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June 19, 2020

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Friant Water Authority
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Subject: Friant-Kern Canal Middle Reach Capacity Correction Project (Project)
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)
State Clearinghouse No.: 2019120007

Dear Mr. DeFlitch:

The California Department of Fish and Wildlife (CDFW) received an Notice of Availability of a DEIR for a joint Environmental Impact Statement / Environmental Impact Report (EIS/EIR) from Friant Water Authority, which is the Lead Agency for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1] The United States Bureau of Reclamation is Lead Agency for the Project pursuant to the National Environmental Policy Act (NEPA).

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. 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 the 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 & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (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 those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public

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

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 (Pub. Resources Code, § 21069; CEQA Guidelines, § 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 & G. Code, § 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 & G. Code, § 2050 *et seq*.), related authorization as provided by the Fish and Game Code will be required.

PROJECT DESCRIPTION SUMMARY

Proponent: Friant Water Authority (Authority) and United States Bureau of Reclamation (Bureau).

Objective: The Friant-Kern Canal (FKC) Middle Reach, an approximately 33-mile section of the FKC beginning near Strathmore, has lost over 50 percent of its original design capacity due in large part to regional land subsidence. The primary goal for the Project is to restore the original design capacity of the Middle Reach of the FKC.

The Project objectives are as follows:

- Restore capacity to original design levels that meet the water supply delivery requirements of the Central Valley Project contracts of long-term contractors

- Restore capacity to convey water for the short-term conveyance of flood flows or non-Central Valley Project water as well as provide potential surface water supplies for other users through exchanges and transfers

- Facilitate accommodation of potential future reductions in conveyance capacity caused by continued subsidence following Project implementation

- Restore capacity to the maximum extent using the original gravity conveyance design that avoids reliance on additional mechanical facilities and increased energy demands

Proposed Project: The proposed Project consists of components that would both enlarge and replace the existing canal within an approximate 33-mile reach of the FKC. Enlargements to about 10 miles of the existing canal would occur at the northernmost and southernmost portions of the Project area by raising and widening the banks. Enlarging the canal would be accomplished by removing the uppermost extent of the

existing concrete lining and, at the level of the demolished lining, excavating a horizontal bench approximately 14 feet wide on each embankment for a total of 28 feet wide into the existing grade and constructing new and wider upper embankments that would receive new concrete linings. Existing delivery turnouts would be maintained, to accommodate continued use of existing water conveyance facilities.

The proposed Project also includes an approximate 23-mile realigned canal that would be constructed east of the existing canal from Mile Post (MP) 95.7 to MP 119. The realigned canal would accommodate a conveyance capacity of between 3,500 and 4,000 cubic feet per second (cfs). Once the realigned canal is constructed, most of the existing canal in that location would be abandoned in place. New turnouts, consisting of new cast-in-place concrete structures and delivery piping, would be constructed as needed along the realigned canal. Small portions of the existing canal (approximately 100 to 200 feet) would be left in place to create a pool upstream of existing pump stations, allowing water to be delivered from the realigned canal to a controlled water level in the pool, thereby minimizing or avoiding impacts to existing pumps and distribution systems. Approximately 530 acres of new right-of-way would be required to accommodate the proposed Project.

The proposed Project would also require removal and replacement of the existing check structures, wasteways, and siphons at Deer Creek and White River. Control buildings and associated electrical, mechanical, and controls equipment at the Deer Creek and White River facilities would also be replaced with new equipment, as required. Where the realigned canal crosses roads that currently cross the FKC via existing bridges, the road crossing over the realigned canal would be provided in the form of a new concrete box siphon. Once the realigned canal is built and put into service at each road crossing, the existing bridge would be removed and replaced with embankment material constructed to grade through the abandoned FKC. Borrow material would be obtained from excavated material from the FKC embankments and from borrow sites at predetermined locations. A concrete batch plant would be located along the Project alignment for construction of the concrete lining in the enlarged and realigned canal. In addition to the road crossing, existing utility crossings would be removed, modified, or replaced to accommodate the needs of the utilities and the realigned canal system. The proposed Project would require modification, relocation, abandonment, and/or removal of existing privately held facilities on lands adjacent to the canal and within the new alignment. Impacted privately held facilities may include, but are not limited to, wells, irrigation systems, farm roads, miscellaneous structures, power lines, and other structures.

