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Subject: Merced River Agricultural Diversion and Fish Habitat Enhancement Project
Mitigated Negative Declaration (MND)
State Clearinghouse No. 2022010622

Dear Mr. Morris:

The California Department of Fish and Wildlife (CDFW) received the Notice of Intent to Adopt an MND regarding the Merced River Agricultural Diversion and Fish Habitat Enhancement Project (Project) from the Merced Irrigation District (MeID) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

CDFW is supportive of the Project concept with respect to its goal of reducing impacts to Merced River fisheries, specifically those associated with three of the diversions commonly referred to as "CAD Diversions." Measures that are either mitigation measures or part of the Project Description also seek to enhance conditions for Merced River salmonids while making the diversions themselves more efficient and measurable. Generally speaking, the historic practice of creating wing dams within the Merced River to accommodate these existing diversions likely created disturbance to river bottom substrates important for salmonid reproduction, resulted in fish passage obstruction while in place, and created additional salmonid predator habitat, so changing these diversions to a structure and method that are less impactful is desirable. Our comments below are submitted with the intent of further reducing Project related impacts to fish and wildlife resources, and/or identifying ways in which fish and wildlife resources can further benefit from Project related actions. We also identified areas in which the MND

[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.

could benefit from additional detail and which would help facilitate CDFW's use of the MND as a Responsible Agency.

CDFW appreciates 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 the 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.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it will need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project is 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.

Bird Protection: CDFW has jurisdiction over actions that may 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 section 3503 (regarding unlawful take, possession, or needless destruction of the nest or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird).

Water Rights: The diversion of Merced River Water and moving of said points of diversion is subject to appropriation and approval by the State Water Resources Control Board (SWRCB) pursuant to Water Code sections 1200 et seq and 1700 et seq, respectively. CDFW, as Trustee Agency, is consulted by 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 and riparian 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

Project Proponent: MeID

Description: The Project proposes to enhance up to three Cowell Agreement surface water diversions on the Lower Merced River and install fish screens at each diversion. Design and construction will occur in two phases, targeting the Cowell 2 diversion in the first year and the Cowell 1 and Cuneo diversions in the second year.

Location: The Project is located in the Merced River in the vicinity of the town of Snelling in Merced County. The Cuneo diversion is on the Lower Merced River generally across from Henderson Park, approximately 1.1 miles east of Snelling. The Cowell 1 diversion is approximately 1.0 mile downstream of Snelling Road Bridge and 2.2 miles southwest of Snelling, California. The Cowell 2 diversion is located about 2.9 miles west of State Route 59 bridge.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations below to assist MeID in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife i.e., biological resources. Editorial comments or other suggestions may also be included to improve the document.

Biological Resources

Based on a review of the Project description, the biological assessment of the MND, a review of California Natural Diversity Database (CNDDB) records, and a review of aerial photographs of the Project boundary and surrounding habitat, several special-status species could potentially be impacted by Project activities. Project-related construction activities and changes to surface flows within the Project boundary could impact the special-status plant and wildlife species and habitats known to occur in the area.

In particular, special status species and habitats are known to occupy the Project area, including the Federal threatened Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*); the State threatened and federal endangered San Joaquin kit fox (*Vulpes macrotis mutica*); the State endangered and fully-protected bald eagle (*Haliaeetus leucocephalus*); the State and Federal endangered least Bell's vireo (*Vireo*

bellii pusillus); the State threatened Swainson's hawk (*Buteo swainsoni*) and tricolored blackbird (*Agelaius tricolor*); the State fully-protected white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*); the State endangered foothill yellow-legged frog (*Rana boylii*); the State and Federal threatened California tiger salamander – central California Distinct Population Segment (DPS)(*Ambystoma californiense* pop. 1); the California Rare Plant Rank 2B.2 Peruvian dodder (*Cuscuta obusiflora* var. *grandulosa*); and the State species of special concern burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), Merced kangaroo rat (*Dipodomys heermanni dixoni*), San Joaquin pocket mouse (*Perognathus inornatus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), western pond turtle (*Emys marmorata*), and western spadefoot (*Spea hammondii*). Suitable habitat for the rare and endemic Crotch bumble bee (*Bombus crotchii*) also occurs in the Project vicinity. Other species of birds, amphibians, reptiles, mammals, fish, and plants also compose the local ecosystem within the Project boundary. The Merced River and surrounding area supports surface and ground water dependent ecosystems, including northern hardpan vernal pool, swale, riparian, wetland, and oak woodland habitats.

The Merced River supports the Federal threatened Central Valley steelhead DPS (*Oncorhynchus mykiss irideus* pop.11) and the State species of special concern fall-run Central Valley Chinook salmon (*Oncorhynchus tshawyscha*). The San Joaquin River supports the nonessential experimental population of spring run Central Valley Chinook salmon, for which the San Joaquin River Restoration Program goal is to restore a self-sustaining fishery. CDFW documented the presence of the experimental spring-run Chinook salmon in the Merced River during the 2021 escapement surveys, establishing the river as a migratory corridor for spring/fall Chinook and steelhead, and likely providing rearing habitat. Other special status fish species known to occur within Merced River system include the State species of special concern hardhead (*Mylopharodon conocephalus*), Kern brook lamprey (*Lampetra hubbsi*), and Pacific lamprey (*Entosphenus tridentatus*).

