sand and gravel. Breeding requires flowing water (IUCN, 2025; NatureServe Explorer, 2025). Two occurrences are included in the TXNDD, the closest of which is located approximately one mile west of the Study Area in the Rio Grande River (TPWD, 2024). The streams within the Study Area have confluence with the Rio Grande; therefore, it remains possible for the speckled chub to be present in the Study Area.

#### 3.6.5.3.9 Rio Grande Darter

The Rio Grande darter is a freshwater fish found in moderate to high gradient creeks or small rivers. Preferred in-stream habitat includes clear rocky riffles and pools, vegetated pools, main channel runs, shorelines with clean cobble substrate, and gravel or rubble substrates. Vegetation and rocks serve as spawning habitat (NatureServe Explorer, 2025). One occurrence is included in the TXNDD located approximately 16 miles northwest of the Study Area in the Rio Grande (TPWD, 2024). The streams within the Study Area have confluence with the Rio Grande River; therefore, it remains possible for the Rio Grande darter to be present in the Study Area.

#### 3.6.5.3.10 Black Bear

In Texas, the black bear is typically found in bottomland hardwoods and large tracts of inaccessible forested areas. The species once was widespread throughout the state; however, the remnant black bear populations are largely restricted to remote mountainous areas, nearly impenetrable thickets along watercourses of the Trans-Pecos region, or juniper-oak habitats of the Edwards Plateau. The black bear prefers mixed deciduous-coniferous woodlands and forested wetlands. The TXNDD includes one record from 2002 located approximately 4 miles north of the Study Area. The species range does not include Webb County or counties adjacent to the Study Area (Schmidly and Bradley, 2016; TPWD, 2025c). It is unlikely that the black bear will utilize the Study Area due to the level of disturbance and increasing urban development.

#### 3.6.5.3.11 White-nosed Coati

The white-nosed coati's range extent includes southern portions of Arizona and New Mexico south to Mexico and Central America. Preferred habitat includes riparian and tropical woodlands or coastal plains. Dens are created in hollow trees, caves, and other crevices. Open grasslands are not commonly utilized habitats. The range of the white-nosed coati includes Webb County (IUCN, 2025; NatureServe Explorer, 2025; Schmidly and Bradley, 2016). Due to the presence of riparian corridors and known species distribution, there is some potential for the white-nose to occur within the Study Area.

#### 3.6.5.3.12 Texas Tortoise

The Texas tortoise is a terrestrial species found from south-central Texas to Mexico in states such as Tamaulipas. Preferred habitat includes open woodlands, shrublands, and grasslands that have grass-cactus associations. This species primarily eats the fruits of cacti such as the prickly pear (NatureServe Explorer, 2025; TPWD, 2024). Several occurrences are included in the TXNDD, the closest of which is located one mile north of the Study Area (TPWD, 2024). There is potential for the Texas tortoise to occur in the Study Area.

#### 3.6.5.3.13 Texas Horned Lizard

The historical range of the Texas horned lizard included the entire state of Texas in arid and semiarid areas of flat, open terrain with scattered vegetation and sandy or loamy soils. Population declines have been linked to loss of habitat, insecticides, over-collection, and the accidental introduction of the imported fire ant (*Solenopsis invicta*). Despite declines in east and central Texas, the Texas horned lizard is still common in portions of the Rio Grande Plains of south Texas, the Rolling and High Plains of northwest Texas, and the Trans Pecos of far west Texas. It remains possible that the Texas horned lizard could occur in undisturbed portions of the Study Area (Conant and Collins, 1998; IUCN, 2025; TPWD, 2024).

#### 3.6.5.3.14 Northern Cat-eyed Snake

The northern cat-eyed snake's northern range is southern Texas and extends south to northwestern South America. Preferred habitat of this arboreal species includes wet or moist forested areas, commonly near frog breeding aggregations. Urbanization is listed as a separation barrier as this snake will rarely successfully cross highways or areas dominated by pavement (IUCN, 2025; NatureServe Explorer, 2025). Due to the lack of wet forested habitat and growing urbanization, it is unlikely the northern cat-eyed snake will utilize the Study Area.

#### 3.6.5.4 Critical Habitat

The USFWS, in Section 3(5)(A) of the ESA, defines critical habitat as:

> *"(i) the specific areas within the geographical area occupied by the species, at the time that it is listed in accordance with the ESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination by the Secretary of the Interior that such areas are essential for the conservation of the species " (USFWS, 1973).*

No critical habitat has been designated in the Study Area for any species included under the ESA.

## 3.7 Socioeconomics

This section presents a summary of the economic and demographic characteristics of the Study Area counties and provides a brief comparison with the socioeconomic environment of the State of Texas. Reviewed literature sources include publications of the Texas Workforce Commission (TWC), the Texas Demographic Center (TDC), the U.S. Census Bureau, and the U.S. Bureau of Labor Statistics (BLS).

### 3.7.1 Population Trends

The population of Webb County has increased by approximately 100 percent between 1990 and 2020. By comparison, the population in the state of Texas increased by approximately 72 percent over the same period.

According to TDC projections, the population of Webb County is projected to decrease by approximately 9 percent between 2020 and 2050.

**Table 3-9: Population Trends and Projections for the Study Area County and the State of Texas**

| Place | Population | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1990 | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
| Webb County | 133,239 | 193,117 | 250,304 | 267,114 | 267,953 | 267,258 | 258,696 |
| Texas | 16,986,335 | 20,851,790 | 25,145,561 | 29,145,505 | 32,912,882 | 36,807,213 | 40,645,784 |

Sources: U.S. Census Bureau (2021); U.S. Department of Commerce (2012); TDC (2024).

### 3.7.2 Employment

As shown in **Table 3-9**, the labor force in Webb County and Texas reflects the growth of their populations. The labor force in Webb County grew by about 60,000 (or 109 percent) while the State's labor force increased approximately 5.3 million (or 62 percent) with the increases in population between 1990 and 2020 (USCB, 2021; USDC, 2012).

**Table 3-10** also shows that unemployment in Webb County has historically been recorded at higher rates than statewide unemployment levels. In 1990, the unemployment rate of Webb County was almost twice that of the whole state before decreasing by half in 2000, and then gradually increasing in the following years. (BLS, 2021a, 2021b, 2021c, 2021d).

**Table 3-10: Labor Force and Unemployment for the Study Area County and the State of Texas**

| Place | | 1990 | 2000 | 2010 | 2020 |
|---|---|---|---|---|---|
| **Webb County** | | | | | |
| | Labor Force | 55,422 | 71,112 | 105,189 | 115,773 |
| | Unemployment Rate (%) | 12.1 | 6.2 | 8.3 | 8.5 |
| **Texas** | | | | | |
| | Labor Force | 8,610,302 | 10,388,337 | 12,260,099 | 13,941,490 |
| | Unemployment Rate (%) | 6.4 | 4.4 | 8.2 | 7.7 |

Sources: BLS 2021a, 2021b, 2021c, 2021d.

### 3.7.3 Leading Economic Sectors

Covered employment data incorporates the number of workers covered by State unemployment insurance and most agricultural employees within a county. The employment count includes all corporation officials, executives, supervisory personnel, clerical workers, wage earners, piece workers, and part-time workers. The data excludes employment covered by the Railroad Retirement Act, self-employed persons, and unpaid family workers. A comparison of fourth quarter TWC employment data between 2018 and 2023 indicates that covered employment in Webb County increased by 3,770 employees (approximately 4 percent), while the total within the State increased by 1,392,724 (approximately 11 percent) during that same period (TWC, 2024).

Fourth quarter 2023 employment data for Webb County and the State are shown in **Table 3-11**. The leading employment sectors in Webb County were Trade, Transportation & Utilities (34,937, or 33 percent), Education & Health Services (32,307 or 30 percent), and Leisure & Hospitality (11,910, or 11 percent). Leading employment sectors at the State level were Education & Health Services (3,210,444, or 23 percent), Trade, Transportation & Utilities (2,907,745, or 21 percent), and Professional & Business Services (2,158,830 or 16 percent). (TWC, 2024).

**Table 3-11: Covered Employment and Major Economic Sectors in Study Area County and Texas, 4th quarter 2018 and 2023**

| Employment Sector | Employment | | | |
|---|---|---|---|---|
| | Webb County | | Texas | |
| | 2018 | 2023 | 2018 | 2023 |
| Natural Resources & Mining | 2,299 | 1,195 | 314,905 | 270,649 |
| Construction | 2,440 | 2,416 | 784,053 | 868,515 |
| Manufacturing | 634 | 961 | 895,971 | 965,199 |
| Trade, Transportation & Utilities | 31,642 | 34,937 | 2,625,523 | 2,907,745 |
| Information | 787 | 710 | 211,070 | 238,162 |

| Employment Sector | Employment | | | |
|---|---|---|---|---|
| | Webb County | | Texas | |
| | 2018 | 2023 | 2018 | 2023 |
| Financial Activities | 3,820 | 3,374 | 769,868 | 891,422 |
| Professional & Business Services | 9,984 | 9,557 | 1,790,204 | 2,158,830 |
| Education & Health Services | 31,334 | 32,307 | 2,918,324 | 3,210,444 |
| Leisure & Hospitality | 11,630 | 11,910 | 1,379,185 | 1,510,425 |
| Other Services | 1,795 | 1,961 | 340,192 | 370,949 |
| Unclassified | 6,589 | 7,413 | 456,905 | 490,974 |
| Public Administration | 57 | 40 | 15,566 | 11,176 |
| Total Employment | 103,011 | 106,781 | 12,501,766 | 13,894,490 |

Source: TWC, 2024.

### 3.7.4 Community Values

The term "community values" is included as a factor for consideration of transmission line certification under PURA § 37.056(c)(4), although the term has not been specifically defined for regulatory purposes by the PUC. To evaluate the effects of the proposed transmission line, Halff has defined community values as a "shared appreciation of an area or other natural or human resource by a national, regional, or local community."

Halff evaluated the proposed Project for community resources that may be important to a particular community, such as parks or recreational areas, historical and archeological sites, or scenic vistas within the Study Area. Additionally, Halff mailed consultation letters to federal, state, and local officials (see **Section 2.4** and **Appendix A**) and participated in a public open-house meetings in the Study Area (see **Section 2.7.4** and **Appendix B**) to identify and collect information regarding community values and community resources, among other things. Input received was used in the evaluation of the proposed Project. Community values and community resources are discussed in the following sections.

## 3.8 Human Resources

### 3.8.1 Land Use

The Study Area overlaps United ISD (Texas Education Agency [TEA], 2025), but no school campus locations were identified within the Study Area.

City and county websites were reviewed to identify any potential land use conflicts outlined in comprehensive land use plans. The City of Laredo's *Viva Laredo* comprehensive plan provides existing conditions, community concerns, strategies, and goals and policies on a wide range of city planning aspects that provide a basis for public policy regarding physical and economic development (City of Laredo, 2017).

Webb County does not have a comprehensive land use plan on their website. The Webb County economic development websites were reviewed for current and planned projects within the Study Area, one of which was identified as a future potential project: "Water and Wastewater Infrastructure Construction – Colonia La Presa." This potential project would involve providing the La Presa community with house-to-line water/sanitary sewer services (Webb County, 2025).

### 3.8.2 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. Land trusts facilitate the easement and ensure compliance with the specified terms and conditions.

A review of websites and databases and correspondence with several non-governmental organizations (e.g., The Nature Conservancy [TNC], Texas Land Conservancy [TLC] and the National Conservation Easement Database [NCED]) identified no conservation areas in the Study Area. The NCED did identify Cielito Lindo Park as an environmental system easement held by the City of Laredo and is located approximately half a mile north of the Study Area. Although not identified in the reviewed sources, some properties in the Study Area may have some form of conservation easement or agreement that is not listed (TNC, 2025; TLC 2025; NCED 2025).

### 3.8.3 Recreation

A review of federal, state, and local websites and maps, as well as field reconnaissance surveys identified one park (La Presa Park) and one recreation center (La Presa Community Center), located south of Mangana Hein Road in the central east portion of the Study Area within the La Presa Community. La Presa Park is an open space park, and the community center is managed by the Webb County Commissioners Court (Webb County, 2025).

A review of the U.S. National Park Service (USNPS) website indicated that no USNPS parks, wild and scenic rivers, national battlefields, historic trails, or national historic sites open to the public are located within the Study Area; however, the western termini of the El Camino Real de los Tejas national historic trail are north and south of the Study Area (USNPS, 2025a, 2025b, 2025c). There are no TPWD parks or public hunting units located within the Study Area (TPWD, 2022c, 2022d).

### 3.8.4 Agriculture

Agriculture and related services remain an important economic contributor within Webb County. According to the USDA 2022 Census of Agriculture, the combined total market value of agricultural products sold in the Study Area county totaled approximately $31.5 million. In terms of value of sales by commodity group, the most valuable agricultural product within the Study Area county is livestock, primarily cattle and calves (USDA, 2024). **Table 3-12** provides the percent change of total market value of products sold and the number of farms for Webb County and Texas between 2017 and 2022.

According to USDA National Agriculture Statistics Service (NASS) geospatial data and interactive maps, about 95 percent of the Study Area county is rangeland (approximately 2,053,465 acres). Less than one percent is classified as cropland (approximately 6,147 acres), with the leading crop items including hay (1,915 acres), sorghum (917 acres), winter wheat (792 acres), and oats (454 acres) (USDA, 2023).