Location: The proposed Project alignment is located within 2,600 acres along the FKC (from MP 88.2 to MP 121.5) and adjacent lands, between the communities of Lindsey and Porterville in Tulare and Kern Counties.

Timeframe: The construction of the Project would take up to three years and would be continuous.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the Authority in adequately identifying and/or mitigating 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.

The DEIR prepared for the Project indicates that the Project area has the potential to support several sensitive biological resources. The Project therefore has the potential to impact these resources. CDFW recognizes that the DEIR outlines mitigation measures to reduce impacts to biological resources; however, CDFW is concerned that, as currently drafted, these measures may not be adequate to reduce impacts to a level that is less than significant. CDFW is concerned regarding adequacy of mitigation measures for the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*), the State threatened Swainson's hawk (*Buteo swainsoni*), the federally endangered Kern mallow (*Eremalche parryi kernensis*) and San Joaquin woollythreads (*Monolopia congdonii*), the State threatened and fully protected Bald eagle (*Haliaeetus leucocephalus*), the State fully protected golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*), the California rare plant rank 1B.2 recurved larkspur (*Delphinium recurvatum*), and the State species of special concern American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), and western spadefoot (*Spea hammondii*) (CDFW 2020).

Vegetation communities and habitats observed in the Project vicinity during reconnaissance surveys for EA/IS-18-057 includes non-native annual grassland, California buckwheat scrub, allscale saltbush scrub, Fremont cottonwood forest, mulefat thickets, red willow thickets, shining willow groves, smartweed-cocklebur patches, valley oak woodland, irrigated row crops, vineyards, orchards and field crops, ruderal disturbed areas, and barren unvegetated areas including levee roads. Aquatic features in and near the Project area include the FKC, Lake Woollomes, intermittent streams (i.e., Tule River, Deer Creek, Porter Slough, and White River) and associated riparian habitat and freshwater emergent wetlands, groundwater recharge basins, detention basins, agricultural ditches and canals, and agricultural ponds.

Please note that the CNDDB is populated by and records voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDB but where there is suitable habitat and features capable of supporting species. Therefore, a lack of an occurrence record in the CNDDB is not tantamount to a negative species finding. In order to adequately assess any potential Project related impacts to

biological resources, surveys conducted by a qualified wildlife biologist/botanist during the appropriate survey period(s) and using the appropriate protocol survey methodology are warranted in order to determine whether or not any special-status species are present at or near the Project area.

CDFW recommends that the following modifications and/or edits be incorporated into the EIS/EIR.

I. Mitigation Measure or Alternative and Related Impact Shortcoming

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: San Joaquin Kit Fox (SJKF)

Appendix B2 Environmental Commitments BIO-1l.5 (page B2-1) / Mitigation Measures Bio-1l.1 through Bio-1l.5 (pages B2-11 – B2-13)

Issue: SJKF occurrences have been historically documented within the Project area (CDFW 2020). The DEIR acknowledges the potential to temporarily disturb and permanently alter suitable habitat for special status species including SJKF, and directly impact individuals if present during construction activities.

SJKF den in rights-of-way, agricultural and fallow/ruderal habitat, dry stream channels, canal levees, etc., and populations can fluctuate over time. SJKF are also capable of occupying urban environments (Cypher and Frost 1999). SJKF may be attracted to project areas due to the type and level of ground-disturbing activities and the loose, friable soils resulting from intensive ground disturbance. SJKF will forage in fallow and agricultural fields and utilize streams and canals as dispersal corridors. As a result, there is potential for SJKF to occupy all suitable habitat within the Project boundary and surrounding area.

BIO-1l.1 discusses the use of pedestrian inventories and preconstruction monitoring for potential and active SJKF dens. The protocol methodology for these surveys is not cited by the DEIR.

BIO-1l.2 through BIO-1l.4 and BIO-1l.5 discuss SJKF den excavation and artificial den construction, with artificial den construction coordinated among USFWS, Bureau, and Authority. Such activity may warrant obtaining an Incidental Take Permit (ITP) pursuant to Fish and Game Code section 2081(b); the DEIR does not specify consultation with CDFW regarding these activities.

Specific impact: Without appropriate avoidance and minimization measures for SJKF, potential significant impacts associated with construction include habitat loss, den collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals.

Evidence impact is potentially significant: Habitat loss resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013). Tulare and Kern Counties support relatively large areas of high suitability habitat and one of the largest remaining populations of SJKF (Cypher et al. 2013). The Project area is within and bordered by this remaining highly suitable habitat, which is otherwise intensively managed for agriculture. Therefore, subsequent ground-disturbing activities have the potential to significantly impact local SJKF populations.

