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Governor's Office of Planning & Research

December 2, 2020

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## **STATE CLEARINGHOUSE**

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**Subject: Kern Fan Groundwater Storage Project (Project)**  
**Draft Environmental Impact Report (DEIR)**  
**State Clearinghouse No.: 2020049019**

Dear Mr. Averett:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DEIR from Groundwater Banking Joint Powers Authority (Authority) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

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 agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

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<sup>1</sup> 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.

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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 that 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.

CDFW has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited and CDFW cannot authorize their incidental take.

The use of unallocated stream flows are subject to appropriation and approval by the State Water Resources Control Board (SWRCB) pursuant to Water Code section 1225. CDFW, as Trustee Agency, is consulted by the SWRCB during the water rights process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State's water resources. Certain fish and wildlife are reliant upon aquatic ecosystems, which in turn are reliant upon adequate flows of water. CDFW therefore has a material interest in assuring that adequate water flows within streams for the protection, maintenance, and proper stewardship of those resources. CDFW provides, as available, biological expertise to review and comment on environmental documents and impacts arising from project activities.

## **PROJECT DESCRIPTION SUMMARY**

**Proponent:** Rosedale Rio-Bravo Water Storage District (Rosedale) and Irvine Ranch Water District (IRWD) are jointly carrying out the Project through the Groundwater Banking Joint Powers Authority (Authority). Pursuant to CEQA Guidelines section 15051(d), until the Authority was formed, Rosedale served as the Lead Agency under CEQA for the preparation of the Notice of Preparation. Rosedale and IRWD agreed that Rosedale would perform the lead agency role until the Authority was formed, and the Authority will assume the role thereafter.

**Objective:** The objectives of the Project are (1) Capture, recharge, and store water from the State Water Project (SWP), Central Valley Project, and other available water supplies for later use; (2) Provide ecosystem public benefits, emergency water supply public benefits during extended droughts or a Delta levee failure, and water supply benefits for agricultural, municipal and industrial, and federal wildlife refuge uses; (3) Provide operating flexibility for Rosedale's existing and future conjunctive use programs; (4) Assist in achieving groundwater sustainability within the Kern County Sub-basin of

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the San Joaquin Valley Groundwater Basin through implementation of projects consistent with California Executive Order N-10-19 directing state agencies to develop a "water resilience portfolio;" and (5) Provide Rosedale and IRWD customers and partners with increased water supply reliability during periods when other supply sources may be reduced or interrupted.

**Project Description:** The Project would consist of construction of up to 1,300 acres of recharge basin facilities and approximately 12 recovery wells. The Kern Fan Conveyance Facilities would consist of canals and/or pipelines, pump stations, and a new turnout at the California Aqueduct to convey water between the Project facilities and the California Aqueduct. Subject to agreements between Rosedale and IRWD, the Project facilities may be integrated with other facilities operated in Rosedale's Conjunctive Use Program. Water stored by the Project would be recovered when needed to provide ecosystem and water supply benefits.

The Project would be operated such that surplus surface water from the SWP, Central Valley Project, Kern River, and other available water sources would be recharged and stored for subsequent recovery. It is estimated that the Project would be able to recharge and store approximately 100,000 acre-feet per year (AFY). Project capacities are to be allocated as follows:

Pursuant to the award of funds under the California Water Commission's Water Storage Investment Program (WSIP), up to 25 percent, or up to 25,000 acre-feet (AF), of the "unallocated" SWP Article 21 water would be stored for the California Department of Water Resources (DWR) in an "Ecosystem Account." Through the implementation of 1-for-1 exchanges, the water stored in the Ecosystem Account would be used by the State of California to alleviate stress on endangered and threatened species in the Sacramento-San Joaquin River Delta during critically dry years.

The remaining 75,000 AF of storage capacity would be divided equally, with 37,500 AF of storage capacity allocated to Rosedale and 37,500 AF of storage capacity allocated to IRWD. Rosedale and IRWD would use the water recharged in their respective accounts for agriculture, municipal, and industrial uses, improving water supply reliability during droughts and emergencies.

The Project would be implemented in two phases, and each phase would construct up to approximately 640 acres of recharge and recovery facilities within the Project area. Water could be conveyed to and from Phase 1 and 2 properties through existing facilities and a new turnout and conveyance system (Kern Fan Conveyance Facilities) connecting to the California Aqueduct. Project operations would be coordinated with Rosedale's Conjunctive Use Program.

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Recharge Facilities. The Project would include the construction of recharge basins of varying shape, size, and depth within approximately 1,300 acres. Basins would be formed by excavating and contouring existing soils to form earthen berms. Typical basin berms would be approximately three to six feet above ground. Dirt roads approximately 14 to 20 feet wide would run along the perimeter of and in between all basins to provide access to facilities during operation and maintenance activities. Surface water would be delivered to the basins for recharge through the new Kern Fan Conveyance Facilities, and the basins would be connected by check structures to allow recharge water to flow by gravity among basins. The basins would be managed to allow agricultural land uses (e.g., annual farming or grazing) to continue when the basins are empty.

Intermittent Wetlands. The recharge basin design, subject to grant funding requirements, would be intended to create intermittent wetland habitat through intermittent recharge events. During the years that the Project takes and recharges water into storage, the basins would be inundated with water and provide intermittent wetland habitat to support waterfowl, shorebirds, raptors, and other migratory birds. The wetlands to be established by the Project would be considered intermittent because the water supply delivered for recharge may not be available for recharge year-round or during periods of drought.

Recharge Water Supplies. The Project would receive, recharge, and store SWP Article 21 water, which is a surplus supply managed by DWR. Other water supplies also may be secured and acquired by Rosedale and IRWD from various sources, and may include federal, state, and local supplies through transfers, balanced and unbalanced water exchange agreements, water purchases or temporary transfers, or other available means. Sources may also include supplies from the Central Valley Project, and high-flow Kern River water depending on annual hydrologic availability, water rights, and regulatory considerations.

Recovery Facilities. The Project would construct up to 12 extraction wells, with an anticipated annual recovery capacity of up to 50,000 AF. Each well would be designed to pump groundwater at a recovery rate of approximately five to six cubic feet per second (cfs). Actual recovery rates for each well may be slightly more or less based on aquifer conditions at each well site. If higher production is achieved for the first few wells installed, fewer wells may be needed. Additionally, if any agricultural wells exist on the recharge basin sites, these could potentially be used as production wells or monitoring wells. The recovery facilities would be designed and located to minimize potential effects on wells pumping on adjacent properties.

