

SPECIES ANALYSIS SUMMARY
Project Name: RM 620/Anderson Mill Road Intersection Project
CSJ(s): 0683-01-100 and 0683-02-079

County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Federal Status	Effect/Take Determination for Federally Listed Species	State Status	Impact Determination for State-Listed Species	Explanation for Effect/Take and/or Impact Determination	Presence/Absence survey conducted?
Travis	Amphibians	Austin Blind Salamander	<i>Eurycea waterlooensis</i>	The species is only known to occur at Barton Springs in Austin, Texas, and subterranean habitats of the Edwards Aquifer below the surface of Barton Springs. Its range is limited to south of the Colorado River, and it co-occurs with the Barton Springs salamander (<i>Eurycea sosorum</i>).	N	A review of the TCEQ Edwards Aquifer Viewer indicates the proposed project is not within the Barton Springs Segment of the Edwards Aquifer.	E	No effect or take	E	No impact	The project area is outside of the known range of this species.	N
Travis, Williamson	Amphibians	Barton Springs Salamander	<i>Eurycea sosorum</i>	The species is only known to occur at Barton Springs in Austin, Texas, and subterranean habitats in the Barton Springs Segment of the Edwards Aquifer. "Surface" habitat for the Barton Springs salamander refers to the spring pools and spring runs where the Barton Springs salamander is observed as opposed to its subsurface aquifer habitat. The Barton Springs salamander inhabits relatively stable aquatic environmental conditions. These conditions consist of perennially flowing spring water that is generally clear, clean, mostly neutral (pH about 7), and stenothermal (narrow temperature range) with an annual average temperature of about 70° to 72° F. Flows of clean spring water with a relatively constant, cool temperature are essential to maintaining the well-oxygenated water necessary for salamander respiration and survival. Dissolved oxygen concentrations average about 6 mg/l.	N	A review of the TCEQ Edwards Aquifer Viewer indicates the proposed project is not within the Barton Springs Segment of the Edwards Aquifer.	E	No effect or take	E	No impact	The project area is outside of the known range of this species.	N
Williamson	Amphibians	Georgetown Salamander	<i>Eurycea naufragia</i>	Occurs in surface springs and caves associated with drainages of the south, middle, and north forks of the San Gabriel River.	N	Surface springs and caves associated with the drainages of the south, middle, and north forks of the San Gabriel River do not occur within the project area.	T	No effect or take	T	No impact	The project area is outside of the known range of this species.	N

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Travis, Williamson	Amphibians	Jollyville Plateau Salamander	<i>Eurycea tonkawae</i>	Surface populations occur in springs of the Jollyville Plateau and springs of nearby Brushy Creek. Optimal habitat includes springs, spring-fed streams, and caves with flowing water.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within and adjacent to the project area. This species and its critical habitat have been documented to occur in the vicinity of the proposed project (USFWS 2019). Additionally, a small, spring-fed stream occurs within the proposed right of way near the southeastern project limits. A karst survey was conducted for the project and no additional springs or karst features were found; however, construction activities have the potential to encounter previously undetected water-filled voids during	T	May affect	T	May impact	Suitable habitat is present. Presence/absence surveys were to be conducted at the small, spring-fed stream that occurs within the proposed right of way near the southeastern project limits, but entry for surveys was denied. However, the area would be avoided and all work would take place in previously disturbed areas. A may affect, not likely to adversely affect call is being made for this species.	N
Williamson	Amphibians	Salado Salamander	<i>Eurycea chisholmensis</i>	The species is known from only two springs in the Salado Springs system within the Northern Segment of the Edwards Aquifer in Bell County, Texas where it inhabits spring outflows under rocks and leaves in gravel substrate.	N	A review of the TCEQ Edwards Aquifer Viewer indicates the proposed project is outside of the known range of this species.	T	No effect or take	T	No impact	The project area is outside of the known range of this species.	N
Travis, Williamson	Arachnids	Bee Creek Cave Harvestman	<i>Texella reddelli</i>	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from Tooth, Bee Creek, McDonald, Weldon, and Bone Caves, and possibly Root Cave, in Travis and Williamson Counties.	N	The East Cedar Park KFR underlies the project area. According to Veni and Jones (2021), this species is only reported from the Rollingwood KFR based on research conducted by Hedin and Derkarabetian (2020).	E	No effect or take	—	N/A	The project area is outside of the known range of this species.	N