**Table 3-12: Percent Change of Market Value and Number of Farms for Webb County and the State of Texas**

| County/ State | | Year | | Percent Change |
|---|---|---|---|---|
| | | 2017 | 2022 | |
| Webb County | Market Value ($) | $28.4M | $31.5M | 10.9 |
| | Number of Farms | 656 | 659 | 0.5 |
| Texas | Market Value ($) | $24.9B | $32.2B | 29.3 |
| | Number of Farms | 248,416 | 230,662 | -7.1 |

Source: USDA 2019, 2024.

### 3.8.5 Transportation/Aviation

#### 3.8.5.1 Transportation Features

According to TxDOT (2025a, 2025b), the major highway transportation corridors within the Study Area include:

- SH Loop 20 also locally known as Cuatro Vientos Road crosses the northwestern portion of the Study Area and ends at its intersection with Mangana Hein Road. Approximately 1.5 miles of SH Loop 20 occurs within the Study Area.

- Mangana Hein Road extends from US 83 and bisects the central portion of the Study Area. Approximately 3 miles of Mangana Hein Road occurs within the Study Area.

Transportation corridors within the Study Area also includes a small network of county, commercial, and private ranch roads.

Webb County and the City of Laredo are in the ROW acquisition phase for a project to widen Mangana Hein Road from its current two lanes to five lanes (KGNS News, 2024a). 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 that there are three planned projects for SH Loop 20. Two projects are underway or begin soon, one is an overlay project from SH 359 to Mangana Hein Road and the other is a safety improvement project from Cielito Lindo Road to Mangana Hein Road. Construction for the third project is expected to begin in the next four years and is for traffic control devices from 0.4 miles south of Sierra Vista Boulevard to Mangana Hein Road (TxDOT, 2025b) Refer to **Appendix A** for copies of all written correspondence received from TxDOT.

#### 3.8.5.2 Aviation Facilities

A review of the FAA Southwest Region Airport Directory (FAA, 2025), TxDOT Airport Directory (TxDOT, 2025c), AirNav (2025), USGS topographic maps (1933-2022), and aerial imagery (NearMap, 2024) were reviewed to identify aviation facilities within the Study Area. No public or private FAA-registered airports, heliports, or private landing strips were identified within the Study Area. However, a private non-registered heliport was identified through review of aerial imagery. This private non-registered heliport is located approximately 1,900 feet west of the Study Area at a commercial facility on the west side of US 83.

### 3.8.6 Utility Features and Oil and Gas Facilities

Utility features identified within the Study Area include an existing electrical transmission line, electrical distribution lines, pipelines, a water well, and oil/gas wells and storage tanks. Data sources used to identify existing electrical transmission and distribution lines include utility company and regional system maps, recent aerial photography (NearMap, 2024), USGS topographic maps (USGS, 1933-2022), additional available planning documents, and field reconnaissance surveys. The transmission line identified in the Study Area includes the existing Rio Bravo to Wormser Road 138-kV transmission line which serves as the eastern terminal limit for Project from the proposed Mangana Hein Substation. Distribution lines are prevalent in the Study Area, but these features were not mapped or inventoried.

As stated in **Section 3.4**, there are thousands of registered records within the RCC databases for Webb County, of which 64 recorded surface wells (including dry, shut-in, and plugged wells) are scattered throughout the Study Area (see **Figures C-1 and C-2**, map pockets). Similarly, many pipeline networks are within the county, of which 62 natural gas pipelines are within the Study Area (RRC, 2025a, 2025b). One groundwater well for the withdrawal of water is within the Study Area (TWDB, 2025a). As mentioned in **Section 2.4**, a 16-inch water transmission line is under construction that will connect the Rio Bravo Water Treatment Plant to the La Presa community. The project has six phases beginning with constructing the main water transmission line from the Rio Bravo Water Plant to the intersection of Mangana Hein Road and US 83. At this point the waterline will proceed east towards the La Presa community on the south side of Mangana Hein Road to the community center, fire station and ending with waterlines leading into private homes (KGNS News, 2024b). For design plans reviewed regarding this waterline project refer to correspondence from TxDOT staff and the engineering consultant firm (Poznecki-Camarillo LLC) in **Appendix A**.

### 3.8.7 Communication Towers

A search of the Federal Communications Commission (FCC) website, Homeland Infrastructure Foundation-Level Data (HIFLD), analysis of recent aerial photography (NearMap, 2024) and field reconnaissance identified a total of five communication towers within the Study Area (FCC, 2025; HIFLD, 2024). No AM or FM radio transmitters were located proximal or within the Study Area. The communication towers within the Study Area are all located in the La Presa community, south of Mangana Hein Road, and includes a mix of cellular phone communications, microwave towers, land mobile private transmission towers, and other similar electronic installations.

### 3.8.8 Aesthetic Values

Aesthetics is included as a factor for consideration in the evaluation of transmission facilities in PURA § 37.056(c)(4). The term aesthetics refers to the subjective perception of natural beauty in the landscape, and this section of the document attempts to define and measure the Study Area's scenic qualities. Consideration of the visual environment includes a determination of aesthetic values where the major potential effect of the Project on the resource is considered aesthetic, or where the location of a transmission line could affect the scenic enjoyment of a recreation area.

The aesthetic analysis considers potential visual impacts to the public. Areas visible from major roads and highways, or publicly owned or accessible lands (for example, parks or privately owned recreation areas open to the public) were analyzed. Several factors are taken into consideration when attempting to define the potential impact to a scenic resource that would result from the construction of the proposed transmission line. Among these are:

- topographical variation (hills, valleys, etc.)
- prominence of water in the landscape
- vegetation variety (forests, pasture, etc.)
- diversity of scenic elements
- degree of human development or alteration
- overall uniqueness of the scenic environment compared to the larger region

Based on the above criteria the Study Area provides a moderate amount of aesthetic qualities. The Study Area is located in the Interior Coastal Plains Region of Texas, which has some topographical variation with parallel ridges and valleys. Similarly, the Study Area has some valleys associated with potential stream features with elevation ranging from 420 feet in the southwestern corner to 570 feet in the northeastern corner. Water in the landscape is present throughout the Study Area with the stream network associated with San Idelfonso Creek and Becerra Creek. The primary aesthetic of the Study Area is the relatively flat rangeland/pastureland; however, existing ROWs associated with oil and gas facilities, pipelines, and other utilities have altered the natural landscape. Residential development is concentrated within the La Presa community south of Mangana Hein Road.

In 1997, the THC designated Heritage Trail Regions throughout the state of Texas to create a statewide heritage tourism program centered on the original 10 scenic driving routes identified in the 1968 Texas Heritage Trails Program. These Heritage Trail Regions incorporate the historic highways, historic sites, hiking and biking paths, natural beauty, and cultural attractions unique to the ten regions (THC, 2025b). The Study Area is within the Texas Tropical Trail Region. The suggested driving trail for this region does not incorporate any of the main roads within the Study Area (THC, 2025c). The nearest portion of the driving trail is US 83 west of the Study Area, between the City of Laredo and IH 2 to the south (THC, 2025b). A review of the USNPS website identified no wild and scenic rivers, historic trails, national parks, national monuments, or national battlefields within the Study Area (USNPS, 2025a, 2025b, 2025c).

### 3.8.9 Texas Coastal Management Program

The Texas Land Commissioner also 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 (CNRAs). The Texas CMP has federal and state project and permit action review processes to evaluate consistency with the program. As specified in the Coastal Coordination Act of 1991, the CMP of the Texas GLO must develop and implement a comprehensive plan for managing natural resources within the CMP boundary along the Texas coastline. The CMP boundary, as defined by 31 TAC § 503.1, delineates the coastal zone of Texas. The CMP boundary does not extend into Webb County and no portion of the Study Area will be in the CMP boundary. Coordination with the GLO will be completed after PUC approval of a route, if necessary, for the use of any other state-owned or managed lands.

## 3.9 Cultural Resources

The Study Area is located within the South Texas archeological region, which falls within the South Texas Plains physiographic region of Texas. Human occupation in this area spans from the earliest archeological evidence, dating back approximately 12,000 years, to the more recent historic period within the past 50 years. The prehistory of South Texas is typically divided into three major periods: (1) the Paleoindian period (ca. 9200 to 6000 B.C.), (2) the Archaic period, which is further subdivided into the Early Archaic (ca. 6000 to 2500 B.C.), Middle Archaic (ca. 2500 to 400 B.C.), and Late Archaic (ca. 400 B.C. to A.D. 800), and (3) the Late Prehistoric period (A.D. 800 to 1600). These periods are primarily defined by diagnostic projectile points but also reflect broader cultural patterns shaped by ecological adaptation, technological development, and subsistence strategies (Black, 1989; Suhm et al., 1954).

### 3.9.1 Paleoindian Period

The Paleoindian period in South Texas is recognized by the presence of projectile points such as Clovis, Folsom, Plainview, Golondrina, Scottsbluff, and Angostura. These points coupled with spears aided in the pursuit of large game animals. Although intact deposits containing evidence of Paleoindian occupations are unknown in South Texas, current evidence from sites in adjacent regions suggests the period was characterized by low population density, small bands, and large territorial ranges of nomadic groups that subsisted by hunting Late Pleistocene megafauna. During this period, great expanses of land were inundated by the rising sea levels.

The sparse evidence of Paleoindian occupations in the South Texas region includes Clovis points found at sites in Wilson, Dimmit, and Atascosa Counties as well as at the Southern Island site on the Mexican side of the Rio Grande at Falcon Reservoir (Hester, 2004). Folsom artifacts have been found on the Rio Grande Plain, such as preforms in Webb County and near Falcon reservoir; and isolated finds such as a Folsom projectile point base recovered from 41CF54 near Laguna Atascosa in Cameron County (Terneny, 2005). However, no Folsom camp or kill sites have been found in the region (Hester, 2004). Later Paleoindian projectile points such as Golondrina, Plainview, Angostura, and Scottsbluff types have been recovered mostly from the northern extent of the region in Uvalde, Bexar, Victoria, and Williamson Counties (Terneny, 2005). Noted Paleoindian sites in South Texas include Berger Bluff (41GD30) in Goliad County, 41WY140 in Willacy County, and the Johnston-Heller (41VT15), J2 Ranch (41VT6), and Willeke (41VT16) sites in Victoria County.

### 3.9.2 Archaic Period

The Archaic period witnessed a shift to an exploitation of a wider range of plant and animal species, coupled with a decrease in mobility that is speculated to be associated with climate change. Perennial steams existed in some areas of the local draws, but extensive freshwater ponds producing diatomaceous muds also began to appear where discharge declined. Water in the lakes and ponds fluctuated, sometimes completely drying up. By the end of the period, many of the streams ceased to flow and the diatomite lakes evolved into muddy marshes. The transition from flowing water to standing water represents a dramatic hydrologic change in the area. The widespread decrease in water was the result of a decrease in regional effective precipitation from the late Pleistocene to the early Holocene. This decrease affected both runoff and spring discharge. Paleontological data (Graham, 1987; Johnson, 1986) document this environmental change as well as sedimentologic and stratigraphic information (Holliday, 1995), which caused streams that formerly flowed year-round to dry up.

Such a drastic, though perhaps gradual, loss of primary food sources exploited in the Paleoindian period would have caused considerable cultural stress. It was probably this stress that caused a shift of attention to previously unexploited plants and animals. Throughout the Americas, the Archaic was a time of increasing technological (and probably social) complexity. Toolkits become larger, and through time the many regional differences slowly coalesced into more-homogenous forms. This includes an emphasis on the exploitation of marine resources in coastal zones (Terneny, 2005).

The Archaic period is often divided into the Early, Middle, and Late periods with additional divisions such as complexes and horizons attributed to the Archaic throughout the region. These include the Repelo (4000–2000 B.P.) and Abasolo (4000–2000 B.P.) complexes identified by MacNeish (1958) and the early corner-notched horizon (circa 8000– 5500 B.P.) and the early basal-notched horizon (circa 5600–4500 B.P.) outlined by Hester (2004). However, overall, the period is also poorly understood in the Lower Rio Grande Valley, and sites dating to this time, especially Early and Middle Archaic sites, are rarely encountered and are limited to surface finds. Late Archaic sites are more common, but are often mixed with Late Prehistoric-aged deposits (Kibler and Freeman, 1993).

### 3.9.3 Early Archaic Period

The transition from Paleoindian to the Early Archaic is difficult to define as not much is documented. However, Archaic projectile points seem to shift from lanceolate forms to stemmed points, though some later lanceolate forms such as Golondrina and Angostura may persist longer. Unfortunately, beyond a very few excavated sites (Scott and Fox, 1982 cited in Black,1989), subsistence data are scarce for sites of this period. Early Archaic sites are known throughout the area, though few have been excavated, and there is very little data on such sites in the Rio Grande Plain subregion (Black, 1989). Generally, sites are found on high terraces and in the uplands but buried alluvial sites have also been identified. As with the Paleoindian period, the widespread distribution of artifact types and low site counts suggest a small population, small band sizes, and large territorial ranges, though as Story (1985) and Black (1989) have argued, these generalizations probably apply to a wide area of the West Gulf Coastal Plain. Regional themes in the Archaic include the emergence of a triangular tool-types including the widespread use of distally beveled tools and the development of sub-regionalized, but poorly understood, mortuary complexes. The Mackenzie site (41VT17) in Victoria County produced Bell points and radiocarbon dates indicating an Early Archaic occupation and thus is the oldest known shell midden in South Texas (Ricklis, 1986).