Conveyance Facilities. The Kern Fan Conveyance Facilities will convey water to and from the California Aqueduct and recharge and recovery facilities. The exact locations of the new conveyance facilities have not yet been determined but they would have up

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to 500 cfs of conveyance capacity. Water would be conveyed to and from a new turnout at the California Aqueduct and a new conveyance system approximately 10 miles long that may include an open canal, closed conduit, or some combination. In addition to new conveyance, existing facilities within Rosedale's Conjunctive use Program may be used to move water to/from the Project, subject to approvals, such as through Friant-Kern Canal or the Kern River by exchange through the Goose Lake Channel or from the Cross Valley Canal through the Rosedale Intake Canal.

Groundwater recovered from the Project extraction wells would be conveyed through new pipelines that would be below ground, running along the dirt roads between the recharge basins, or buried in the basin bottoms, with exact locations subject to final well placement. The recovery pipelines would connect to the new Kern Fan Conveyance Facilities or could connect to the Cross Valley Canal via existing conveyance facilities.

**Location:** The Project boundary would be located within the Rosedale district boundary in western Kern County, west of the City of Bakersfield. The recharge and recovery facilities would be constructed in two phases on approximately 1,300 acres of agricultural or vacant land within or near the Rosedale service area.

**Timeframe:** Unspecified

## 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 CEQA document.

Based on a review of the Project description and a review of California Natural Diversity Database (CNDDDB) records and the surrounding habitat, several special-status species could potentially be impacted by Project activities. Please note that the CNDDDB is populated by and records voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDDB but where there is suitable habitat and features capable of supporting species. Therefore, a lack of an occurrence record in the CNDDDB is not tantamount to a negative species finding.

Project-related activities within the Project boundary including but not limited to construction and operation of additional water banking facilities and introduction of surface water flows for storage could impact the following special-status plant and wildlife species and habitats known to occur in the area: the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*); the State and federally endangered Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*); the State

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and federally endangered and State fully protected blunt-nosed leopard lizard (*Gambelia sila*); the State threatened Swainson's hawk (*Buteo swainsoni*), Nelson's antelope squirrel (*Ammospermophilus nelsoni*), and tricolored blackbird (*Agelaius tricolor*); the federally endangered and California rare plant rank (CRPR) 1B.2 San Joaquin woollythreads (*Monolopia congdonii*); the federally endangered and CRPR1B.2 Kern mallow (*Eremalche parryi* ssp. *kernensis*), the CRPR 4.2 Hoover's eriastrum (*Eriastrum hooveri*); the CRPR 1B.2 recurved larkspur (*Delphinium recurvatum*) and Munz's tidy-tips (*Layia munzii*); the CRPR 1B.1 Mason's neststraw (*Stylocline masonii*); and the State species of special concern American badger (*Taxidea taxus*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), burrowing owl (*Athene cunicularia*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), California glossy snake (*Arizona elegans occidentalis*), western spadefoot (*Spea hammondi*), and coast horned lizard (*Phrynosoma blainvillii*). Aerial imagery of the Project boundary and its surroundings within the Rosedale District boundary show the Goose Lake and Kern River riparian corridors, riparian-lined canal corridors, large trees, Great Valley cottonwood riparian forest, Great Valley mesquite scrub, Valley salt bush scrub, upland grassland, and agricultural habitats.

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

### **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)**

##### **DEIR Mitigation Measure (MM) Bio-5**

**Issues:** SJKF occurrences have been documented within the Project boundary and surrounding area (CDFW 2020a). The Project has the potential to temporarily disturb and permanently alter suitable habitat for SJKF and directly impact individuals if present during construction, recharge, and other activities.

SJKF den in a variety of areas such as right-of-ways, agricultural and fallow/ruderal habitat, dry stream channels, and canal levees, 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

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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.

DEIR MM BIO-5 states that a qualified biologist shall conduct a USFWS-approved early evaluation of the project area to determine if the Project sites represent SJKF habitat. If the evaluation shows that the SJKF does not utilize the Project site, and the Project will not result in take, then no further mitigation shall be required of the SJKF. If the “early evaluation” finds presence of SJKF, a SJKF survey shall be conducted by a qualified biologist in accordance with current USFWS SJKF Survey Protocol. If it is determined that SJKF utilize the property, then the Authority shall determine appropriate Project modifications to protect SJKF, including avoidance, minimization, restoration, preservation, or compensation. If evidence of active or potentially active SJKF dens is found within the area to be impacted by the Project, appropriate compensation for the habitat loss shall be determined and provided.

The DEIR does not specify the protocol to be used for early evaluation of SJKF. The USFWS Survey Protocol for Northern SJKF Populations (USFWS 1999) recommends conducting early evaluation for SJKF, and information obtained from the early evaluation requirements is used by the USFWS to evaluate whether suitable SJKF habitat is present. The DEIR has already determined that suitable SJKF habitat occurs within the Project area and confirmed numerous known occurrences for SJKF within the Project and surrounding area using the CNDDDB (CDFW 2020). The DEIR acknowledges the potential to temporarily disturb and permanently alter suitable habitat for special status species including SJKF, and to directly impact individuals if present during construction activities.

The DEIR MM BIO-5 defers identifying mitigation for impacts to SJKF until after Project implementation, and does not specify consultation with CDFW for activities that may impact SJKF. Given the size and scope of the Project and the prevalence of SJKF adjacent to and within the Project area, CDFW has concluded it is likely that impacts to SJKF, including take, may occur during all phases of the Project.

**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). Western Kern County supports 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 this remaining highly suitable habitat, which is otherwise intensively managed for agriculture. Therefore, subsequent

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ground-disturbing activities have the potential to significantly impact local SJKF populations.

### **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**

CDFW recommends assessing presence/absence of SJKF for all Project phases and components by having qualified biologists conducting transect surveys of Project areas and a 500-foot buffer of Project areas to detect SJKF and their sign. Specifically, CDFW advises conducting these surveys in all areas of potentially suitable habitat no less than 14 days and no more than 30 days prior to beginning of ground disturbing activities. CDFW also recommends following the USFWS (2011) "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance".

### **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: Blunt-nosed Leopard Lizard (BNLL)**

### **DEIR MM BIO-1**

**Issues:** BNLL have been documented in suitable habitat within and adjacent to the Project boundary (CDFW 2020a). Suitable BNLL habitat includes areas of grassland and upland scrub that contain requisite habitat elements such as small mammal burrows. BNLL also use open space patches between suitable habitats, including disturbed sites, unpaved access roadways, and canals. DEIR MM BIO-1 states that prior to commencement of project ground disturbing construction, a qualified biologist shall survey for blunt-nosed leopard lizard, in accordance with the most recent CDFW *Approved Survey Methodology for the Blunt-Nosed Leopard Lizard*. If it is determined that blunt-nosed leopard lizard is present within the project areas, the Authority shall initiate the appropriate Project modifications to protect blunt-nosed leopard lizard, including avoidance, minimization, restoration,

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preservation, or compensation. The DEIR does not specify the parameters of those modifications or measures or note whether consultation with CDFW would occur for activities that may impact BNLL.

