

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

Governor's Office of Planning & Research

May 24 2023

May 24, 2023

STATE CLEARING HOUSE

Javier Almaguer
District 6 Environmental Division
California Department of Transportation
2015 East Shields Avenue, Suite 100
Fresno, California 93726

Subject: State Route 99 Tulare City Widening Project (Project)

Draft Environmental Impact Report/Environmental Assessment

(DEIR/EA)

SCH No.: 2021040498

Dear Javier Almaguer:

The California Department of Fish and Wildlife (CDFW) received a DEIR/EA for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife resources. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish and Game Code, section 711.7, subdivision (a) and section 1802; California Public Resources Code, section 21070; CEQA Guidelines, section 15386, subdivision (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of

¹ CEQA is codified in the California Public Resources Code, section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

those species (Fish and Game Code section 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (California Public Resources Code, section 21069; CEQA Guidelines, section 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish and Game Code section 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish and Game Code section 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

In this role, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (i.e., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

Water Pollution: Pursuant to Fish and Game Code section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without appropriate mitigation measures, implementation of the Project could result in pollution of Waters of the State from storm water runoff or construction-related erosion. Potential impacts to the wildlife resources that utilize these watercourses include the following: increased sediment input from road or structure runoff; toxic runoff associated with development activities and implementation; and/or impairment of wildlife movement along riparian corridors. The Regional Water Quality Control Board and United States Army Corps of Engineers also have jurisdiction regarding discharge and pollution to Waters of the State.

Bird Protection: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Unlisted Species: Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened (E, R, or T) on any State or Federal list to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E,

R, or T, as specified in the CEQA Guidelines, section 15380, CDFW recommends it be fully considered in the environmental analysis for the Project.

PROJECT DESCRIPTION SUMMARY

Proponent: California Department of Transportation (Caltrans)

Objective: Caltrans, in cooperation with the Tulare County Association of Governments, proposes to widen State Route (SR) 99 in the City of Tulare from just south of the Avenue 200 Overcrossing to just north of the Prosperity Avenue Overcrossing, between post miles 25.2 and 30.6. One lane would be built in each direction in the existing freeway median to create a six-lane freeway, divided by a concrete median barrier for about 5.4 miles. In addition, the existing Paige Avenue Interchange would be rebuilt. One build alternative and a no-build alternative are under consideration. The build alternative has three design options for the Paige Avenue Interchange: a three-roundabout configuration with a Paige Avenue overcrossing bridge; four-roundabout configuration with a Paige Avenue overcrossing bridge; and a four-roundabout configuration with a Paige Avenue undercrossing bridge. Each option has a variation of realigning the Tulare Canal or installing box culverts at locations where the highway crosses the canal, creating two new drainage basins and installing new sound walls and 8-foot-high security fencing on SR 99.

Location: The Project involves a 5.4-mile-long segment of SR 99 between postmiles 25.2 and 30.6, within the City of Tulare, Tulare County.

Timeframe: The Project is currently scheduled to begin construction in 2027 and would open to the public in 2030. The Project would take 400 working days to complete, including approximately 150 nights of construction work.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist Caltrans in adequately identifying the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document. A Recommended Mitigation Monitoring and Reporting Program is attached (Attachment 1).

CDFW submitted comments to Caltrans on the Notice of Preparation on May 14, 2021 that indicated that CDFW was concerned regarding potential impacts to the following special-status species: State threatened Swainson's hawk (*Buteo swainsoni*), the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*), and the State species of special concern burrowing owl (*Athene cunicularia*). CDFW is also concerned about potential project impacts to bats, including the following special status species: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus*)

townsendii), spotted bat (*Euderma maculatum*), and western mastiff bat (*Eumops perotis californicus*).

I. Environmental Setting and Related Impact

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?

COMMENT 1: Swainson's Hawk (SWHA)

Issue: SWHA are known to nest in the vicinity of the project area which contains and adjoins both nesting and foraging habitat for the species. CNDDB has several records of nesting in the region, including a nest location within one mile of the south end of the Project (CDFW 2023). Swainson's hawk are known to nest and forage in agricultural areas which occur in the southern portion of the project area. The DEIR/EA identified that the project area contains potentially suitable nesting and foraging habitat for SWHA and identified avoidance and minimization measures to conduct pre-construction surveys and establish 500-foot buffers around active nests. However, the proposed avoidance buffer is not as broad as the half-mile buffer typically recommended by CDFW and the DEIR/EA did not address the need for mitigation if nest trees are removed. SWHA nest in lone trees in agricultural fields or pastures, roadside trees adjacent to suitable foraging habitat, or within riparian trees (CDFW 2016). Because project activities will involve a level of disturbance that is greater than standard traffic and agricultural activities in the region, CDFW considers it possible that the project activities would represent a novel stimulus which could result in nest abandonment if they occur within half-mile of an active SWHA nest. If nesting in or near the project area, project activities have the potential to result in nest abandonment or loss of foraging habitat, significantly impacting local nesting SWHA.