### 3.9.4 Middle Archaic Period

The Middle Archaic is identified by changes in material culture patterns which includes assemblages in South Texas consisting of triangular dart point forms, known as Tortugas, Abasolo, and Carrizo. In addition, smaller unifacially distally beveled tools and stemmed projectile points have been recovered in the northern part of South Texas. These points include Pedernales, Lange, Langtry, and Morhiss (Hester, 2004). Information on settlement patterns during this period is incomplete. However, substantial data from Choke Canyon and Chaparrosa indicate that open campsites were located along former stream channels early in the period before relocating to floodplains, low terraces, and natural levees later in the period (Hester, 2004). Survey work in Willacy and Hidalgo Counties has yielded dart points that may be Archaic (Mallouf et al., 1973). However, work at Falcon Reservoir showed that some of these types continue into the Late Pre-contact period (Suhm and Jelks, 1962). Investigations at the cemetery site Loma Sandia (41LK28) in Live Oak County yielded detailed information on Middle Archaic burial practices derived from over 200 burials, which included interments with dart points, stone pipes, shell jewelry, and deer antlers (Taylor and Highley, 1995).

### 3.9.5 Late Archaic Period

Late Archaic sites in South Texas are more numerous and this period is generally better known than its predecessor. During this time, plant and marine resources likely took on a greater role than hunting of large mammals. At Choke Canyon, hearths, earth ovens, and manos and metates have been found, which illustrate this greater exploitation of plant resources. Also recorded at the site were faunal remains of deer, rabbit, turtles, fish, and other species, as well as evidence that peoples were likely exploiting Rabdotus snails and mussel species (Hall et al., 1987). Additional data from Choke Canyon illustrate that favored settings for open campsites are generally found along stream channels and their adjacent sloughs.

### 3.9.6 Late Prehistoric Period

The occupation of the area by hunter-gatherer inhabitants during this period has been referred to as the Brownsville Complex. This complex has been defined on basic analysis and characteristics observed from minor surface collections, salvage excavations, and a low amount of cultural resource surveys. However, Terneny (2005) argues that the Brownsville Complex artifact assemblages thought to be present only in the Late Prehistoric burial situations were present in the Archaic as well and thus must be redefined in terms of its presence in both intervals. Therefore, this section provides a summary of the Late Prehistoric period of South Texas by Hester (2004) and a summary of the Brownsville Complex. However, what has become known as the Brownsville Complex should be understood as needing further research in order to determine a more precise temporal affiliation (Terneny, 2005).

Although a hunting and gathering lifeway continues into this period, as in the Archaic, the material culture, hunting patterns, settlement types, and other facets of this time period mark a distinctive break with the past (Hester and Turner, 2010). For example, the bow and arrow and pottery were introduced, along with other distinctive types of stone tools (Hester and Turner, 2010). As with any time period distinction, there is limited evidence to suggest that a new phase of cultural history was launched by the immigration of new peoples into the region as opposed to cultural diffusion or by the coming of a new mode of subsistence such as agriculture. The mode of the organization of people during this time appears to mirror the full expression of traits already in existence. Therefore, it appears the Late Prehistoric societies took certain practices that are thought to have begun during the Archaic period and developed or refined them to various degrees, which ultimately transformed their way of life.

The Late Prehistoric period in South Texas has overlapping cultural patterns with Central Texas (Hester, 2004). This includes the documentation of transitional Archaic dart points such as Ensor and Matamoros, Scallorn arrow points found at Blue Bayou (41VT94) in Victoria County, and a burial site in Frio County. The main marker for the Late Prehistoric sites in the region is the occurrence of the Toyah horizon. Artifacts associated with the Toyah horizon include the Perdiz arrow point, small end scrapers, flaked knives, beveled knives, bone-tempered pottery, perforators, shell ornaments, and assorted decorative beads and objects (Hester 2004). These have been found at sites in Jim Wells County (41JW8) and Live Oak County (41LK201) and at other sites closer to Central Texas.

Although sites closer to the Study Area, in Zapata and Webb Counties, often yield Perdiz points and some combination of Toyah-trait artifacts, the whole assemblage is not present, and bison is often absent (Hester, 2004). The bulk of our knowledge of the archeology during this period in South Texas is from MacNeish's (1958) definition of two closely related complexes, the Brownsville and Barril, for the Lower Rio Grande area. This cultural complex has been defined on basic analysis and characteristics observed from small surface collections, salvage excavations, and an even smaller number of cultural resource surveys. Common to both complexes are shell disks, pierced shell disk beads, plugs made from a columella that are round in cross section, rectangular conch shell pendants, mollusk shell scrapers, and Starr, Fresno, and Matamoros projectile points. Other artifacts include pottery of Huastec origin from southern Tamaulipas, which appears in occupation sites and in burials (Anderson, 1932; MacNeish, 1958; Mason, 1935), as well as obsidian and jadeite used in pendants. Burials of individuals are tightly flexed and located away from living areas. The largest known Brownsville/Barril site is located on a bluff of a resaca and consisted of at least 45 burials with associated grave goods. The site has been heavily looted and has undergone an archeological excavation (Campbell and Frizzell, 1949; Hester and Ruecking, 1969).

### 3.9.7 Contact Period

Humans first occupied South Texas more than 11,000 years ago (Hester and Ruecking, 1969) and although much has been learned, certain critical aspects concerning these peoples still require research. These were the first peoples to live in what today is known as the Rio Grande region. The names of these groups and the languages that they spoke are unknown. However, it's important to note that later groups including the Coahuiltecans, Lipan Apache, and Comanche lived, and still live, in this region.

The beginning of the Contact period is attributed to the arrival of the Spanish to South Texas in the early 1600s (Hester, 2004). Indigenous sites from this period are distinguished by the presence of European trade goods that date from the sixteenth through mid-eighteenth centuries. Sites of this period demonstrate a continuation of the nomadic hunting and gathering existence that began during the Archaic period. The most complete written account of the Indigenous peoples of Texas comes from the chronicle of Àlvar Núñez Cabeza de Vaca, a survivor of a Spanish shipwreck in 1528 (Covey, 1972). These Spaniards encountered as many as 50 different groups living in the immediate area. Many of these Indigenous people were identified as speaking the Coahuiltecan language of southern Texas and northeastern Mexico (Salinas, 1990).

By the 1850s, a combination of European-introduced diseases and tribal wars that were often invoked by Europeans had decimated and displaced many of the Indigenous groups of South Texas (Campbell, 1958). While there is not a federally recognized Coahuiltecan tribe today; there is a group based in the San Antonio area known as the Tap Pilam Coahuiltecan Nation who have filed for federal recognition. It is also important to note that due to the division of ancestral tribal lands of the Coahuiltecans by the modern U.S./Mexico border, Coahuiltecan descendants are currently divided between U.S. and Mexico territory and split between Southern Texas and Coahuila. Other tribes that have been active in this part of Texas past, and are active today, include the Comanche, Kiowa, and Lipan Apache.

### 3.9.8 Colonial Contact and Early Settlement Period

The Contact Period in Webb County began with the earliest Spanish expeditions into the Rio Grande Plain, bringing the first recorded encounters between Europeans and the indigenous peoples of the region. These native groups, often mistakenly labeled as Coahuiltecans, were diverse in language and culture, living as highly mobile hunter-gatherers (Hester, 1989a; Kenmotsu et al., 2006). Subsisting on a seasonal diet of prickly pear, deer, bison, and small game, these communities thrived for thousands of years before the arrival of Europeans.

Spanish exploration and settlement brought profound disruption. European diseases devastated indigenous populations, while missionization efforts attempted to assimilate remaining groups into colonial society (Kenmotsu et al., 2006). The Lipan Apache and Comanche, displaced by conflicts elsewhere, sought refuge in South Texas, further pressuring local populations. Some indigenous groups sought shelter in missions, while others were absorbed into the growing mestizo population of colonial Mexico.

The first recorded European incursion into Texas was the 1519 expedition of Alonso Álvarez de Pineda, followed by the journey of Álvar Núñez Cabeza de Vaca in 1528. Later Spanish explorers, including Father Damián Massanet and Domingo Ramón, traversed South Texas in the late 17th and early 18th centuries (Hester, 1989b). These explorations laid the groundwork for

Spanish colonization efforts, culminating in the establishment of settlements along the Rio Grande.

Laredo, founded in 1755 by rancher Tomás Sánchez de la Barrera y Garza under the authority of José de Escandón, became one of the earliest Spanish settlements in the region. It was part of Nuevo Santander, a province spanning northeastern Mexico and present-day South Texas (Clark and Juarez, 1986). Sánchez received a land grant of approximately 66,000 acres, strategically positioned at a ford on the Rio Grande. By 1767, Spanish officials had formalized land distribution, granting "porciones" or portions to settlers and establishing San Agustín Plaza, which remains a historic focal point of Laredo today.

By 1789, Laredo had grown into a small but stable community with a population of around 700, including a stone church, military barracks, and ranching-based economy. While conflicts with Indigenous groups persisted, the town's development was driven by agriculture, ranching, and salt mining at Sal del Rey.

Following Mexican independence in 1821, Laredo remained an important frontier town, frequently caught in the crosscurrents of regional and national conflicts. It played a strategic role during the Texas Revolution and the Mexican-American War (1836-1848), experiencing waves of migration and military activity. With the Treaty of Guadalupe Hidalgo in 1848, Laredo officially became part of the United States, prompting many Mexican residents to relocate across the river to found Nuevo Laredo.

With the formation of Webb County in 1848, Laredo's economy expanded. Fort McIntosh was established in 1849 to protect settlers and travelers, later serving in the Civil War, Mexican Revolution, and both World Wars before being repurposed as Laredo Junior College in 1946 (Briggs, 1982; Warren, 1991). The arrival of the Texas Mexican Railway and the International-Great Northern Railroad in 1881 spurred further growth, increasing the population from 3,500 to over 11,000 within a decade. Rail infrastructure facilitated trade, while new industries, including coal mining, agriculture, and commerce, drove economic expansion.

During the early 20th century, the Mexican Revolution (1910-1920) led to a dramatic population increase, as refugees from Mexico settled in Laredo. The discovery of oil in Webb County in

1921 further bolstered the local economy, sustaining the city through the Great Depression. Laredo Army Airfield, established in 1942, contributed to post-war economic recovery.

Today, Laredo remains a hub of international trade, with the rail system established in the late 19th century continuing to support its economy. The privatization of Mexico's railways in the 1990s strengthened Laredo's role as a major transportation and logistics center, connecting U.S. and Mexican markets (Kalmbach Media, 2006). The city has evolved from a small Spanish outpost into a thriving modern metropolis, maintaining its historical and cultural heritage while embracing its role as a key trade gateway between the two nations.

### 3.9.9 Previous Investigations

Halff conducted an examination of the Atlas, maintained by the THC and TARL, to identify previous cultural resources investigations within the Study Area. Two cultural resources surveys have been conducted within the Study Area (**Table 3-13**) (THC, 2025a).

**Table 3-13: Previous Archeological Surveys within the Study Area**

| Atlas ID | Date | Author(s) | Sponsor | Agency |
|---|---|---|---|---|
| 8500017233 | 2009 | Ringstaff, Christopher W., James T. Abbott | Texas Department of Transportation | THC |
| 8400008926 | 1997 | Unknown | Unknown | TWDB |

Source: THC, 2025a.

### 3.9.10 Records Review

Halff conducted an examination of the Atlas to identify previously recorded archeological sites and other designated non-archeological historic resources, including NRHP-listed properties and districts, National Historic Landmarks (NHLs), historic-age cemeteries, and Official Texas Historical Markers (OTHMs), including Recorded Texas Historical Landmarks (RTHLs), within the Study Area. This review identified 14 previously recorded archeological sites within the Study Area (**Table 3-14**). All of the recorded sites have prehistoric components (n=14), consisting mainly of lithic scatters and campsites (n=12), and quarry/procurement areas (n=1). There is one multicomponent site which contains both a prehistoric and historic artifact scatter. Two the previously recorded sites have not been evaluated for NRHP eligibility); the majority are listed as not eligible or not eligible within ROW (n=11); the remaining site has been determined eligible for NRHP listing (THC, 2025a).

**Table 3-14: Previously Recorded Archeological Sites within the Study Area**

| Trinomial | Site Type | NRHP Eligibility |
|---|---|---|
| 41WB578 | Prehistoric; lithic procurement | Not eligible |
| 41WB613 | Prehistoric; lithic scatter and campsite | Not eligible |
| 41WB622 | Prehistoric; lithic scatter and campsite | Not eligible |
| 41WB623 | Prehistoric; lithic scatter and campsite | Undetermined |
| 41WB624 | Prehistoric; lithic scatter and campsite | Undetermined |
| 41WB659 | Prehistoric; lithic scatter and campsite | Not eligible in ROW |
| 41WB660 | Prehistoric; lithic scatter and campsite | Not eligible in ROW |
| 41WB661 | Prehistoric; lithic scatter and campsite | Not eligible in ROW |
| 41WB662 | Prehistoric; lithic scatter and campsite | Not eligible in ROW |
| 41WB947 | Prehistoric; lithic scatter and campsite | Not eligible in ROW |
| 41WB948 | Prehistoric and Historic; lithic scatter; occupation; historic scatter | Eligible |
| 41WB949 | Prehistoric; lithic scatter and campsite | Not eligible |
| 41WB950 | Prehistoric lithic scatter and campsite | Not eligible in ROW |
| 41WB1023 | Prehistoric lithic scatter and campsite | Not eligible in ROW |

Source: THC, 2025a.