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. A lack of an occurrence record in the CNDDB does not mean a species is not present. 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 MND, including proposed avoidance, minimization, and compensatory measures, prior to its adoption by MeID.

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 United States Fish and Wildlife Service (USFWS)?

COMMENT 1: San Joaquin kit fox (SJKF)

Issues and Impacts: Habitat loss and fragmentation resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013). Mitigation Measure BIO-3 (pages 110-111) states that pre-construction surveys will be conducted for potential kit fox dens located within a 500-foot buffer area and if active or natal dens are confirmed, subsequent consultation with CDFW and USFWS to determine avoidance methods will occur.
SJKF den in rights-of-way, 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 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. 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.

Recommended Mitigation Measure 1: SJKF Take Authorization
SJKF activity or detection warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) for SJKF prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 2: Least Bell's Vireo (LBV)

Issues and Impacts: LBV occurrences have been documented within the Project area, including the Merced River, and review of aerial imagery shows that suitable habitat occurs in the Project boundary and surrounding area (CDFW 2022). Suitable LBV habitat includes rivers and streams with dense riparian vegetation.

LBV were abundant and widespread in the United States until the 1950s (Grinnell and Miller 1944). By the 1960s, they were considered scarce (Monson 1960), and by 1980, there were fewer than 50 pairs remaining (Edwards 1980), although this number had increased to 2,500 by 2004 (Kus and Whitfield 2005). Breeding habitat

loss resulting from urban development, water diversion, and spread of agricultural is the primary threat to LBV. The primary cause of decline for this species has been the loss and alteration of riparian woodland habitats (USFWS 2006). Fragmentation of their preferred habitat has also increased their exposure to brown-headed cowbird (*Molothrus ater*) parasitism (Kus and Whitefield 2005). Current threats to their preferred habitat include colonization by non-native plants and altered hydrology (diversion, channelization, etc.) (USFWS 2006). Suitable nesting habitat is present within or adjacent to the Project site. Without appropriate avoidance and minimization measures, potential significant impacts associated with subsequent activities may include nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Recommended Mitigation Measure 4: LBV Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project site or its immediate vicinity contains suitable habitat for LBV. Although LBV inhabit riparian woodlands, the species has also been found to benefit from non-riparian systems including brushy fields, second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands (Kus and Miner 1989).

Recommended Mitigation Measure 5: Focused LBV Surveys
To reduce potential Project-related impacts to LBV, CDFW recommends that a qualified biologist conduct surveys following the survey methodology developed by USFWS (2001) prior to Project initiation, within the Project area and a 500-foot 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 Project activities such as construction or habitat removal.

Recommended Mitigation Measure 6: LBV Buffers
If an LBV nest is found during protocol or preconstruction surveys, CDFW recommends maintaining a minimum 500-foot 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.

Recommended Mitigation Measure 7: LBV Nest Avoidance and Habitat Mitigation
In addition to avoiding nests, CDFW recommends that impacts to known nest trees be avoided at all times of year. Regardless of nesting status, if potential or known LBV nesting habitat is removed, CDFW recommends that it be replaced with appropriate native tree species, planted at a ratio of 3:1 (replaced to removed), in an area that will be protected in perpetuity, to offset impacts of the loss of habitat.

Recommended Mitigation Measure 8: LBV Take Authorization
If a 500-foot no-disturbance nest buffer is not feasible, consultation with CDFW is warranted and acquisition of an ITP for LBV may be necessary prior to project implementation, to avoid unauthorized take, pursuant to Fish and Game Code section 2081, subdivision (b).

COMMENT 3: Swainson's Hawk (SWHA) and White-Tailed Kite (WTKI)

Issues and Impacts: SWHA have been documented in areas of suitable habitat within the Project vicinity (CDFW 2022). Undeveloped and agricultural land in the surrounding area provide suitable foraging habitat for SWHA. The MND states that nesting WTKI has the potential to occur in the Project area. Any trees in or near the Project area may provide suitable nesting habitat.

SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat limits their local distribution and abundance (CDFW 2016). Approval of the Project may lead to subsequent ground-disturbing activities that involve noise, groundwork, construction of structures, and movement of workers that could affect nests and has the potential to result in nest abandonment and loss of foraging habitat, significantly impacting local nesting SWHA and WTKI. In addition, conversion of undeveloped and agricultural land can directly influence distribution and abundance of SWHA, due to the reduction in foraging habitat. Without appropriate avoidance and minimization measures for SWHA and WTKI, potential significant impacts that may result from Project activities include nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. All trees, including non-native or ornamental varieties, near the Project site may provide nesting sites.

Recommended Mitigation Measure 9: Focused SWHA and WTKI Surveys
CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the entire survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) prior to Project implementation.

Recommended Mitigation Measure 10: SWHA and WTKI Avoidance
CDFW recommends that if Project-specific activities will take place during the SWHA and WTKI nesting season (i.e., March 1 through September 15), and active SWHA or WTKI nests are present, a minimum ½-mile no-disturbance buffer be delineated and maintained around each nest, regardless of when or how 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.

Recommended Mitigation Measure 11: SWHA Take Authorization
CDFW recommends that in the event an active SWHA nest is detected, and a ½-mile no-disturbance buffer is not feasible, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided,

take authorization through the acquisition of an ITP for SWHA, pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.

Please note that WTKI is a State fully protected species and pursuant to Fish and Game Code section 3511, CDFW cannot authorize their incidental take.