Recommended Avoidance, Minimization, and/or Mitigation Measures for SWHA:

Due to the potential that SHWA will be found nesting on or near the project area and likelihood that project activities will be required during the nesting season, CDFW recommends that Caltrans consult with CDFW regarding the acquisition of an ITP for SWHA, pursuant to Fish and Game Code section 2081 subdivision (b). CDFW advises that a qualified biologist conduct protocol surveys for SWHA following the entire survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) in the survey season immediately prior to project implementation. If project activities will take place during the nesting season (March 1 to September 15), and active nests are identified, CDFW recommends that a minimum half-mile no-disturbance buffer be delineated and maintained around each

nest. The no-disturbance buffer should be maintained until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, to prevent nest abandonment and other take of SWHA due to project activities. If an active SWHA nest is detected, and a no-disturbance buffer is not feasible, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA.

As mitigation, CDFW recommends that the removal of known SWHA nest trees, even outside of the nesting season, be replaced with an appropriate native tree species at a ratio of 3:1 at or near the project area or in another area that will be protected in perpetuity. This mitigation would offset the local and temporal impacts of nesting habitat loss. Additionally, CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG 1994) to reduce impacts to foraging habitat to less than significant. The Staff Report recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites. CDFW has the following recommendations based on the Staff Report:

- For projects within 1 mile of an active nest tree, a minimum of 1 acre of habitat management (HM) land for each acre of development.
- For projects within 5 miles of an active nest but greater than 1 mile, a minimum of 3/4 acre of HM land for each acre of development.
- For projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree, a minimum of ½ acre of HM land for each acre of development.

COMMENT 2: San Joaquin Kit Fox (SJKF)

Issue: The DEIR/EA concluded that SJKF are not expected to occur within the project area due to presumed poor habitat conditions and low prey base. However, SJKF historically occurred within the City of Tulare, and are currently known to occur in other highly developed urban areas in the San Joaquin Valley (CDFW 2023). Although SJKF are not currently known to occur in this portion of Tulare County, SJKF population sizes are known to fluctuate over time, and absence in any one year does not necessarily indicate a negative finding. In addition to native habitats, SJKF are also known to den in right of ways, vacant lots, parks, landscaped areas, golf courses, oil fields, etc. SJKF may be attracted to the Project site due to the type and level of ground disturbing activities and the loose, friable soils resulting from intensive ground disturbance. Further, SJKF are more active at night, and night work has been proposed for this Project. While habitat loss resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013), impacts to the species can occur due to construction activities near denning individuals, and individuals being attracted to ground disturbance. If

present within or near the project area, project activities have the potential to significantly impact local SJKF populations.

Roadways and development may increase population fragmentation, reduce survival by impeding movement to refugia habitat (i.e., disperse to adjacent habitat, locate food sources) or reproductive habitat (i.e., breeding habitat), and impede recolonization of potential habitat (Haddad et al. 2015). Limiting movement and passage of species can lead to the reduction of genetic fitness in populations making them more vulnerable to changing or extreme conditions, the inability for populations to recolonize habitat after disturbance events (e.g. fires, floods, droughts), the loss of resident wildlife populations by altered community structure (e.g. species composition, distribution), and/or partial or complete loss of populations of migrant species due to blocked access to critical habitats (Haddad et al. 2015; Nicholson et al. 2006). CDFW considers that expansion of SR 99 without improving wildlife passage may represent a significant impact to SJKF or other wildlife. Increasing or preserving the current barrier without a wildlife movement analysis limits the opportunity that this project has to design structures that allow for improved habitat connectivity.