Recommended Potentially Feasible Mitigation Measure(s)
To evaluate potential impacts to SJKF associated with subsequent land conversion, ground disturbance and construction, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures.

Recommended Mitigation Measure 1: SJKF Habitat Assessment

For all Project-specific components including construction and land conversion, CDFW recommends that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for SJKF.

Recommended Mitigation Measure 2: SJKF Surveys, Avoidance, and Minimization

CDFW recommends assessing presence/absence of SJKF by having qualified biologists conducting surveys of Project areas and a 500-foot buffer of Project areas to detect SJKF and their sign. CDFW also recommends following the USFWS "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (2011), including no-disturbance buffers maintained around burrows suitable for SJKF use that are found during surveys.

Recommended Mitigation Measure 3: SJKF Take Authorization

SJKF detection warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081 subdivision (b).

COMMENT 2: Swainson's Hawk (SWHA) and White-Tailed Kite (WTKI)

Appendix B2 Environmental Considerations / Mitigation Measures Bio-1e.1 through Bio-1e.4 (Pages B2-8 – B2-9)

Issue: Mitigation Measure BIO-1e.1 specifies that if construction occurs between February 1 and August 31, surveys for SWHA and WTKI shall be conducted within a minimum ¼-mile radius around the construction area. Minimum 500-foot no-disturbance buffers will be established and monitored by a qualified biologist until the young have fledged and are no longer reliant on the nest or parental care.

Mitigation Measure BIO-1e.2 specifies that if a minimum 500-foot no-disturbance buffer around active SWHA nests is not practicable then CDFW will be contacted to determine alternative measures to minimize nest abandonment or other forms of take including continuous biological monitoring and work stoppage if the nesting pair shows signs of distress resulting from Project-related activities.

The DEIR analysis does not provide a biological basis of a ¼-mile survey radius for SWHA nests or how a no-disturbance buffer of 500 feet was determined adequate to avoid significant impacts, including but not limited to take ("take" defined pursuant to Fish & G. Code section 86) of individuals through nest failure or other means, as a result of Project implementation.

Issue: Mitigation Measures BIO-1e.2 and BIO-1e.3 specify that if trees suitable for nesting by SWHA are scheduled for removal during the non-nesting season, a qualified biologist will conduct a pre-construction survey during the nesting season prior to tree removal to determine if SWHA are using the trees for nesting. If trees scheduled for removal are being used by nesting SWHA, consultation with CDFW will occur to determine if take cannot be avoided. If take cannot be avoided, then an ITP will be obtained from CDFW prior to initiation of any activities likely to result in such take.

BIO-1e.3 states if an active WTKI nest is present, then all activities that are likely to result in take will be delayed until a qualified biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for survival.

Specific impact: The DEIR states SWHA and WTKI are known to the Project area and have the potential to nest in riparian habitat and other mature trees located within the Project site and within ½ mile of the Project. In addition, suitable foraging habitat for these species exists within the vicinity of the Project site; annual grassland, alfalfa or grain fields, and livestock pasture that may be used for foraging is present in the Project vicinity. Without appropriate avoidance and minimization measures for SWHA and WTKI, potential significant impacts include nest

abandonment and reduced reproductive success that includes mortality of young, and reduced health and vigor of eggs and/or young.

Evidence impact is potentially significant: The trees and riparian habitat within the Project area represent some of the only remaining suitable nesting habitat in the local vicinity. Depending on the timing of construction, activities including noise, vibration, and movement of workers or equipment could affect nests and have the potential to result in nest abandonment, significantly impacting local nesting SWHA. In addition, agricultural cropping patterns can directly influence distribution and abundance of SWHA. For example, SWHA can forage in grasslands, pasture, hay crops, and low growing irrigated crops; however, other agricultural crops such as orchards and vineyards are incompatible with SWHA foraging (Estep 2009, Swolgaard et al. 2008).