There were no cemeteries, OTHMs, NRHP-listed districts or nonarchaeological historic-aged resources identified within the Study Area (THC, 2025a)

# 4.0 ENVIRONMENTAL IMPACTS OF THE PROJECT

The evaluation of potential impacts from the proposed Project was based upon the consideration of the requirements of Section 37.056(c)(4)(A)-(D) of the TAC, the PUC's Substantive Rule 25.101, including the PUC's policy of prudent avoidance, public comments received from the open house meeting, field reconnaissance, and the information received from federal and state agencies and local officials. Measurements of the environmental criteria were taken from recent aerial photography (NearMap, 2024) and from available digital resource layers using GIS software.

Halff professionals with a proficiency in different environmental disciplines (terrestrial and aquatic ecology, land use and planning, cultural resources, and GIS) evaluated the Project based upon environmental conditions present along the Consensus Route and the general routing criteria developed by AEP Texas and Halff. Each Halff evaluator independently analyzed the Consensus Route, and the environmental and land use data presented in **Table 4-1** for their technical discipline. The potential impacts to natural, human, and cultural resources resulting from the proposed Project are discussed below by discipline.

## 4.1 Impact on Natural Resources

### 4.1.1 Impact on Physiography and Geology

Construction of the proposed Project is not anticipated to have any significant adverse effects on the physiographic or geologic features and resources of the area. Erection of the structures will require the excavation and/or minor disturbance of small quantities of near-surface materials, but should have no measurable impacts on the geologic resources or features along the Consensus Route. The Project will have no significant impact on mineral resources in the Study Area and no geologic hazards are anticipated.

### 4.1.2 Impact on Soils

The construction and operation of transmission lines normally create very few long-term adverse impacts on soils. Transmission lines do not normally cause a conversion of farmland/pastureland because the site can still be used in this capacity after construction. The major potential impact upon soils from any transmission line construction would be erosion and soil compaction. The potential for soil erosion is generally greatest during the initial clearing of the ROW; however, AEP Texas employ erosion control measures during the clearing and construction process. Where existing land cover includes woody vegetation within the ROW, much of this vegetation will be removed to provide adequate space for construction activities and to minimize corridor maintenance and operational problems. In these areas, only the leaf litter and a small amount of herbaceous vegetation would remain, and both would be temporarily disturbed by the necessary movement of heavy equipment.

Construction of the transmission line would require minimal amounts of clearing in areas that have already been cleared for crops, pastures, and existing road, transmission line, and pipeline ROW. The most important factor in controlling soil erosion associated with construction activity is to revegetate areas that have potential erosion problems immediately following construction. Natural succession would revegetate most of the ROW. Impacts from soil erosion caused by construction activity would be minimized due to the implementation of BMPs designed in the SWPPP and matting.

Prime farmland soils, as defined by the NRCS, are soils that are best suited for producing food, feed, forage, or fiber crops. The USDA recognizes the importance and vulnerability of prime farmlands throughout the nation and encourages the wise use and conservation of these soils where possible. The Consensus Route will not cross any prime farmland soils or active cropland; therefore, the Project will have no impacts on prime farmland soils. In addition to construction-related impacts described above, the major impact of the Project on soils would be the physical occupation of small areas by the actual support structures. However, most of the ROW would be available for agricultural use once construction of the transmission line is completed.

### 4.1.3 Impact on Mineral and Energy Resources

Activities associated with the construction, operation, and maintenance of electrical transmission lines typically do not adversely impact mineral and energy resources when appropriate measures are implemented during the routing and construction phases. Construction of the Project is not anticipated to have any significant adverse effects on the mineral or energy resources of the Study Area.

### 4.1.4 Impact on Water Resources

#### 4.1.4.1 Surface Water

Because all surface waters will be spanned and an SWPPP will be implemented during construction, no significant impacts to surface waters are anticipated for the Consensus Route. Potential impacts include short-term disturbances resulting from construction activities, which would result primarily from increased siltation from erosion and decreased water quality from accidental spillage of petroleum and other chemical products. Additionally, activities such as clearing of vegetation may temporarily increase local stormwater runoff volumes and sediment loading. However, potential impacts would be avoided whenever possible by spanning surface waters if present, diverting construction traffic around water resources via existing roads, and eliminating unnecessary clearing of vegetation. This may eliminate the necessity of constructing temporary low-water crossings that may result in erosion, siltation, and disturbance of the stream and its biota. If a spanned stream is dry at the time of construction, some bank and streambed alterations may be necessary to facilitate crossing. Such activities will be conducted according to USACE regulations and the SWPPP.

The measurements of the various criteria used in the environmental analysis of the Consensus Route for this Project are tabulated in **Table 4-1**. The Consensus Route crosses no named streams; however, two unnamed streams are crossed. Additionally, the length of the Consensus Route ROW paralleling (within 100 feet) a stream is approximately 230 feet. The Consensus Route crosses approximately 143 feet of open water.

**Table 4-1: Environmental Data for Consensus Route Evaluation**

| No. | Environmental Criterion | Route Data |
|---|---|---|
| **Land Use** | | |
| 1 | Length of Route | 14,195 |
| 2 | Number of habitable structures[a] within 300 feet[b] of ROW centerline | 46 |
| 3 | Length of ROW utilizing existing transmission line ROW | 0 |
| 4 | Length of ROW parallel to existing transmission line ROW | 0 |

| No. | Environmental Criterion | Route Data |
|---|---|---|
| 5 | Length of ROW parallel to other existing compatible ROW (roads, highways, railways, etc. – excluding oil and gas pipelines) | 12,587 |
| 6 | Length of ROW parallel to apparent property lines (or other natural or cultural features, etc.) | 12,834 |
| 7 | Sum[3] of evaluation criteria 4, 5, and 6 | 12,834 |
| 8 | Percent[3] of evaluation criteria 4, 5, and 6 | 90 |
| 9 | Length of ROW across parks/recreational areas[d] | 0 |
| 10 | Number of additional parks/recreational areas[d] within 1,000 feet of ROW centerline | 1 |
| 11 | Length of ROW across cropland | 0 |
| 12 | Length of ROW across pastureland/rangeland | 9,733 |
| 13 | Length of ROW across cropland or pastureland with mobile irrigation systems | 0 |
| 14 | Length of ROW parallel to existing pipeline[e] ROW <500 feet from route centerline | 0 |
| 15 | Number of pipeline crossings[e] | 0 |
| 16 | Number of transmission line crossings | 0 |
| 17 | Number of US and State highway crossings | 1 |
| 18 | Number of Farm-to-Market (FM)/Ranch-to-Market (RM) road crossings | 0 |
| 19 | Number of FAA-registered public/military airfields[f] within 20,000 feet of ROW centerline (with runway >3,200 feet) | 0 |
| 20 | Number of FAA-registered public/military airfields[f] within 10,000 feet of ROW centerline (with runway <3,200 feet) | 0 |
| 21 | Number of private airstrips within 10,000 feet of ROW centerline | 0 |
| 22 | Number of heliports within 5,000 feet of ROW centerline | 0 |
| 23 | Number of commercial AM radio transmitters within 10,000 feet of ROW centerline | 0 |
| 24 | Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline | 5 |
| 25 | Number of recorded water wells within 200 feet of ROW centerline | 0 |

| No. | Environmental Criterion | Route Data |
|---|---|---|
| 26 | Number of recorded oil and gas wells within 250 feet of ROW centerline (including dry or plugged wells) | 0 |
| **Aesthetics** | | |
| 27 | Estimated length of ROW within foreground visual zone[g] of US and State highways | 5,322 |
| 28 | Estimated length of ROW within foreground visual zone[g] of FM/RM roads | 0 |
| 29 | Estimated length of ROW within foreground visual zone[g & h] of parks/recreational areas[d] | 5,583 |
| **Ecology** | | |
| 30 | Length of ROW across upland woodland/brushland | 2,757 |
| 31 | Length of ROW across bottomland/riparian woodland/brushland | 623 |
| 32 | Length of ROW across potential wetlands[i] | 0 |
| 33 | Length of ROW across known occupied habitat of federally endangered or threatened species | 0 |
| 34 | Number of stream crossings | 2 |
| 35 | Length of ROW parallel (within 100 feet) to streams | 230 |
| 36 | Length of ROW across open water (ponds, lakes, etc.) | 143 |
| 37 | Length of ROW across 100-year floodplains | 1,018 |
| **Cultural Resources** | | |
| 38 | Number of cemeteries within 1,000 feet of ROW centerline | 0 |
| 39 | Number of recorded cultural resource sites crossed by ROW centerline | 0 |
| 40 | Number of additional recorded cultural resource sites within 1,000 feet of ROW centerline | 4 |
| 41 | Number of NRHP-listed or determined-eligible sites crossed by ROW | 0 |
| 42 | Number of NRHP-listed or determined-eligible sites within 1,000 feet of ROW centerline | 0 |
| 43 | Length of ROW crossing areas of high archeological/historical site potential | 8,730 |

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

(a) Single-family and multifamily 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.

(b) Due to the potential inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) Length of apparent property boundaries adjacent to and paralleling existing roads or highways are not "double-counted" in the sum length of ROW paralleled of criteria 4, 5, and 6.
(d) Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.
(e) Pipelines 8 inches diameter or greater.
(f) As listed in the Chart Supplement South Central U.S. (formerly known as the Airport/Facility Directory South Central U.S.).
(g) One-half mile, unobstructed. Lengths of ROW within the foreground visual zone of Interstates, US and state highway criteria are not "double-counted" in the length of ROW within the foreground visual zone of FM/RM roads criteria.
(h) One-half mile, unobstructed. Lengths of ROW within the foreground visual zone of parks/recreational areas may overlap with the total length of ROW within the foreground visual zone of interstates, US and state highway criteria and/or with the total length of ROW within the foreground visual zone of FM/RM roads criteria.
(i) As mapped by the USFWS NWI.

#### 4.1.4.2 Floodplains

As discussed in **Section 3.5.2**, FEMA conducted a detailed floodplain analysis for the Study Area county in 2008. The Consensus Route crosses approximately 1,018 feet of 100-year floodplain. Proposed construction could result in locating some transmission line structures within floodplains. These structures would be designed and constructed so as not to impede the flow of any waterway or create any hazard during flooding. Construction activities within floodplains would be limited to the Project ROW, and significant efforts should be made to keep structures from being in obvious flood channels. Some scour could occur around structures if flood-flow depths and velocities become great enough. Careful siting of structures should eliminate the possibility of significant scour. The Project should have no significant impact on the function of the floodplain, nor adversely affect adjacent property or downstream property. Prior to construction, AEP Texas will coordinate with the appropriate floodplain administrator, as necessary, to acquire any floodplain construction permits.

#### 4.1.4.3 Groundwater

No adverse impacts to groundwater are expected to occur from the construction and operation of the proposed transmission line. The amount of recharge area that would be disturbed by construction is minimal when compared with the total amount of recharge area available for the aquifer systems in the region. An SWPPP will be developed to identify avoidance measures of potential contamination of water resources. Standard operating procedures and spill response specifications relating to petroleum product storage, refueling, and maintenance activities of equipment are provided as a component of the SWPPP. Any accidental spills would be promptly responded to in accordance with state and federal regulations. AEP Texas will take all necessary and available precautions to avoid and minimize the occurrence of such spills.

### 4.1.5 Impact on the Ecosystem

#### 4.1.5.1 Vegetation

Impacts to vegetation resulting from the construction and operation of transmission lines are primarily associated with the removal of existing woody vegetation within the ROW. The amount of vegetation cleared from the transmission line ROW would be dependent upon the type of vegetation present and whether the ROW will be completely new or involve widening existing ROW. For example, the greatest amount of vegetation clearing would occur in wooded areas, whereas cropland and grassland would require little to no removal of vegetation.

The linear extent of plant communities crossed by the Consensus Route was determined using aerial imagery (NearMap, 2024) and is outlined in **Table 4-1**. Regarding broad vegetation types, the Consensus Route will cross approximately 9,733 feet of pastureland/rangeland, will cross approximately 2,757 feet of upland woodland/brushland, and will cross approximately 623 feet of bottomland/riparian woodland/brushland. Woody vegetative cover under the upland woodland/brushland and bottomland/riparian woodland/brushland cover types may require removal of vegetation.

Removal of vegetation in wetlands increases the potential for erosion and sedimentation, which can be detrimental to downstream aquatic life and plant communities. Any placement of fill material within WOTUS would represent a permit action that may require notification to the USACE. More-detailed field studies would be required to verify the location and amount of jurisdictional wetlands that may be within the ROW of the Consensus Route. Precautions would be taken throughout the construction process to avoid and minimize impacts to wetlands.

Depending on the size and vegetation type (shrub/scrub or herbaceous), these areas can be spanned in many instances, although they cannot always be avoided by construction equipment. Impact minimization measures (e.g., timber matting, hand-clearing woody vegetation, spanning wetlands) will be implemented during construction to reduce wetland impacts. Placement of approved BMPs for construction and minimization of erosion in disturbed areas would help dissipate the flow of runoff. Placement of silt fences or hay-bale dikes between streams and disturbed areas would also help prevent siltation into the waterway.

Construction of the transmission line within the ROW would be performed in such a way as to minimize adverse impacts to vegetation and to retain existing ground cover when practicable. Where necessary, soil conservation practices will be undertaken to protect local vegetation and ensure successful revegetation for areas disturbed during construction. The temporary and/or permanent placement of fill material within jurisdictional waterways and wetlands requires a permit from the USACE under Section 404 of the CWA. If necessary, a delineation of any wetlands crossed by the Consensus Route may be completed to determine USACE permit requirements.

