FOR CONTRACT NO.: 10-2A4204

INFORMATION HANDOUT

PERMITS

UNITED STATES FISH AND WILDLIFE SERVICE - BIOLOGICAL OPINION
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD – 401 CERTIFICATION
UNITED STATES ARMY CORPS OF ENGINEERS – 404 PERMIT

10-CAL,SJ-26–0.0/4.9,32.7/33.0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-03-F-0053

FEB 15 2006

Mr. Gene K. Fong
Federal Highway Administration
U.S. Department of Transportation
650 Capitol Mall Room 4-100
Sacramento, California 95814

Subject: Biological Opinion on State Route 26 (Savage Way) in San Joaquin and Calaveras Counties, California

Dear Mr. Fong:

This is the U.S. Fish and Wildlife Service's (Service) biological opinion on State Route (SR) 26 in San Joaquin and Calaveras Counties, California. Your December 26, 2002, request for formal consultation was received in this Field Office on December 30, 2002. At issue are the effects of this proposed project on the endangered vernal pool tadpole shrimp (*Lepidurus packardi*), threatened vernal pool fairy shrimp (*Branchinecta lynchi*), and the threatened California tiger salamander (*Ambystoma californiense*)(salamander). No designated Critical Habitat for vernal pool species is within the project area. However, designated Critical Habitat for the salamander is present within the project area. This biological opinion was prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

This biological opinion is based on: (1) *Biological Assessment – State Route 26 from Wimer/Ospital Road (San Joaquin County) To Savage Way (Calaveras County)* dated September 2002 (biological assessment), that was prepared by the California Department of Transportation; (2) and other information available to the Service.

Consultation History

December 2002: The Service received the biological assessment and letter requesting formal Section 7 consultation with the Service.

January 30, 2003: Brian Peterson of the Service sent a letter to the California Department of Transportation stating that all information required to initiate consultation was included with the letter or accessible for reference.

TAKE PRIDE IN AMERICA

January, 2005: The Service received a letter from the Federal Highways Administration stating that the State Route 26 project may adversely modify proposed critical habitat and is likely to adversely affect the California tiger salamander (*Ambystoma californiense*). Additionally, it stated their request for section 7 consultation include the salamander and associated critical habitat with the current section 7 consultation and requested a conference opinion for effects to the salamander's proposed critical habitat.

February 3, 2005: Brian Peterson contacted Caltrans biologist Zachary Parker by telephone and asked for an electronic copy of the biological assessment. Also, a site visit was discussed.

February 3, 2005: The biological assessment was received by Brian Peterson by electronic mail.

February 8, 2005: Brian Peterson contacted Zachary Parker by telephone and arranged to meet at the project site on February 10, 2005.

February 10, 2005: Brian Peterson met Zachary Parker at the proposed project site and inspected the area. Digital photographs were taken by Caltrans.

July 25, 2005: The Service issued a letter to Caltrans requesting additional information on project effects and compensation for the salamander.

September 27, 2005: The Federal Highways Administration issues a letter to the Service regarding salamander concerns.

Description of the Proposed Action

The California Department of Transportation and the Federal Highway Administration are proposing to rehabilitate pavement and meet current roadway standards by widening and realigning existing Route 26 from Wimer/Ospital Road in San Joaquin County to Savage Way in Calaveras County. The purpose of the project is to improve safety for motorists by increasing visibility and eliminating sight restrictions. The total length of the project is 3.26 miles, with 0.2 miles of the project located in San Joaquin County and 3.06 miles in Calaveras County. The proposed route would operate as a two-lane conventional highway with twelve-foot lanes and eight-foot shoulders.

Construction of the proposed SR 26 project will directly affect a total of 1.28 acres of vernal pools. These pools are habitat for both the salamander and vernal pool fairy shrimp. Caltrans estimates 8.84 acres of salamander upland habitat will be affected by the project.

Proposed Avoidance and Minimization Measures Listed Species

According to the biological assessment, the California Department of Transportation will implement the following actions:

1. Best management practices during construction will be implemented. Parking of equipment, project access, supply logistics, equipment maintenance, and other project-related activities will occur at a designated staging area. The staging area location will be pre-approved by a Caltrans biologist.

2. A qualified biologist shall be on-site or on-call during all activities that could result in the take of listed species. The qualification of the biologist(s) shall be presented to the Service for review and approval at least 60 calendar days prior to any groundbreaking at the project site. The biologist(s) shall be given the authority to stop any work that may result in the take of listed species. If the biologist(s) exercises this authority, the Service and the California Department of Fish and Game shall be notified by telephone and electronic mail within one (1) working day. The Service contact is the Deputy Assistant Field Supervisor, Endangered Species Program at the Sacramento Fish and Wildlife Office at telephone 916/414-6600.

3. An employee education program shall be conducted, consisting of a brief presentation by persons knowledgeable in vernal pools, California tiger salamander biology and legislative protection to explain endangered species concerns to contractors, their employees, and any other personnel involved in the project. The program should include the following: a description of the species and their habitat needs; a report of the occurrence of these species in the project area; an explanation of the status of these species and their protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.

4. The limits of the construction area will be flagged, if not already marked by right of way, or other, fencing, and all activity will be confined within the marked area. All access to and from the project area will be clearly marked in the field with appropriate flagging and signs. Prior to commencing construction activities, the contractor will determine construction vehicle parking and all access.

5. To the extent possible, nighttime construction should be minimized. Construction crews will be informed during the education program meeting that, to the extent possible, travel within the marked project site will be restricted to established roadbeds. Established

roadbeds include all pre-existing and project-constructed unimproved, as well as, improved roads.

Avoidance and Protection Measures – Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

1. Unavoidable loss of habitats potentially supporting vernal pool fairy shrimp and vernal pool tadpole shrimp would be mitigated according to the ratios defined in the programmatic Section 7 consultation between USFWS and the Sacramento District of the ACOE. This consultation defines the following compensation ratios: Preservation of vernal pool habitat at a 2:1 ratio; and creation of vernal pool habitat at a 1:1 ratio.

Avoidance and Minimization Measures - California Tiger Salamander

1. Construction within 1 kilometer (0.6 mile) of potential California tiger salamander breeding habitat will be timed to occur during the dry season (June to October) when larvae and breeding adult salamanders are not present.

2. Caltrans will purchase 26.52 acres of upland habitat to compensate for direct effects to 8.84 acres of salamander habitat at an approved Service compensation area (3:1 ratio).

3. Caltrans will purchase 2.40 acres of wetted vernal pools for effects to the salamander habitat at an approved Service compensation area. This vernal pool compensation is to support both vernal pool fairy shrimp and salamanders.

Status of the Species

Vernal Pool Tadpole Shrimp and Vernal Pool Fairy Shrimp

The vernal pool tadpole shrimp and fairy shrimp were listed as endangered and threatened, respectively, on September 19, 1994 (59 **FR** 48136). Critical habitat for these species was designated on August 6, 2003 (68 **FR** 46683), and include two primary constituent elements: 1) vernal pools, swales, and other ephemeral wetland features of appropriate sizes and depths that typically become inundated during winter rains and hold water for sufficient lengths of time necessary for the 15 vernal pool species to complete their life cycle; 2) the geographic, topographic, and edaphic features that support aggregations or systems of hydrologically interconnected pools, swales, and other ephemeral wetlands and depressions within a matrix of surrounding uplands that together form hydrologically and ecologically functional units called vernal pool complexes. A total of 839,460 acres (344,004 hectares), divided into 35 units, has been designated for the vernal pool fairy shrimp; 459,505 acres (176,736 hectares), divided into 18 units, has been designated for the vernal pool tadpole shrimp.

Vernal pool tadpole shrimp. The vernal pool tadpole shrimp has dorsal compound eyes, a large shield-like carapace that covers most of its body, and a pair of long cercopods at the end of its last abdominal segment (Linder 1952; Longhurst 1955; Pennak 1989). It is primarily a benthic animal that swims with its legs down. Its diet consists of organic detritus and living organisms, such as fairy shrimp and other invertebrates (Pennak 1989). The females deposit their eggs on vegetation and other objects on the pool bottom. Tadpole shrimp eggs are known as cysts during the summer, when they lie dormant in the dry pool sediments (Lanaway 1974; Ahl 1991).

The life history of the vernal pool tadpole shrimp is linked to the environmental characteristics of its vernal pool habitat. After winter rains fill the pools, the populations are re-established from dormant cysts. A portion of the cysts hatch immediately and the rest remain dormant in the soil to hatch during later rainy seasons (Ahl 1991). The vernal pool tadpole shrimp is a relatively long-lived species (Ahl 1991). Adults are often present and reproductive until the pools dry up in the spring (Ahl 1991; Simovich *et al.* 1992).