In the San Joaquin Valley, suitable nest trees may be a limiting factor for SWHA occupation and reproduction. As a result, loss of suitable nest trees, particularly in proximity to foraging habitat, has the potential to significantly impact local SWHA (CDFW 2016). CDFW considers removal of known bird-of-prey nest trees, even outside of the nesting season, a potentially significant impact under CEQA, and, in the case of SWHA, it could also result in take under CESA. Project activities near the nest that differ from baseline disturbance regimes in type, timing, and/or magnitude can affect adults caring for eggs and young in the nest, and can affect nestling behavior. Project activities including noise, vibration, odors, visual disturbance, and movement of workers or equipment could affect nesting individuals and have the potential to result in nest abandonment or reduced nesting success, significantly impacting local nesting SWHA and WTKI.

Recommended Potentially Feasible Mitigation Measures:
To evaluate potential Project-related impacts to SWHA, CDFW recommends conducting the following evaluation of the Project site and including the following measures in the DEIR.

Recommended Mitigation Measure 4: SWHA and WTKI Avoidance

In addition to avoiding occupied nest trees, CDFW recommends that impacts to known nest trees be avoided at all times of year. The removal of mature trees is a potentially significant impact to nesting birds of prey and CDFW advises mitigation of these impacts. As described above, removal of known nest trees is a potentially significant impact under CEQA and could also result in take under CESA. This is especially true with species such as SWHA, which exhibit high nest-site fidelity year after year. Regardless of nesting status, if potential or known SWHA and WTKI nesting trees are removed, CDFW recommends they be replaced with an appropriate native tree species, planted at a ratio of 3:1 (replaced to removed), in an

area that will be protected in perpetuity. This mitigation will offset potential impacts of the loss of potential nesting habitat.

Recommended Mitigation Measure 5: Focused SWHA and WTKI Surveys

To reduce potential Project-related impacts to SWHA and WTKI, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting birds of prey, including SWHA and WTKI, following the survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) prior to Project initiation, within the Project area and a ½-mile buffer around the Project area. In addition, if Project activities will take place during the typical breeding season (February 1 through September 15), CDFW recommends that additional preconstruction surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of construction.

Recommended Mitigation Measure 6: SWHA and WTKI Buffers

If an active SWHA or WTKI nest is found during preconstruction surveys, CDFW recommends implementing a minimum ½-mile no-disturbance buffer 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 site or parental care for survival.

Recommended Mitigation Measure 7: SWHA Take Authorization

If a ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted, and acquisition of a State ITP for SWHA may be necessary prior to project implementation, to avoid unauthorized take, pursuant to Fish and Game Code section 2081 subdivision (b).

Pursuant to Fish and Game Code section 3511, CDFW cannot authorize incidental take of WTKI. Therefore, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer around identified WTKI nest(s) 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.

COMMENT 3: Special-Status Plants

Appendix B2 Environmental Considerations / Mitigation Measures Bio-1a.1 through Bio-1a.4 (Pages B2-3 – B2-4)

Appendix F of the DEIR, Biological Resource Assessment, Botanical Survey Report

Issue: Special-status plants meeting the definition of rare or endangered under CEQA § 15380 are known to occur in the vicinity of the Project. The San Joaquin woollythreads, and recurved larkspur have been documented within the Project area.

Mitigation Measure BIO-1a.1 requires one late-season botanical survey prior to construction to coincide with special status late blooming species. Mitigation Measure BIO-1a.2 requires two botanical surveys (early and late season) to be conducted if more than five years lapse after the March 2020 botanical survey before ground disturbance takes place.

Botanical surveys were conducted in March 2020. Except for Kern mallow, special status plant species were not observed or not identifiable to species level at reference sites, to ensure that the timing of botanical field surveys was appropriate. Drought, predation, and other adverse conditions may preclude the presence or identification of special status plants in any given year, and additional botanical field surveys may be necessary on an annual basis to substantiate negative findings. Grassland communities that are composed of mainly annual and short-lived perennial plants may also require yearly surveys to accurately document baseline conditions for the purpose of impact assessment (CDFW 2018).

Specific impact: Without appropriate avoidance and minimization measures for special-status plants, potential significant impacts associated with subsequent Project-related activities include loss of habitat, loss of reduction of productivity, and direct mortality.

Evidence impact would be significant: Kern mallow, San Joaquin woollythreads, and recurved larkspur are threatened by grazing and agricultural, urban, and energy development. Many historical occurrences of these species are presumed extirpated (California Native Plant Society 2020). Though new populations have recently been discovered, impacts to existing populations have the potential to significantly impact populations of plant species.

Recommended Potentially Feasible Mitigation Measure(s)
To evaluate potential impacts to special-status plants associated with subsequent development, CDFW recommends conducting the following evaluation of Project areas and implementing the following mitigation measures.