**Specific impact:** Without appropriate avoidance and minimization measures for BNLL, potentially significant impacts associated with ground-disturbing activities include habitat loss, burrow collapse, reduced reproductive success, reduced health and vigor of eggs and/or young, and direct mortality.

**Evidence impact is potentially significant:** Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to BNLL (ESRP 2020a). The range for BNLL now consists of scattered parcels of undeveloped land within the valley floor and the foothills of the Coast Range (USFWS 1998). Some undeveloped areas with suitable BNLL habitat occur within the Project and surrounding area; therefore, ground disturbance and conversion of suitable habitat has the potential to significantly impact local BNLL populations.

#### **Recommended Mitigation Measure 4: BNLL 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 immediate vicinity contains suitable habitat for BNLL.

#### **Recommended Mitigation Measure 5: BNLL Surveys**

If suitable habitat is present, prior to initiating any vegetation- or ground-disturbing activities, CDFW recommends conducting surveys in accordance with the “Approved Survey Methodology for the Blunt-nosed Leopard Lizard” (CDFW 2019). This survey protocol, designed to optimize BNLL detectability, reasonably assures CDFW that ground disturbance will not result in take of this fully protected species.

CDFW advises that BNLL surveys be completed no more than one year prior to initiation of ground disturbance. Please note that protocol-level surveys must be conducted on multiple dates during late spring, summer, and fall of the same calendar year, and that within these time periods, there are specific protocol-level date, temperature, and time parameters that must be adhered to. As a result, protocol-level surveys for BNLL are not synonymous with 30-day “preconstruction surveys” often recommended for other wildlife species. In addition, the BNLL protocol specifies different survey effort requirements based on whether the disturbance results from maintenance activities or if the disturbance results in habitat removal (CDFW 2019).

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### **Recommended Mitigation Measure 6: BNLL Take Avoidance**

BNLL is a State fully protected species pursuant to Fish and Game Code Section 5050 and CDFW is unable to authorize take of this species for any reason. Therefore, BNLL detection during protocol-level surveys warrant advance consultation with CDFW to discuss whether take of BNLL can be avoided during ground-disturbing Project activities and during operations and maintenance of Project facilities. In addition, CDFW recommends that the EIR be revised to provide information on specific avoidance measure for this species during construction, operations, and maintenance throughout the life of the Project..

### **COMMENT 3: San Joaquin Antelope Squirrel (SJAS)**

**Issue:** SJAS have been documented to occur within areas of suitable habitat within the Project vicinity (CDFW 2020a). Suitable SJAS habitat includes areas of grassland, upland scrub, and alkali sink habitats that contain requisite habitat elements, such as small mammal burrows.

DEIR MM BIO-7 states that prior to commencement of Project activities, a qualified biologist will survey for SJAS. If SJAS is detected, then to avoid potential adverse effects to this species the Authority shall determine appropriate project modifications to protect SJAS, including avoidance, minimization, restoration, preservation, or compensation. The DEIR does not specify the parameters of those modifications or measures or note whether consultation with CDFW would occur for activities that may impact SJAS.

**Specific impact:** Without appropriate avoidance and minimization measures for SJAS, potential significant impacts include loss of habitat, burrow collapse, inadvertent entrapment of individuals, reduced reproductive success such as reduced health or vigor of young, and direct mortality of individuals.

**Evidence impact is potentially significant:** Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to SJAS. Very little suitable habitat for this species remains along the western floor of the San Joaquin Valley (ESRP 2020b). Areas of suitable habitat within the Project Area vicinity represent some of the only remaining undeveloped land in the vicinity, which is otherwise intensively managed for agriculture, and ground-disturbing activities are anticipated during Project implementation.

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### **Recommended Mitigation Measure 7: SJAS 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 immediate vicinity contains suitable habitat for SJAS.

### **Recommended Mitigation Measure 8: SJAS Surveys**

In areas of suitable habitat, CDFW recommends that a qualified biologist conduct focused daytime visual surveys for SJAS using line transects with 10- to 30-meter spacing within Project areas and a 50-foot buffer around those areas. CDFW further advises that these surveys be conducted between April 1 and September 20, during daytime temperatures between 68° and 86° F (CDFG 1990), to maximize detectability.

### **Recommended Mitigation Measure 9: SJAS Avoidance**

If suitable habitat is present and surveys are not feasible, CDFW advises maintenance of a 50-foot minimum no-disturbance buffer around all small mammal burrow entrances until the completion of Project activities.

### **Recommended Mitigation Measure 10: SJAS Take Authorization**

SJAS detection warrants consultation with CDFW to discuss how to avoid take, or if avoidance is not feasible, to acquire a State ITP prior to ground-disturbing activities, pursuant to Fish and Game Code Section 2081 subdivision (b).

### **COMMENT 4: Tipton Kangaroo Rat (TKR)**

**Issue:** TKR have been documented to occur within areas of suitable habitat within and adjacent to the Project (CDFW 2020a). Suitable TKR habitat includes areas of grassland, upland scrub, and alkali sink habitats that contain requisite habitat elements, such as small mammal burrows.

DEIR MM BIO-6 states that prior to commencement of project activities, a qualified biologist shall survey for TKR in accordance with the USFWS (2013) "Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats". If it is determined that TKR utilize the Project area, the Authority will determine appropriate project modifications to protect TKR, including avoidance, minimization, restoration, preservation, or compensation. The DEIR does not specify the parameters of those modifications or measures or note whether consultation with CDFW would occur for activities that may impact TKR.

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**Specific impact:** Without appropriate avoidance and minimization measures for TKR, potential significant impacts include loss of habitat, burrow collapse, inadvertent entrapment of individuals, reduced reproductive success such as reduced health or vigor of young, and direct mortality of individuals.

**Evidence impact is potentially significant:** Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to TKR. Little suitable habitat for this species remains along the western floor of the San Joaquin Valley (ESRP 2020c). Areas of suitable habitat where ground disturbing activities will occur within the Project represent some of the only remaining undeveloped land in the vicinity, which is otherwise intensively managed for agriculture.

#### **Recommended Mitigation Measure 11: TKR 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 immediate vicinity contains suitable habitat for TKR.

#### **Recommended Mitigation Measure 12: TKR Avoidance**

If suitable habitat is present, CDFW advises implementation and maintenance of a 50-foot minimum no-disturbance buffer around all small mammal burrow entrances of suitable size for TKR use, during all Project activity.