Recommended Mitigation Measure 12: SWHA Nest Tree Avoidance and Mitigation
In addition to avoiding occupied nest trees, CDFW recommends that impacts to known nest trees be avoided at all times of year, or that mitigation occurs for these impacts. Regardless of nesting status, if potential or known SWHA nesting trees are removed, CDFW recommends they be replaced with an appropriate native tree species, planted at a ratio of 3:1 in an area that will be protected in perpetuity. This mitigation will offset potential impacts of the loss of nesting habitat.

COMMENT 4: Tricolored Blackbird (TRBL)

Issues and Impacts: TRBL are known to occur in the Project area (CDFW 2022, UC Davis 2021). Review of aerial imagery indicates that the Project area includes suitable habitat types including wetlands, ponds, and flood-irrigated agricultural land, which is an increasingly important nesting habitat type for TRBL (Meese et al. 2017).

Potential nesting habitat for TRBL is present within the Project vicinity. TRBL aggregate and nest colonially, forming colonies of up to 100,000 nests (Meese et al. 2014), and 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, 55% of the species' global population nested in only two colonies in silage fields (Kelsey 2008). Nesting can occur synchronously, with all eggs laid within one week (Orians 1961). For these reasons, disturbance to nesting colonies can cause entire nest colony site abandonment and loss of all unfledged nests, significantly impacting TRBL populations (Meese et al. 2014). Without appropriate avoidance and minimization measures for TRBL, potential significant impacts associated with subsequent development include nesting habitat loss, nest and/or colony abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Recommended Mitigation Measure 13: TRBL Surveys
CDFW recommends that Project activities 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 biologist conduct surveys for nesting TRBL no more than 10 days prior to the start of implementation to evaluate presence or absence of TRBL nesting colonies in proximity to Project activities and to evaluate potential Project-related impacts.

Recommended Mitigation Measure 14: TRBL Colony Avoidance
If an active TRBL nesting colony is found during surveys, CDFW recommends implementation of a minimum 300-foot no-disturbance buffer, in accordance with CDFW's (2015a) *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 201*", 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 its nest site for survival.

Recommended Mitigation Measure 15: TRBL Take Authorization
In the event that a TRBL nesting colony is detected during surveys, consultation with CDFW is warranted to discuss whether the Project can avoid take and, if take avoidance is not feasible, to acquire an ITP for TRBL pursuant to Fish and Game Code section 2081, subdivision (b), prior to any Project activities.

COMMENT 5: Nesting Bald Eagle (BAEA) and Golden Eagle (GOEA)

Issues and Impacts: BAEA and GOEA occurrences have been documented within the vicinity of the Project boundary (CDFW 2022). Nesting BAEA and GOEA have the potential to occur in the Project area and its vicinity, including the Merced River corridor. 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.

Without appropriate survey methods, eagles nesting in the vicinity of a project can remain undetected, with no avoidance and minimization measures implemented. In addition, human activity near nest sites can cause reduced provisioning rates of GOEA chicks by adults (Steidl et al. 1993). Depending on the timing of construction, Project activities including noise, vibration, odors, and movement of workers or equipment could affect nests and have the potential to result in nest abandonment, significantly impacting local nesting raptors.

Recommended Mitigation Measure 16: Focused Surveys for Nesting Eagles
CDFW recommends that a qualified wildlife biologist conduct surveys for nesting raptors 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 of 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 17: Eagle Avoidance
If an active eagle 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 eagles 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. Please note that BAEA and GOEA are State fully protected species and pursuant to Fish and Game Code section 3511; and CDFW therefore cannot authorize their incidental take.

COMMENT 6: California Tiger Salamander (CTS)

Issues and Impacts: The MND states that CTS occurrence is possible (Table 4, page 53), but determines that CTS breeding and upland habitat is not present in the Project area. CTS are known to occur in vernal pool habitat surrounding the Project vicinity (CDFW 2022). Review of aerial imagery indicates the presence of several wetland features in the Project's vicinity that have the potential to support breeding CTS. In addition, the Project area or its immediate surroundings may support small mammal burrows, a requisite upland habitat feature for CTS.

Up to 75% of historic CTS habitat has been lost to development (Shaffer et al. 2013). Loss, degradation, and fragmentation of habitat are among the primary threats to CTS (CDFW 2015b, USFWS 2017a). The Project area is within the range of CTS and is both composed of and bordered by suitable upland habitat that could be occupied or colonized by CTS. Without appropriate avoidance and minimization measures for CTS, potential significant impacts associated with any construction or ground disturbing activity include burrow collapse; inadvertent entrapment; reduced reproductive success; reduction in health and vigor of eggs, larvae and/or young; and direct mortality of individuals. In addition, depending on the design of any activity, the Project has the potential to result in creation of barriers to dispersal.

Recommended Mitigation Measure 18: CTS Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment well in advance of Project implementation, to determine if the Project area or its vicinity contains suitable habitat (upland or breeding) for CTS.

Recommended Mitigation Measure 19: Focused CTS Surveys
If the Project area does contain suitable habitat for CTS, CDFW recommends that a qualified biologist evaluate potential Project-related impacts to CTS prior to ground-disturbing activities using the USFWS (2003) *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander*. CDFW advises that the survey include a 100-foot buffer around the Project area in all areas of wetland and upland habitat that could support CTS.