According to USFWS NWI maps, the Consensus Route does not cross any wetlands and, therefore; no WOTUS, including wetlands, will be impacted by the Project.

#### 4.1.5.2 Aquatic Resources

Impacts to aquatic ecosystems from transmission line construction are generally minor. Aquatic features within the Study Area, such as streams and ponds, can generally be spanned. The implementation of sedimentation controls, as prescribed in a Project-specific SWPPP, during construction will help to minimize erosion and sedimentation of area streams. Potential impacts include physical habitat loss or modification, increased runoff, erosion and sedimentation, turbidity, and spillage of petroleum or other chemical products. All these tend to be short-term effects, however, and will vary with the intensity and timing of the construction along the Consensus Route. AEP Texas will make efforts during construction for proper control and handling of any petroleum or other chemical products.

Physical habitat loss or modification could result whenever access road crossings intercept a drainage system, through sedimentation due to erosion, increased suspended solids loading, or accidental petroleum spills directly into a creek, lake, or other aquatic feature. Erosion results in siltation and increased suspended solids entering streams, creeks, or lakes, which in turn may negatively affect many aquatic organisms at many trophic levels. Since aquatic features of the area typically exhibit relatively high turbidities during and following runoff events, small increases in suspended solids during the construction phase are unlikely to have any discernible adverse impact. The Consensus Route, however, crosses two streams and impacts to aquatic communities from the proposed Project will be minimal given that any aquatic features will be spanned.

Typically, the main considerations regarding potential impacts to aquatic systems include the length across open water, distance crossing wetlands, number of stream crossings, and length of ROW paralleling (within 100 feet) streams. The Consensus Route will cross two unnamed streams, will parallel a stream (within 100 feet) for approximately 230 feet, and will cross approximately 143 feet of open water; however, it will not cross any USFWS NWI mapped wetlands (see **Table 4-1**). The Consensus Route will span the stream habitats and placement of supporting structures in the streambed of drainage features will be avoided. If clearing of vegetation is necessary at the stream/canal crossing, AEP Texas may employ selective hand clearing (i.e., use of chainsaws instead of heavy machinery), to minimize erosion problems. Erosion-prone areas adjacent to the stream/drainage canal (stream banks) will not be cleared unless necessary. The most effective method for avoiding surface water impacts is the implementation of proper spill-prevention and spill-response plans. Little impact to aquatic resources is anticipated.

#### 4.1.5.3 Wildlife

The impacts of transmission lines on wildlife include short-term effects resulting from physical disturbance during construction, as well as long-term effects resulting from habitat modification, fragmentation, or loss. The net effect from transmission line construction on local wildlife is typically minor. The following section provides a general discussion of the effects of transmission line construction and operation on terrestrial wildlife, followed by a discussion of the possible impact of the Consensus Route.

Any required clearing or other construction-related activities would directly or indirectly affect most animals that reside within or traverse the transmission line ROW. Heavy machinery may adversely affect smaller, low-mobility species, particularly amphibians, reptiles, and small mammals.

If construction occurs during the breeding season (generally spring to fall), construction activities may adversely affect the young of some species. Heavy machinery may cause soil compaction, which may adversely affect fossorial animals (i.e., those that live underground). Mobile species, such as birds and larger mammals, may avoid initial clearing and construction activities and move into adjacent areas outside the ROW. Construction activities may temporarily deprive some animals of cover and, therefore, potentially subject them to increased natural predation. Wildlife in the immediate area may experience a slight loss of browse or forage material during construction. However, the prevalence of similar habitats in adjacent areas and vegetation succession in the ROW following construction would minimize the effects of these losses.

The increased noise and activity levels during construction could potentially disturb the daily activities (e.g., breeding, foraging) of species inhabiting the areas adjacent to the ROW. Dust and gaseous emissions should have only minimal effects on wildlife. Although construction activities may disrupt the normal behavior of many wildlife species, little, if any, permanent damage to these populations should result. Periodic clearing along the ROW, while producing temporary negative impacts to wildlife, can improve the habitat for ecotonal or edge species through the increased production of small shrubs, perennial forbs, and grasses.

Transmission line structures will be designed in compliance with the Avian Power Line Interaction Committee (APLIC) standards, as defined in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC, 2012). As such, the danger of electrocution to birds from this Project is anticipated to be insignificant. Some avian species may use transmission line structures or wires for perching and roosting; however, this is not the designed intent of those facilities. Additionally, edge-adapted species (e.g., some flycatchers, northern cardinal

[*Cardinalis cardinalis*], northern bobwhite [*Colinus virginianus*], Cooper's hawk [*Accipiter cooperii*], brown-headed cowbird [*Molothrus ater*], and northern mockingbird [*Mimus polyglottos*]) may select the edge habitat created along the changed vegetation areas adjacent to the transmission line ROW (Rochelle et. al., 1999).

The transmission line (both structures and wires) could present a hazard to flying birds, particularly when flying through a migratory pathway or stopover site (National Audubon Society [NAS], 2020). Mortality is directly related to an increase in structure height; number of guy wires, conductors, and ground wires; and use of solid or pulsating red lights (an FAA requirement on some structures or structures over 200 feet in height) (Erickson et. al., 2005). Collision hazards are greatest near habitat "magnets" (e.g., wetlands, open water, edges, and riparian zones) and during the fall when flight altitudes of dense migrating flocks are lower in association with cold air masses, fog, and inclement weather. The greatest danger of mortality exists during periods of low ceiling, poor visibility, and drizzle when birds are flying low, perhaps commencing, or terminating a flight, and when they may have difficulty seeing obstructions (Electric Power Research Institute [EPRI], 1993). Most migrant species known to occur in the Study Area, including passerines, should be minimally affected during migration, since their normal flying altitudes are much greater than the heights of the proposed transmission structures (Willard, 1978; Gauthreaux, 1978).

The species most prone to collision are often the largest and most common for resident birds or for birds during periods of non-migration (Rusz et al., 1986; APLIC, 1994); however, over time, these birds learn the location of transmission lines and become less susceptible to wire strikes (Avery, 1978). Raptors, typically, are uncommon victims of transmission line collisions, because of their great visual acuity (Thompson, 1978). In addition, many raptors only become active after sufficient thermal currents develop, which is usually late in the morning when poor light is not a factor (Avery, 1978).

Waterfowl species are particularly vulnerable to collisions with power lines because of their low-altitude flight and high speed. Additionally, species that travel in large flocks, such as blackbirds and many shorebirds, are also vulnerable, because dense flocking makes movement around obstacles more difficult for individuals in the flock (APLIC, 1994).

Utility companies can employ several means to minimize transmission line impacts on birds in flight. The initial placement of a transmission line is the most important consideration (Avery, 1978; APLIC, 1994, 2006). The proximity of a transmission line to areas of frequent bird use (e.g., communal foraging or roosting areas, rookeries, wetlands) is crucial. This is especially true for daily use areas, such as feeding areas or other areas where birds may be taking off or landing regularly (APLIC, 1994, 2006). The position of the individual structures can also help reduce collisions. Faanes (1987), in an in-depth study in North Dakota, found that birds in flight tend to avoid the transmission line structures, presumably because such structures are visible from a distance. Instead, most appear to fly over the lines in the mid-span region. In areas where the transmission line passes between roosting and foraging areas, the structures can be placed in the center of the flyway (i.e., where the birds are more likely to fly) to increase their visibility, in addition to marking the wires.

Faanes (1987) reported that 97 percent of birds observed colliding with a power line did so with the ground (static) wire, largely because of attempts to avoid the conductors. Beaulaurier (1981) found that removal of the ground wire at two study sites in Oregon resulted in a reduction in collisions of 35 percent and 69 percent. However, since overhead static wires are installed on transmission lines for safety and reliability reasons, increasing the visibility of the static wire would be a better alternative, when necessary. Increasing the visibility of the wires by using markers such as orange aviation balls, black-and-white ribbons, or spiral vibration dampers, particularly at mid-span, can reduce the number of collisions. Beaulaurier (1981) reviewed 17 studies involving marking ground wires or conductors and found an average reduction in collisions of 45 percent when compared to unmarked lines.

Negative edge effects can be reduced through native revegetation of disturbed construction areas where necessary and appropriate for safe and reliable operation. Additionally, nest management through platform design (if required), equipment protection, and other physical disincentives to bird use and nesting can avoid negative impacts to birds and power reliability (APLIC, 2006).

In general, the greatest potential impact to wildlife typically results from the loss and fragmentation of woodland and wetland habitats. Woodlands, particularly, are relatively static environments that require greater regenerative time compared with rangeland or emergent wetlands. In most cases, wetlands and small waterbodies can be spanned with little or no resulting impact to wildlife. However, as previously noted, the amount of aquatic habitat being crossed is minimal with only two stream crossings and one span of an open water feature (as determined using aerial imagery). Therefore, the greatest potential to impact wildlife would be the length requiring woodland clearing, followed by the length of the Consensus Route, which would present the potential for wire strikes to both migrant and resident birds. Halff attempted to minimize potential habitat fragmentation by paralleling existing linear features such as roadways and property boundaries. The Consensus Route will parallel approximately 12,587 feet of roadway ROW, will parallel property boundaries for approximately 12,834 feet, will cross approximately 2,757 feet of upland woodland/brushland habitat, and will cross approximately 623 feet of bottomland/riparian woodland/brushland (see **Table 4-1**). The Project is anticipated to have little impact to wildlife occurring within in the Study Area.

#### 4.1.5.4 Recreationally and Commercially Important Species

Construction of the Project is not expected to have significant impacts on commercially or recreationally important species occurring within the Study Area. Furbearers, such as the common raccoon, Virginia opossum, common gray fox, coyote, bobcat, and striped skunk, and game species like the white-tailed deer, mourning dove, white-winged dove, northern bobwhite quail, and squirrels are very mobile and are anticipated to leave the immediate vicinity during the initial construction phase. Wildlife in the immediate area may experience a temporary loss of browse or other forage vegetation during construction; however, the abundance of similar habitats in adjacent areas should minimize the effect of the loss. As noted in **Section 4.1.5.2**, impacts to aquatic habitat should be minimal, thereby minimizing any impacts to fish in the Study Area.

#### 4.1.5.5 Endangered and Threatened Species

##### 4.1.5.5.1 Plant Species

One federally listed endangered plant species has been recorded in Webb County. Ashy dogweed is endemic to Texas and the current range extent includes the Laredo area of Webb County (NatureServe Explorer, 2025b; TPWD, 2025b; USFWS, 2025b). Ashy dogweed may be present in the Study Area where suitable habitat occurs. Field surveys along the Consensus Route may be performed, if necessary, to identify potential suitable habitat for listed plant species and determine the need for any additional species-specific surveys. If specimens are found, TPWD requests notification for potential plant/seed collection, and recommends avoidance and minimization measures such as instruction of construction crews and protection by construction fencing.

No sensitive vegetation community was identified in the TXNDD database search as occurring within the Study Area (TPWD, 2024).

#### 4.1.5.5.2 Federally Listed Fish and Wildlife Species

Ten federally listed threatened or endangered fish or wildlife species have potential to occur within Webb County, of which seven species are likely to occur within the Study Area including the cactus ferruginous pygmy-owl, yellow-billed cuckoo, monarch butterfly, tricolored bat, Mexican fawnsfoot, salina mucket, and the Texas hornshell (see **Table 3-7**).

The piping plover, rufa red knot, and ocelot are not anticipated to occur within the Study Area; therefore, no impacts to these species are anticipated. The cactus ferruginous pygmy-owl, yellow-billed cuckoo, monarch butterfly are highly mobile species. With the implementation of mitigation measures for avian species, no significant impacts to these species are anticipated. The tricolored bat may occur in the Study Area where suitable habitat is present. This is a mobile species. With the implementation of mitigation measures, no significant impacts to this species is anticipated. The Mexican fawnsfoot, salina mucket, and the Texas hornshell are aquatic species. No impacts are anticipated for these species because no construction will occur in any stream.

#### 4.1.5.5.3 State-Listed Fish and Wildlife Species

Fourteen state-listed threatened or endangered fish or wildlife species have potential to occur within Webb County, of which eleven are likely to occur within the Study Area including the South Texas siren, white-faced ibis, gray hawk, interior least tern, Tamaulipas shiner, Rio Grande shiner, speckled chub, Rio Grande darter, white-nosed coati, Texas tortoise, and Texas horned lizard (see **Table 3-8**).

The wood stork, black bear, and northern cat-eyed snake are not anticipated to occur within the Study Area; therefore, no impacts to these species are anticipated. The South Texas siren, Tamaulipas shiner, Rio Grande shiner, speckled chub, and Rio Grande darter are aquatic species. No impacts are anticipated for these species because no construction will occur in any stream.

The white-faced ibis, gray hawk, and interior least tern are highly mobile species. With the implementation of mitigation measures for avian species, no significant impacts to these species are anticipated.

The white-nosed coati has the potential to occur near the riparian corridors of San Idelfonso Creek and Becerra Creek. This is a mobile species. With the implementation of mitigation measures, no significant impacts to this species are anticipated.

The Texas tortoise and Texas horned lizard have the potential to occur in the Study Area. Construction activities might impact small or fossorial animal species through incidental impact from machinery or alteration of local habitats. With the implementation of mitigation measures, no significant impacts to these species are anticipated.