#### **Recommended Mitigation Measure 13: TKR Surveys**

If burrow avoidance is not feasible, CDFW recommends that focused protocol-level trapping surveys according to the USFWS (2013) protocol be conducted by a qualified wildlife biologist that is permitted to do so by both CDFW and USFWS, to determine if TKR occurs in the Project area, well in advance of ground-disturbing activities in order to determine whether impacts to TKR could occur.

#### **Recommended Mitigation Measure 14: TKR Take Authorization**

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

#### **COMMENT 5: Swainson's Hawk (SWHA)**

**Issue:** SWHA are known the Project area; two SWHA were documented during reconnaissance biological surveys utilizing the Project area in July 2020, indicating that the site may be used by foraging and/or nesting SWHA annually. Review of

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recent aerial imagery indicates that trees capable of supporting nesting SWHA occur along the Kern River, and within the Project and overall Rosedale boundary. Landscape trees may also provide suitable nesting habitat. In addition, grassland and agricultural land in the surrounding area provide suitable foraging habitat for SWHA, increasing the likelihood of SWHA occurrence within the vicinity.

DEIR MM BIO-3 states that if construction activities are initiated within the nesting season of March 1 to September 15, preconstruction nesting surveys will be conducted by a qualified biologist prior to ground disturbance, in accordance with the guidance provided in the "Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley" (Swainson's Hawk Technical Advisory Committee (SWHA TAC), 2000), including a ½-mile radius around the Project sites. If a nest site is found, the qualified biologist will determine the appropriate buffer zone around the nest within which Project-related construction activities would be avoided. The DEIR does not specify the parameters for determining appropriate nest avoidance for SWHA or whether consultation with CDFW would occur.

**Specific impact:** Without appropriate avoidance and minimization measures for SWHA, potential significant impacts associated with Project activities 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:** Lack of suitable nesting habitat in the San Joaquin Valley limits the local distribution and abundance of SWHA (CDFW 2016). The trees within the Project 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. 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).

### **Recommended Mitigation Measure 15: Focused SWHA Surveys**

To evaluate potential Project-related impacts, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the SWHA TAC (2000) survey methodology prior to Project initiation.

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### **Recommended Mitigation Measure 16: SWHA Avoidance**

CDFW recommends that if Project-specific activities will take place during the SWHA nesting season and active SWHA nests are present, a minimum ½-mile no-disturbance buffer be maintained around each nest, regardless of when it was detected, 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, other forms of take, and other potentially significant impacts to SWHA as a result of Project activities.

### **Recommended Mitigation Measure 17: Tree Removal**

CDFW recommends that the removal of known SWHA nest trees, even outside of the nesting season, be replaced with an appropriate native tree species planting 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 SWHA nesting habitat loss.

### **Recommended Mitigation Measure 18: SWHA Take Authorization**

If SWHA are detected and a ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take. If SWHA take cannot be avoided, issuance of an ITP prior to Project activities is warranted to comply with CESA.

### **COMMENT 6: Tricolored Blackbird (TRBL)**

**Issues:** TRBL are known to occur in the Project vicinity (CDFW 2020a, UC Davis 2020). Review of aerial imagery indicates that the Project boundary includes flood-irrigated agricultural land, which is an increasingly important nesting habitat type for TRBL, particularly in the San Joaquin Valley (Meese et al. 2017).

DEIR MM BIO-2 states if construction or vegetation removal occurs between the nesting bird season of March 1 to September 15, a qualified biologist will conduct a preconstruction nesting survey that covers all reasonably potential nesting locations on and within 300 feet of the Project site, within 1 day prior to work. If an active nest is confirmed, no construction activities will occur within 250 feet of the nest or less, as determined by a qualified biologist. DEIR MM BIO-2 does not identify TRBL as threatened under CESA and does not specify how the recommended buffer was deemed to be adequate to avoid or minimize potentially significant impacts to TRBL.

**Specific impact:** Without appropriate avoidance and minimization measures for TRBL, potential significant impacts associated subsequent development include

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nesting habitat loss, nest and/or colony abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

**Evidence impact would be significant:** As mentioned above, flood-irrigated agricultural land is an increasingly important nesting habitat type for TRBL, particularly in the San Joaquin Valley (Meese et al. 2014). This nesting substrate is present within the Project vicinity. TRBL aggregate and nest colonially, forming colonies of up to 100,000 nests (Meese et al. 2014). Approximately 86% of the global population is found in the San Joaquin Valley (Kelsey 2008, Weintraub et al. 2016). In addition, TRBL have been forming larger colonies that contain progressively larger proportions of the species' total population (Kelsey 2008). In 2008, for example, 55% of the species' global population nested in only two colonies, which were located in silage fields (Kelsey 2008). Nesting can occur synchronously, with all eggs laid within one week (Orians 1961). For these reasons, depending on timing, disturbance to nesting colonies can cause nest entire colony site abandonment and loss of all unfledged nests, significantly impacting TRBL populations (Meese et al. 2014).

#### **Recommended Mitigation Measure 19: TRBL Surveys**

CDFW recommends that construction be timed to avoid the typical bird-breeding season of February 1 through September 15. If Project activity that could disrupt nesting must take place during that time, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting TRBL no more than 10 days prior to the start of implementation to evaluate presence/absence of TRBL nesting colonies in proximity to Project activities and to evaluate potential Project-related impacts.

#### **Recommended Mitigation Measure 20: TRBL Colony Avoidance**

If an active TRBL nesting colony is found during preconstruction surveys, CDFW recommends implementation of a minimum 300-foot no-disturbance buffer, in accordance with the CDFW (2015) "Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015", until the breeding season has ended or until a qualified biologist has determined that nesting has ceased and the young have fledged and are no longer reliant upon the colony or parental care for survival. TRBL colonies can expand over time and for this reason, CDFW recommends that an active colony be reassessed to determine its extent within 10 days prior to Project initiation.

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### **Recommended Mitigation Measure 21: TRBL Take Authorization**

If TRBL take avoidance at a nesting colony is not feasible, acquisition of an ITP pursuant to Fish and Game Code Section 2081(b), prior to any Project activities, would be warranted to comply with CESA.

### **COMMENT 7: Special-status Plants MM BIO-9**

**Issue:** Special-status plant species meeting the definition of rare or endangered under CEQA section 15380 are known to occur within the Project and surrounding area. San Joaquin woollythreads, Kern mallow, Hoover's eriastrum, Masons neststraw, recurved larkspur, and Munz's tidy-tips have been documented within the Project area and Rosedale boundary.