Recommended Mitigation Measure 8: Special-Status Plant Surveys

CDFW recommends that individual Project sites be surveyed for special-status plants by a qualified botanist following the “Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities”

(CDFW 2018). This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period.

Recommended Mitigation Measure 9: Special-Status Plant Avoidance

CDFW recommends that special-status plant species be avoided whenever possible by delineating and observing a no-disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then consultation with CDFW may be warranted to determine appropriate minimization and mitigation measures for impacts to special-status plant species.

Recommended Mitigation Measure 10: Special-Status Plant Take Authorization

If a State-listed plant species is identified during botanical surveys, consultation with CDFW is warranted to determine if the Project can avoid take. If take cannot be avoided, take authorization would be warranted. Take authorization would occur through issuance of an ITP by CDFW, pursuant to Fish and Game Code section 2081 subdivision (b).

COMMENT 4: <u>Golden Eagle (GOEA) and Bald Eagle (BAEA)</u>

Appendix B2 Environmental Considerations / Mitigation Measures Bio-1e.1 through Bio-1e.4 (Pages B2-8 – B2-9)

Issue: Nesting GOEA and overwintering BAEA have the potential to occur in the Project area and its vicinity, including the Tule River and Deer Creek corridors.

Mitigation Measure BIO-1e.1 specifies that if construction occurs between February 1 and August 31, surveys for GOEA shall be conducted within a minimum 0.25-mile radius around the construction area. The measure also states that minimum 500-foot no-disturbance buffers will be established and monitored by a qualified biologist until the young have fledged and are no longer reliant on the nest or parental care.

Mitigation Measure BIO-1e.2 states that if a minimum 500-foot no-disturbance buffer around active GOEA nests is not practicable then CDFW will be contacted to determine alternative measures to minimize nest abandonment or other forms of take including continuous biological monitoring and work stoppage if the nesting pair shows signs of distress resulting from Project-related activities.

The DEIR analysis does provide the basis of the proposed survey radius of 0.25 mile and no-disturbance buffer size of 500-feet as being adequate to avoid significant impacts, including but not limited to take (Fish & G. Code § 86), as a result of Project implementation.

Appendix F of the DEIR, Biological Resource Assessment, Table 4, page 29

Issue: Table 4 lists BAEA as not potential for nesting but that the project area is within the wintering range for the species. Table 4 states that BAEA breeds and winters in riparian woodland with large trees, often old growth or open canopy, and typically nests near large bodies of permanent water or perennially flowing rivers with abundant fish. Suitable overwintering habitat exists for BAEA within the Project area. The DEIR does not include survey methodology or mitigation measures to avoid impacts to overwintering or roosting BAEA.

Specific impact: Without appropriate avoidance and minimization measures, potentially significant impacts associated with the Project's construction include loss of foraging and/or nesting habitat, nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Evidence impact would be significant: Without appropriate survey methods, eagles nesting in the vicinity of a project can remain undetected resulting in avoidance and minimization measures not being effectively implemented (American Eagle Research Institute 2010). In addition, human activity near nest sites can cause reduced provisioning rates of GOEA chicks by adults (Steidl et al. 1993 *in* Kochert et al. 2002). Depending on the timing of construction, Project activities including noise, vibration, odors, and movement of workers or equipment could affect nests and also have the potential to result in nest abandonment, significantly impacting local nesting raptors.

Recommended Potentially Feasible Mitigation Measure(s)
To evaluate potential impacts to overwintering or nesting eagles associated with Project construction, CDFW recommends conducting the following evaluation of the Project area and including the following mitigation measures as conditions of approval.

Recommended Mitigation Measure 11: Focused Surveys for Nesting and Overwintering Eagles

CDFW recommends that a qualified wildlife biologist conduct surveys for nesting and overwintering eagles following the Protocol for Golden Eagle Occupancy, Reproduction, and Prey Population Assessment (Driscoll 2010), and the Protocol for Evaluating Bald Eagle Habitat and Populations in California (Jackman and Jenkins

2004). If ground-disturbing activities take place during the typical bird breeding season (i.e., February 1 through September 15), CDFW recommends that additional pre-construction surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of construction.

Recommended Mitigation Measure 12: GOEA and BAEA Avoidance

If an active raptor nest is found, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer 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. If nesting raptors are detected and the ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take.