Recommended Avoidance, Minimization, and/or Mitigation Measures for SJKF:

CDFW advises that a qualified biologist conduct pre-activity clearance surveys using transects, to detect SJKF dens within the project area and a 250-foot buffer of the project area within 30 days prior to project implementation. CDFW recommends implementing no-disturbance buffers, as described in the protocol by the U. S. Fish and Wildlife Service, "Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011) around potentially suitable or known SJKF den sites, summarized in the table below. If the no-disturbance buffers outlined in the USFWS protocol for SJKF are not feasible, CDFW recommends that consultation with CDFW occur to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the issuance of an ITP, pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.

| Den Type | Buffer (feet) | Protective Measure | |
|---------------|------------------------|------------------------|--|
| Potential | 50 | No-disturbance markers | |
| Atypical | 50 | No-disturbance markers | |
| Known | 100 | Exclusionary fencing | |
| Natal/Pupping | Contact USFWS and CDFW | | |

COMMENT 3: Burrowing Owl (BUOW)

Issue: The DEIR/EA did not include an assessment of potential presence of, or potential impacts on BUOW. The project area is within the known range of BUOW and based on review of aerial imagery, BUOW has the potential to occur within or adjacent to the project area. BUOW inhabit open grassland or adjacent canal banks, rights-of-ways, vacant lots, containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover (Gervais et al. 2008). BUOW rely on burrow habitat year-round for their survival and reproduction.

Habitat loss and degradation are considered the greatest threats to BUOW in California (Gervais et al. 2008). Potentially significant direct impacts associated with project activities include burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals. In addition, and as described in CDFW's "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA. Construction activities near active burrows could result in potentially significant impacts to nesting or overwintering owls.

Recommended Avoidance, Minimization, and/or Mitigation Measures for BUOW:

CDFW recommends that a qualified biologist assess if suitable BUOW habitat features are present within or adjacent to the Project site (e.g., burrows). If suitable habitat features are present, CDFW recommends assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's "Burrowing Owl Survey Protocol and Mitigation Guidelines" (CBOC 1993) and CDFW's Staff Report on Burrowing Owl Mitigation" (CDFG 2012). Specifically, CBOC and CDFW's Staff Report suggest three or more surveillance surveys conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable. CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

| Location | Time of Year | Level of Disturbance and Recommended Buffers (meters) | | |
|---------------|----------------|-------------------------------------------------------|--------|------|
| | | Low | Medium | High |
| Nesting sites | April 1-Aug 15 | 200 | 500 | 500 |
| Nesting sites | Aug 16-Oct 15 | 200 | 200 | 500 |
| Nesting sites | Oct 16-Mar 31 | 50 | 100 | 500 |

COMMENT 4: Special Status Bats

Issue: The DEIR/EA did not provide an assessment of potential impacts to special status or other bats and suitable roosting habitat is present for bats within and near the project area. Pallid, Townsend's big-eared, spotted and western red bats may roost in a variety of natural and man-made habitats that are present in the project area, including trees, cliffs, and man-made structures such as buildings, bridges and culverts. Bats are particularly more likely to utilize man-made structures even near busy highways and urban areas when natural habitat is limited, such as in the project area. Without appropriate avoidance and minimization measures for bats, project activities may result in potentially significant impacts to roosting or maternal bats, including potential inadvertent entrapment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals.

Recommended Avoidance, Minimization, and/or Mitigation Measures for Bats:

CDFW advises that a qualified biologist conduct focused surveys for bats and potential roosting habitat within 400 feet of the project area prior to project activities. Avoidance whenever possible is encouraged via delineation and observance of no-disturbance buffers according to activity and species, as recommended in Table 7-1 of "Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions" (H. T. Harvey & Associates 2021), ranging from 100 feet to 400 feet. If roosting bats are observed on the project area and buffer areas, CDFW recommends that Caltrans stop work in the buffer area and coordinate with CDFW for site-specific impact minimization recommendations. To mitigate for potential project impacts on bats, CDFW encourages Caltrans to incorporate bat habitat into the Project design.

II. Editorial Comments and/or Suggestions

CDFW requests that the EIR/EA fully identify potential impacts to biological resources, including the above-mentioned species. To adequately assess any potential impacts to biological resources, focused biological surveys should be conducted by qualified wildlife biologists/botanists during the appropriate survey period(s) for each species to determine whether any special-status species and/or suitable habitat features may be present within the project area. Properly conducted biological surveys, and the

information assembled from them, are essential to identify any mitigation, minimization, and avoidance measures and/or the need for additional or protocol level surveys, and to identify any project-related impacts under CESA and other species of concern. CDFW recommends the EIR/EA address potential impacts to these species and provide measurable mitigation measures that, as needed, will reduce impacts to less than significant levels. Information on survey and monitoring protocols for sensitive species can be found at CDFW's website

(https://www.wildlife.ca.gov/Conservation/SurveyProtocols).

Nesting birds: CDFW encourages that project implementation occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February 1 through September 15), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the project area to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist counsel and support any variance from these buffers and notify CDFW in advance of implementing a variance.

Federally Listed Species: CDFW recommends coordinating with the USFWS on potential impacts to federally listed species including, but not limited to vernal pool fairy shrimp (*Branchinecta lynchi*) and SJKF. Take under the federal Endangered Species

Act (ESA) is more broadly defined than CESA; take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting/denning. CDFW advises consulting with the USFWS well in advance of any ground-disturbing activities.