##### 4.1.5.5.4 Critical Habitat

No federally determined critical habitat has been designated in the Study Area for any endangered or threatened species included under the ESA. Therefore, no impact to critical habitat will occur as a result of the proposed Project.

## 4.2 Socioeconomic Impact

### 4.2.1 Impact on Social and Economic Factors

Construction and operation of the proposed transmission line is not anticipated to result in a significant change in the population or employment rate within the Study Area. AEP Texas normally uses contract labor supervised by AEP Texas employees during the clearing and construction phases of transmission line projects. Construction workers for the project would likely commute to the work site on a daily or weekly basis instead of permanently relocating to the area. The temporary workforce increase would likely result in an increase in local retail sales due to purchases of lodging, food, fuel, and other merchandise for the duration of construction activities. No additional staff would be required for line operations and maintenance. AEP Texas is also required to pay sales tax on purchases and is subject to paying local property tax on land or improvements as applicable.

### 4.2.2 Impact on Community Values

Adverse effects upon community values are defined as aspects of the proposed Project that would significantly and negatively alter the use, enjoyment, or intrinsic value attached to an important area or resource by a community. This definition assumes that community concerns are applicable to this specific project's location and characteristics, and do not include objections to electric transmission lines in general.

Potential impacts to community resources can be classified into direct and indirect effects. Direct effects are those that would occur if the location and construction of a transmission line and substation result in the removal or loss of public access to a valued resource. Indirect effects are those that would result from a loss in the enjoyment or use of a resource due to the characteristics (primarily aesthetic) of the proposed transmission line, structures, or ROW.

## 4.3 Impact on Human Resources

### 4.3.1 Impact on Land Use

Land use impacts from transmission line construction are determined by the amount of land (of varying use) displaced by the actual ROW and by the compatibility of electric transmission line ROW with adjacent land uses. During construction, temporary impacts to land uses within the ROW could occur due to the movement of workers and materials through the area. Construction noise and dust, as well as temporary disruption of traffic flow, may also temporarily affect residents and businesses in the area immediately adjacent to the ROW. Coordination among AEP Texas, their contractors, and landowners regarding access to the ROW and construction scheduling would minimize these disruptions.

#### 4.3.1.1 Habitable Structures

One of the most important measures of potential land use impact is the number of habitable structures located within a specified distance of a route centerline. Habitable structures are defined by 16 TAC § 25.101(a)(3) 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 multifamily dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, and schools.* (PUC, 2022)

Halff determined the number and distance of habitable structures located within 300 feet of the centerline of the Consensus Route using GIS software, interpretation of aerial imagery, and verification during field reconnaissance where possible. To account for the margin of error in horizontal accuracy of aerial imagery, Halff identified habitable structures located within 320 feet of the centerline of the Consensus Route. These structures are shown in relation to the Consensus Route on **Figures C-1 and C-2** (map pockets). As listed in **Table 4-1**, a total of 46 habitable structures were identified within 320 feet of the Consensus Route centerline. These habitable structures are all located south of Mangana Hein Road within the La Presa community, encompassing single-family residences as well as commercial and governmental structures.

**Table** 4-2 provides the distance, direction, and location of the nearest alternative route link for each habitable structure identified within 320 feet of the Consensus Route.

**Table 4-2: Habitable Structures in the Vicinity of the Consensus Route**

| Link Combination: A1-B3-C3-E4-H5 | | | | |
|---|---|---|---|---|
| **Habitable Structure ID Number[a]** | **Structure Type** | **Distance from Centerline[b] (feet)** | **Direction** | **Nearest Alternative Route Link[c]** |
| 1 | Single-family Residence | 309 | North | E4 |
| 2 | Single-family Residence | 293 | North | E4 |
| 3 | Single-family Residence | 186 | North | E4 |
| 4 | Single-family Residence | 210 | North | E4 |
| 5 | Single-family Residence | 224 | North | E4 |
| 6 | Single-family Residence | 192 | North | E4 |
| 7 | Commercial | 295 | North | E4 |
| 8 | Single-family Residence | 238 | North | E4 |
| 9 | Single-family Residence | 189 | North | E4 |
| 10 | Single-family Residence | 273 | North | E4 |
| 11 | Commercial | 214 | North | E4 |
| 12 | Commercial | 198 | North | E4 |
| 13 | Single-family Residence | 230 | North | E4 |
| 14 | Single-family Residence | 245 | North | E4 |
| 15 | Single-family Residence | 269 | North | E4 |
| 16 | Single-family Residence | 283 | North | E4 |
| 17 | Single-family Residence | 257 | North | E4 |
| 18 | Single-family Residence | 217 | North | E4 |
| 19 | Single-family Residence | 260 | North | E4 |
| 20 | Single-family Residence | 289 | North | E4 |
| 21 | Single-family Residence | 191 | North | E4 |
| 22 | Single-family Residence | 215 | North | E4 |
| 23 | Single-family Residence | 239 | North | E4 |
| 24 | Single-family Residence | 212 | North | E4 |
| 25 | Single-family Residence | 189 | North | E4 |
| 26 | Single-family Residence | 311 | North | E4 |
| 27 | Single-family Residence | 208 | North | E4 |

| Link Combination: A1-B3-C3-E4-H5 | | | | |
|---|---|---|---|---|
| **Habitable Structure ID Number[a]** | **Structure Type** | **Distance from Centerline[b] (feet)** | **Direction** | **Nearest Alternative Route Link[c]** |
| 28 | Single-family Residence | 185 | North | E4 |
| 29 | Single-family Residence | 260 | North | E4 |
| 30 | Single-family Residence | 217 | North | E4 |
| 31 | Single-family Residence | 164 | North | E4 |
| 32 | Single-family Residence | 279 | North | E4 |
| 33 | Single-family Residence | 243 | North | E4 |
| 34 | Governmental (La Presa Community Center) | 248 | North | E4 |
| 35 | Single-family Residence | 317 | North | H5 |
| 36 | Single-family Residence | 294 | North | H5 |
| 37 | Single-family Residence | 242 | North | H5 |
| 38 | Single-family Residence | 299 | North | H5 |
| 39 | Single-family Residence | 244 | North | H5 |
| 40 | Single-family Residence | 186 | North | H5 |
| 41 | Single-family Residence | 185 | North | H5 |
| 42 | Single-family Residence | 186 | North | H5 |
| 43 | Single-family Residence | 187 | North | H5 |
| 44 | Single-family Residence | 266 | North | H5 |
| 45 | Single-family Residence | 316 | North | H5 |
| 46 | Single-family Residence | 283 | North | H5 |

(a) All habitable structures are located on **Figures C-1 and C-2** (map pockets).

(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.

### 4.3.1.2 Using and Paralleling Existing Transmission Line ROW

The least impact to land use generally results from building within existing transmission line ROW, followed by building parallel to existing transmission line ROW. Using existing transmission line ROW of sufficient width usually eliminates the need for additional clearing. Additionally, building parallel to existing transmission line ROW, when compared to establishing a new ROW corridor, can also minimize the amount of ROW to be cleared, which generally results in the least amount of impact to landowners, the environment, and the overall aesthetic quality of that area. In fact, the factors listed by 16 TAC § 25.101(b)(3)(B) to be considered in the selection of a route include:

- Whether the routes utilize existing compatible ROW, including the use of vacant positions on existing multiple-circuit transmission lines;
- Whether the routes parallel existing compatible ROW; and
- Whether the routes parallel property lines or other natural or cultural features.

The Consensus Route does not utilize or parallel any existing transmission line ROW for this Project.

#### 4.3.1.3 Paralleling Other Existing Compatible ROW

Paralleling other existing compatible ROW (roads, highways, etc.) is also considered to be a positive routing criterion, one that usually results in fewer impacts than establishing a new ROW corridor within an area and is included in the PUC's transmission line certification criteria. In accordance with PUC Substantive Rule § 25.101(b)(3)(B), Halff identified existing compatible ROW for potential paralleling opportunities. The Consensus Route will parallel approximately 12,587 feet of roadway ROW (see **Table 4-1**).

#### 4.3.1.4 Paralleling Property Lines

Another important land use and favorable routing criterion under PUC Substantive Rule § 25.101(b)(3)(B) is the length of property lines paralleled. In the absence of existing ROW to follow, paralleling property or fence lines minimizes disruption to agricultural activities and creates less of a constraint to the future development of a tract of land. The Consensus Route will parallel approximately 12,834 feet of apparent property lines (see **Table 4-1**).

#### 4.3.1.5 Combined Total Length Paralleling ROW and Property Lines

The sum length that the Consensus Route will parallel existing transmission lines, other existing compatible ROW, and apparent property lines is approximately 12,834 feet. Length of apparent property boundaries adjacent to and paralleling existing roads or highways are not "double-counted" in the combined total length. The Consensus Route will be 90 percent parallel to existing compatible ROW and apparent property lines (see **Table 4-1**).

#### 4.3.1.6 Length of Consensus Route

The overall length of the Consensus Route is approximately 14,195 feet.

#### 4.3.1.7 Impact on Lands with Conservation Easements

As mentioned in **Section 3.8.2**, there are no known conservation easements within the Study Area; the Consensus Route does not cross conservation easements for any portion of the length. AEP Texas will coordinate with landowners during transmission line construction and operation for continued operation of ongoing or existing land management activities.

### 4.3.2 Impact on Recreation

Potential impacts to parks or recreation areas, which include the disruption or preemption of recreation activities, would not occur as the Consensus Route does not cross a recreation facility. The Consensus Route is within 1,000 feet of the La Presa Community Center and Park, as shown on **Figures C-1 and C-2** (map pockets). No other parks or recreational facilities were identified within 1,000 feet of the Consensus Route (see **Table 4-1**). The Project will have no significant impacts to the use of the La Presa Community Center and Park.

### 4.3.3 Impact on Agriculture

Impacts to agricultural land uses can generally be ranked by degree of potential impact, with the least potential impact occurring in areas where grazing is the primary use (pasture or rangeland), followed by cultivated cropland, with forested/wooded land (orchards, commercial timber, etc.) having the highest degree of impact. The Consensus Route does not cross any cropland or pastureland with mobile irrigation systems. The majority of the Consensus Route crosses rangeland/pastureland which was distinguished as having no active crop or tillage. Because the ROW for the Project will not be fenced or otherwise separated from adjacent lands, there will be no significant long-term displacement of farming or gazing activities.

### 4.3.4 Impact on Utility Features and Oil and Gas Facilities

Oil and gas wells, associated treatment facilities, and pipelines are located throughout the Study Area. During the route development process, AEP Texas and Halff applied a setback distance of 250 feet from the Consensus Route centerline to identified well heads using RRC data layers (RRC, 2025a; 2025b), aerial imagery interpretation, and GIS software-generated measurements. In some instances, the setback distance was reduced due to the need to traverse a particular area to connect the Project endpoints while also considering other existing constraints in the area.

AEP Texas and Halff applied a setback distance of 500 feet when the Consensus Route would need to parallel existing transmission pipelines and, when feasible, existing gathering pipelines as identified using RRC data layers (RRC, 2025a; 2025b), aerial photo interpretation, and GIS software-generated measurements. AEP Texas and Halff also applied routing criteria to cross existing transmission pipelines and, when feasible, existing gathering pipelines at 90 degrees, if possible, but no less than 60 degrees. These routing criteria are to address potential delays in construction schedules and additional cost in addressing the PUC final order language directing the electric utility to work with pipeline owners or operators to assess if mitigation may be necessary. Pipelines that are crossed by the Consensus Route will be indicated on engineering drawings and flagged prior to construction. AEP Texas will notify and coordinate with pipeline companies as necessary during transmission line construction and operation.

Based on RRC and TWDB data layers (RRC, 2025a; 2025b; TWDB, 2025a), the Consensus Route will not cross any pipelines, oil, gas, or water wells. The Consensus Route does not parallel or cross any existing transmission lines or pipelines. The 16-inch water distribution line discussed in **Section 3.8.6** will be located on the south side of Mangana Hein Road while the Consensus Route is on the north side. The Project is not expected to significantly impact existing utilities or oil and gas facilities.

### 4.3.5 Impact on Transportation/Aviation

#### 4.3.5.1 Transportation Features

Potential impacts to transportation could include the temporary disruption of traffic and potential conflicts with proposed roadway or utility improvements. Increased traffic and congestion may also occur during the construction of the proposed Project. However, the Project would generate only minor construction traffic at any given time or location. This traffic would consist of construction employees' personal vehicles and trucks and equipment for material deliveries and construction. Such impacts, however, are usually temporary and short-term. AEP Texas will coordinate with the agencies in control of the affected roadways to address these traffic flow impacts. AEP Texas would also be required to obtain road-crossing permits from TxDOT for any crossing of state-maintained roadways.

Potential impacts to transportation could include temporary disruption of traffic or conflicts with future proposed roadways and/or utility improvements. Traffic disruptions would include those associated with the movement of equipment and materials to the ROW, and slightly increased traffic flow and/or periodic congestion during the construction phase of the Project. In urban areas, the temporary impacts to traffic flow can be significant during construction, while in rural areas these impacts are typically considered minor, temporary, and short-term. The Consensus Route is located in a rural area rather than an urban one. AEP Texas will coordinate with the agencies in control of the affected roadways to address these traffic flow impacts. AEP Texas would also be required to obtain road-crossing permits from TxDOT for any crossing of state-maintained roadways. As shown on **Figures C-1 and C-2** (map pockets), the Consensus Route will cross only one roadway (SH Loop 20).