If overwintering eagles are observed, CDFW recommends implementation of a minimum ½-mile no-disturbance buffer while the birds are present.

Please note that pursuant to Fish and Game Code section 3511, BAEA and GOEA are State fully protected species and no take, incidental or otherwise, of those species can be authorized by CDFW.

COMMENT 5: Burrowing Owl (BUOW)

Appendix B2 Environmental Considerations / Mitigation Measures Bio-1d.1 through Bio-1d.3 (Pages B2-7 – B2-8)

Issue: These mitigation measures describe focused BUOW surveys within 15 days prior to construction and within 300 feet of the project area; however, CDFW is concerned that this survey effort may not be sufficient in detecting BUOW occupying the Project area or its vicinity. This mitigation measure also describes avoidance for occupied BUOW burrows through implementation of a 150-foot no-disturbance buffer during the non-breeding season (September 1 to January 31) and a 250-foot buffer during the nesting season (February 1 to August 31), unless maintaining these buffer areas are not feasible. For ground-disturbing activities involved in the Project, these buffers may not be sufficient to avoid impacts. If maintaining a 150-foot buffer is not feasible during the non-breeding season, Mitigation Measure Bio-1d.2 describes passive relocation of BUOW detected on the Project site; however, according to CDFW's "*Staff Report on Burrowing Owl Mitigation*" (CDFG 2012), passively relocating and excluding BUOW in and of itself is not a take avoidance, minimization, or mitigation method. Mitigation Measure Bio-1d.3 states if maintaining a 250-foot no-disturbance buffer is not feasible during the breeding season, then CDFW will be consulted to determine alternative measures to minimize potential disturbance to occupied burrows and nesting activities.

Specific impact: BUOW rely on burrow habitat year-round for their survival and reproduction. BUOW forage in areas with relatively short vegetation and only sparse shrub cover (Gervais et al. 2008). As described in the DEIR, the Project area and its vicinity is suitable for BUOW. Without appropriate avoidance and minimization measures for BUOW, potential significant impacts include nest abandonment, which may result in reduced nesting success such as reduced health or vigor of eggs or young, in addition to direct mortality at any time of the year as a result of encroachment and increased potential of vehicle strikes, impacts to foraging success, and potentially increased predation. Potentially significant direct impacts associated with eviction and passive relocation of BUOW include inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals. Indirect impacts associated with temporary or permanent closure of burrows include increased stress and competition.

Evidence impact is potentially significant: The Project site is within the range of BUOW and, as described in the DEIR, supports potentially suitable burrow and foraging habitat. The Project has the potential to result in loss of burrow habitat for local populations. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley (Gervais et al. 2008). In addition, and as described in CDFW's "*Staff Report on Burrowing Owl Mitigation*" (CDFG 2012), passively relocating and excluding BUOW is considered a potentially significant impact under CEQA.

Recommended Potentially Feasible Mitigation Measure(s)
To evaluate potential Project-related impacts to BUOW, CDFW recommends conducting the following evaluation of the Project site and including the following measures in the DEIR.

Recommended Mitigation Measure 13: BUOW Habitat Assessment

CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project area or its vicinity contains suitable habitat for BUOW.

Recommended Mitigation Measure 14: BUOW Surveys

If suitable habitat is present on or in the vicinity of the Project area, 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*" (1993) and the CDFW (2012) *Staff Report on Burrowing Owl Mitigation*". Specifically, these documents suggest three or more surveillance surveys conducted during daylight with each visit occurring at

least three weeks apart during the peak breeding season (i.e., April 15 to July 15), when BUOW are most detectable. In addition, CDFW advises that surveys include a minimum 500-foot buffer around the Project area.

Recommended Mitigation Measure 15: BUOW Avoidance

CDFW recommends that 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, this document 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		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

Recommended Mitigation Measure 16: BUOW Passive Relocation and Mitigation

If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to the Staff Report (CDFG 2012), excluding owls from burrows is not a take avoidance, minimization, or mitigation method and is instead considered a potentially significant impact under CEQA. If it is necessary for Project implementation, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of one burrow collapsed to one artificial burrow constructed (1:1) to mitigate for evicting BUOW and the loss of burrows. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance at a rate that is sufficient to detect BUOW if they return.

COMMENT 6: Other State Species of Special Concern

Issue: Western spadefoot and American badger can inhabit grassland and upland scrub habitats (Thomson et al. 2016, Williams 1986). These special status species have been documented to occur in the vicinity of the Project boundary, which supports requisite habitat elements for these species (CDFW 2019).