The vernal pool tadpole shrimp is known from 19 populations in the Central Valley, ranging from east of Redding in Shasta County south to northern Tulare County, and from a single vernal pool complex located in the San Francisco Bay National Wildlife Refuge in Alameda County. It inhabits vernal pools containing clear to highly turbid water, ranging in size from 5 square meters (54 square feet) in the Mather Air Force Base area of Sacramento County, to the 36-hectare (89-acre) Olcott Lake at Jepson Prairie in Solano County.

Vernal pool fairy shrimp. Vernal pool fairy shrimp have delicate elongate bodies, large stalked compound eyes, no carapace, and 11 pairs of swimming legs. The swim or glide gracefully upside-down by means of complex, wavelike beating movements. Fairy shrimp feed on algae, bacteria, protozoa, rotifers, and detritus. The females carry eggs in an oval or elongate ventral brood sac. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The dormant cysts are capable of withstanding heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some, but not all, of the cysts may hatch. The cyst bank in the soil may therefore be comprised of cysts from several years of breeding (Donald 1983). The early stages of the fairy shrimp develop rapidly into adults. The vernal pool fairy shrimp can mature quickly, allowing populations to persist in short-lived shallow pools (Simovich *et al.* 1992).

The vernal pool fairy shrimp is known from 32 populations extending from the Stillwater Plain in Shasta County through most of the length of the Central Valley to Pinnacles in San Benito County (Eng *et al.* 1990; Fugate 1992; Sugnet and Associates 1993). Five additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County; one in the mountain grasslands of northern Santa Barbara County; one on the Santa Rosa Plateau in Riverside County; one near Rancho California in Riverside County; and one on the Agate Desert near Medford, Oregon. Three of these isolated populations each contain only a single pool known to be occupied by the vernal pool fairy shrimp. The vernal pool fairy shrimp inhabits vernal pools with clear to tea-colored water, most commonly in grass- or mud-bottomed swales, basalt flow depression pools in unplowed grasslands, or even sandstone rock outcrops or alkaline vernal pools.

Threats to Vernal Pool Species. A Service analysis of a report by Holland (1978) estimated that between 60 and 85 percent of the area within the Central Valley of California that once supported vernal pools had been destroyed by 1973. In the ensuing 30 years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of Federal regulations implemented to protect wetlands. For example, the Corps Sacramento District Office has authorized the filling of 189 hectares (467 acres) of wetlands between 1987 and 1992 pursuant to Nationwide Permit 26 (Service 1992). The Service estimates that a majority of these wetlands losses within the Central Valley involved vernal pools, the endemic habitat for the vernal pool fairy shrimp and the vernal pool tadpole shrimp.

The Corps has several thousand vernal pools under its jurisdiction (Coe 1988), which includes most of the known vernal pool fairy shrimp occurrences. It is estimated that within 20 years human activities will destroy 60 to 70 percent of the remaining vernal pools (Coe 1988). In addition to direct habitat loss, vernal pools also have been and continue to be highly fragmented throughout their ranges due to conversion of natural habitat for urban and agricultural uses. This fragmentation results in small isolated vernal pool fairy shrimp and tadpole shrimp populations. Ecological theory predicts that such populations will be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soulé 1986; Goodman 1987). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to physical (geographic) isolation from potential source populations.

The primary historic dispersal method for the vernal pool fairy and tadpole shrimps likely was large-scale flooding resulting from winter and spring rains that allowed the animals to colonize different individual vernal pools and other vernal pool complexes (J. King, pers. comm., 1995). Waterfowl and shorebirds may now be the primary dispersal agents for the vernal pool shrimps. The eggs of this crustacean are either ingested (Swanson *et al.* 1974; Driver 1981; Ahl 1991) and/or adhere to the legs and feathers, where they are transported to new habitats. Dispersal during flooding is currently non-functional due to the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species.

The vernal pool fairy shrimp and tadpole shrimp are threatened by a variety of other human-caused activities. Their habitats have been lost through direct destruction and modification due to filling, grading, disking, leveling, and other activities. In addition, vernal pools have been affected by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect actions can result in adverse effects to vernal pool species.

California Tiger Salamander

On September 21, 2000, the Service listed the Santa Barbara Distinct Population Segment (DPS) as endangered (65 **FR** 57242). The Service listed the Sonoma County DPS as endangered on March 19, 2003 (68 **FR** 13498). On August 4, 2004, the Service listed the California tiger salamander as threatened throughout its range (69 **FR** 47211), thereby changing the status of the Santa Barbara and Sonoma County DPSs from endangered to threatened.

Critical habitat was proposed on August 10, 2004 (69 **FR** 48569), totaling 382,666 acres (154,860 hectares), divided into 47 units, and spanning 20 counties. Within the southern San Joaquin Valley, 32,625 acres (13,203 hectares) of critical habitat has been proposed. Primary constituent elements include: 1) standing bodies of fresh water that typically become inundated during winter rains, and hold water for a sufficient length of time necessary for the species to complete the aquatic portion of its life cycle; 2) barrier-free upland habitats adjacent to breeding ponds that contain small mammal burrows; 3) upland areas between occupied locations and areas with small mammal burrows that allow for dispersal among such sites; 4) the geographic, topographic, and edaphic features that support aggregations or systems of hydrologically interconnected pools, swales, and other ephemeral wetlands and depressions within a matrix of surrounding uplands.

The California tiger salamander is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults may reach a total length of 8.2 inches. California tiger salamanders exhibit sexual dimorphism; males tend to be larger than females. The coloration of the California tiger salamander is white or yellowish markings against black. As adults, California tiger salamanders tend to have creamy yellow to white spotting on the sides with much less on the dorsal surface of the animal, whereas other tiger salamander species have brighter yellow spotting that is heaviest on the top of the animals.

Historically, the California tiger salamander inhabited low elevation grassland and oak savanna plant communities of the Central Valley, and adjacent foothills, and the inner coast ranges in California (Storer 1925; Shaffer *et al.* 1993) from sea level up to about 1500 feet. Along the coast ranges, the species occurred from the Santa Rosa area of Sonoma County south to the vicinity of Buellton in Santa Barbara County. In the Central Valley and surrounding foothills, the species occurred from northern Yolo County southward to northwestern Kern County and northern Tulare County.

California tiger salamanders require both wetland and adjacent upland habitat to complete their life cycle (Shaffer *et al.* 1993). Subadult and adult California tiger salamanders spend the dry summer and fall months of the year in the burrows of small mammals, such as California ground squirrels and Botta's pocket gopher (*Thomomys bottae*) (Storer 1925; Loredo and Van Vuren 1996; Petranka 1998; Trenham 1998a). During this period, California tiger salamanders eat very little (Shaffer *et al.* 1993). Once fall or winter rains begin, the salamanders emerge from the upland sites on rainy nights to feed and to migrate to the breeding ponds (Stebbins 1985, 1989;

Shaffer *et al.* 1993). Adult salamanders mate in the breeding ponds, after which the females lay their eggs in the water (Twitty 1941; Shaffer *et al.* 1993; Petranka 1998). Historically, the California tiger salamander utilized vernal pools, but the animals also currently breed in livestock stockponds. Females attach their eggs singly, or in rare circumstances, in groups of two to four, to twigs, grass stems, vegetation, or debris (Storer 1925, Twitty 1941). In ponds with no or limited vegetation, they may be attached to objects, such as rocks and boards on the bottom (Jennings and Hayes 1994). After breeding, adults leave the pool and return to the small mammal burrows (Loredo *et al.* 1996; Trenham 1998a), although they may continue to come out nightly for approximately the next two weeks to feed (Shaffer *et al.* 1993). In drought years, the seasonal pools may not form and the adults cannot breed (Barry and Shaffer 1994).

Salamander eggs hatch in 10 to 14 days with newly hatched salamanders (larvae) ranging from 0.45 to 0.56 inch in total length (Petranka 1998). The larvae are aquatic. They are yellowish gray in color and have broad fat heads, possess large, feathery external gills, and broad dorsal fins that extend well onto their back. The larvae feed on zooplankton, small crustaceans, and aquatic insects for about six weeks after hatching, after which they switch to larger prey (J. Anderson 1968). Larger larvae have been known to consume smaller tadpoles of Pacific treefrogs (*Pseudacris regilla*) and California red-legged frogs (*Rana aurora*) (J. Anderson 1968; P. Anderson 1968). The larvae are among the top aquatic predators in the seasonal pool ecosystems. They often rest on the bottom in shallow water, but also may be found at different layers in the water column in deeper water. The young salamanders are wary and, when approached by potential predators, will dart into vegetation on the bottom of the pool (Storer 1925).