DEIR MM BIO-9 states that prior to the start of construction activities that could affect special-status plant species, a qualified botanist will conduct a focused survey within the Project area for California jewelflower, Hoover's eriastrum, Kern mallow, recurved larkspur, San Joaquin woollythreads, slough thistle, and subtle orache, during the typical blooming periods of special-status plants with the potential to occur. If a special-status plant species is found to be present, and avoidance of the species and/or habitat is not feasible, the Authority will prepare and implement a Revegetation/Restoration Mitigation Plan to avoid and minimize impacts to special-status plant species during construction and operations and maintenance. DEIR MM BIO-9 defers addressing specific mitigation for impacts to special-status plant species by allowing development of Revegetation/Restoration Mitigation Plan after Project implementation.

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

**Evidence impact would be significant:** San Joaquin woollythreads, Kern mallow, Hoover's eriastrum, Mason's neststraw, recurved larkspur, Munz's tidy-tips, and many other special-status plant species are threatened by grazing and agricultural, urban, and energy development. Many historical occurrences of these species are presumed extirpated (CNPS 2019). Though new populations have recently been discovered, impacts to existing populations have the potential to significantly impact populations of these plant species.

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### **Recommended Mitigation Measure 22: 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 2018b). 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 23: 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 24: Listed Plant Species Take Authorization**

If take of a State-listed plant species cannot be avoided, take authorization is warranted through acquisition of an ITP, pursuant to Fish and Game Code Section 2081 subdivision (b) and acquisition of a Permit for rare plants pursuant to procedures set forth in the California Code of Regulations, title 14, section 783 et seq. (Cal. Code Regs., tit. 14, section 786.9).

### **COMMENT 8: Burrowing Owl (BUOW) – MM BIO-4**

**Issue:** BUOW occur within and in the vicinity of the Project (CDFW 2020a). BUOW inhabit open grassland containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover. Habitat both within and surrounding the Project supports grassland habitat, and there is potential for BUOW to occupy or colonize the area.

DEIR MM BIO-4 defers addressing specific mitigation for impacts to BUOW until after Project implementation. BIO-4 proposes the development of a Burrowing Owl Management Plan by a qualified biologist if BUOW are identified as present and occupied burrows cannot be avoided. The DEIR does not specify how detection of BUOW would occur or what actions or parameters would be included in a Burrowing Owl Management Plan.

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**Specific impact:** Potentially significant direct impacts associated with subsequent activities and land conversion include habitat loss, burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals.

**Evidence impact is potentially significant:** 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's Central Valley (Gervais et al. 2008). The Project and surrounding area contain remnant undeveloped land but is otherwise intensively managed for agriculture; therefore, subsequent ground-disturbing activities have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's (CDFG 2012) "Staff Report on Burrowing Owl Mitigation", excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA.

#### **Recommended Mitigation Measure 25: 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 26: 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 according to California Burrowing Owl Consortium's "Burrowing Owl Survey Protocol and Mitigation Guidelines" (CBOC 1993) and CDFG (2012). 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 survey radius in addition to the Project area.

#### **Recommended Mitigation Measure 27: BUOW Avoidance**

CDFW recommends that no-disturbance buffers be implemented prior to and during any ground-disturbing activities, and 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 (CDFG 2012).

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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 28: BUOW Passive Relocation and Mitigation**

If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that excluding birds from burrows is not considered a take avoidance, minimization, or mitigation method and is instead considered a potentially significant impact under CEQA (CDFG 2012). 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 9: Other State Species of Special Concern**

**Issue:** Tulare grasshopper mouse, San Joaquin coachwhip, western spadefoot, coast horned lizard, California glossy snake, and American badger can inhabit grassland and upland scrub habitats (Shuford and Gardali 2008, Thomson et al. 2016). All the species mentioned above have been documented to occur in the vicinity of the Project, which supports requisite habitat elements for these species (CDFW 2018).

DEIR MM BIO-8 only addresses impact to American badger. The DEIR does not address other special-status wildlife species known to occur within the Project boundary and surrounding area. The DEIR also states that the Authority will determine appropriate Project modifications, including avoidance, minimization, restoration, preservation, or compensation, without describing modifications or providing the parameters of measures.

**Specific impact:** Without appropriate avoidance and minimization measures for these species, potentially significant impacts associated with ground disturbance

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include habitat loss, nest/den/burrow abandonment, which may result in reduced health or vigor of eggs and/or young, and direct mortality.

**Evidence impact is potentially significant:** Habitat loss threatens all of the species mentioned above (Shuford and Gardali 2008, Thomson et al. 2016). Habitat within and adjacent to the Project ground-and vegetation-disturbing activities associated with development of the Project will occur represents some of the only remaining undeveloped land in the vicinity, which is otherwise intensively managed for agriculture.

#### **Recommended Mitigation Measure 29: 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 the species mentioned above.

#### **Recommended Mitigation Measure 30: 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 31: Avoidance**

Avoidance whenever possible is encouraged via delineation and observance 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 10: Wetland and Riparian Habitats**

**Issue:** The Project area contains numerous waterways, riparian and wetland areas, and development has the potential to impact these features. Impacts 3.4-2 and 3.4-3 of the DEIR (p. ES-19) state that the Project could have a substantial adverse effect on any riparian habitat, wetland habitat, or other sensitive natural communities identified in local or regional plans, policies, regulations or by CDFW or USFWS.

The DEIR MM BIO-12 states if sensitive natural communities will be impacted from construction activities, a focused survey by a qualified botanist shall be conducted to

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assess and delineate the potential impacts. If evidence of impacts to these sensitive natural communities are observed or anticipated, compensation for the habitat loss will be provided. The DEIR MM BIO-13 states that prior to any disturbance of potential jurisdictional resources within the Project area, a jurisdictional delineation of water courses will be conducted to identify features or habitats that would be impacted by Project activities, and a jurisdictional delineation report will be prepared for submittal to regulatory agencies for obtaining a Section 404 Clean Water Act permit and/or CDFW Lake or Streambed Alteration Agreement. BIO-12 and BIO-13 propose to identify these resources and develop avoidance, minimization, and compensation after Project approval.

**Specific impact:** Project activities 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. 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. 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 any net loss of wetland acreage or habitat value. Construction activities within these features also has the potential to impact downstream waters as a result of Project site impacts leading to erosion, scour, and changes in stream morphology.