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Travis, Williamson	Arachnids	Bone Cave Harvestman	<i>Texella reyesi</i>	A subterranean obligate, the species occurs in small isolated karstic features within the Edwards Limestone Formation. Sensitive to low humidity and temperature, it is found under large rocks in dark cool parts of caves. It is known from 203 different caves and six karst fauna regions in Travis and Williamson Counties.	Y	The project area is entirely within Karst Species Zone 1, areas known to contain endangered cave fauna as identified by Veni and Jones (2021). This species is known from the East Cedar Park KFR, which underlies the project area, and has been documented to occur within 1.5-miles of the proposed project by the TXNDD (EOID#s 7115 and 1078). A karst survey was conducted for the project and no karst features were found; however, construction activities have the potential to encounter previously undetected voids during excavation.	E	May affect	—	N/A	Suitable habitat is present.	Y
Travis	Arachnids	Tooth Cave Pseudoscorpion	<i>Tartarocreagris texana</i>	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from five caves in the Jollyville Plateau karst fauna Region in Travis County, including Tooth and Amber Caves.	Y	The East Cedar Park KFR underlies the project area. According to Veni and Jones (2021), this species is only reported from the Jollyville Plateau KFR, which is adjacent to the project area.	E	May affect	—	N/A	The project area is outside of the known range of this species; however, a may affect, not likely to adversely affect call is being made for this species due to the proximity of the Jollyville Plateau KFR to the project area.	N

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Travis, Williamson	Arachnids	Tooth Cave Spider	<i>Neoleptoneta myopica</i>	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known only from 13 caves in the Jollyville Plateau and McNeil/Round Rock karst fauna regions in Travis and Williamson counties.	Y	The project area is entirely within Karst Species Zone 1, areas known to contain endangered cave fauna as identified by Veni and Jones (2021). This species is known from the East Cedar Park KFR, which underlies the project area. A karst survey was conducted for the project and no karst features were found; however, construction activities have the potential to encounter previously undetected voids during excavation.	E	May affect	—	N/A	Suitable habitat is present.	N
Travis, Williamson	Birds	Black Rail	<i>Laterallus jamaicensis</i>	Black rails are year-round residents of the central and upper coast and migrants in the eastern part of the state. The species nests in salt, brackish, and freshwater marshes, pond borders, wet meadows, and wetlands with hydrophytic grass species. Water depth is an important and key habitat component, as the species typically is found where water is less than two to four centimeters deep. Other significant habitat factors may include vegetation density, distance to open water, and water regime stability. Nesting typically occurs in the highest sections of the marsh, which have mesic to hydric soils and are flooded by only the highest tides. Nests are built in areas with saturated or shallowly flooded soils and dense vegetation on damp ground, on mat of previous year's dead grasses, or over shallow water. In salt or brackish marshes, typical habitat includes dense stands of cordgrasses (<i>Spartina</i> sp.), spikegrasses (<i>Distichlis</i> sp.), and needlerush (<i>Juncus</i> sp.), or, in more upland saltbush communities along marsh edges. Typical freshwater habitat includes species such as cattail (<i>Typha</i>) and bulrush (<i>Scirpus</i> sp.). Non-breeding habitat is thought to be similar to breeding habitat.	N/A	In Texas, the Black Rail breeds and winters in high quality coastal marsh and prairie. The project area is outside the breeding and wintering ranges of this species. Suitable habitat for migratory Black Rails may be present; however, any use of that habitat would be incidental and ephemeral.	T	No effect or take	T	No impact	The project area does not contain suitable breeding or wintering habitat for the Black Rail. Any use of potential migratory stopover habitat within the project area would be incidental and ephemeral.	N

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Travis, Williamson	Birds	Golden-cheeked Warbler	<i>Setophaga (=Dendroica) chrysoparia</i>	This migratory species breeds in central Texas along the Balcones Escarpment on the eastern edge of the Edwards Plateau and ranges from southwest of Fort Worth to northeast of Del Rio. Breeding habitat consists of juniper-oak woodlands dominated by Ashe juniper (<i>Juniperus ashei</i>) and various oak (<i>Quercus</i> sp.) species and deciduous trees found in areas with steep slopes, canyon heads, draws, and adjacent ridgetops. The species is dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are generally placed in upright forks of mature Ashe junipers or various deciduous species. Occupied sites usually contain junipers at least 40 years old.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within and adjacent to the project area. Habitat of suitable vegetation species, structure and patch size for this species occurs within the proposed right of way near the southeastern project limits. Additionally, this species has been documented to occur within this area by the TXNDD (EOID# 5211).	E	No effect or take	E	No impact	TXNDD records for this species within the project area are over 20 years old. While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Birds	Least Tern - Migratory	<i>Sternula (=Sterna) antillarum</i>	The interior population (subspecies <i>athalassos</i>) of the Least Tern nests on bare or sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with inland rivers and reservoirs. It occasionally nests on man-made structures such as sand and gravel pits or gravel rooftops. Preferred habitat includes sand and gravel bars within a wide unobstructed river channel, or open flats along shorelines of lakes and reservoirs. Colony sites can move annually, depending on landscape disturbance and vegetation growth at established colonies. It is known to nest at three reservoirs along the Rio Grande River, on the Canadian River in the northern Panhandle, and along the Red River.	N/A	The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Least Tern is not expected to regularly occur and any use of this habitat would be incidental.	—	N/A	E	No impact	The project area does not contain suitable breeding or wintering habitat for the Least Tern.	N