The larval stage of the California tiger salamander usually lasts three to six months, as most seasonal ponds and pools dry up during the summer (Petranka 1998). Amphibian larvae must grow to a critical minimum body size before they can metamorphose (change into a different physical form) to the terrestrial stage (Wilbur and Collins 1973). Individuals collected near Stockton in the Central Valley during April varied from 1.88 to 2.32 inches in length (Storer 1925). Feaver (1971) found that larvae metamorphosed and left the breeding pools 60 to 94 days after the eggs had been laid, with larvae developing faster in smaller, more rapidly drying pools. The longer the ponding duration, the larger the larvae and metamorphosed juveniles are able to grow, and the more likely they are to survive and reproduce (Pechmann *et al.* 1989; Semlitsch *et al.* 1988; Morey 1998; Trenham 1998b). The larvae will perish if a site dries before metamorphosis is complete (P. Anderson 1968; Feaver 1971). Pechmann *et al.* (1989) found a strong positive correlation with ponding duration and total number of metamorphosing juveniles in five salamander species. In Madera County, Feaver (1971) found that only 11 of 30 pools sampled supported larval California tiger salamanders, and five of these dried before metamorphosis could occur. Therefore, out of the original 30 pools, only six (20 percent) provided suitable conditions for successful reproduction that year. Size at metamorphosis is positively correlated with stored body fat and survival of juvenile amphibians, and negatively correlated with age at first reproduction (Semlitsch *et al.* 1988; Scott 1994; Morey 1998)

In the late spring or early summer, before the ponds dry completely, metamorphosed juveniles leave them and enter upland habitat. This emigration occurs in both wet and dry conditions

(Loredo and Van Vuren 1996; Loredo *et al.* 1996). Unlike their winter migration, the wet conditions that California tiger salamanders prefer do not generally occur during the months when their breeding ponds begin to dry. As a result, juveniles may be forced to leave their ponds on rainless nights. Under these conditions, they may move only short distances to find temporary upland sites for the dry summer months, waiting until the next winter's rains to move further into suitable upland refugia. Once juvenile California tiger salamanders leave their birth ponds for upland refugia, they typically do not return to ponds to breed for an average of 4 to 5 years. However, they remain active in the uplands, coming to the surface during rainfall events to disperse or forage.

The upland component of California tiger salamander habitat typically consists of grassland savannah. Within these upland habitats, adult California tiger salamanders spend the greater part of their lives in the underground burrows of California ground squirrels and valley pocket gophers (Barry and Shaffer 1994). Camel crickets and other invertebrates within these burrows provide food for California tiger salamanders, as well as protection from the sun and wind associated with the dry California climate that can cause desiccation (drying out) of amphibian skin. Although California tiger salamanders are members of a family of "burrowing" salamanders, California tiger salamanders are not known to create their own burrows in the wild, likely due to the hardness of soils in the California ecosystems in which they are found. Because they live underground in the burrows of mammals, they are rarely encountered even where abundant. The burrows may be active or inactive, but because they collapse within 18 months if not maintained, an active population of burrowing mammals is necessary to sustain sufficient underground refugia for the species (Loredo *et al.* 1996). California tiger salamanders also may utilize leaf litter or desiccation cracks in the soil.

Dispersal and migration movements made by California tiger salamanders can be grouped into two main categories: (1) breeding migration; and (2) interpond dispersal. Breeding migration is the movement of salamanders to and from a pond from the surrounding upland habitat. After metamorphosis, juveniles move away from breeding ponds into the surrounding uplands, where they live continuously for several years. At a study site in Monterey County, it was found that upon reaching sexual maturity, most individuals returned to their natal/ birth pond to breed, while 20 percent dispersed to other ponds (Trenham *et al.* 2000). Following breeding, adult California tiger salamanders return to upland habitats, where they may live for one or more years before breeding again (Trenham *et al.* 2000). California tiger salamanders are known to travel large distances from breeding ponds into upland habitats. Maximum distances moved are generally difficult to establish for any species, but California tiger salamanders in Santa Barbara County have been recorded to disperse 1.3 miles from breeding ponds (Sweet 1998). California tiger salamanders are known to travel between breeding ponds; one study found that 20 to 25 percent of the individuals captured at one pond were recaptured later at ponds approximately 1,900 and 2,200 feet away (Trenham *et al.* 2000). In addition to traveling long distances during migration to or dispersal from ponds, California tiger salamanders may reside in burrows that are far from ponds. At one site in Contra Costa County, hundreds of California tiger salamanders have been captured three years in a row in upland habitat approximately 0.75 mile from the nearest breeding pond (Orloff 2003).

Lifetime reproductive success for California and other tiger salamanders is low. Trenham *et al.* (2000) found the average female bred 1.4 times and produced 8.5 young that survived to metamorphosis per reproductive effort. This resulted in roughly 11 metamorphic offspring over the lifetime of a female. While individuals may survive for more than ten years, many breed only once, and in some populations, less than 5 percent of marked juveniles survive to become breeding adults (Trenham 1998b). With such low recruitment, isolated populations are susceptible to unusual, randomly occurring natural events as well as human-caused factors that reduce breeding success and individual survival. Factors that repeatedly lower breeding success in isolated pools can quickly extirpate a population.

California tiger salamanders are imperiled by a variety of human activities. Current factors associated with declining populations of the salamander include continued degradation and loss of habitat due to agriculture and urbanization, non-native plants, hybridization with non-native tiger salamanders, and introduced predators. Fragmentation of existing habitat and the continued colonization of existing habitat by non-native tiger salamanders may represent the most significant current threats to California tiger salamanders, although populations are likely threatened by more than one factor. Isolation and fragmentation of habitats within many watersheds have precluded dispersal between sub-populations and jeopardized the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are capable of colonizing or "rescuing" extinct habitat patches).

Although no systematic, range-wide studies have been conducted, it is known that significant numbers of California tiger salamanders are killed by vehicular traffic while crossing roads (Hansen and Tremper 1993). For example, during a 1-hour period on a road bordering Lake Lagunita on the Stanford University campus, 45 California tiger salamanders were collected, 28 of which had been killed by cars (Twitty 1941). Overall breeding population losses of California tiger salamanders due to road kills have been estimated to be between 25 and 72 percent (Twitty 1941; Launer and Fee 1996). Mortality may be increased by associated roadway curbs and berms as low as nine to 12 cm (3.5 to 5 in), which allow California tiger salamanders access to roadways but prevent their exit from them (Launer and Fee 1996; Sweet 1998).

In a recent study along a 1.05 km (0.7 mi) high-vehicular-use (21,450 vehicles per day) section of the Trans-Canadian Highway in Alberta, Canada, Clevenger *et al.* (2001) recorded 183 road-killed tiger salamanders (*Ambystoma tigrinum*) in 30 days, and concluded it was likely that very little of the local population had survived. In California, vehicular-use levels along various State, interstate, and secondary roads commonly far exceed the level of use reported in the Alberta study. Vehicular usage on California roads is also increasing rapidly and directly with human population and urban expansion. During November 2002, California's estimated total vehicular travel on State highway system roads alone was 23 billion km (14.27 billion mi) (this figure and subsequent vehicular-use data from California Department of Transportation's Internet website, January 2, 2003). From 1972 to 2001, State highway system total vehicular usage rose steadily from 108.6 km to 270 km (67.11 to 167.81 billion mi) annually. For the 23 California counties in which the California tiger salamander may occur, State highway system total annual vehicular usage in 1999, 2000, and 2001 was 53.27, 55.85, and 57.21 billion miles (86, 90, and 92.1 billion

km), respectively. The steady increase of vehicular use is thus continuing. We believe such figures illustrate (1) the general growth in vehicular usage that has been, and is still, occurring in many parts of the California tiger salamander's range, and (2) that additional increments of road-kill losses, which are already a potentially serious problem for the species, are likely occurring.

There are recent records of the vernal pool tadpole shrimp and the vernal pool fairy shrimp in the action area (CNDDB 2002). Therefore, given the biology and ecology of the animal, the presence of suitable habitat in and adjacent to the project, as well as the recent records, the vernal pool tadpole shrimp and the vernal pool fairy shrimp are highly likely to inhabit the action area. In addition, the Biological Assessment states the applicant is assuming the presence of these two species in the action area.