Recommended Mitigation Measure 20: CTS Avoidance
CDFW advises that avoidance for CTS include a minimum 50-foot no disturbance buffer delineated around all small mammal burrows and a minimum 250-foot no disturbance buffer around potential breeding pools within and/or adjacent to the Project area. CDFW also recommends avoiding any impacts that could alter the hydrology or result in sedimentation of breeding pools. If avoidance is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take.

Recommended Mitigation Measure 21: CTS Take Authorization
If through surveys it is determined that CTS occupy the Project area and if take cannot be avoided, take authorization may be warranted prior to initiating Project activities by acquiring an ITP for CTS pursuant to Fish and Game Code section 2081, subdivision (b) before Project ground or vegetation disturbing activities occur. Alternatively, in the absence of protocol surveys, the applicant can assume presence of CTS within the Project area and obtain an ITP.

COMMENT 7: Foothill Yellow-Legged Frog (FYLF)

Issue and Impacts: Tables 4 and 6 of the MND state that FYLF may potentially occur and be affected by construction activities. FYLF are primarily stream-dwelling and require shallow, flowing water in streams and rivers with at least some cobble-sized substrate (Thomson et al. 2016). The Project site contains habitat that may support this species. Without appropriate avoidance and minimization measures for FYLF, potentially significant impacts associated with the Project's activities include burrow collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of eggs, larvae and/or young, and direct mortality of individuals.

FYLF populations throughout the state have experienced ongoing and drastic declines and many have been extirpated. FYLF occurred in mountain streams from the San Gabriel River in Los Angeles County to southern Oregon west of the Sierra-Cascade crest (Thomson et al. 2016). Habitat loss from growth of cities and suburbs, invasion of nonnative plants, impoundments, water diversions, stream maintenance for flood control, degraded water quality, and introduced predators such as bullfrogs are the primary threats to FYLF (Thomson et al. 2016, USFWS 2017b).

Recommended Mitigation Measure 22: FYLF Surveys
CDFW recommends that a qualified biologist conduct surveys for FYLF in accordance with the *Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog* (USFWS 2005) to determine if FYLF are within or adjacent to the Project area; while this survey is designed for California red-legged frog (*Rana draytonii*), it may be used for FYLF with a focus on stream/river habitat.

Recommended Mitigation Measure 23: FYLF Avoidance
If any FYLF are found during preconstruction surveys or at any time during construction, consultation with CDFW is warranted to determine if the Project can avoid take. CDFW recommends that initial ground-disturbing activities be timed to avoid the period when FYLF are most likely to be moving through upland areas (i.e., November 1 to March 31). When ground-disturbing activities must take place between November 1 and March 31, CDFW recommends that a qualified biologist monitor construction activity daily for FYLF.

Recommended Mitigation Measure 24: FYLF Take Authorization
FYLF detection warrants consultation with CDFW to discuss how the Project can avoid take and, if take avoidance is not feasible, to acquire an ITP for FYLF pursuant to Fish and Game Code section 2081, subdivision (b), prior to any Project activities.

COMMENT 8: Special-Status Plants

Issues and Impacts: Peruvian dodder, a special-status plant species meeting the definition of rare or endangered under CEQA section 15380, is known to occur in the Project vicinity and presumed to be extant. Threats to the species include water diversions, hydrological alterations, grazing and agricultural, urban, and other activities. Many historical occurrences of these species are presumed extirpated (CNPS 2021). Impacts to existing populations have the potential to significantly impact populations of plant species. Without appropriate avoidance and minimization measures for special-status plants, potential significant impacts associated with subsequent Project-specific activities include loss of habitat, loss or reduction of productivity, and direct mortality.

Recommended Mitigation Measure 25: 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* (CDFG 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 26: 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 27: Listed Plant Species 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, authorization through acquisition of an ITP, pursuant to Fish and Game Code section 2081, subdivision (b) is warranted.

COMMENT 9: Burrowing Owl (BUOW)

Issues and Impacts: BUOW inhabit open grassland containing small mammal burrows, a requisite habitat feature used for nesting and cover. BUOW may also occur in some agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable and there are useable burrows and foraging habitat in the area (Gervais et al. 2008). BUOW occurrences have been documented in the Project vicinity, and habitat both within and bordering the Project site supports suitable habitat for BUOW (CDFW 2022).

BUOW rely on burrow habitat year-round for their survival and reproduction. The Project and surrounding area contain remnant undeveloped land but is otherwise intensively managed for agriculture; therefore, subsequent ground-disturbing activities associated with subsequent constructions have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA. Potentially significant impacts to nesting and non-nesting BUOW can also occur as a result of ground-impacting activity, such as grading and flooding within active and fallow agricultural areas, and as a result of noise, vibration, and other disturbance caused by equipment and crews. Potential impacts associated with Project 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.

Recommended Mitigation Measure 28: BUOW Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment in advance of implementation of Project activities, to determine if the Project area or its vicinity contains suitable habitat for BUOW.

Recommended Mitigation Measure 29: BUOW Surveys
Where suitable habitat is present on or in the vicinity of the Project area, CDFW recommends assessing presence or absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium (1993) *Burrowing Owl Survey Protocol and Mitigation Guidelines* and the CDFG (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 of April 15 to

July 15, when BUOW are most detectable. In addition, CDFW advises that surveys include a minimum 500-foot survey radius around the Project area.