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Travis, Williamson	Birds	Piping Plover - Migratory	<i>Charadrius melodus</i>	This migratory species overwinters in Texas, where it occurs on beaches, ephemeral sand flats, barrier islands, sand, mud, algal flats, washover passes, salt marshes, lagoons, and dunes along the Gulf Coast and adjacent offshore islands, including spoil islands in the Intracoastal Waterway. Algal flats appear to be the highest quality habitat because of their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low or very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Piping Plover only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Piping Plover is not expected to regularly occur and any use of this habitat would be incidental.	T	No effect or Take	T	No impact	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the Piping Plover.	N
Travis, Williamson	Birds	Red Knot - Migratory	<i>Calidris canutus rufa</i>	The species is a winter resident and migrant in Texas. It is primarily found in marine habitats such as sandy beaches, salt marshes, lagoons, mudflats of estuaries and bays, and mangrove swamps during winter months. It primarily occurs along the Gulf coast on tidal flats and beaches and less frequently in marshes and flooded fields. It has occasionally been observed along shorelines of large lakes and freshwater marshes.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Red Knot only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Red Knot is not expected to regularly occur and any use of this habitat would be incidental.	T	No effect or Take	T	No impact	The project is not a wind energy project within the migratory route and does not contain suitable breeding and wintering habitat for the Red Knot.	N

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Travis, Williamson	Birds	Swallow-tailed Kite	<i>Elanoides forficatus</i>	This migratory species breeds in the South Central Plains of east Texas and throughout the southeastern U.S. In Texas, breeding habitat occurs between sea level and 230 meters in elevation in bottomland forests, cypress swamps, pine glades, and freshwater marshes skirting large lakes. It nests near the tops of trees that are higher than the surrounding stand, often near a clearing or the edge of a forest or woodland. It prefers to nest in pines, but occasionally uses species such as bald cypress (<i>Taxodium distichum</i>), water oak (<i>Quercus nigra</i>), or cottonwood (<i>Populus deltoides</i>).	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. No bottomland forest, cypress swamps, pine glades, or freshwater marshes were observed.	—	N/A	T	No impact	No suitable habitat is present.	N
Travis, Williamson	Birds	White-faced Ibis	<i>Plegadis chihi</i>	The species is found in the Western Gulf Coastal Plains ecoregion of Texas. Preferred habitat includes freshwater wetlands, marshes, ponds, rivers, irrigated land, and sloughs, but it occasionally forages in brackish or saltwater marshes. It nests in marshes in low trees, on the ground in bulrushes (<i>Scirpus</i> sp.) or reeds, or on floating mats.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. This species could occur as a potential migrant through the project area, but any use would be considered temporary.	—	N/A	T	No impact	No suitable habitat is present.	N
Travis, Williamson	Birds	Whooping Crane	<i>Grus americana</i>	The species breeds in Canada and winters on the Texas coast at Aransas National Wildlife Refuge. During migration it typically stops to rest and feed in open bottomlands of large rivers and marshes but, like other waterbirds, it may also utilize flooded croplands, playas, large wetlands associated with lakes, small ponds, and various other aquatic features. Typical migration habitat includes sites with good horizontal visibility, water depth of 30 centimeters or less, and minimum wetland size of 0.04 hectare for roosting.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area such as large wetlands or ponds with a water depth of 30 cm or less. While this species utilizes a variety of habitats during migration, Whooping Cranes prefer isolated areas away from human disturbance (Campbell 2003) and are not expected to occur within or adjacent to the project area.	E	No effect or take	E	No impact	No suitable habitat is present.	N