Vernal Pool Fairy Shrimp Critical Habitat

Critical habitat for the vernal pool fairy shrimp was designated on August 6, 2003 (68 **FR** 46684). In determining which areas to designate as critical habitat, the Service considers those physical and biological features (primary constituent elements) that are essential to the conservation of the species, and that may require special management considerations and protections (50 CFR 424.14). This proposed project is not located within any designated critical habitat units for the vernal pool fairy shrimp.

California Tiger Salamander Critical Habitat

Critical habitat for the California tiger salamander was designated on August 23, 2005 (U.S. Fish and Wildlife Service 2004b). The Service divided the current range of the Central population into four regions: (1) Central Valley; (2) Southern San Joaquin Valley; (3) East Bay; and (4) Central Coast.

The Service determined that conserving the California tiger salamander over the long-term requires a five-pronged approach: (1) Maintaining the current genetic structure across the species range; (2) maintaining the current geographical, elevational, and ecological distribution; (3) protecting the hydrology and water quality of breeding pools and ponds; (4) retaining or providing for connectivity between locations for genetic exchange and recolonizaiton; (5) protecting sufficient barrier-free upland habitat around each breeding location to allow for sufficient survival and recruitment to maintain a breeding population over the long-term (U.S. Fish and Wildlife Service 2004).

The Service believes that areas proposed for critical habitat may require certain management considerations or protections due to the following threats: (1) Activities that introduce or promote the occurrence of bullfrogs and fish; (2) Activities that could disturb aquatic habitats during the breeding season; (3) Activities that impair the water quality of aquatic breeding habitats; (4) Activities that would reduce small mammal populations to the point that there is insufficient underground Central population refugia used for foraging, protection from predators, and shelter from the elements; (5) Activities that create barriers impassible for salamanders or road crossings that increase mortality in upland habitat between extant occurrences in breeding

habitat; (6) Activities on adjacent uplands that disrupt vernal pool complexes' ability to support California tiger salamander breeding function; (7) Activities that introduce non-native tiger salamanders in areas where the California tiger salamander is threatened with hybridization (U.S. Fish and Wildlife Service 2004).

In determining which areas to designate as critical habitat, the Service considers those physical and biological features (primary constituent elements) that are essential to the conservation of the species, and that may require special management considerations and protection (50 CFR § 424.14). The Service lists the known primary constituent elements together with the proposed critical habitat description. Such physical and biological features include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The primary constituent elements for the California tiger salamander are aquatic and upland areas, including vernal pool complexes, where suitable breeding and non-breeding habitats are interspersed throughout the landscape, and are interconnected by continuous dispersal habitat. All areas proposed as critical habitat for the central population contain one or more of the primary constituent elements (U.S. Fish and Wildlife Service 2004).

Breeding Habitat. Standing bodies of fresh water, including natural and man-made (*e.g.* stock) ponds, vernal pools, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a sufficient length of time necessary for the species to complete its life cycle (U.S. Fish and Wildlife Service 2004).

Breeding California tiger salamander are found in vernal pools, vernal pool complexes, and seasonal ponds in associated annual grasslands, oak savannah, and coastal bay scrub plant communities of the Bay Area (Santa Clara Valley), Central Coast, Central Valley, and Southern San Joaquin Valley. California tiger salamanders also have adapted to using artificial water bodies, such as stock ponds during their aquatic phase. However, stockponds are often not optimum breeding habitat because the hydroperiod is so short there is not sufficient time for larvae to metamorphose, or it is so long that predatory fish and bullfrogs can colonize the pond. Permanent wetlands can support breeding California tiger salamander if fish are not present, but extirpation of the salamander is likely to occur if fish are introduced. Periodic maintenance to remove silt from stockponds and other artificial waterbodies may also cause a temporary loss of functioning aquatic habitat. Regardless of vernal pool, pond, or seasonal wetland type, successful breeding ponds for California tiger salamander need to be inundated for a minimum of 21 weeks to allow for successful metamorphosis (U. S. Fish and Wildlife Service 2004).

Non-Breeding Habitat. California tiger salamanders spend the majority of their lives in barrier-free upland habitats adjacent to breeding ponds. Within these upland habitats, adult California tiger salamander spend part of their lives in the underground burrows of mammals, especially the burrows of the California ground squirrel and valley pocket gopher, with depths ranging from 20

centimeters to 1 meter beneath the ground surface. Small mammals are essential in creating the underground habitat that adult California tiger salamander depend on for food, shelter, and protection form the elements and form predation. Although California tiger salamanders are members of a family of burrowing tiger salamanders, California tiger salamanders are not known to create their own burrows in the wild and require small mammal burrows for survival. The upland component of the Central population habitat typically consists of vernal pool grassland or grassland savannah with scattered oak trees. However, some occupied California tiger salamander breeding ponds exist within mixed grassland and woodland habitats, in woodlands, scrub, or chaparral habitats (U.S. Fish and Wildlife Service 2004).

Dispersal and Migration. Movements made by California tiger salamanders can be grouped into two main categories: (1) Breeding migration, and (2) interpond dispersal. Breeding migration is the movement of salamanders to and from a pond from the surrounding upland habitat. After metamorphosis, juveniles move away from breeding ponds into the surrounding uplands, where they live continuously for several years (on average, four years). Upon reaching sexual maturity, most individuals return to their natal (birth) pond to breed, while 20 percent disperse to other ponds (U. S. Fish and Wildlife Service 2004).

Essential dispersal habitats generally consist of upland areas adjacent to essential aquatic habitats which are not isolated from other essential aquatic habitats by barriers that California tiger salamanders cannot cross. Essential dispersal habitats provide connectivity among California tiger salamander suitable aquatic and upland habitats. While California tiger salamanders can bypass many obstacles, and do not require a particular type of habitat for dispersal, the habitats connecting essential aquatic and upland habitats need to be free of barriers (*e.g.* a physical or biological feature that prevents salamanders from dispersing beyond the feature) to function effectively (U. S. Fish and Wildlife Service 2004).

The Service proposed critical habitat that allowed for dispersal between extant occurrences within 0.7 mile of each other. This distance was selected because it provides for 99 percent of the chances that individual salamanders can move and breed between extant occurrences, and, thereby, provides for genetic exchange between individual within the region (U.S. Fish and Wildlife Service 2004).

Critical habitat for the California tiger salamander has been designated within the action area. Specifically, 0.74568 miles (1200 meters) of this project is located within Unit 5, (3,128 acres), the Indian Creek Unit. It is essential to the conservation of the salamander because it is needed to maintain the current geographical and ecological distribution of the species within the Central Valley Geographic Region. Unit 5 represents the northeastern portion of the range of the Southeastern Sacramento Valley vernal pool region. The land surrounding the proposed project area is rural. Vegetation types in the area consist of oak woodlands and annual grasslands. Northern Hardpan vernal pool complexes are present in the grassland habitat within the project area.

Environmental Baseline

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Federal, State, local, and private actions already affect the species addressed in this opinion within the action area. These actions include gas and oilfield development and pipeline installation, utility upgrades, power plant and transmission line construction, landfill operations, wastewater treatment operations, road construction and widening, sand dredging, and residential development. The Recovery Plan for Upland Species of the San Joaquin Valley discusses numerous Federal, State, and private individual or collaborative community-level conservation efforts. The majority of listed wildlife and plants in the action area have been, and continue to be affected by conversion of habitat to agricultural, industrial, and urban uses. This has eliminated many listed species from the majority of their historic ranges. The remaining natural communities are highly fragmented; many are marginal habitats in which some listed species may not persist during catastrophic events such as drought or floods (Service 1998).

Holland (1978) estimated that about two-thirds of the grasslands that once supported vernal pools in the Central Valley had been destroyed by 1973, with an associated loss of nearly 60 to 85 percent of vernal pool habitat. In subsequent years, a substantial amount of the remaining habitat for vernal pool crustaceans has been destroyed. Estimates of habitat loss range from two to three percent per year (Holland and Jain 1988). The Corps Sacramento District authorized the filling of 189 hectares (467 acres) of wetlands between 1987 and 1992 pursuant to Nationwide Permit 26 (U.S. Fish and Wildlife Service 1992).