### **Recommended Mitigation Measure 32: Stream and Wetland Mapping**

CDFW recommends that formal stream mapping and wetland delineation be conducted by a qualified biologist or hydrologist, as warranted, to determine the baseline location, extent, and condition of streams (including any floodplain) and wetlands within and adjacent to the Project area, for inclusion in the DEIR. Please note that while there is overlap, State and Federal definitions of wetlands differ, and complete stream mapping commonly differs from delineations used by the United States (U.S.) Army Corps of Engineers specifically to identify the extent of Waters of the U.S. It is advised that the wetland delineation identify both State and Federal wetlands in the Project area as well as the extent of all streams including floodplains,

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if present, within the Project area. CDFW advises that site map(s) depicting the extent of any activities that may affect wetlands, lakes, or streams be included with any Project site evaluations, to clearly identify areas where stream/riparian and wetland habitats could be impacted from Project activities.

### **Recommended Mitigation Measure 33: Stream and Wetland Habitat Mitigation**

CDFW recommends that the potential direct and indirect impacts to stream/riparian and wetland habitat be analyzed according to each Project activity. Based on those potential impacts, CDFW recommends that the DEIR include measures to avoid, minimize, and/or mitigate those impacts. CDFW recommends that impacts to riparian habitat (i.e., biotic and abiotic features) take into account the effects to stream function and hydrology from riparian habitat loss or damage, as well as potential effects from the loss of riparian habitat to special-status species identified herein. CDFW recommends that losses to stream and wetland habitats be offset with corresponding riparian and wetland habitat restoration incorporating native vegetation to replace the value to fish and wildlife provided by the habitats lost from Project implementation. If on-site restoration to replace habitats is not feasible, CDFW recommends offsite mitigation by restoring or enhancing in-kind riparian or wetland habitat and providing for the long-term management and protection of the mitigation area, to ensure its persistence.

### **Editorial Comments and/or Suggestions**

#### **Fishery Ecosystem and Special-Status Fish:**

Pages 3.4-37 and 3.4-38 state that the benefits for Chinook salmon (*Oncorhynchus tshawytscha*) would occur in years when the Project allows for a Feather River flow pulse. On average, Project flow pulses were estimated to improve survival relative to the base flow condition by approximately 4.6%. For spring-run Chinook salmon, years with flow pulses would produce 121 to 354 additional adult Chinook salmon from each of the seven Project flow pulses occurring in the 2030 estimated condition, and 168 to 375 additional adults for each of the five flow pulses occurring in the 2070 estimated condition. For winter-run Chinook salmon, benefits would range from 26 to 57 additional adult Chinook winter run occurring with the seven pulses for the 2030 condition, and with the five pulses for the 2070 estimated condition.

For green sturgeon (*Acipenser medirostris*), April pulse flows would be expected to enhance upstream passage for spawning adults by approximately 13 and 10 adult additional spawners accessing the Feather River per year for the 2030 and 2070 future conditions, respectively. For steelhead (*Oncorhynchus mykiss irideus*), an additional 63 to 127 adults would be benefited for the 2030 future condition and an additional 42 to 83 adults would be benefited for the 2070 future condition. CDFW recommends that the

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DEIR detail how the models used to predict the benefits to fisheries are accurate enough to specify the precise number of fish that will benefit from the Project.

**Operations and Maintenance Plan, Pesticide Use Plan:** The DEIR Impacts 3.4-1 (p. ES-18 and p. 3.4-34) state that operations and maintenance (O&M) activities have the potential to significantly impact special-status plant and wildlife species including take of State-listed species. These activities may include, but are not limited to, activities such as the operation of recharge basins, pump and other facility maintenance, vehicle, and equipment operation. The DEIR defers analysis of impacts and the development of avoidance, minimization, and mitigation measures until after Project implementation. BIO-10 directs the Authority to develop an O&M Plan detailing how special-status plant and wildlife species, nesting birds, and sensitive natural communities will not be impacted by O&M activities.

The DEIR (p. 3.4-34) states that the need for rodenticide will be reduced by the installation of raptor boxes every 0.25 miles of berm with perching structures, for hawks and owls to offset harmful effects of burrowing rodents causing damage to earthen berms; however, the DEIR MM BIO-11 does not propose to reduce or substitute the use of pesticides or rodenticides with raptor boxes. Nesting raptors attracted to the Project site by the introduction of raptor boxes, as well as SJKF and other wildlife may be substantially impacted if they consume rodents exposed to rodenticides. Special-status small-mammals such as TKR, SJAS, Tulare grasshopper mouse, and other small mammals may also be potentially impacted rodenticides. BIO-11 defers the analysis of impacts and the development of avoidance, minimization, and mitigation measures, by requiring the Authority develop a Pesticide Use Plan in the future to detail how pesticides, rodenticides, and/or herbicides will be used and how application will not impact special-status plant and wildlife species, nesting birds, wetlands and jurisdictional features, and sensitive natural communities.

CDFW recommends that the DEIR include an O&M Plan and Pesticide Use Plan for review, or at a minimum that the DEIR identify the requirements and parameters for those documents, to avoid or minimize potential significant impacts. If take of State listed species cannot be avoided for O&M activities or the application and use of pesticides, herbicides, or rodenticides, take authorization through acquisition of an ITP, pursuant to Fish and Game Code Section 2081(b) would be warranted.

#### **Kern Water Bank Habitat Conservation Plan and Natural Communities**

**Conservation Plan (HCP/NCCP):** The DEIR Impact 3.4-6 and MM BIO-14 state that the Project could conflict with the provisions of the Kern Water Bank HCP/NCCP, if facilities will be located on the Kern Water Bank. BIO-14 proposes that discussions be initiated to ensure that conveyance facilities located in the HCP/NCCP area avoid impacts to covered species area during construction, operations, and maintenance.

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CDFW recommends that the DEIR thoroughly disclose which Project-related activities may occur on the Kern Water Bank, including any potential direct or indirect impacts to portions of the Kern Water Bank that are part of a mitigation bank encumbered with perpetual Conservation Easements held by the State of California. Please note that these Conservation Easements would likely preclude direct project related impacts on the parcels encumbered with Conservation Easements. In addition, CDFW recommends that the DEIR disclose the implications that these activities may have for the HCP/NCCP, as well as the need for any related major permit modifications. CDFW recommends that the DEIR include a complete description and location map for each of these activities. If any of these Project activities will conflict with the implementation of the HCP/NCCP, then consultation with CDFW by both the Authority and Kern Water Bank Authority is advised well in advance of Project approval or implementation to ensure compliance with CESA.

**CDFW ITP No. 2081-2013-058-04 and the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP):** The DEIR Cumulative Impact 3.4-7 discusses Project-related impacts related to construction of transportation projects and roadway O&M related that will be mitigated through implementation of the MBHCP (p 3.4-44). The DEIR describes the Project-related components that are subject to and located within the MBHCP boundary and the Metropolitan Bakersfield General Plan Area.