Recommended Mitigation Measure 30: BUOW Avoidance
CDFW recommends that no-disturbance buffers, as outlined by CDFG (2012), be implemented prior to and during any ground-disturbing activities, and specifically 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 31: BUOW Eviction and Mitigation
If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to CDFG (2012), evicting birds 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 then recommends mitigation in the form of replacement of occupied burrows with artificial burrows at a minimum 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 10: Special-Status Bat Species

Issues and Impacts: Hoary bat, pallid bat, Western mastiff bat, and Western red bat have been documented within and adjacent to the Merced River corridor near the Project area (CDFW 2022). In addition, habitat features are present that have the potential to support these bat species.

Western mastiff bat, pallid bat, and Western mastiff bat are known to roost in buildings, caves, tunnels, cliffs, crevices, and trees. (Lewis 1994). Hoary bat roosts in trees and foliage, and Western red bat is highly associated with riparian habitat

(Peirson et al. 2006). Project activities have the potential to affect habitat upon which special-status bat species depend for successful breeding and have the potential to impact individuals and local populations. Without appropriate avoidance and minimization measures for special-status bat species, potential significant impacts resulting from ground- and vegetation-disturbing activities associated with Project activities include habitat loss, inadvertent entrapment, roost abandonment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals.

Recommended Mitigation Measure 32: Bat Roost Habitat Assessment
CDFW recommends that a qualified biologist conduct a habitat assessment well in advance of Project implementation to determine if the Project area or its immediate vicinity contains suitable roosting habitat for special-status bat species.

Recommended Mitigation Measure 33: Bat Surveys
If suitable habitat is present, CDFW recommends assessing presence/absence of special-status bat roosts by conducting surveys during the appropriate seasonal period of bat activity. CDFW recommends methods such as evening emergence surveys or bat detectors to determine whether bats are present.

Recommended Mitigation Measure 34: Bat Roost Disturbance Minimization and Avoidance
If bats are present, CDFW recommends that a 100-foot no-disturbance buffer be placed around the roost and that a qualified biologist who is experienced with bats monitor the roost for signs of disturbance to bats from Project activity. If a bat roost is identified and work is planned to occur during the breeding season, CDFW recommends that no disturbance to maternity roosts occurs and that CDFW be consulted to determine measures to prevent breeding disruption or failure.

COMMENT 11: Western Pond Turtle (WPT)

Issues and Impacts: WPT are documented in the Project area (CDFW 2022), and a review of aerial imagery shows requisite habitat features that WPT utilize for nesting, overwintering, dispersal, and basking occur in the Project area. These features include aquatic and terrestrial habitats such as rivers, lakes, reservoirs, ponded areas, irrigation canals, riparian, and upland habitat. WPT are known to nest in the spring or early summer within 100 meters of a water body, although nest sites as far away as 500 meters have also been reported (Thomson et al. 2016). Noise, vegetation removal, movement of workers, construction and ground disturbance as a result of Project activities have the potential to significantly impact WPT populations. Without appropriate avoidance and minimization measures for WPT, potentially significant impacts associated with Project activities could include nest reduction, inadvertent entrapment, reduced reproductive success, reduction in health or vigor of eggs and/or young, and direct mortality.

Recommended Mitigation Measure 35: WPT Surveys
CDFW recommends that a qualified biologist conduct focused surveys for WPT within 10 days prior to Project implementation. In addition, CDFW recommends that focused surveys for nests occur during the egg-laying season of March through August.

Recommended Mitigation Measure 36: WPT Avoidance and Minimization
CDFW recommends that any WPT nests that are discovered remain undisturbed with a no-disturbance buffer maintained around the nest until the eggs have hatched and neonates are no longer in the nest or Project areas. If WPT individuals are discovered at the site during surveys or Project activities, CDFW recommends that they be allowed to move out of the area of their own volition without disturbance.

COMMENT 12: Crotch Bumble Bee (CBB)

Issues and Impacts: CBB is a rare and endemic bumble bee species and has been documented within the Project area (CDFW 2022). Suitable habitat includes areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows. CBB primarily nest in late February through late October underground in abandoned small mammal burrows but may also nest under perennial bunch grasses or thatched annual grasses, underneath brush piles, in old bird nests, and in dead trees or hollow logs, and in structures (Williams et al. 2014, Hatfield et al. 2015). Overwintering sites utilized by mated queens include soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014).

CBB was once common throughout most of the central and southern California; however, it now appears to be absent from most of it, especially in the central portion of its historic range within California's Central Valley (Hatfield et al. 2015). Analyses by the Xerces Society et al. (2018) suggest there have been declines in relative abundance of CBB by 98% and persistence by 80% over the last ten years. Without appropriate avoidance and minimization measures, potentially significant impacts associated with ground- and vegetation-disturbing activities associated with construction of the Project include loss of foraging plants, changes in foraging behavior, burrow collapse, nest abandonment, reduced nest success, reduced health and vigor of eggs, young and/or queens, in addition to direct mortality.

Recommended Mitigation Measure 37: CBB Surveys and Avoidance
CDFW recommends that all small mammal burrows and thatched/bunch grasses be surveyed for the species during the optimal flight period (April 1-July 31) during peak blooming period of preferred plant species prior to Project implementation. Avoidance of detected queens or workers is encouraged to allow CBB to leave the Project site on their own volition. Avoidance and protection of a detected nests prior to or during Project implementation is encouraged with delineation and observance of a 50-foot no-disturbance buffer.