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Travis, Williamson	Birds	Wood Stork	<i>Mycteria americana</i>	The species breeds in Mexico, and nesting sites have not been recorded in Texas since 1960. However, post-breeding migrants disperse into Texas in the summer. Foraging habitat includes freshwater prairie ponds, flooded pastures or fields, ditches, and other shallow standing water with an open canopy, occasionally including brackish wetlands. The species typically roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries).	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. Shallow standing water with an open canopy doesn't occur within the project area.	—	N/A	T	No impact	No suitable habitat is present.	N
Travis, Williamson	Birds	Zone-tailed Hawk	<i>Buteo albonotatus</i>	The species occurs in arid open country, especially open deciduous or pine-oak woodland, mesa and mountain country, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains. It nests in a variety of sites including small trees in lower desert, giant cottonwoods in riparian areas, and mature conifers in high mountain regions. Nests are typically constructed in large trees like cottonwoods (<i>Populus deltoides</i>), usually along streams near cliffs or steep hillsides.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. No wooded canyons or mountain slopes occur in the project area and no large trees such as cottonwoods, preferred by this species for nesting, were observed.	—	N/A	T	No impact	No suitable habitat is present.	N
Travis	Fishes	Smalleye Shiner	<i>Notropis buccula</i>	The species is likely extirpated from the lower and middle portions of the Brazos River, currently known only from the upper Brazos River above Possum Kingdom Reservoir. The species is common in river channels and side channels with water of moderate depth and current. It is typically found in broad channels with high turbidity and constant shifting sand substrate, or occasionally silt substrate. It is most frequently found using the center of the channel, avoiding the shallow depth and slow velocity of the stream edges.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. One small, spring-fed stream occurs within the proposed right of way near the southeastern project limits but does not provide suitable stream habitat for this species.	E	No effect or take	E	No impact	No suitable habitat is present.	N

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Travis, Williamson	Insects	Monarch Butterfly	<i>Danaus plexippus</i>	Found statewide. Adults are found in a variety of habitats including native prairies, pastures, open woodlands and savannas, desert scrub, roadsides, and other habitats with abundant nectar plants, including urbanized areas. Although adults may be present year round, they are primarily encountered between March and November, and are most commonly observed in the summer and fall during breeding and migration. Caterpillars are found on various species of the family Asclepiadaceae (occasionally treated as a subfamily of Apocynaceae). Common host plants in Texas include milkweeds (<i>Asclepias</i> spp.) milkweed vines (<i>Matelea</i> spp.), climbing milkweed (<i>Funastrum</i> spp.), swallowworts (<i>Cynanchum</i> spp.) and Anglepod (<i>Gonolobus suberosus</i>). Caterpillars are most frequently observed between April and September."	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within and adjacent to the project area. Suitable host plants for this species could occur within the project area's grasslands.	C	May affect	—	N/A	The project may affect the monarch butterfly; however, the monarch is currently a candidate species and no consultation with USFWS is required at this time. As construction activities for this project are not anticipated to be completed prior to Fiscal Year 2024, when a listing decision for the species is anticipated, additional coordination may be required. The project should be reevaluated at that time to determine if further action is required if the species becomes proposed for federal listing.	N
Williamson	Insects	Coffin Cave Mold Beetle	<i>Batrissodes texanus</i>	A subterranean obligate, the species inhabits karstic formations within Williamson County. All records of occurrence have been found under piles of rock in complete darkness. The species is known from 24 caves in the Georgetown and North Williamson County karst fauna Regions.	N	This species is not known from the East Cedar Park KFR, which underlies the project area (Veni and Jones 2021).	E	No effect or take	—	N/A	The project area is outside of the known range of this species.	N
Travis, Williamson	Insects	Kretschmarr Cave Mold Beetle	<i>Texamauropus reddelli</i>	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from nine caves in the Jollyville Plateau karst fauna Region in Travis and Williamson Counties, including Kretschmarr, Amber, Tooth and Coffin Caves.	Y	The East Cedar Park KFR underlies the project area. According to Veni and Jones (2021), this species is only reported from the Jollyville Plateau KFR, which is adjacent to the project area.	E	May affect	—	N/A	The project area is outside of the known range of this species; however, a may affect, not likely to adversely affect call is being made for this species due to the proximity of the Jollyville Plateau KFR to the project area.	N

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Travis, Williamson	Insects	Tooth Cave Ground Beetle	<i>Rhadine persephone</i>	This subterranean obligate species inhabits karstic features within the Edwards Limestone Formation. It is known from 61 caves in the Cedar Park and Jollyville Plateau karst fauna Regions in Travis County, including Tooth and Kretschmarr Caves.	Y	The project area is entirely within Karst Species Zone 1, areas known to contain endangered cave fauna as identified by Veni and Jones (2021). This species is known from the East Cedar Park KFR, which underlies the project area. A karst survey was conducted for the project and no karst features were found; however, construction activities have the potential to encounter previously undetected voids during excavation.	E	May affect	—	N/A	Suitable habitat is present.	N
Williamson	Mollusks	Brazos Heelsplitter	<i>Potamilus streckersoni</i>	This species of freshwater mussel was recently discovered to be an independent species. It is currently only known to occur in the Brazos River north of the impoundments of Lake Granbury and Lake Whitney, as well as north of Possum Kingdom Reservoir.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. One small, spring-fed stream occurs within the proposed right of way near the southeastern project limits but does not provide suitable stream habitat for this species.	—	N/A	T	No impact	No suitable habitat is present.	N