On August 24, 2014, CDFW issued ITP No. 2081-2013-058-04 to the City of Bakersfield and County of Kern authorizing take of Tipton kangaroo rat, San Joaquin kit fox, San Joaquin antelope squirrel, and Bakersfield cactus (*Opuntia basilaris* var. *treleasei*) associated with and incidental to Urban Development (as defined in the ITP) in the Metropolitan Bakersfield 2010 General Plan Area in Kern County, California. For the purpose of the ITP, Urban Development specifically **does not** include activities for water recharge and extraction facilities (not including wells developed in an urban setting) within lands owned by the California Department of Water Resources, Kern County Water Agency, Kern Water Bank Authority, or other water districts.

The Project applicant is the Authority, which is jointly composed of Rosedale and IRWD, and it is not clear how the Project-related transportation and roadway O&M components are activities covered under ITP No. 2081-2013-058-04. CDFW recommends that the DEIR disclose which Project-related activities meet the criteria for inclusion under the ITP and include a complete description and location map. If any of these Project activities do not meet the criteria for take coverage under ITP No. 2081-2013-058-04, then acquisition of separate State incidental take authorization pursuant to CESA would be necessary prior to any take of species listed pursuant to CESA. Consultation with CDFW to ensure compliance with CESA is advised well in advance of any Project approval or implementation.

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**Federally Listed Species:** CDFW recommends consulting with USFWS regarding potential impacts to federally listed species including but not limited to SJKF, BNLL, 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 lakes, streams, and associated wetlands onsite and/or substantially extract or divert the flow of any such feature that is subject to CDFW's regulatory authority pursuant Fish and Game Code section 1600 et seq. Fish and Game Code section 1602 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 (LSAA); therefore, if the CEQA document approved for the Project does not adequately describe the Project and its impacts to lakes or streams, a subsequent CEQA analysis may be necessary for LSAA issuance. For information on notification requirements, please refer to CDFW's website (<https://wildlife.ca.gov/Conservation/LSA>) or contact CDFW staff in the Central Region Lake and Streambed Alteration Program at (559) 243-4593 or R4LSA@wildlife.ca.gov.

**Cumulative Impact Analysis of Surface Water Diversions from outside the Project Boundary:** Project-related diversions acquiring surface water from outside of the Project boundary, including the Sacramento-San Joaquin River Delta (Delta); and San Joaquin, Kings, and Kern River watersheds (including South Fork Kern River watershed) may impact additional riparian, wetland, fisheries, and terrestrial (i.e., upland) wildlife species and habitats. Special-status species and habitats located in watersheds outside of the Project area vary depending upon location. They may include, but are not limited to, the Federal threatened Central Valley distinct population segment steelhead (*Oncorhynchus mykiss*), the Federal and State threatened Central Valley spring-run evolutionary significant unit (ESU) Chinook salmon (*O. tshawytscha*), the Federal candidate and State species of special concern Central Valley fall-run and late fall-run ESU Chinook salmon (*O. tshawytscha*), the State species of special concern hardhead (*Mylopharodon conocephalus*), the State and Federal threatened giant garter snake (*Thamnophis gigas*), the State threatened Swainson's hawk and

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tricolored blackbird, the species of special concern burrowing owl and western pond turtle, and numerous additional special-status species and habitats.

The South Fork Kern River Valley contains the largest contiguous cottonwood-willow riparian woodland in California. Rosedale owns and manages Onyx Ranch in the South Fork Kern River Valley. CDFW owns and manages the 7,200-acre Canebrake Ecological Reserve adjacent to Onyx Ranch. The National Audubon Society owns and manages the Audubon Kern River Preserve, a 3,275-acre preserve located on several parcels to the west of Onyx Ranch. Both properties are to be protected in perpetuity and portions of them were set aside as mitigation for other projects such as Lake Isabella construction. Project-related activities resulting in surface water diversion from the South Fork Kern River could significantly impact habitat on these properties and the following sensitive habitats and special-status plant and wildlife species located in the South Fork Valley: Great Valley Cottonwood Forest, Central Valley Drainage Hardhead /Squawfish Stream, the Federal threatened and State endangered yellow-billed cuckoo (*Coccyzus americanus occidentalis*), the Federal and State endangered southwestern willow flycatcher (*Empidonax trailii extimus*) and least Bell's vireo (*Vireo bellii pusillus*), tricolored blackbird, and numerous other special-status species.

CDFW provided a comment letter to Rosedale dated July 27, 2020 (enclosed), regarding the DEIR for the Onyx Ranch South Fork Valley Water Project (State Clearinghouse No. 2018021061). The Onyx Ranch South Fork Valley Water Project DEIR lists the Kern Fan Groundwater Storage Project as a potential recipient of surface water. To the extent that surface water exchanges from the WSIP are part of this Project, the DEIR must analyze impacts of this Project on those water source areas. CDFW recommends that the DEIR provide an analysis of the impacts of the acquisition of surface water from all watersheds and any potential direct, indirect, and cumulative biological impacts to fish and wildlife species and their habitats, as well as to properties permanently conserved to protect those resources.

**Water Rights:** The Project proponents will seek to acquire additional water supplies from various potential sources. CDFW recommends that the DEIR include a detailed description of the water rights and water entitlements for the points of diversion and places of use that pertain to the Project. CDFW recommends including information on the historic and current water rights and water use agreements/contracts including pre-1914 and appropriative rights, riparian rights, prescriptive rights, and adjudications.

CDFW recommends that the DEIR address whether Rosedale or IRWD will be filing a change petition or a new application for additional surface water. Given the potential for impacts to sensitive species and their habitats, it is advised that required consultation with CDFW occur well in advance of the SWRCB water right application process.

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**WSIP:** The Project received a conditional award of funding through the California Water Commission's WSIP (Cal. Code Regs., tit. 23, § 6000 et seq.). The WSIP is funded by the Proposition 1 Water Quality, Supply, and Infrastructure Act of 2014. The purpose of the WSIP is to fund water storage projects that provide public benefits, improve operation of the state water system, and provide a net improvement in ecosystem and water quality conditions. "Net Improvement" means the gain or enhancement of a resource condition determined by comparing the with- and without-project future conditions less any negative outcomes of a proposed project, as defined in the WSIP regulations (Cal. Code Regs., tit.23, § 6001 (a)(50)). "Public benefit(s)" as defined in WSIP are those public benefits associated with water storage projects outlined in Water Code section 79753(a). Ecosystem improvements is a public benefit that includes changing the timing of water diversions, improvement in flow conditions, temperature, or other benefits that contribute to restoration of aquatic ecosystems and native fish and wildlife, including those ecosystems and fish and wildlife in the Delta (Water Code § 79753(a)(1)). Ecosystems include both aquatic and terrestrial habitats and natural communities.