Vernal pool tadpole shrimp and vernal pool fairy shrimp habitat has been lost through direct destruction and modification due to filling, grading, discing, leveling, and other activities. In addition, vernal pools have been imperiled by a variety of anthropogenic modifications to upland habitats and watersheds. These activities, primarily urban development, water supply/flood control projects, land conversion for agriculture, off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use can lead to disturbance of natural flood regimes, changes in water table depth, alterations of the timing and duration of vernal pool inundation, introduction of non-native plants and animals, and water pollution. These indirect impacts can result in adverse impacts to vernal pool species. Populations of listed vernal pool crustaceans are highly fragmented throughout their ranges due to the nature of vernal pool landscapes and the destruction of natural habitat by human activities. Such fragmentation results in small, isolated populations which may be more susceptible to extinction due to random demographic, genetic, and environmental events (Gilpin and Soule 1986; Goodman 1987 a, b). Furthermore, if localized extinctions occur in fragmented populations, the opportunity for recolonization of previously occupied habitat is reduced due to the geographic isolation of potential habitats from occupied sites.

Current data indicate vernal pool grasslands are being lost in the southern San Joaquin Valley at a rate of approximately one percent per year (Holland 1998; Service records). The proposed project is located in the Southern Sierra Foothills region of San Joaquin and Calaveras County. According to Holland (1998), approximately 1,557 acres of vernal pool grasslands were lost in

Stanislaus County over a period of ten years from 1987 to 1997, thus resulting in a cumulative loss of 1.5 percent and an annual loss of 0.2 percent. Vernal pool grasslands in this area typically support numerous pools of various sizes. Many of these pools and surrounding upland habitats are essential for the conservation and recovery of listed species. Because of the limited and disjunct distribution of vernal pools, coupled with the even more limited distribution of special-status vernal pool crustaceans, any reduction in vernal pool habitat quantity could adversely affect these species. The integrity of the vernal pool complexes in eastern San Joaquin County is seriously threatened by irrigated agriculture, and urban development.

Designated critical habitat is located nearby in the northeastern corner of San Joaquin County. This unit contains vernal pool habitats identified by Holland (1998) and San Joaquin County (1998) that support populations of vernal pool fairy shrimp (CNDDB 2002) found within Northern Volcanic Mudflow vernal pools on the Laguna geologic formation, as well as high terrace pools on the Valley Springs formation. Unit 18, the San Joaquin unit, contains the largest vernal pool complex remaining in San Joaquin County and the Southern Sacramento Valley.

California Tiger Salamander

The vernal pool/seasonal wetland habitat within the project area that could support California tiger salamanders has been degraded by the existing SR 26. The road has created a dispersal barrier, run-off from the road diminishes water quality, and leveling/grading for road construction destroys upland habitat. There are 8.84 acres of upland habitat for the salamander in the project area: 1.97 acres of which are in Critical Habitat.

There are 11 CNDDB records from 2002 for the California tiger salamander (CNDDB 2002) within a 10 miles radius of the proposed project. No California tiger salamander larvae or adults were observed during the nocturnal field surveys conducted in the project area and vicinity. This project area is located in a rural area in the lower portion of the Sierra Nevada foothills and the upper margin of the Central Valley.

Effects of the Proposed Action

Vernal Pool Fairy Shrimp

Based on survey results from 2000, three vernal pools are present within the project area that support vernal pool fairy shrimp. No tadpole shrimp were found. However, since only one year of the required 2 years of surveys was conducted, vernal pool fairy shrimp and vernal pool tadpole shrimp are assumed to be present in all of the vernal pools within the project area. Excavation or placement of fill material within these pools could result in direct mortality of vernal pool fairy shrimp or their resting eggs known as cysts. A total of 0.09 hectares (0.21 acres) of vernal pools within the cut and fill limits of the proposed project will be directly and permanently impacted and approximately 0.13 hectares (0.31 acres) would be temporarily and directly impacted by construction-related activities.

Indirect impacts to vernal pool fairy shrimp and vernal pool tadpole shrimp will occur in suitable habitats within 76 meters (250 feet) of the project area. A thorough survey and delineation of vernal pools within 76 meters (250 feet) of the proposed right-of-way was conducted on May 13, 2000. Results of this survey showed approximately 0.34 hectares (0.84 acres) of vernal pool fairy shrimp habitat present within this zone that could potentially be indirectly impacted by the project. Hydrologic and topographic evaluation of these pools definitively determined that of the 0.34 hectares (0.84 acres) of habitat present within this zone, 0.31 hectares (0.76 acres) would be indirectly impacted.

Unavoidable loss of habitats potentially supporting vernal pool tadpole shrimp would be mitigated according to the ratios defined in the programmatic Section 7 consultation between USFWS and the Sacramento District of the ACOE. This consultation defines the following compensation ratios:

- Preservation of vernal pool habitat at a 2:1 ratio; and
- Creation of vernal pool habitat at a 1:1 ratio.

Caltrans proposes to reduce effects of the project by purchasing 2.40 acres of vernal pool habitat at a site approved by the Service.

California Tiger Salamander

The proposed SR 26 Project is likely to result in a number of adverse effects to the California tiger salamander. The proposed project will eliminate and fragment the habitat of the listed amphibian, and increase levels of mortality of the animal during its movements between the breeding ponds and upland habitat. Individuals exposed during excavations likely will be crushed and killed or injured by construction-related activities. Salamanders also could fall into the trenches, pits, or other excavations, and then they could be directly killed or be unable to escape and be killed due to dessication, entombment, or starvation. The amphibians could be subject to increased levels of harassment resulting from lights used during night time construction. Edible trash left during or after repair activities could attract predators, such as racoons, crows, and ravens, to the sites, who could subsequently prey on the listed amphibian. Salamanders also may become trapped if plastic mono-filament netting is used for erosion control or other purposes where they would be subject to death by predation, starvation, or dessication (Stuart *et al.* 2001). The increased width of the road and higher levels of vehicle traffic will result in higher numbers of California tiger salamanders killed during their movements between their upland habitat and breeding ponds. Individual California tiger salamanders may be directly injured, killed, harmed, and harassed by activities that disturb breeding, migration, dispersal, and aestivation habitat.

Construction related activities are likely to cause disruption of surface movement, disruption or complete loss of reproduction, harassment from increased human activity, and permanent and temporary loss of shelter. Because these animals are nocturnal, if construction is performed at night, associated lighting likely would increase all of the above effects. Wise and Buchanan (2002) reviewed the adverse effects that may result from night time illumination on salamander species. Artificial lighting used during night time construction may increase predation on

California tiger salamanders, if it occurs during periods of fall, winter, or spring rains, because the amphibians will lose the cover of darkness for movement. Nocturnal foraging by salamander species may be affected by artificial lighting. Wise and Buchanan (2002) reported that in one species of salamander, individuals emerged from refugia to forage within one hour after light levels dropped following sunset. During such foraging bouts, visual information was used for locating prey. Greater light levels delay emergence, resulting in less foraging time, but could have increased the ability of the salamanders to capture prey; however, they also could make the amphibians more vulnerable to predation. Many salamanders, such as the California tiger salamander, are terrestrial as adults but migrate to ponds to breed and lay eggs. The orientation of some of these terrestrial species away from and toward these ponds is influenced by the spectral characteristics of light Wise and Buchanan (2002). Artificial lights that emit unusual spectra may disrupt these migration patterns.

The addition of impermeable surfaces resulting from the realignment will be accompanied by an increase in chemical runoff, which would include gasoline and oil, as well as silt runoff, which will reduce water quality in the project site. A wider highway to cross during dispersal and migration likely will result in increased injury and mortality of California tiger salamanders, and increased fragmentation of their habitat in the action area.

The effect of habitat fragmentation on the California tiger salamander is potentially significant. Fragmentation can have two effects: (1) reduction in access to habitat as well as habitat suitability, and (2) disruption of movements, dispersal, and gene flow. The construction of roads through salamander habitat may restrict or block movement between breeding ponds and upland habitat. The likelihood of this effect will increase with larger road size, higher traffic volume, and the presence of fences or median barriers. In addition to limiting access to breeding ponds or upland habitat, roads also may reduce the suitability of habitat for the California tiger salamander by fragmentation into patches too small for effective use by the animals. As a habitat patch decreases in size, the number of California tiger salamanders the patch can support also decreases. This increases the probability that the animals will be extirpated from each habitat patch. The possibility for recolonization will depend upon the nature of the factors, e.g., roads, canals, development, etc., that are causing the fragmentation.