Specific impact: Without appropriate avoidance and minimization measures for these species, potentially significant impacts associated with ground disturbance include habitat loss or nest/den/burrow abandonment, which may result in reduced health or vigor of individuals and direct mortality.

Evidence impact is potentially significant: Habitat loss threatens of the species mentioned above (Thomson et al. 2016, Williams 1986). Habitat within and adjacent to the Project represents some of the only remaining undeveloped land in the vicinity, which is otherwise intensively managed for agriculture. As a result, ground- and vegetation-disturbing activities associated with development of the Project have the potential to significantly impact local populations of these species.

Recommended Potentially Feasible Mitigation Measure(s)
To evaluate potential impacts to special-status species associated with subsequent development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures.

Recommended Mitigation Measure 17: Habitat Assessment

CDFW recommends that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if project areas or their immediate vicinity contain suitable habitat for Western spadefoot or American badger.

Recommended Mitigation Measure 18: Species Surveys

If suitable habitat is present, CDFW recommends that a qualified biologist conduct focused surveys for applicable species and their requisite habitat features to evaluate potential impacts resulting from ground- and vegetation-disturbance.

Recommended Mitigation Measure 19: Species Avoidance or Minimization

Avoidance whenever possible is encouraged via delineation and observance of a 50-foot no-disturbance buffer around dens of mammals like the American badger, as well as the entrances of burrows that can provide refuge for small mammals, reptiles, and amphibians.

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

COMMENT 7: Wetland and Riparian Habitats

Issue: The Project area contains numerous waterways and wetland areas. Development within the Project alignment has the potential to involve temporary and permanent impacts to these features.

Specific impact: Work within stream channels has the potential to result in the diversion or obstruction of natural stream flows, to change or use of material from the streams, or to deposit of debris, waste, sediment, toxic runoff or other materials into waters causing water pollution and degradation of water quality. Project activities also have the potential to result in the loss of riparian and wetland vegetation, in addition to the degradation of wetland and riparian areas through grading, fill, and related development.

Evidence impact is potentially significant: The Project area includes stream and wetland features within an agricultural landscape that also maintains undeveloped habitats. Within the San Joaquin Valley, modifications of streams to accommodate human uses has resulted in damming, canalizing, and channelizing of many streams, though some natural stream channels and small wetland or wetted areas remain (Edminster 2002). The Fish and Game Commission policy regarding wetland resources discourages development or conversion of wetlands that results in a net loss of wetland acreage or habitat value. Construction activities within these features has the potential to impact downstream waters. In addition, riparian and associated floodplain and wetland areas are valuable for their ecosystem processes such as protecting water quality by filtering pollutants and transforming nutrients; stabilizing stream banks to prevent erosion and sedimentation/siltation; and dissipating flow energy during flood conditions, thereby spreading the volume of surface water, reducing peak flows downstream, and increasing the duration of low flows by slowly releasing stored water into the channel through subsurface flow. Riparian vegetation in the Project area provides potential habitat for many species, potentially including those with special status.

Recommended Potentially Feasible Mitigation Measure(s)
To evaluate potential impacts to waterways, CDFW recommends conducting the following evaluation of the subject parcel and implementing the following mitigation measures.

Recommended Mitigation Measure 20: Wetland Delineation and Lake and Stream Mapping

CDFW recommends a formal delineation of stream and wetland areas in advance of any Project development activity. CDFW recommends that individuals qualified in wetland delineation as well as determining the extent of stream hydrology determine the location and extent of wetlands and streams on parcels slated for construction or land conversion. Please note that, while there is overlap, State and Federal definitions of wetlands differ. In addition, the full extent of a stream commonly extends beyond the determination of Ordinary High Water for the U.S. Army Corps of Engineers authority pursuant to the Clean Water Act, and can include areas that have flowing water with low frequency and also include floodplain areas, if present. Therefore, it is advised that the delineation and mapping identify both State and Federal wetlands and complete stream boundaries on the Project site.

Recommended Mitigation Measure 21: Avoidance, Minimization, and Mitigation of Wetland and Riparian Habitat Impacts

CDFW recommends that the wetland and riparian habitats potentially impacted by the Project be described to establish the baseline condition. CDFW also recommends that the potential direct and indirect impacts to wetland and riparian habitat be analyzed according to each Project activity. Based on those potential impacts, CDFW recommends that the EIS/EIR include measures to avoid, minimize, and/or mitigate those impacts. CDFW recommends that impacts to wetland and riparian vegetation take into account the effects to function and hydrology from habitat loss or damage, as well as potential effects from the loss of habitat to special status species identified herein.