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Travis, Williamson	Mollusks	False Spike	<i>Fusconaia (=Quadrula) mitchelli</i>	Freshwater mussel currently known from the Colorado and Brazos River basins. The species occurs in small to medium-sized streams and rivers with various substrates including mud and mixtures of sand, gravel, and cobble. It is often found in riffle and pool habitats, and host species include the red (<i>Cyprinella lutrensis</i>) and blacktail shiner (<i>C. venusta</i>).	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. One small, spring-fed stream occurs within the proposed right of way near the southeastern project limits but does not provide suitable stream habitat for this species.	PE	No effect or take	T	No impact	No suitable habitat is present.	N
Travis, Williamson	Mollusks	Texas Fatmucket	<i>Lampsilis bracteata</i>	A freshwater mussel endemic to streams and small rivers of the Texas Hill Country, the species occurs in moderately flowing waters generally less than 1 meter in depth. It can occur in sand or gravel substrates, but typically occurs in soft silt deposits in bank or pool habitats or cracks in bedrock. It inhabits microhabitats among large cobble, boulders, bedrock ledges, horizontal cracks in bedrock slabs, and macrophyte beds. It has been reported inhabiting roots of cypress trees and other vegetation along steep banks. It is intolerant to impoundment and absent from backwater, mid-channel, and riffle habitats.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. One small, spring-fed stream occurs within the proposed right of way near the southeastern project limits but does not provide suitable stream habitat for this species.	PE	No effect or take	T	No impact	No suitable habitat is present.	N
Travis, Williamson	Mollusks	Texas Fawnsfoot	<i>Truncilla macrodon</i>	A freshwater mussel that is currently limited to the Brazos, Colorado, and Trinity River basins in Texas. The species occupies large streams to medium rivers and is intolerant of impoundment. Little is known about the species due to lack of representative specimens, however it is thought that the species prefers protected areas near shore in water with a moderate current over mud, sandy mud, and gravel substrates. It is also found in perennial irrigation canals for rice.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. One small, spring-fed stream occurs within the proposed right of way near the southeastern project limits but does not provide suitable stream habitat for this species.	PT	No effect or take	T	No impact	No suitable habitat is present.	N

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Travis, Williamson	Mollusks	Texas Pimpleback	<i>Cyclonaias (Quadrula) petrina</i>	A freshwater mussel endemic to the middle and lower portions of the Colorado River basin in Texas. The species inhabits medium to large rivers with shallow water and slow to moderate currents. It occurs in gravel-filled cracks in bedrock and microhabitats and on mud, sand, gravel, and cobble substrates. It is intolerant to extremely soft substrates, shifting sands, scoured bottoms, and impoundments.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. One small, spring-fed stream occurs within the proposed right of way near the southeastern project limits but does not provide suitable stream habitat for this species.	PE	No effect or take	T	No impact	No suitable habitat is present.	N
Travis, Williamson	Plants	Bracted Twistflower	<i>Streptanthus bracteatus</i>	The species is found in south-central Texas. It is an annual; endemic to the Edwards Plateau where it is occurs on shallow, well-drained gravelly clays and clay loams over limestone, within oak-juniper woodland and associated openings, on steep to moderate slopes, and in canyon bottoms. Often found amid dense shrub growth where there is some protection from browsing.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within and adjacent to the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable soils over limestone within oak-juniper woodlands occur within the proposed right of way near the southeastern project limits.	PT	No effect or harm	—	N/A	Suitable habitat is present; however, this area would be avoided and all work would take place in previously disturbed areas. Additionally, a survey was conducted in April 2022 and this species was not detected.	Y
Travis, Williamson	Reptiles	Texas Horned Lizard	<i>Phrynosoma cornutum</i>	The species is found in semi-arid open areas with scattered vegetation comprised of bunchgrass, cacti, yucca, mesquite, acacia, juniper, or other woody shrubs and small trees commonly found in loose sandy or loamy soils.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within or adjacent to the project area. Semi-arid open areas with bunchgrass and woody shrubs do not occur within the project area.	—	N/A	T	No impact	No suitable habitat is present.	N