Fragmentation factors that effectively isolate patches and limit access also constitute barriers to California tiger salamander dispersal, and gene flow. Movements and dispersal corridors between breeding ponds and upland habitat are critical to this animal's population dynamics, particularly because the animals currently persist as metapopulations with multiple disjunct population centers. Movement and dispersal corridors likely are important for alleviating over-crowding during years when California tiger salamander abundance is high, and also they are important for facilitating the recolonization of areas where the animal has been extirpated. Movement between population centers maintains gene flow and reduced genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects.

Roads have been documented as barriers to movements by a diversity of species, and this effect varies with road size and traffic volume. The inhibition of animal movements caused by roads produces a significant effect by fragmenting habitats and populations (Joly and Morand 1997). Roads were found to be significant barriers to gene flow among common frogs (*Rana temporaria*) in Germany and this has resulted in genetic differentiation among populations separated by roads (Reh and Seitz 1990). Similarly, significant genetic subdivision was detected in bank voles (*Clethrionomys glarelous*) populations separated by a 50-meter (164 foot) wide highway in Germany (Gerlach and Musolf 2000).

California tiger salamander mortality and injury occurs when the animals attempt to cross roads and are hit by cars, trucks, or motorcycles. The majority of strikes occur on rainy nights when the animals are moving to their breeding ponds. Thus, vehicle strikes are a direct source of mortality for the California tiger salamander. If vehicle strikes are sufficiently frequent in a given locality, this could result in reduced abundance of this animal. Especially problematic is the death of females prior to the laying of their eggs because this could result in the loss of an entire cohort, and therefore, reduced recruitment of new individuals into the population.

Vehicles constitute a consistent source of mortality for the animal, based on the frequency with which vehicle strikes occur. Although no systematic, range-wide studies have been conducted, it is known that significant numbers of California tiger salamanders are killed by vehicular traffic while crossing roads (Hansen and Tremper 1993; S. Sweet, *in litt.* 1993; Joe Medeiros, Sierra College, pers. comm. 1993). For example, during a 1-hour period on a road bordering Lake Lagunita on the Stanford University campus, 45 California tiger salamanders were collected, 28 of which had been killed by cars (Twitty 1941). More recently, during one 15-day period in 2001 at a Sonoma County location, 26 road-killed California tiger salamanders were found (D. Cook, pers. comm. 2002). Overall breeding population losses of California tiger salamanders due to road kills have been estimated to be between 25 and 72 percent (Twitty 1941; S. Sweet *in litt.* 1993; Launer and Fee *in litt.* 1996). Mortality may be increased by associated roadway curbs and berms as low as 3.5 to 5 inches, which allow California tiger salamanders access to roadways but prevent their exit from them (Launer and Fee 1996; S. Sweet *in litt.* 1998).

In a recent study along a 0.7 mile high-vehicular-use (21,450 vehicles per day) section of the Trans-Canadian Highway in Alberta, Canada, Clevenger *et al.* (2001) recorded 183 road-killed eastern tiger salamanders in 30 days and concluded it was likely that very little of the local population had survived. In California, vehicular-use levels along various State, interstate, and secondary roads commonly far exceed the level of use reported in the Alberta study. Vehicular usage on California roads is also increasing rapidly and directly with human population and urban expansion. During November 2002, California's estimated total vehicular travel on State highway system roads alone was 14.27 billion miles (this figure and subsequent vehicular-use data from California Department of Transportation's Internet website which was accessed on January 2, 2003). From 1972 to 2001, State highway system total vehicular usage rose steadily from 67.11 to 167.81 billion miles annually. For the 23 California counties in which the California tiger salamander may occur, State highway system total annual vehicular usage in 1999, 2000, and 2001 was 53.27, 55.85, and 57.21 billion miles, respectively. The steady increase of vehicular use is thus continuing. We believe such figures illustrate (1) the general

increase in vehicular usage that has been, and is still, occurring in many parts of the California tiger salamander's range, and (2) that additional increments of road-kill losses, which are already a potentially serious problem for the species, are likely occurring.

Vehicle-related mortality has significantly affected other listed or rare species. Rudolph *et al.* (1999) estimated that road-associated mortality may have depressed populations of Louisiana pine snakes (*Pituophis ruthveni*) and timber rattlesnakes (*Crotalus horridus*) by over 50% in eastern Texas, and this mortality may be a primary factor in local extirpations of this species of rattlesnake (Rudolph *et al.* 1998). Mortality from vehicles also is contributing to the reduction in the status of the prairie garter snake (*Thamnophis radix radix*) in Ohio (Dalrymple and Reichenbach 1984), and was a limiting factor in the recovery of the endangered American crocodile (*Crocodylus acutus*) in Florida (Kushland 1998).

Similar to the endangered San Joaquin kit fox and California red-legged frog, the presence of roads could introduce chemical agents that contaminate and adversely affect the California tiger salamander and its prey; introduce or improve habitat for non-native species that compete or prey upon this listed amphibian; and also the "road zone" effect may adversely affect this listed animal.

There are 8.84 acres of upland salamander habitat that will be permanently lost. However, the proposed project would only result in the permanent loss of 1.97 acres of designated Critical Habitat in Unit 5. This is less than 0.1 % of the Unit 5 total. Most of this has previously been degraded by SR 26. Therefore, the loss is not considered significant.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

As the human population of central California increases, and land continues to be converted to municipal and industrial uses, the amount and quality of habitat suitable for the species considered in this biological opinion will decrease. Between 1970 and 2000, California's total population increased by approximately 71% while the Central Valley's population increased 200%. Of the Sacramento and San Joaquin Valleys within the Central Valley, the San Joaquin Valley had the greater population growth (California Department of Finance (CDF) 2002). Among counties in the San Joaquin Valley, Tulare experienced the least increase percentage in population at 226% from 1940 to 1995, while Stanislaus experienced the greatest increase at 453% during the same period. Also during the period 1940 to 1995, the increase in population for Fresno was 322%; for Kern and Madera: 356% each, for Kings: 227%, for Merced: 322% (CDF 2002). (Information for the valley portions of San Joaquin and Calaveras was unavailable). During the period 1988 to 1998, 82,756 acres in the San Joaquin Valley were converted to urban and built-up land uses (California Department of Conservation 2000).

Although not each of the converted acres can be considered habitat, this trend indicates that habitat loss continues to threaten the survival and recovery of listed species.

The cumulative effects of all the future State, Tribal, local, and private actions that are reasonably certain to occur in the action area will continue to have a deleterious effect on the reproduction, numbers, and distribution of the species considered herein. The adverse cumulative effects described in this section serve to magnify the adverse effects of the proposed action and diminish any beneficial effects.

Conclusion

After reviewing the current status of the California tiger salamander, vernal pool tadpole shrimp, vernal pool fairy shrimp, the environmental baseline for the action area, the effects of the proposed SR 26, and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the California tiger salamander, vernal pool tadpole shrimp and vernal pool fairy shrimp. Critical habitat has been designated for the vernal pool fairy shrimp, however none is located in the action area; therefore, none will be affected. Critical Habitat has been designated for the California Tiger Salamander and 1.97 acres occurs within Unit 5. The proposed action is not expected to result in adverse modification to that Critical Habitat.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Federal Highway Administration has a continuing duty to regulate the activity covered by this incidental take statement. If the Federal Highway Administration (1) fails to require the California Department of Transportation to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain

oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

Incidental take of the California tiger salamander will be difficult to detect because when this amphibian is not in their breeding ponds, or foraging, migrating, or conducting other surface activity, it inhabits the burrows of ground squirrels or other rodents; the burrows may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of a injured or dead individual is unlikely because of their small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers or additional random environmental disturbances. Loss of habitat is a reasonable surrogate for expressing the amount or extent of take because it accurately reflects the biological effects to this species. Therefore, the Service estimates that all California tiger salamanders inhabiting 8.84 acres of habitat will be subject to take in the form of harm and harassment as a result of the proposed action. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the State Route 26 project in the form of harm, harassment, capture, injury, and death of the California tiger salamander caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the Act.

Incidental take of the vernal pool tadpole shrimp and vernal pool fairy shrimp will be difficult to detect because when this crustacean is not in its active adult stage, the cysts or napulai are difficult to locate in the vernal pools and seasonal wetlands; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service is estimating that all vernal pool fairy shrimp inhabiting 1.28 acres, as described in the biological assessment will be subject to incidental take. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the SR 26 in the form of harm, harassment, injury, and death of the vernal pool fairy shrimp caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the Act.