Cumulative Impacts: CDFW recommends that a cumulative impact analysis be conducted for all biological resources that will either be significantly or potentially significantly impacted by implementation of the Project, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining health and will be impacted by the Project, even if those impacts are relatively small (i.e., less than significant). Cumulative impacts are recommended to be analyzed using an acceptable methodology to evaluate the impacts of past, present, and reasonably foreseeable future projects on resources and be focused specifically on the resource, not the Project. An appropriate resource study area would need to be identified and mapped for each resource being analyzed and utilized for this analysis. CDFW staff is available for consultation in support of cumulative impacts analyses as a trustee and responsible agency under CEQA.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Public Resources Code, section 21003, subdivision (e)). Accordingly, please report any special-status species and natural communities detected during project surveys to CNDDB. The CNDDB field survey form can be found at the following link:

https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address:

<u>CNDDB@wildlife.ca.gov</u>. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required for the underlying Project approval to be operative, vested, and final (California Code of Regulations, Title 14, section 753.5; Fish and Game Code, section 711.4; Public Resources Code, section 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the Project to assist Caltrans in identifying and mitigating the project's impacts on biological resources.

If you have any questions, please contact Mindy Trask, Senior Environmental Scientist (Specialist), at the address provided on this letterhead, by telephone at (559) 939-0282, or by electronic mail at mary.trask@wildlife.ca.gov.

Sincerely,

Docusigned by:

Sarah Paulson

E9964E60293D40A...

^{For} Julie A. Vance Regional Manager

Attachment 1: Recommended Mitigation Monitoring and Reporting Program (MMRP)

REFERENCES

- California Burrowing Owl Consortium (CBOC). 1993. Burrowing owl survey protocol and mitigation guidelines. April 1993.
- CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game. March 7, 2012.
- California Department of Fish and Game (CDFG). 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California. California Department of Fish and Wildlife.
- CDFW. 2023. Biogeographic Information and Observation System, Version 6 (BIOS 6). https://www.wildlife.ca.gov/Data/BIOS (accessed May 22, 2023).
- Cypher et al. 2013. Cypher, B. L., S. E. Phillips, P. A. Kelly, 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. Canid Biology and Conservation 16(7): 25–31.
- Gervais, J.A., D.D. Rosenberg, and L.A. Comrack. Burrowing Owl (*Athene cunicularia*) in Shuford, W.D. and T. Gardali, editors. 2008. *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern.* In: California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento, California, USA.
- Haddad, N. M., Brudvig, L. A., Clobert, J., Davies, K. F., Gonzalez, A., Holt, R. D., & Lovejoy, T. E. (2015). Habitat fragmentation and its lasting impact on Earth's ecosystems. Science Advances, 1, e1500052. https://doi.org/10.1126/sciadv.1500052 (accessed April 12, 2023).
- H. T. Harvey & Associates. 2021. Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions. Prepared for California Department of Transportation, Sacramento, CA. Updated October 2021. 212 pp.
- Nicholson, E., Westphal, M. I., Frank, K., Rochester, W. A., Pressey, R. L., Lindenmayer, D. B., & Possingham, H. P. (2006). A new method for conservation planning for the persistence of multiple species. Ecology Letters, 9, 1049–1060.
- Swainson's Hawk Technical Advisory Committee (SWHA TAC), 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley of California. Swainson's Hawk Technical Advisory Committee. May 31, 2000.

United States Fish and Wildlife Service (USFWS). 2011. Standard recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance. United States Fish and Wildlife Service. January 2011.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

PROJECT: State Route 99 Tulare City Widening Project

CDFW provides the following measures be incorporated into the MMRP for the Project:

| RECOMMENDED MITIGATION MEASURE | STATUS/ DATE/ INITIALS | | | |
|----------------------------------------------------------------------|------------------------------|--|--|--|
| Before Disturbing Soil or Vegetation | | | | |
| Potential Swainson's Hawk (SWHA) Section 2081 Incidental Take Permit | | | | |
| SWHA Surveys | | | | |
| SAN Joaquin kit fox (SJKF) surveys | | | | |
| Potential SJKF Section 2081 Incidental Take Permit | | | | |
| Burrowing Owl (BUOW) Surveys | | | | |
| Bat surveys | | | | |
| Incorporate Bat Habitat into the Project Design | | | | |
| During Construction | | | | |
| SWHA Avoidance | | | | |
| SJKF Avoidance | | | | |
| BUOW Avoidance | | | | |
| Bat Avoidance | | | | |