Prepared Date: 10/11/2022

SPECIES ANALYSIS SUMMARY (SGCN)
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Travis	Crustaceans	Balcones Cave amphipod	<i>Stygobromus balconis</i>	Subaquatic, subterranean obligate amphipod.	Y	A karst survey was conducted for the project and no karst features were found; however, construction activities have the potential to encounter previously undetected water-filled voids during excavation.	May impact	Suitable habitat is present.	N
Travis	Insects	A caddisfly	<i>Neotrichia juani</i>	Specimens were collected from perennial and ephemeral rivers, and small spring-fed streams.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Wetlands and a small, spring-fed stream occur in the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Williamson	Insects	A mayfly	<i>Proclleon distinctum</i>	Mayflies are distinguished by aquatic larval stage. The adult stage is typically found in shoreline vegetation.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Wetlands and a small, spring-fed stream occur in the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Williamson	Insects	A mayfly	<i>Pseudocentropioides morihari</i>	Mayflies are distinguished by aquatic larval stage. The adult stage is typically found in shoreline vegetation.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Wetlands and a small, spring-fed stream occur in the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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 Project Name: RM 620/Anderson Mill Road Intersection Project
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County	Taxon	Common Name	Scientific Name	Habitat	Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Impact Determination for SGCNs	Explanation for Impact Determination	Presence/ Absence survey conducted?
Travis, Williamson	Mammals	Big brown bat	<i>Eptesicus fuscus</i>	Found in any wooded areas or woodlands except south Texas. Can be found in riparian areas in west Texas.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Potentially suitable wooded areas/woodland habitat occurs within the project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable roosting habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Mammals	Big free-tailed bat	<i>Nyctinomops macrotis</i>	Habitat data for this species is sparse but records indicate that this species prefers to roost in crevices and cracks in high canyon walls but will use buildings as well. Females gather in nursery colonies and give birth to a single offspring in late June to early July. Winter habitats for this species are undetermined but they may hibernate in the Trans-Pecos. Opportunistic insectivore.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Old buildings occur within the project area.	May impact	Suitable roosting habitat is present. To avoid or minimize impacts to this species, Bat BMPs would be implemented.	N
Travis, Williamson	Mammals	Cave myotis bat	<i>Myotis velifer</i>	Colonial and cave-dwelling, this species also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (<i>Hirundo pyrrhonota</i>) nests in clusters of up to thousands of individuals. This species hibernates in limestone caves of the Edwards Plateau and gypsum caves of the Panhandle during the winter. Opportunistic insectivore.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Old buildings occur within the project area.	May impact	Suitable roosting habitat is present. To avoid or minimize impacts to this species, Bat BMPs would be implemented.	N
Travis, Williamson	Mammals	Eastern red bat	<i>Lasiurus borealis</i>	Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Woodlands occur within the project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable roosting habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Mammals	Eastern spotted skunk	<i>Spilogale putorius</i>	This species is catholic and is associated with open fields and prairies, croplands, fence rows, farmyards, forest edges, and woodlands. Prefers wooded, brushy areas and tallgrass prairies. Ssp. interrupta is found in wooded areas and tallgrass prairies but prefers rocky canyons and outcrops when such sites are available.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Woodlands occur within the project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis, Williamson	Mammals	Hoary bat	<i>Lasiurus cinereus</i>	Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Woodlands occur within the project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable roosting habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Mammals	Long-tailed weasel	<i>Mustela frenata</i>	Found in brushlands, fence rows, uplands woods and bottomland hardwoods, forest edges and rocky desert scrub. Usually live close to water.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Woodland habitat close to water occurs within the project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Mammals	Western hog-nosed skunk	<i>Conepatus leuconotus</i>	Habitats include woodlands, grasslands and deserts, to 7200 feet. Most common in rugged, rocky canyon country; little is known about the habitat of the ssp. <i>texmalestes</i> .	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Woodlands occur within the project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Reptiles	Eastern box turtle	<i>Terrapene carolina</i>	Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enter pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Potential habitat, including woodlands and wetlands, occurs within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis, Williamson	Reptiles	Texas garter snake	<i>Thamnophis sirtalis annectens</i>	Terrestrial and aquatic: Habitats used include grasslands and modified open areas in the vicinity of aquatic features such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical for this species.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within or adjacent to the project area. Wetlands and debris for cover occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Buckley tridens	<i>Tridens buckleyanus</i>	Occurs in juniper-oak woodlands on rocky limestone slopes. Perennial, flowering/fruiting April-November.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Juniper-oak woodlands on rocky limestone slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Canyon mock-orange	<i>Philadelphus texensis var. ernestii</i>	Usually found growing from honeycomb pits on outcrops of Cretaceous limestone exposed as rimrock along mesic canyons, usually in the shade of mixed evergreen-deciduous canyon woodland. Flowering April-June, fruit dehiscing September-October.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Suitable honeycomb limestone outcrops within a mixed evergreen-deciduous woodland habitat occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Correll's false dragon-head	<i>Physostegia correllii</i>	Occurs in wet, silty clay loams on streambanks and in creek beds, irrigation channels, and roadside drainage ditches. Also found in seepy, mucky, sometimes gravelly soils along riverbanks or small islands in the Rio Grande or underlain by Austin Chalk limestone along gently flowing spring-fed creeks in central Texas. Flowering May-September.