Effect of Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the California tiger salamander, vernal pool tadpole shrimp, and vernal pool fairy shrimp. Critical habitat for the Salamander has been designated; a portion of which is located in the action area of the project and upland habitat within this area 1.97 acres will be affected by the road modification. Critical habitat has been designated for the vernal pool fairy and tadpole shrimp, however none is located in the action area, and therefore none will be modified or destroyed.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize the effects of the SR 26 project on the California tiger salamander, vernal pool tadpole shrimp and vernal pool fairy shrimp.

1. The California Department of Transportation shall implement conservation measures for the California tiger salamander, vernal pool tadpole shrimp and vernal pool fairy shrimp to minimize (1) the effects of the loss of habitat that will occur as a result of the project; (2) the potential for harassment, harm, injury, and mortality to these two listed species; and (3) the potential for inadvertent capture or inadvertent capture or entrapment of federally listed wildlife species during construction activities.

2. The California Department of Transportation shall ensure their compliance with this biological opinion.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Federal Highway Administration shall ensure the California Department of Transportation complies with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

1. The following Terms and Conditions implement Reasonable and Prudent Measure one (1):

   A. The California Department of Transportation shall minimize the potential for harm or harassment of the California tiger salamander, vernal pool tadpole shrimp and vernal pool fairy shrimp resulting from the project related activities by implementation of the conservation measures as described in the biological assessment and the *Project Description* of this biological opinion.

   B. The California Department of Transportation shall include Special Provisions that include the avoidance and minimisation measures of this biological opinion in the solicitation for bid information. The California Department of Transportation will educate and inform contractors involved in the project as to the requirements of the biological opinion.

   C. As described in the September 26, 2005 letter from the Federal Highway Administration to the Service, the California Department of Transportation shall compensate for direct effects to the habitat of the vernal pool fairy shrimp by purchasing at a Service approved conservation bank, for preservation credits that are equivalent of 2.40 acres of suitable vernal pool habitat for this listed species.

D. As described in the September 26, 2005 letter from the Federal Highway Administration to the Service, the California Department of Transportation shall compensate for direct effects to the California tiger salamander upland habitat by purchasing 26.52 acres of upland habitat at a Service approved conservation bank.

E. The California Department of Transportation biologist shall have oversight over implementation of all the measures described in the *Terms and Conditions* of this biological opinion, and he/she shall have the authority to stop project activities, through communication with the California Department of Transportation Resident Engineer, if any of the requirements associated with these measures are not being fulfilled. If the biologist/construction liaison has requested a stop work do to take of any of the listed species the Service and Fish and Game will be notified within one (1) day via email or telephone.

F. Permanent and temporary construction disturbances and other types of project related disturbances to the California tiger salamander and vernal pool fairy shrimp habitat shall be minimized to the maximum extent possible. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas.

G. Project employees shall be directed to exercise caution when commuting within the habitats of the California tiger salamander and vernal pool fairy shrimp. A 20-mile per hour speed limit will be strongly encouraged on unpaved roads within listed species habitats.

H. No canine or feline pets or firearms (except for Federal, State, or local law enforcement officers and security personnel) shall be permitted on construction sites to avoid harassment or killing or injuring of listed species.

I. All construction activity shall be confined within the project site, which may include temporary access roads, haul roads, and staging areas specifically designated and marked for these purposes. At no time shall equipment or personnel be allowed to adversely affect habitat areas outside the project site without authorization from the Service.

J. The resident engineer or their designee shall be responsible for implementing these conservation measures and shall be the point of contact for each project.

K. If borrow material is going to be used for the State Route 26 project, the California Department of Transportation shall follow the procedures outlined below:

1. California Department of Transportation shall require as part of the construction contract that all contractors comply with the Act in the performance of the work necessary for project completion performed inside and outside the project right-of-way.

2. California Department of Transportation shall require documentation from the contractor that aggregate, fill, or borrow material provided for each project was obtained in compliance with the Act. Evidence of compliance with the Act shall be demonstrated by providing the Resident Engineer (RE) any one of the following:

   a. a letter from the Service stating use of the borrow pit area will not result in the incidental take of listed species;
   b. an incidental take permit for contractor-related activities issued by the Service pursuant to section 10(a)(1)(B) of the Act;
   c. a biological opinion or a letter concurring with a "not likely to adversely affect" determination issued by the Service to the Federal agency having jurisdiction over contractor-related activities;
   d. a letter from the Service concurring with the "no effect" determination for contractor-related activities; or
   e. Contractor submittal of information to the California Department of Transportation Resident Engineer indicating compliance with the State Mining and Reclamation Act (SMARA) and provide the County land use permits and CEQA clearance.
   f. If a borrow site that is in compliance with the Act is not available, the California Department of Transportation will either:

      i. identify/select a site that the Service has concurred with the "no effect" determination, or;
      ii. request reinitiation of formal consultation on the action considered herein based on new information.

L. As described in biological assessment and the *Project Description* of this biological opinion, compensation credits, fee title or conservation easements shall be obtained by the California Department of Transportation for 2.40 acres of habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp. The California Department of Transportation shall obtain the written approval of the Service that the parcel(s) are suitable compensation lands for the vernal pool fairy shrimp and vernal pool tadpole shrimp prior to acquiring interest in those lands. The fee title or conservation easement shall be obtained by the California Department of Transportation at least sixty (60) calendar days prior to the date of

initial groundbreaking, or on or before a date that the Service has agreed to in writing with the California Department of Transportation.

M. As described in biological assessment and the *Project Description* of this biological opinion, compensation credits, fee title, or conservation easements shall be obtained by the California Department of Transportation for 26.52 acres of habitat for the California tiger salamander. The California Department of Transportation shall obtain the written approval of the Service that the parcel(s) are suitable compensation lands for the California tiger salamander, and vernal pool shrimp prior to acquiring interest in those lands. The fee title or conservation easement shall be obtained by the California Department of Transportation at least sixty (60) calendar days prior to the date of initial groundbreaking, or on or before a date that the Service has agreed to in writing with the California Department of Transportation.

N. If conservation easements are used by the California Department of Transportation, they shall include, but not be limited to, provisions and responsibilities of the project proponent and the land trust organization approved by the Service for the protection of all habitats set aside including any future transfers of the easements or fee interest that may be anticipated. The easements shall specify the purposes for which it is established (*i.e.*, measures to minimize effects to the California tiger salamander associated with the State Route 26 project). The California Department of Transportation shall provide the Service with a true copy of the recorded conservation easements within thirty (30) calendar days of its recordation. The conservation easements shall be held by a third party approved by the Service. The conservation easement shall include a list of prohibited activities that are inconsistent with the maintenance of the preserve for the listed species including, but not limited to:

1. leveling, grading, landscaping, cultivation, or any other alterations of existing topography for any purposes, including the exploration for, or development of, mineral resources;
2. placement of any new structures on the preserve, including buildings and billboards;
3. discharge, dumping, burning, or storing of rubbish, garbage, grass clippings, dredge material, household chemicals, or any other wastes or fill materials within the preserve;
4. building of any roads or trails within the preserve areas;
5. killing, removal, alteration, or replacement of any existing native vegetation except in Service-approved prescribed burning situations, or as otherwise authorized in writing by the Service;
6. activities that may alter the hydrology of the preserve and the associated watersheds, including but not limited to: excessive pumping of groundwater, manipulation or blockage of natural drainages, inappropriate water application or placement of storm water drains, etc. unless authorized in writing by the Service;

7. incompatible fire protection activities;
8. use of pesticides, herbicides, or rodenticides on the preserve or within the watershed that can contaminate the preserve except as authorized in writing by the Service; and
9. introduction of any exotic species or species not native to the area, including aquatic species, except as approved by the Service.

O. In the event the California Department of Transportation seeks to obtain a conservation easement in lieu of fee title acquisitions for the purposes of satisfying the requirements of the terms and conditions of this biological opinion, the California Department of Transportation shall provide the language of the proposed conservation easements to the Service for prior review and approval. The conservation easements shall include language establishing a right of entry by the Service to determine compliance with the terms and conditions of this biological opinion and the terms of the conservation easements, as well as identifying the Service as a third party beneficiary with the standing to take whatever legal action is necessary to enforce the terms of this conservation easement. Should the California Department of Transportation make fee title acquisition of lands to satisfy the terms and conditions of this biological opinion, the California Department of Transportation shall encumber such lands with restrictive covenants that provide the same rights to the Service as will be established under the conservation easement described above. Such restrictive covenants shall be provided to the Service for prior review and approval before they are recorded against the conservation lands.