II. Editorial Comments and/or Recommendations

Federally Listed Species: CDFW recommends consulting with the USFWS regarding potential impacts to federally listed species including, but not limited to, SJKF, Kern mallow, and San Joaquin woollythreads. Take under the Federal Endangered Species Act (FESA) is more broadly defined than CESA; take under FESA 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. Consultation with the USFWS in order to comply with FESA is advised well in advance of any Project activities.

Lake and Streambed Alteration: Project activities have the potential to substantially change the bed, bank, and channel of wetlands and waterways onsite. Jurisdictional Project activities are subject to the notification requirement of Fish and Game Code section 1602, which requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation); (c) deposit debris, waste

or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial. CDFW is required to comply with CEQA in the issuance of a Lake or Streambed Alteration Agreement (Agreement); therefore, if the CEQA document approved for the Project does not adequately describe the Project and its impacts, a subsequent CEQA analysis may be necessary for Agreement issuance. For additional information on notification requirements, please contact staff in the Central Region Lake and Streambed Alteration Program at (559) 243-4593.

Nesting birds: 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 §§ 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).

CDFW encourages Project implementation to occur during the bird non-nesting season; however, if Project activities must occur during the breeding season (February through mid-September), 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 each Project activity to maximize the probability that nests that could potentially be impacted by the Project are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by a 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 that a qualified biologist continuously monitor nests to detect behavioral changes resulting from the project. If behavioral changes occur, CDFW recommends that the work causing that change cease and CDFW be consulted 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 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 advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

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 (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to the CNDDB. The CNNDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is 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 in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the DEIR to assist the Authority in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Annette Tenneboe, Senior Environmental Scientist (Specialist), at (559) 243-4014 extension 231 or by email at annette.tenneboe@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Julie Vance
FA83F09FE08945A...

Julie A. Vance
Regional Manager

Attachment 1

cc: Office of Planning and Research, State Clearinghouse, Sacramento

Rain Emerson
Environmental Compliance Branch Chief
United States Bureau of Reclamation
1243 N Street
Fresno, California 93721
remerson@usbr.gov

ec: Annette Tenneboe
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Attachment 1

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

PROJECT: Friant-Kern Canal Middle Reach Capacity Correction Project
State Clearinghouse Number.: 2019120007

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Before Disturbing Soil or Vegetation	
Recommended Mitigation Measure 1: SJKF Habitat Assessment	
Recommended Mitigation Measure 2: SJKF Surveys, Avoidance, and Minimization	
Recommended Mitigation Measure 3: SJKF Take Authorization	
Recommended Mitigation Measure 5: Focused SWHA and WTKI Surveys	
Recommended Mitigation Measure 6: SWHA and WTKI Buffers	
Recommended Mitigation Measure 7: SWHA Take Authorization	
Recommended Mitigation Measure 8: Special-Status Plant Surveys	
Recommended Mitigation Measure 10: Special-Status Plant Take Authorization	
Recommended Mitigation Measure 11: Focused Surveys for Nesting and Overwintering Eagles	
Recommended Mitigation Measure 13: BUOW Habitat Assessment	
Recommended Mitigation Measure 14: BUOW Surveys	
Recommended Mitigation Measure 16: BUOW Passive Relocation and Mitigation	
Recommended Mitigation Measure 17: Habitat Assessment (Other Species of Special Concern)	
Recommended Mitigation Measure 18: Species Surveys (Other Species of Special Concern)	
Recommended Mitigation Measure 20: Wetland Delineation and Lake and Stream Mapping	
Recommended Mitigation Measure 21: Avoidance, Minimization, and Mitigation of Wetland and Riparian Habitat Impacts	
During Construction	
Recommended Mitigation Measure 2: SJKF Surveys, Avoidance, and Minimization	
Recommended Mitigation Measure 4: SWHA and WTKI Avoidance	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 9: Special-Status Plant Avoidance	
Recommended Mitigation Measure 12: GOEA and BAEA Avoidance	
Recommended Mitigation Measure 15: BUOW Avoidance	
Recommended Mitigation Measure 19: Species Avoidance or Minimization (Other Species of Special Concern)	