#### 4.3.5.2 Aviation Facilities

According to FAA Part 77 regulations, Title 14 CFR § 77.9, notification of the construction of the proposed transmission line will be required if structure heights exceed the height of an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of a public or military airport having at least one runway longer than 3,200 feet. The FAA also requires notification if structure heights exceed a slope of 50 to 1 for a horizontal distance of 10,000 feet from the nearest runway of a public or military airport with no runway longer than 3,200 feet, and if structure heights exceed a 25 to 1 slope for a horizontal distance of 5,000 feet from landing and takeoff areas for heliports (FAA, 2011).

There are no public or military FAA registered airports with at least one runway longer than 3,200 feet located within 20,000 feet of the Consensus Route. There are no known private airstrips within 10,000 feet of the Consensus Route. There are no heliports within 5,000 feet of the Consensus Route (see **Table 4-1**).

#### 4.3.6 Impact on Communication Towers

The Consensus Route would not be expected to have a significant impact on electronic communication towers within the Study Area. Based on available data (FCC, 2025; HIFLD, 2024) and field reconnaissance, there are no commercial AM radio transmitters located within 10,000 feet of the Consensus Route. Additionally, there are five cellular or other electronic communications towers located within 2,000 feet of the Consensus Route; however, there are no FM transmitters within that same proximity. **Figures C-1 and C-2** (map pockets) show the location of these communication towers, and **Table 4-3** provides more-detailed information.

**Table 4-3: Communication Towers Within 2,000 Feet of the Consensus Route**

| Tower ID Number[a] | Ownership | Tower Type | Nearest Link | Distance to Nearest Link (feet) |
|---|---|---|---|---|
| 1 | Unknown | Unknown | E4 | 315 |
| 2 | C Q Tron, Inc. | Land Mobile Private | E4 | 465 |
| 3 | Tillman Infrastructure, LLC | Cellular | E4 | 200 |
| 4 | Unknown | Microwave | E4 | 630 |
| 5 | Webb County | Microwave and Land Mobile Private | E4 | 895 |

(a) All communication towers are located on **Figures C-1 and C-2** (map pockets).

#### 4.3.7 Impact on Aesthetics

Aesthetic impacts, or impacts upon visual resources, exist when the ROW, lines, or structures of a transmission line system create an intrusion into, or substantially alter the character of, an existing scenic view. The significance of the impact is directly related to the quality of the view, in the case of natural scenic areas, or to the importance of the existing setting in the use or enjoyment of an area, in the case of valued community resources and recreational areas.

It is virtually impossible for a new transmission line to have no visual impacts, and construction of the proposed 138-kV transmission line could have both temporary and permanent aesthetic effects. Temporary impacts would include views of the actual construction, including assembly and erection of the structures, and any clearing of the ROW. Where limited clearing is required, the brush and wood debris could have a temporary negative impact on the local visual environment. Permanent impacts from the Project would include the views of the structures and lines themselves, as well as views of cleared ROW from public viewpoints including roadways, recreational areas, and scenic overlooks.

To evaluate aesthetic impacts, field surveys were conducted to determine the general aesthetic character of the area and the degree to which the proposed transmission line would be visible from selected areas. These areas generally include those of potential community value, parks and recreational areas, and the major highways (i.e., US and State highways) and FM/RM roads that may traverse the Study Area. Measurements were made to estimate the length of the Consensus Route that would fall within the foreground visual zone (FVZ) of recreational areas or major highways. A transmission line (structures and wires) is within the FVZ if it is visible (i.e., not obstructed by terrain, trees, buildings, etc.) within 0.5 mile of an observer. The determination of the visibility of the transmission line from various points was calculated using USGS maps, GIS software, and aerial imagery interpretation.

Of the total length of the Consensus Route, approximately 5,322 feet is within the FVZ of a major road (SH Loop 20) and approximately 5,583 feet is within the FVZ of a park (La Presa Park and Community Center). No portion of the Consensus Route is within the FVZ of a FM/RM road (see **Table 4-1**). Overall, the primary aesthetic of the Study Area is relatively flat rangeland/pastureland. The existing transmission line to the east, oil and gas facilities, communication towers, utility ROWs, and residential development within the Study Area have already impacted the aesthetic quality within the region from public viewpoints. It is unlikely that the Project would affect the aesthetics of the agriculture, parks, or detract from the user experience at the parks.

### 4.3.8 Impact on Texas Coastal Management Program

As mentioned in **Section 3.8.9**, the CMP boundary does not extend into Webb County and no portion of the Project will be in the CMP boundary.

## 4.4 Impact on Cultural Resources

Construction activity has the potential for adversely impacting cultural resource sites. Although this transmission line project is currently being conducted without the need for federal funding, permitting, or assistance, federal guidelines established under Section 106 of the NHPA of 1966, as amended, provide useful standards for considering the severity of possible direct and indirect impacts. According to the Secretary of the Interior's Guidelines for protection of historical and archeological resources (36 CFR 800), adverse impacts may occur directly or indirectly when a project causes changes in archeological, architectural, or cultural qualities that contribute to a resource's historical or archeological significance.

### 4.4.1 Direct Impacts

Direct impacts include actions that physically damage or alter an archeological site, historically significant building, structure, object, district, or other cultural resource. Typically, these impacts occur during the construction phase of a transmission line project and can result from actual placement of tower locations and lines as well as from activities associated with construction, including clearing vegetation and vehicular and heavy machinery traffic. Archeological sites, which can be surficial or shallowly buried, are particularly sensitive to these impacts.

Historically significant buildings, structures, objects, districts, and other landscape-related resources within or adjacent to the Study Area can be directly affected by construction activities. These effects can include direct impacts to the resources themselves via physical destruction or damage, or impacts to their character-defining features, including changes to the overall character of the property's use or alteration of physical features within the property's setting that contribute to its historical significance.

Direct impacts to cemeteries require compliance with the Texas Health and Safety Code, as amended. These rules and regulations are available in Title 13, Part 2, Chapter 22, Rule § 22.5 of the TAC. The marked boundaries of historic-age cemeteries are notorious for shifting over time as a result of several factors including abandonment, the removal or disintegration of headstones or other markers, and the encroachment of new developments. This boundary ambiguity can result in unmarked burials being unintentionally or intentionally excluded from current cemetery boundaries. To limit the potential for a project to impact unmarked burials, the THC recommends all construction projects, including ground disturbance within 25 feet of a known cemetery boundary, be surveyed in advance by an archeologist for evidence of possible burials within proposed construction areas.

#### 4.4.2 Indirect Impacts

Indirect impacts can include the introduction of visual, atmospheric, or audible elements that diminish the integrity of a property's significant historic features. Often, indirect impacts affect cultural resources located outside of the immediate Study Area and frequently relate to a resource's overall integrity of setting, feeling, or association. Such impacts may include landscape alteration or changes in land use patterns, the introduction of air pollution, increased traffic, or changes in population density. Historic landscapes, buildings, structures, objects, and districts are common resources affected by indirect impacts.

#### 4.4.3 Mitigation

The preferred form of mitigation for impacts to cultural resources is avoidance. Alternative forms of mitigation for direct impacts can be developed for archeological and historical sites and properties through the implementation of an appropriate data recovery program. Indirect impacts to historically significant properties and landscapes can be lessened through careful design choices and landscaping considerations. In some situations, the relocation of historic structures may be another possible form of mitigation.

#### 4.4.4 Summary of Impact on Cultural Resources

The Study Area contains areas with a high probability of containing cultural resource sites; therefore, the proposed transmission line construction does have the potential to impact previously unrecorded cultural resource sites. To assess this potential, areas with a high probability for containing cultural resources (HPAs) were identified by a qualified archeologist along the Consensus Route. An HPA is an area considered to have a high potential for containing previously unrecorded cultural resources. When identifying HPAs, the topography and the availability of water and subsistence resources are taken into consideration, as well as the effects of geological processes on archeological deposits. Locations that are usually identified as HPAs for the occurrence of prehistoric sites include water crossings, stream confluences, drainages, alluvial terraces, wide floodplains, playa lakes, upland knolls, and areas where lithic or other subsistence resources could be found. Historic sites would be expected adjacent to historic roadways or railways and in areas where structures appear on historic-age maps. A detailed investigation of the Consensus Route was not performed by an archeologist. Therefore, some of the designated HPAs (as well as the direct and indirect impacts) may change if field archeologists conduct a visual reconnaissance or survey of the Consensus Route.

The results of the literature and records review indicated that no cultural resources sites or NRHP-listed or determined-eligible are crossed by the Consensus Route and that no cemeteries or NRHP-listed or determined-eligible are within 1,000 feet of the Consensus Route centerline. However, there are four cultural resource sites within 1,000 feet of the Consensus Route centerline (see **Table 4-4**). The Consensus Route crosses approximately 8,730 feet of HPA (see **Table 4-1**).

**Table 4-4: Archeological Sites Recorded Within 1,000 feet of Consensus Route Centerline**

| Site Trinomial[a] | Description | Eligibility Status | Distance from Centerline (feet)[b] |
|---|---|---|---|
| 41WB**** | Prehistoric; lithic scatter and campsite | Not eligible | 465 |
| 41WB**** | Prehistoric; lithic scatter and campsite | Undetermined | 170 |
| 41WB**** | Prehistoric; lithic scatter and campsite | Not eligible in ROW | 185 |
| 41WB**** | Prehistoric; lithic scatter and campsite | Not eligible in ROW | 160 |

Notes:

(a) Trinomial truncated to protect sensitive information.

(b) To protect their integrity, archeological sites are not shown on **Figures C-1 and C-2**.

# 5.0 LIST OF PREPARERS

This Environmental Assessment was prepared for AEP Texas by Halff. AEP Texas provided information in **Section 1.0**. Below is a list of Halff's employees with primary responsibilities for the preparation of this document.

**Table 5-1: List of Preparers**

| Responsibility | Name | Title |
|---|---|---|
| Project Manager | Jody Urbanovsky | Project Manager |
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| Map Name | Scale | Original Map | Revision |
|---|---|---|---|
| Becerra Creek | 1:62,500 | 1933 | 1956 |
| Laredo | 1:250,000 | 1956 | 1960 |
| Laredo | 1:250,000 | 1956 | 1968 |
| Laredo | 1:250,000 | 1956 | 1979 |
| Laredo | 1:24,000 | 1979 | 1980 |
| Laredo | 1:24,000 | 2010 | 2010 |
| Laredo | 1:24,000 | 2013 | 2013 |
| Laredo | 1:24,000 | 2016 | 2016 |
| Laredo | 1:24,000 | 2019 | 2019 |
| Laredo | 1:24,000 | 2022 | 2022 |

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# APPENDIX A - AGENCY CORRESPONDENCE

**AGENCY CORRESPONDENCE LETTER AND STUDY AREA MAP**

**FEDERAL, STATE AND LOCAL AGENCIES/OFFICIALS CONTACT LIST**

HALFF

October 11, 2024

Mr. / Ms. _________
Title
Agency / Office
Street Address
City, State, Zip Code

Re: Proposed Rio Bravo to Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project in Webb County, Texas

Dear Mr. / Ms. ________:

AEP Texas Inc. (AEP Texas) will be filing an application with the Public Utility Commission of Texas (PUC) to amend its Certificate of Convenience and Necessity (CCN) to construct a new 138-kilovolt (kV) double-circuit transmission line from the future Mangana Hein 138-kV Substation, located approximately 0.5 mile west of the intersection of State Highway Loop 20 and Mangana Hein Road south of the City of Laredo in Webb County, to one of multiple potential endpoints located along the existing Rio Bravo to Wormser Road 138-kV transmission line segment located approximately 2.5 miles to the east of the future Mangana Hein 138-kV Substation. Please refer to the attached map depicting the study area.

Halff Associates, Inc. (Halff) is preparing an Environmental Assessment (EA) and Alternative Route Analysis to support AEP Texas' CCN application. Halff is currently in the process of gathering data on the existing environment and identifying environmental and land use constraints within the project study area that will be used in the creation of an environmental, cultural, and land use constraints map. Halff will identify potential alternative routes between the described endpoints that consider environmental and land use constraints.

**Halff is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area.** Your comments will be an important consideration in the assessment of impacts. Upon certification for the proposed project, AEP Texas will determine the need for other approvals and/or permits. If your jurisdiction has approvals and/or permits that would apply to this project, please identify them in response to this inquiry. If permits are required from your office, AEP Texas will contact your office following PUC route approval.

Thank you for your assistance with this transmission line project. If you have any questions or require additional information, please contact me at (214) 346-6357. Electronic data may also be shared at jurbanovsky@halff.com.