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of the soil survey for Travis and Williamson counties indicate that wet, silty clay loams within and adjacent to a small, spring-fed stream occur in the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis	Plants	Glandular gay-feather	<i>Liatris glandulosa</i>	Occurs in herbaceous vegetation on limestone outcrops.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that herbaceous vegetation on limestone outcrops occurs within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Glass Mountains coral-root	<i>Hexalectris nitida</i>	Apparently rare in mixed woodlands in canyons on the mountains of Brewster County, but encountered regularly, albeit in small numbers, under <i>Juniperus ashei</i> in woodlands over limestone on the Edwards Plateau, Callahan Divide, and Lampasas Cut Plain. Perennial, flowering June-September and fruiting July-September.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. <i>Juniperus ashei</i> woodland habitat over limestone on the Edwards Plateau occurs within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis, Williamson	Plants	Heller's marbleseed	<i>Onosmodium helleri</i>	Occurs in loamy, calcareous soils in oak-juniper woodlands on rocky limestone slopes, often in more mesic portions of canyons. Perennial; flowering March-May.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that oak-juniper woodlands on rocky limestone slopes with loamy, calcareous soils occur within the proposed right of way near the southeastern project limits. Additionally, this species has been documented to occur within the immediate vicinity of the proposed project by the TXNDD (EOD#s 5655, 5124, 2826, 2811).	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Low spurge	<i>Euphorbia peplidion</i>	Occurs in a variety of vernal-moist situations in a number of natural regions. Annual, flowering February-April and fruiting March-April.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Wetlands and a small, spring-fed stream occur in the proposed right of way near the southeastern project limits.	No impact	Suitable habitat is present; however, these areas would be avoided during construction activities.	N
Travis	Plants	Narrowleaf brickellbush	<i>Brickellia eupatorioides</i> var. <i>gracillima</i>	Found in moist to dry, gravelly alluvial soils along riverbanks but also on limestone slopes. Perennial, flowering/fruiting April-November.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Moist to dry limestone slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis, Williamson	Plants	Plateau milkvine	<i>Matelea edwardsensis</i>	Occurs in various types of juniper-oak and oak-juniper woodlands. Perennial, flowering March-October and fruiting May-June.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Suitable juniper-oak and oak-juniper woodland habitat occurs within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Rock grape	<i>Vitis rupestris</i>	Occurs on rocky limestone slopes and in streambeds. Perennial; flowering March-May and fruiting May-July.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Rocky limestone slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis, Williamson	Plants	Scarlet leather-flower	<i>Clematis texensis</i>	Usually found in oak-juniper woodlands in mesic rocky limestone canyons or along perennial streams. Perennial, flowering March-July and fruiting May-July.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Oak-juniper woodlands and a small, spring-fed stream with limestone slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Spreading lestdaisy	<i>Chaetopappa effusa</i>	Found in oak-juniper, oak, or mixed deciduous woods on limestone cliffs, ledges, bluffs, steep hillsides and sometimes in seepy areas at 300-500 meters in elevation. Perennial, flowering May and July-October.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Oak-juniper woodlands and a small, spring-fed stream with limestone slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis	Plants	Sycamore-leaf snowbell	<i>Styrax platanifolius</i> ssp. <i>platanifolius</i>	Rare throughout its range, this species usually occurs in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture. Perennial, flowering April-May and fruiting May-August.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Oak-juniper woodlands and a small, spring-fed stream with steep slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Texabama croton	<i>Croton alabamensis</i> var. <i>texasensis</i>	Texas endemic; occurs in duff-colored, loamy clay soils on rocky slopes in forested, mesic limestone canyons. Locally abundant in deeper soils on small terraces in canyon bottoms, often forming large colonies and dominating the shrub layer. Scattered individuals occasionally occur on the margins of such forests. This species is also found in contrasting habitat of deep, friable soils of limestone uplands, mostly in the shade of evergreen woodland mottes. Flowers late February-March with fruit maturing and dehiscent by early June.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable soils and woodland habitat for this species occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Texas amorpha	<i>Amorpha roemeriana</i>	Found in juniper-oak woodlands or shrublands on rocky limestone slopes and sometimes on dry shelves above creeks. Perennial, flowering May-June and fruiting June-October.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable juniper-oak woodlands and rocky limestone slopes occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis	Plants	Texas barberry	<i>Berberis swaseyi</i>	Associated with shallow calcareous, stony clay of upland grasslands/shrublands over limestone as well as in loamier soils in openly wooded canyons and on creek terraces. Perennial, flowering/ fruiting March-June.	N	A site visit conducted on May 14, 2020 identified no potential habitat for this species within the project area. Upland grasslands/shrublands and openly wooded canyons do not occur within the project area.	No impact	No suitable habitat is present.	N
Travis	Plants	Texas fescue	<i>Festuca versuta</i>	Occurs in mesic woodlands on limestone-derived soils on stream terraces and canyon slopes. Perennial, flowering/fruiting April-June.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable mesic woodlands on limestone-derived soils occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Texas milk vetch	<i>Astragalus reflexus</i>	Occurs on grasslands, prairies, and roadsides in calcareous and clay substrates. Annual; flowering February-June and fruiting April-June.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable grassland and roadside habitat on calcareous and clay substrates occurs within the project area.	May impact	Suitable habitat is present. To avoid or minimize impacts to this species, if and where appropriate, Rare Plant BMPs would be implemented.	N