Pursuant to the requirements of Water Code section 79755, any project funded under WSIP shall enter into a contract with CDFW, the SWRCB, and DWR (i.e., the administering agencies) to administer the public benefits of the project. CDFW is responsible for administering a contract with the Project for the implementation of ecosystem benefits that provide a net improvement.

Two ecosystem benefits proposed by the Project are pulse flow release from Oroville Reservoir and the provision of 1,280 acres of incidental wetland habitat in Kern County. CDFW will be coordinating with the Project to develop an ecosystem benefit contract and adaptive management plan for the Project. CDFW recommends that the DEIR provide an assessment of the Project, including delivery of the WSIP public benefits. CDFW also recommends the DEIR discuss CDFW permits or agreements that may potentially be required.

The Project Description on page ES-6 and page 2-6 state that, "...twenty-five percent, up to 25,000 AF, of unallocated Article 21 water would be stored for DWR in an 'Ecosystem Account.' Through the implementation of 1-for-1 exchanges, the Article 21 water stored in the Ecosystem Account would be used by the State of California to alleviate stress on endangered and threatened species in the Sacramento-San Joaquin River Delta. DWR, in consultation with the California Department of Fish and Wildlife would determine when water from the Ecosystem Account would be needed for such ecosystem benefits... DWR would release the SWP Project water from Lake Oroville at its discretion to provide ecosystem benefits."

Page ES-10 also states, regarding the Willow Springs Water Bank (WSWB), "If the Authority participates in the WSWB Conjunctive Use Project... DWR would forgo the

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availability of 18,000 to 25,000 AF of pulse flows associated with the proposed project. If the Authority proceeds with the proposed project, then other entities would participate in the WSWB Conjunctive Use Project and together both groundwater banking projects would have the potential to provide DWR with up to 65,000 AF of water for pulse flows and benefits to fishery resources.”

While it is accurate that the Project’s water exchange will happen with DWR’s Oroville Reservoir, CDFW recommends rephrasing the Ecosystem Account and pulse flow descriptions to reflect CDFW’s role as the administering agency of the WSIP public ecosystem benefit. The pulse flows out of Oroville would be implemented at CDFW’s discretion with coordination with DWR for SWP operations.

**WSIP Benefit Description Consistency:** The intermittent/incidental wetlands described in multiple sections of the DEIR (i.e., Sections 2.4, 3.4.3, and Appendix D) were conditionally accepted as a public ecosystem benefit under the WSIP. However, it is not clear in the descriptions that those provide a proposed WSIP public benefit. For clarity and consistency, CDFW recommends that the intermittent wetlands be described as a WSIP ecosystem public benefit, similar to how the Project’s Ecosystem Account and Oroville pulse flow is described and presented in the DEIR.

**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 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). CDFW encourages Project implementation to occur during the bird non-nesting season; however, if Project activities must occur during the breeding season (i.e., 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 ground disturbance 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

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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 CNDDDB. The CNDDDB field survey form can be found at the following link:

[http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB\\_FieldSurveyForm.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf). The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: [http://www.dfg.ca.gov/biogeodata/cnddb/plants\\_and\\_animals.asp](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. If you have questions regarding these comments, please contact Annette Tenneboe, Senior Environmental

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Scientist (Specialist), at the address on this letterhead, by phone at (559) 243-4014 extension 231, or by email at [Annette.Tenneboe@wildlife.ca.gov](mailto:Annette.Tenneboe@wildlife.ca.gov).

Sincerely,

DocuSigned by:  
  
FA83F09FE08945A...

Julie A. Vance  
Regional Manager  
Attachment

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Josh Grover  
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California Department of Fish and Wildlife

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Attachment 1

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

**PROJECT: Kern Fan Groundwater Storage Project**

<b>RECOMMENDED MITIGATION MEASURES</b>	<b>STATUS/DATE/INITIALS</b>
<i>Before Disturbing Soil or Vegetation</i>	
Recommended Mitigation Measure 1: SJKF Habitat Assessment	
Recommended Mitigation Measure 2: SJKF Surveys	
Recommended Mitigation Measure 3: SJKF Take Authorization	
Recommended Mitigation Measure 4: BNLL Habitat Assessment	
Recommended Mitigation Measure 5: BNLL Surveys	
Recommended Mitigation Measure 7: SJAS Habitat Assessment	
Recommended Mitigation Measure 8: SJAS Surveys	
Recommended Mitigation Measure 9: SJAS Avoidance	
Recommended Mitigation Measure 10: SJAS Take Authorization	
Recommended Mitigation Measure 11: TKR Habitat Assessment	
Recommended Mitigation Measure 13: TKR Surveys	
Recommended Mitigation Measure 14: TKR Take Authorization	
Recommended Mitigation Measure 15: Focused SWHA Surveys	
Recommended Mitigation Measure 17: Tree Removal	
Recommended Mitigation Measure 18: SWHA Take Authorization	
Recommended Mitigation Measure 19: TRBL Surveys	
Recommended Mitigation Measure 21: TRBL Take Authorization	
Recommended Mitigation Measure 22: Special-Status Plant Surveys	
Recommended Mitigation Measure 24: Listed Plant Species Take Authorization	
Recommended Mitigation Measure 25: BUOW Habitat Assessment	

<b>RECOMMENDED MITIGATION MEASURES</b>	<b>STATUS/DATE/INITIALS</b>
<b>Recommended Mitigation Measure 26: BUOW Surveys</b>	
<b>Recommended Mitigation Measure 28: BUOW Passive Relocation and Mitigation</b>	
<b>Recommended Mitigation Measure 29: Habitat Assessment (Other Species of Special Concern)</b>	
<b>Recommended Mitigation Measure 30: Surveys (Other Species of Special Concern)</b>	
<b>Recommended Mitigation Measure 32: Stream and Wetland Mapping</b>	
<b>Recommended Mitigation Measure 33: Stream and Wetland Habitat Mitigation</b>	
<i>During Construction</i>	
<b>Recommended Mitigation Measure 6: BNLL Take Avoidance</b>	
<b>Recommended Mitigation Measure 12: TKR Avoidance</b>	
<b>Recommended Mitigation Measure 16: SWHA Avoidance</b>	
<b>Recommended Mitigation Measure 20: TRBL Colony Avoidance</b>	
<b>Recommended Mitigation Measure 23: Special-Status Plant Avoidance</b>	
<b>Recommended Mitigation Measure 27: BUOW Avoidance</b>	
<b>Recommended Mitigation Measure 31: Avoidance (Other Species of Special Concern)</b>	