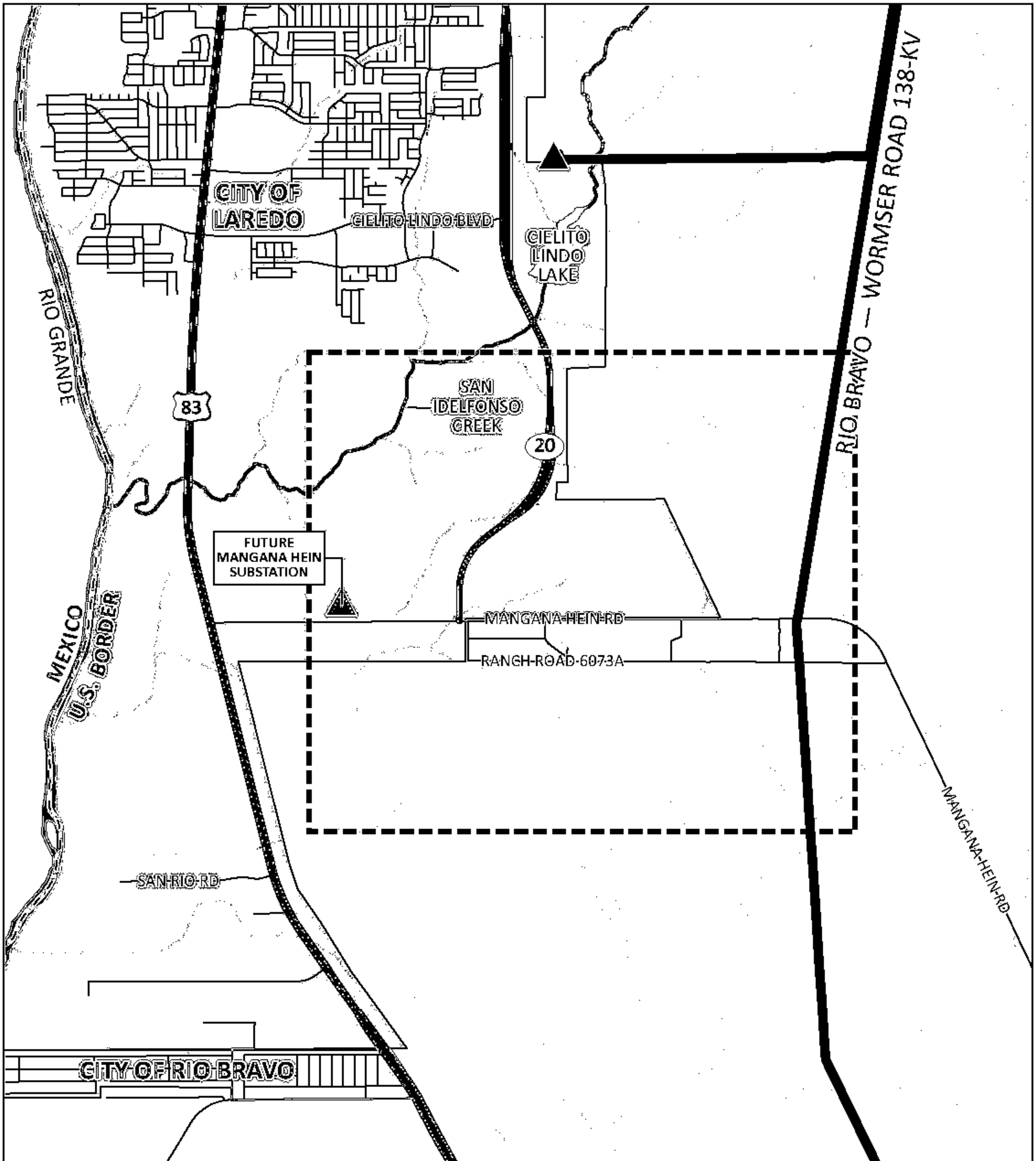
Your earliest reply will be appreciated.

Sincerely,
HALFF ASSOCIATES, INC.

Jody Urbanovsky

Mr. Jody Urbanovsky
Project Manager

Attachment – Study Area Map



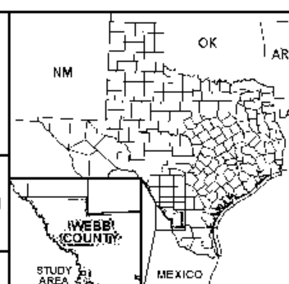

Legend

- AEP Future Substation
- AEP Existing Substation
- Existing Transmission Line
- Major Road
- Minor Road
- River
- Creek / Stream
- Waterbody
- Study Area
- U.S. Border
- City Boundary

Source: Texas Natural Resources Information System (TNRIS), 2024

Coordinate System: NAD 1983 StatePlane Texas South FIPS 4205 Feet
Datum: North American 1983

October 9, 2024




# Study Area Map

AEP TEXAS

Rio Bravo — Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project

0 0.25 0.5 0.75 1

Miles

**Rio Bravo to Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project in Webb County, Texas**

**Federal, State and Local Agencies/Officials Contact List**

## FEDERAL

Mr. Rob Lowe
Southwest Region Regional Administrator
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, Texas 76177

Mr. Tony Robinson
Region 6 Administrator
Federal Emergency Management Agency - Region VI
FRC 800 North Loop 288
Denton, Texas 76209

Mr. Mario Gomez, Program Manager
Laredo Field Office
International Boundary and Water Commission
(U.S. Section)
P-27 Fort McIntosh
Laredo, Texas 78040

Ms. Kate Hammond, Regional 6 Director
National Parks Service
12795 West Alameda Parkway
Denver, CO 80225

Ms. Jennifer Walker
Chief, Regulatory Division
U.S. Army Corps of Engineers Ft. Worth District
819 Taylor Street
Fort Worth, Texas 76102-00300

Mr. Joel Martinez, Chief Patrol Agent
Laredo Sector Texas
U.S. Customs and Border Protection
109 Shiloh Dr., Suite 300
Laredo, Texas 78045

Ms. Kristy Oates, State Conservationist
USDA - Natural Resources Conservation Service
101 South Main Street
Temple, Texas 76501

Military Aviation and Installation Assurance Siting Clearinghouse
U.S. Department of Defense
3400 Defense Pentagon, Room 5C646
Washington, DC 20301

Ms. Earthea Nance
Regional Administrator
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, Texas 75270

Texas Fish and Wildlife Conservation Office
U.S. Fish and Wildlife Service
4444 Corona Drive, Suite 215
Corpus Christi, Texas 78411

## STATE

Mr. Guillermo "Memo" Benavides, Chairman
Webb SWCD #337
Texas State Soil and Water Conservation Board
7209 E Saunders Street, Ste 7
Laredo, Texas 78041

Ms. Karen Sanchez, Program Specialist
Railroad Commission of Texas
P.O. Box 12967
Austin, Texas 78711

Mr. Juan Rodriguez, Executive Director
South Texas State Planning Region 19
South Texas Development Council
P.O. Box 2187
Laredo Texas, 78044

Ms. Arabela Baer, MA, RPA
Atlas Coordinator
Texas Archeological Research Laboratory
The University of Texas at Austin
1 University Station, R7500
Austin, Texas 78712

Jaime A. Garza
Region 16 Director
Texas Commission on Environmental Quality
707 E Calton Road, Ste 304
Laredo, Texas 78041

Mr. Dan Harmon
Aviation Division Director
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701

Mr. Doug Booher
Environmental Affairs Division Director
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701

Mr. Epigmenio "Epi" Gonzalez
Laredo District Engineer
Texas Department of Transportation
1817 Bob Bullock Loop
Laredo, Texas 78043

**Rio Bravo to Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project in Webb County, Texas**

**Federal, State and Local Agencies/Officials Contact List**

***STATE - CONTINUED***

Dr. Dawn Buckingham
Commissioner
Texas General Land Office
1700 North Congress Avenue
Austin, Texas 78701

Dr. Edward Lengel, Executive Director
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Mr. David Veale, District Leader
Texas Parks and Wildlife Department
P.O. Box 1151
Pleasanton, Texas 78064

Ms. Laura Zebehazy, Program Leader
Habitat Assessment Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Mr. Bryan McMath
Interim Executive Administrator
Texas Water Development Board
1700 North Congress Avenue
Austin, Texas 78701

Mr. William Alfaro
Manager, Team 6 – South Region
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

## LOCAL

The Honorable Victor D. Treviño
Mayor of Laredo
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Gilbert Gonzalez
Council Member, District I
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Ricardo R. Rangel, Jr.
Council Member, District II
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Melissa R. Cigarroa
Council Member, District III
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Alberto Torres, Jr.
Council Member, District IV
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Ruben Gutierrez, Jr.
Council Member, District V, Mayor Pro Tempore
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable David T. King
Council Member, District VI
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Vanessa Perez
Council Member, District VII
City of Laredo
1110 Houston Street
Laredo, Texas 78040

The Honorable Alyssa Cigarroa
Council Member, District VIII
City of Laredo
1110 Houston Street
Laredo, Texas 78040

Mr. Joseph Neeb
City Manager
City of Laredo
1110 Houston Street
Laredo, Texas 78040

Mr. Steve E. Landin
Assistant City Manager
City of Laredo
1111 Houston Street
Laredo, Texas 78040

Mr. Jose A. Valdez, Jr.
Assistant City Manager
City of Laredo
1111 Houston Street
Laredo, Texas 78040

***LOCAL - CONTINUED***

Ms. Vanessa Guerra
Interim Planning Director
Planning & Zoning Department
City of Laredo
1413 Houston Street
Laredo, Texas 78040

Dr. Gerardo Cruz
Superintendent
United Independent School District
201 Lindenwood
Laredo, Texas 78045

Mr. Jed Brown, Chairman
Webb County-City of Laredo Regional Mobility Authority
216 W Village Blvd, Suite 202
Laredo, Texas 78041

Mr. Tony Arce Jr.
Webb County Precinct 1
Webb County-City of Laredo Regional Mobility Authority
216 W Village Blvd, Suite 202
Laredo, Texas 78041

The Honorable Tano E. Tijerina
Webb County Judge
Webb County
1000 Houston Street
Laredo, Texas 78040

The Honorable Jesse Gonzalez
Precinct 1 Commissioner
Webb County Commissioners Court
1000 Houston Street
Laredo, Texas 78040

The Honorable Rosaura "Wawi" Tijerina
Precinct 2 Commissioner
Webb County Commissioners Court
1000 Houston Street
Laredo, Texas 78040

The Honorable John Galo
Precinct 3 Commissioner
Webb County Commissioners Court
1000 Houston Street
Laredo, Texas 78040

The Honorable Ricardo A. Jaime
Precinct 4 Commissioner
Webb County Commissioners Court
1000 Houston Street
Laredo, Texas 78040

# AGENCY RESPONSES

**From:** LOZANO, JUAN J <JUANJ.LOZANO@CBP.DHS.GOV>
**Sent:** Thursday, January 9, 2025 1:34 PM
**To:** Jody Urbanovsky
**Subject:** Re: Rio Bravo to Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project in Webb County, Texas

I appreciate the invite. I have been trying to spread the word yo as many people that will listen but in reality without seeing a list of the people and properties that will be affected I wouldn't know if my explanation is getting to the right ears . I think if you haven't already you should reach out to the county commissioner Gilbert Gonzalez as he has quite a following in that area .

Sent via the Samsung Galaxy S20 FE 5G, an AT&T 5G smartphone
Get Outlook for Android

---

**From:** Jody Urbanovsky <jurbanovsky@halff.com>
**Sent:** Thursday, January 9, 2025 8:56:40 AM
**To:** LOZANO, JUAN J <JUAN.J.LOZANO@CBP.DHS.GOV>
**Subject:** RE: Rio Bravo to Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project in Webb County, Texas

Good morning,
Attached is the information on the upcoming open house public meeting for this project. The meeting will be held on 1/23/2025 and I welcome you to attend.
Thanks,
Jody

**Jody Urbanovsky**
*Project Manager*

**Halff**
**O:** 214.346.6357
**E:** jurbanovsky@halff.com

**From:** Jody Urbanovsky <jurbanovsky@halff.com>
**Sent:** Friday, November 22, 2024 4:02 PM
**To:** Juan.J.Lozano@cbp.dhs.gov
**Subject:** Rio Bravo to Wormser Road 138-kV Station Cut-in to Mangana Hein 138-kV Substation Double-Circuit Transmission Line Project in Webb County, Texas

Juan,
Please see the attached formal letter and study area map for the transmission line project. This letter was sent to officials and local, state, and federal agencies at the beginning of the project to solicit information about the study area and get information about permits and necessary approvals. You can disregard that portion of the letter, unless you have specific knowledge of the study area that might affect a potential transmission line route. The first paragraph is a quick overview of the project.

As I mentioned on the phone, there will be a public meeting the evening of Jan. 9th, 2025, at La Presa Community Center where the potential routes will be displayed, and questions from the public can be addressed.

If you have any further questions, please feel free to contact me.
Thanks,
Jody

**Jody Urbanovsky**
*Project Manager*

**Halff**
**O:** 214.346.6357
**E:** jurbanovsky@halff.com

We improve lives and communities
by turning ideas into reality.

**From:** John Porter <jporter@ci.laredo.tx.us>
**Sent:** Tuesday, November 5, 2024 3:53 PM
**To:** Jody Urbanovsky
**Cc:** Vanessa Guerra
**Subject:** 138-KV Station
**Attachments:** DOC110524.pdf

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Mr. Urbanovsky,

Regarding your attached request. The City does not have any environmental information on this specific property. I believe this property is Zoned R-1 A. I am CC'ing the Planning Director on this email incase you have any Planning and Zoning questions.

Thank you,

John Porter, CFM, CPM, REM
Director of Environmental & Solid Waste Services City of Laredo Environmental & Solid Waste Services Department
619 Reynolds St.
Laredo, Texas 78040
Environmental: Ph.: 956-794-1653
Environmental: Fax: 956-727-7944
Solid Waste Office:
6912 TX-359
Laredo, Texas 78043
Solid Waste: Ph: 956-795-2510 ext. 3401

-----Original Message-----
From: City of Laredo EnvSccs <coltosh@ci.laredo.tx.us>
Sent: Tuesday, November 5, 2024 3:40 PM
To: John Porter <jporter@ci.laredo.tx.us>
Subject: Send data from MFP15733223 11/05/2024 15:40

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