COMMENT 13: Other State Species of Special Concern

Issues and Impacts: American badger, Merced kangaroo rat, San Joaquin pocket mouse, and western spadefoot are known to inhabit grassland and upland shrub areas with friable soils (Williams 1986, Thomson et al. 2016). These species have been documented to occur in the vicinity of the Project, which supports requisite habitat elements for these species (CDFW 2022).

Habitat loss threatens all of the species mentioned above (Williams 1986, Thomson et al. 2016). 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. Without appropriate avoidance and minimization measures for these species, potentially significant impacts associated with ground disturbance include habitat loss, nest/den/burrow abandonment, which may result in reduced health or vigor of eggs and/or young, and direct mortality.

Recommended Mitigation Measure 38: 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 39: 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 40: Avoidance
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 14: Wetland, Riparian, and Floodplain Habitats

Issues and Impacts: The Project area is within the Merced River and associated floodplain and contains wetland and riparian habitat features. The surrounding area is an agricultural landscape mosaic that also maintains undeveloped habitats and vernal pool habitat. Project activities such as water diversion and any associated ground disturbances have the potential to involve temporary and permanent impacts to these habitat features. Project activities have the potential to result in temporary and permanent impacts to these features through surface water diversion, habitat

conversion, grading, fill, and related development. 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. 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. Habitat conversion, construction, grading, and fill 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 41: 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. 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. Therefore, 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, 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 42: 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 MND include measures to avoid, minimize, and/or mitigate those impacts. CDFW recommends that impacts to riparian habitat, including 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 already identified herein. CDFW recommends that losses to wetland or riparian habitats be offset with corresponding 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.

COMMENT 15: Water Rights and Impacts from Surface Water Diversion:

Issues and Impacts: The MND is unclear about the amount of surface water diversion proposed for each diverter, under differing riverine flow conditions (e.g., low summer flows vs high winter flows). This information is necessary to determine impacts to the fish and wildlife resources from these diversions. CDFW recommends that the MND provide a detailed description of the water rights, entitlements, and amounts associated with each of the proposed surface water diversions. CDFW also recommends that the MND address any applications or change petitions that may be filed due to surface flow diversion in excess of the current entitlements allowed under the Cowell Agreement. 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. Given the potential for impacts to sensitive species and their habitats, it is advised that required consultation with CDFW occur well in advance of any SWRCB application process.

Recommended Mitigation Measure 43: Aquatic Ecosystem Monitoring and Mitigation

CDFW recommends that the MND include requirements to identify, evaluate, and monitor all aquatic ecosystems and fish and wildlife resources therein that would be affected by Project activities related to surface water diversion, and develop a plan to offset losses caused by changes in hydrology associated with the Project. The plan should address mitigation for impacted habitat value and function, to achieve a minimum no net loss of these habitats, consistent with California Fish and Game Commission policy on Wetlands Resources.

Editorial Comments and/or Suggestions

Spawning Riffles: Section 2.2, page13, states, "Spawning riffles would be designed to provide sufficient water head to drive water into diversion canals, and to persist in the system for 5-10 years under current flow and sediment regimes. Spawning riffles would thus replace the function of temporary in-channel berms and remove the need for these berm features." CDFW recommends that the MND provide an analysis of how the spawning riffles are expected to degrade over the 10-year timeframe, and how this could impact fisheries. CDFW also recommends that the MND analyze how spawning riffles will be impacted by the expected changes in the flow regime by the implementation of other ongoing permitting processes including the Bay-Delta Water Quality Control Plan.

Description of Construction Activities and Location: The Project description in Section 2.2.2. of the MND is vague and general in nature. The MND mentions the various Project components such as gravel berm construction, staging and stockpile areas, and temporary diversion works, but gives no further details. Specific details of the construction activities and location of these activities within the river channel and

surrounding area are necessary to adequately determine impacts to fish and wildlife and associated habitat, and suitable avoidance, minimization, and mitigation measures.
Fish Screening: The MND proposes that each diversion structure associated with the Project will be fitted with fish screens. The MND provides insufficient information on the actual design and placement of fish screening structures within the stream channel. The design and installation of the fish screening structures must be done in consultation with, and approval of, CDFW and the National Martine Fisheries Service (NMFS). Detailed engineering and design information must be included in the MND, and CDFW recommends the recirculation of the MND to include the fish screen designs and proposed placement within the Merced River. CDFW recommends fish screening meeting criteria as outlined in the NMFS(1997) *Fish Screening Criteria for Anadromous Salmonids*, to prevent the removal, entrainment, or impingement of small fish and other wildlife as water is diverted out of the Merced River.

Flow Regime and Floodplain Analysis: Section 2.2.2, page 19, states, "The restoration design will utilize hydrogeomorphic scaling relationships between flow and river form and ecohydraulics to optimize habitat for spawning and rearing Chinook Salmon." Information about which flow regime the Project is designed for is lacking in the MND. The MND should provide information whether flow regime is based on the current Federal Energy Regulatory Commission (FERC) license, the FERC Federal Environmental Impact Statement, the (waived) 401 Water Quality Certification for the FERC projects, the Bay-Delta Water Quality Control Plan, or some other flow regime. This is important to address in the MND because there are multiple regulatory permitting processes in progress (some listed above) that would change the flow schedule, potentially significantly, for the Merced River. None of these processes are completed and this makes it difficult to predict and analyze future flow amounts and their impacts. CDFW recommends that the MND include information and analysis of the expected flow schedule requirements for the Merced River and how this will impact floodplain elevations. This includes addressing the flows or stages that are expected to inundate the surrounding floodplain, and the expected frequency of inundation. This information is important for determining how Project components are built at appropriate elevations within the floodplain to avoid stranding and other impacts to fisheries.