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Travis	Plants	Texas seymeria	<i>Seymeria texana</i>	Found primarily in grassy openings in juniper-oak woodlands on dry slopes but sometimes on rock outcrops in shaded canyons. Annual, flowering May-November and fruiting July-November.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that grassy openings in juniper-oak woodland on dry slopes and rock outcrops occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Tree dodder	<i>Cuscuta exaltata</i>	Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants. Annual, flowering May-October and fruiting July-October.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Suitable host plants for this species occur within the proposed project area, particularly within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N
Travis	Plants	Turnip-root scurfpea	<i>Pediomelum cyphocalyx</i>	Found in grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable grassy openings in juniper-oak woodland habitat on limestone substrates occur within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

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Travis	Plants	Warnock's coral-root	<i>Hexalectris warnockii</i>	Found in leaf litter and humus in oak-juniper woodlands on shaded slopes and intermittent, rocky creekbeds in canyons. In the Trans Pecos, this species is found in oak-pinyon-juniper woodlands in higher mesic canyons (to 2000 meters [6550 feet]). In Terrell County, this species is found under <i>Quercus fusiformis</i> mottes on terraces of spring-fed perennial streams, draining an otherwise xeric limestone landscape. On the Callahan Divide (Taylor County), the White Rock Escarpment (Dallas County), and the Edwards Plateau, this species occurs in oak-juniper woodlands on limestone slopes, while in Gillespie County, this species occurs on igneous substrates of the Llano Uplift. Flowers June-September, though individual plants do not usually bloom in successive years.	Y	A site visit conducted on May 14, 2020 identified potential habitat for this species within the project area. Field investigations and a review of USGS Geologic Map Sheets and the soil survey for Travis and Williamson counties indicate that suitable leaf litter and humus in oak-juniper woodlands on limestone slopes occurs within the proposed right of way near the southeastern project limits.	No impact	While suitable habitat is present, this area would be avoided and all work would take place in previously disturbed areas.	N

References:

Campbell, L. 2003. Endangered and Threatened Animals of Texas: Their Life History and Management. Texas Parks and Wildlife Department, Endangered Resources Branch.

eBird. 2021. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available at <http://www.ebird.org>. Accessed June 28, 2021.

Hibbitts, T. D. and T. J. Hibbitts. 2015. Texas lizards. University of Texas Press. Austin, Texas.

Hibbitts, Troy D. and T.L. Hibbitts. 2016. Texas Turtles and Crocodilians: A Field Guide. University of Texas Press, Austin, Texas.

iNaturalist.org. 2021. iNaturalist Research-grade Observations. Occurrence dataset <https://doi.org/10.15468/ab3s5x> accessed via GBIF.org on June 28, 2021.

NatureServe. 2021. NatureServe Explorer 2.0. Available at <https://explorer.natureserve.org/>. Accessed June 28, 2021.

Texas Commission on Environmental Quality (TCEQ). 2021. Surface Water Quality Viewer. Available at <https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=b0ab6bac411a49189106064b70bbe778>. Accessed July 2, 2021.

Tipton, B. L., T. L. Hibbitts., T. D. Hibbitts., T. J. Hibbitts., and T. J. Laduc. 2012. Texas amphibians. University of Texas Press. Austin, Texas.

Schmidly, David J. and R.D. Bradley. 2016. The mammals of Texas (online edition). Available at <https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/>. Accessed October 26, 2020.

U.S. Department of Agriculture (USDA)-Natural Resource Soil Conservation Service (NRCS). 2021. Web Soil Survey. Available at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed June 28, 2021.

U.S. Fish and Wildlife Service (USFWS) 2019. Travis and Williamson Counties Karst Zones and Salamander Critical Habitat Mapper. https://www.fws.gov/southwest/es/AustinTexas/Maps_Data.html. Accessed June 30, 2021.