Additional examples of CDFW concerns about floodplain design, flow regimes, and needed clarity in the MND include the following:

- The conceptual design of the Cowell 1 diversion enhancement, in Section 2.2.2.4, shows the designed floodplain dead-ending, which could create a stranding potential as the river stage recedes. Whether or not this is problematic will depend on the elevations and design of the floodplain.

- The conceptual design of Cowell 2 diversion enhancement, Section 2.2.2.5, is vague. CDFW recommends that the MND detail the locations of the side channels and whether they will connect to an existing channel. For the reasons stated above, information is needed to specify what flows these channels will

inundate. The selective fill channel in Figure 7 is confusing in that it appears to fill in the Merced River at that location. Clarification is needed regarding what riverine fill would occur and how the river would flow through this area.

- The conceptual design of the Cuneo enhancement, Section 2.2.2.6, lacks information about the elevation of the surrounding floodplain, how the floodplain would drain, and whether this would result in fish stranding. CDFW recommends that the MND include the design plan for the riffles, as the MND states that the riffles for the Cuneo portion of the Project will be engineered. How this design differs from the riffles constructed elsewhere in the Project is unclear.

- The MND, page 27, states that the channel of the Cuneo site may be lined with concrete or cement to reduce infiltration. However, impacts to fish and wildlife, existing habitat, and surface/subsurface flow from lining these channels is not analyzed in the MND. CDFW recommends including an impact analysis in the MND for this Project activity, to include impacts to groundwater infiltration and whether this type of activity was analyzed within the Merced Groundwater Sustainability Plan.

- The MND, page 26, states for the Cuneo portion of the Project, "Approximately 40 cubic feet per second (cfs) are diverted at this ditch during the irrigation season to supply diverters with 10-15 cfs of water, with a small amount diverted year-round for livestock needs." Whether or not this is the allowed amount of water (via Water Right) for the Cuneo diversion, it is the current diversion amount analyzed in the MND. CDFW recommends against any new design or installation that would accommodate a greater diversion amount without an analysis of how the change would affect or be offset by diversions at the other locations.

- The MND Table 5, page 54, lists spring-run Chinook salmon as unlikely to occur, and the Project as not likely to adversely affect. As stated above, CDFW documented the presence of the experimental spring-run Chinook salmon in the Merced Rivers during the 2021 escapement surveys. Please change MND to include this species as present.

Project Timing and Impacts to Fisheries: Section 2.2.2, page 15, states that, "…in-stream work will occur from July to 15 October when flows are typically and comparatively low (approximately 200 cfs or less) and active salmonid spawning is not occurring." This statement is no longer accurate: in 2021, CDFW documented spring run Chinook in the Merced River. Spring run Chinook salmon generally begin spawning earlier in the fall (i.e., from September to October) than fall run Chinook. The work window proposed for the Project, beginning from October 15, may no longer be appropriate to avoid impacts to spawning salmon. CDFW recommends that the MND incorporate a new river work window in consultation with CDFW

fisheries staff, and include the critical time period for spring-run Chinook salmon in MND Table 6, page 57.

- **Project Timing and Permitting:** CDFW is also concerned about Project timing and permitting considerations. The Monitoring Plan in Appendix C states on page 9 that Project implementation is scheduled to occur during the summer of 2022 and 2023 (Table 1). The Monitoring Plan also states that pre-Project monitoring must be conducted sufficiently in advance of implementation to inform Project design and permitting requirements. CDFW is concerned that the MND has not considered and incorporated the timeframes needed to obtain permits prior to Project implementation. CDFW is also concerned that the MND has not included the timelines needed to complete biological and monitoring surveys, including protocol surveys.

- **Fisheries Reporting:** CDFW recommends that the MND require that Project-related sightings of special-status fish species, including lamprey, are reported to CDFW fisheries staff in LaGrange.

Lake and Streambed Alteration: Project activities that have the potential to substantially change the bed, bank, and channel of streams and associated wetlands may be subject to CDFW's regulatory authority pursuant to 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 (LSA) 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 LSA Agreement issuance. Additional information on notification requirements is available through the Central Region LSA Program at (559) 243-4593 or R4LSA@wildlife.ca.gov and the CDFW website: https://wildlife.ca.gov/Conservation/LSA.

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 that Project implementation 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 Code sections as referenced above.

To evaluate Project-related impacts to nesting birds, CDFW recommends that a qualified biologist conduct preconstruction 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 the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends 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 that CDFW be consulted for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified 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 biologist advise and support any variance from these buffers.

Endangered Species Act Consultation: CDFW recommends consultation with the USFWS prior to Project ground disturbance, due to potential impacts to Federal listed species. Take under the ESA is more stringently defined than under CESA; take under ESA may also include 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. Similarly, for potential effects to steelhead and its critical habitat, CDFW recommends consultation with NMFS. Consultation with the USFWS and NMFS in order to comply with ESA is advised well in advance of Project implementation.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database that 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 California Natural Diversity Database (CNDDB). The CNDDB field survey form can be obtained at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals

FILING FEES

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 effort that Merced Irrigation District is putting forth to improve these diversions and the related proposed improvements to Merced River fisheries habitats. We are prepared to assist Merced Irrigation District with any questions that may arise from our comments on the MND and Project. If you have any questions regarding this letter, or would otherwise like to discuss our input on the Project, please me at (559) 977-3084 or by email at Julie.Vance@wildlife.ca.gov.

Sincerely,

DocuSigned by:
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FA83F09FE08945A...

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Attachment 1

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

PROJECT: Merced River Agricultural Diversion and Fish Enhancement Project

STATE CLEARINGHOUSE No.: 2022010622

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Before Project Activity	
Recommended Mitigation Measure 1: SJKF Habitat Assessment	
Recommended Mitigation Measure 2: SJKF Surveys and Minimization	
Recommended Mitigation Measure 3: SJKF Take Authorization	
Recommended Mitigation Measure 4: LBV Habitat Assessment	
Recommended Mitigation Measure 5: Focused LBV Surveys	
Recommended Mitigation Measure 6: LBV Buffers	
Recommended Mitigation Measure 7: LBV Nest Avoidance and Habitat Mitigation	
Recommended Mitigation Measure 8: LBV Take Authorization	
Recommended Mitigation Measure 9: Focused SWHA and WTKI Surveys	
Recommended Mitigation Measure 10: SWHA and WTKI Avoidance	
Recommended Mitigation Measure 11: SWHA Take Authorization	
Recommended Mitigation Measure 12: SWHA Nest Tree Avoidance and Mitigation	
Recommended Mitigation Measure 13: TRBL Surveys	
Recommended Mitigation Measure 14: TRBL Colony Avoidance	
Recommended Mitigation Measure 15: TRBL Take Authorization	
Recommended Mitigation Measure 16: Focused Surveys for Nesting Eagles	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 17: Eagle Avoidance	
Recommended Mitigation Measure 18: CTS Habitat Assessment	
Recommended Mitigation Measure 19: Focused CTS Surveys	
Recommended Mitigation Measure 20: CTS Avoidance	
Recommended Mitigation Measure 21: CTS Take Authorization	
Recommended Mitigation Measure 22: FYLF Surveys.	
Recommended Mitigation Measure 23: FYLT Avoidance	
Recommended Mitigation Measure 24: FYLF Take Authorization	
Recommended Mitigation Measure 25: Special-Status Plant Surveys	
Recommended Mitigation Measure 26: Special-Status Plant Avoidance	
Recommended Mitigation Measure 27: Listed Plant Species Take Authorization	
Recommended Mitigation Measure 28: BUOW Habitat Assessment	
Recommended Mitigation Measure 29: BUOW Surveys	
Recommended Mitigation Measure 30: BUOW Avoidance	
Recommended Mitigation Measure 31: BUOW Eviction and Mitigation	
Recommended Mitigation Measure 32: Bat Roost Habitat Assessment	
Recommended Mitigation Measure 33: Bat Surveys	
Recommended Mitigation Measure 34: Bat Roost Disturbance Minimization and Avoidance	
Recommended Mitigation Measure 35: WPT Surveys	
Recommended Mitigation Measure 36: WPT Avoidance and Minimization	
Recommended Mitigation Measure 37: CBB Surveys and Avoidance	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 38: Habitat Assessment – American badger, Merced kangaroo rat, San Joaquin pocket mouse, and western spadefoot.	
Recommended Mitigation Measure 39: Surveys – American badger, Merced kangaroo rat, San Joaquin pocket mouse, and western spadefoot.	
Recommended Mitigation Measure 40: Avoidance – American badger, Merced kangaroo rat, San Joaquin pocket mouse, and western spadefoot.	
Recommended Mitigation Measure 41: Stream and Wetland Mapping	
Recommended Mitigation Measure 42: Stream and Wetland Habitat Mitigation	
Recommended Mitigation Measure 43: Aquatic Ecosystem Monitoring and Mitigation	
During Project Activity	
Recommended Mitigation Measure 2: SJKF Surveys and Minimization	
Recommended Mitigation Measure 6: LBV Buffers	
Recommended Mitigation Measure 7: LBV Nest Avoidance and Habitat Mitigation	
Recommended Mitigation Measure 10: SWHA and WTKI Avoidance	
Recommended Mitigation Measure 12: SWHA Nest Tree Avoidance and Mitigation	
Recommended Mitigation Measure 14: TRBL Colony Avoidance	
Recommended Mitigation Measure 17: Eagle Avoidance	
Recommended Mitigation Measure 20: CTS Avoidance	
Recommended Mitigation Measure 23: FYLF Avoidance	
Recommended Mitigation Measure 26: Special-Status Plant Avoidance	
Recommended Mitigation Measure 30: BUOW Avoidance	

RECOMMENDED MITIGATION MEASURES	STATUS/DATE/INITIALS
Recommended Mitigation Measure 34: Bat Roost disturbance Minimization and Avoidance	
Recommended Mitigation Measure 36: WPT Avoidance and Minimization	
Recommended Mitigation Measure 37: CBB Surveys and Avoidance	
Recommended Mitigation Measure 40: Avoidance – American badger, Merced kangaroo rat, San Joaquin pocket mouse, and western spadefoot.	