P. If the California Department of Transportation plans to acquire fee title or a conservation easement for lands that are not in a Service-approved conservation bank, then at least sixty (60) calendar days prior to the date of initial ground breaking at the proposed State Route 26 project, the California Department of Transportation shall endow a Service-approved fund for monitoring and perpetual management and maintenance of the 2.40 acres for the vernal pool fairy shrimp and 26.52 acres for the California tiger salamander. The principal in the endowment must generate sufficient revenue to fully cover the costs of ongoing operations and management actions as described in the Service-approved management plan and this biological opinion, without the need to make use of the principal to adequately fund such expenditures. Specific actions funded by the endowment shall be addressed in the Service-approved management plan. The California Department of Transportation shall utilize an appropriate third party who has been approved by the Service to determine what amount of money is necessary for an endowment fund to adequately finance the monitoring and perpetual management and maintenance of the preserve for the California tiger salamander and vernal pool fairy shrimp. The California Department of Transportation shall empower the Service to access and expend such funds to implement Service-approved remedial measures in the event the responsible preserve managers fail to adequately implement the Service-approved management plan. The final determination of success or failure of the management plan shall be made solely by the Service. Prior to the date of initial

groundbreaking at the State Route 26 project, the California Department of Transportation shall provide the Service with documentation that: (1) funds for the perpetual management and maintenance of the 2.40 acres for the vernal pool fairy shrimp and 26.52 acres for the California tiger salamander have been transferred to the appropriate third party approved by the Service; (2) the third party has accepted the funds and considers them adequate; and (3) that these funds have been deposited in an account (*i.e.*, endowment) that will provide adequate financing for the monitoring and perpetual management and maintenance of these areas for these listed species.

2. The following Terms and Conditions implement Reasonable and Prudent Measure two (2):

   A. If requested, before, during, or upon completion of ground breaking and construction activities, the California Department of Transportation shall allow access by Service and/or California Department of Fish and Game personnel to the project site to inspect project effects to the vernal pool fairy shrimp and California tiger salamander and its habitat.

   B. The California Department of Transportation shall comply with the *Reporting Requirements* of this biological opinion.

Reporting Requirements

1. Before construction starts on a project, the Service shall be provided with the final documents, including but not limited to, recorded conservation easements, PAR analyses, management plans, or proof of purchase of credits. Please see draft guidance from the Service, *Selected Review Criteria for Conservation Banks and Section 7 Off Site Compensation* dated August 4, 2004, or Service guidance that supercedes this document.

2. A post-construction report detailing compliance with the project design criteria described under the *Description of the Proposed Action* section of this biological opinion shall be provided to the Service within 30 calendar days of completion of the project.

3. The California Department of Transportation shall notify the Service via electronic mail and telephone within one (1) working day of the death or injury to a California Tiger Salamander and/or other listed species that occurs due to project related activities or is observed at the project site. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and photographs of the specific animal. In the case of an injured animal, the animal shall be cared for by a licensed veterinarian or other qualified person. In the case of a dead animal, the individual animal should be preserved, as appropriate, and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or the Service takes custody of the specimen. The Service contacts are Peter Cross, Deputy Assistant Field Supervisor of the Endangered Species Division (Central Valley) at 916/414-6600, and

Scott Heard, Resident Agent-in-Charge of the Service's Law Enforcement Division at 916/414-6660. The California Department of Fish and Game contact is Mr. Ron Schlorff at 916/654-4262.

4. Any contractor or employee who, during routine operations and maintenance activities inadvertently kills or injures a State listed wildlife species shall immediately report the incident to her or his supervisor or representative. The supervisor or representative must contact the California Department of Fish and Game immediately in the case of a dead or injured State listed wildlife species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Sightings of any sensitive animal species should be reported to the California Natural Diversity Database of the California Department of Fish and Game. A copy of the reporting form and a topographic map clearly marked with the location the animals were observed also should be provided to the Service.

2. The California Department of Transportation should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage by California tiger salamanders, and other listed animals, and wildlife. The California Department of Transportation should include photographs, plans, and other information in their biological assessments if they incorporate "wildlife friendly" crossings into their projects.

3. The California Department of Transportation should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California tiger salamander, listed crustacean species, and other appropriate species. Such banking systems also could possibly be utilized for other required mitigation (i.e., seasonal wetlands, riparian habitats, etc.) where appropriate.

4. Sightings of any listed or sensitive animal species should be reported to the California Natural Diversity Database of the California Department of Fish and Game. A copy of the reporting form and a topographic map clearly marked with the location the animals were observed also should be provided to the Service.

In order for the Service to be kept informed of conservation actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any of the conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the State Route 26 project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions concerning this biological opinion on the State Route 26 project, please contact Brian Peterson or Susan Jones at the letterhead address or at telephone 916/414-6630.

Sincerely,

Peter A. Cross

for Ken Sanchez
Acting Field Supervisor

cc:
Mahfoud A. Licha, Federal Highway Administration, Sacramento, California
Carrie Bowen, Jennifer Taylor, Terry Marshall, Zachary Parker, California Department of Transportation, Fresno, California
Annette Tenneboe, Clarence Mayott, California Department of Fish and Game, Fresno, California

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Linda S. Adams
Secretary for Environmental Protection

California Regional Water Quality Control Board
Central Valley Region

Karl E. Longley, ScD, P.E., Chair

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
http://www waterboards ca gov/centralvalley

Arnold Schwarzenegger
Governor

20 July 2009

Sarah Paulson
California Department of Transportation
2015 E Shields Ave, Suite 100
Fresno, CA 93726

CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE SAVAGE WAY REHABILITATION PROJECT (WDID#5B39CR00163) SAN JOAQUIN/CALAVERAS COUNTY

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the described project. Discharger shall notify the Regional Board in writing within 7 days of project completion.

ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:

In addition to the four standard conditions, the applicant shall satisfy the following:

1. California Department of Transportation shall notify the Board in writing of the start of any in-water activities.

2. Except for activities permitted by the U S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. The discharge of petroleum products or other excavated materials to surface water is prohibited.

4. Activities shall not cause turbidity increases in surface water to exceed:

   (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
   (b) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   (c) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
   (d) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.

6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.

7. All areas disturbed by project activities shall be protected from washout or erosion.

8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during in water work
Settleable Material	ml/l	Grab	Same as above.

9. California Department of Transportation shall notify the Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

10. California Department of Transportation shall notify the Board immediately of any spill of petroleum products or other organic or earthen materials.

11. California Department of Transportation shall comply with all Department of Fish and Game 1600 requirements for the project.

12 California Department of Transportation must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board.

13. The Conditions in this water quality certification are based on the information in the attached "Project Information." If the information in the attached Project Information is modified or the project changes, this water quality certification is no longer valid until amended by the Regional Water Board.

14. All roadside ditches and waters that contain vegetation and have been temporarily disturbed by project construction shall be stabilized and re-vegetated with native seed mix.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Daniel Worth, Environmental Scientist
11020 Sun Center Drive #200
Rancho Cordova, California 95670-6114
(916) 464-4709
dworth@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from California Department of Transportation; Savage Way Rehabilitation Project (WDID#5B39CR00163) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges That Have Received State Water Quality Certification (General WDRs)."

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

for **PAMELA C. CREEDON**
Executive Officer

Enclosure: Project Information

cc: See Distribution List (Page 6)

PROJECT INFORMATION

Application Date: 5 February 2009

Applicant: Sarah Paulson
California Department of Transportation
2015 E Shields Ave, Suite 100
Fresno, CA 93726

Project Name: Savage Way Rehabilitation Project

Application Number: WDID#5B39CR00163

U.S. Army Corps File Number: 200200596

Type of Project: Transportation Project

Project Location: Sections 19, 18, and 17, Township 3 North, Range 10 East, and Section 24, Township 3 North, Range 9 East, MDB&M. Latitude: 38.0943° to 38.1155° and Longitude: 120.9450° to 120.8985°.

County: San Joaquin and Calaveras Counties

Receiving Water(s) (hydrologic unit): Unnamed tributary of Indian and Stone Corral Creeks, San Joaquin Hydrologic Basin, North Valley Floor Hydrologic Unit #531.30, Lower Calaveras HSA

Water Body Type: Wetlands, Vernal Pool

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The California Department of Transportation and the Federal Highway Administration are proposing to rehabilitate pavement and meet current roadway standards by widening and realigning existing Route 26 from Wimer/Ospital Road in San Joaquin County to Savage Way in Calaveras County. The purpose of the proposed road realignment is to improve safety for motorists by increasing visibility and eliminating sight restrictions The total length of the project is 3.26 miles, with 0.2 mile of the project located in San Joaquin County and 3.06 miles in Calaveras County. The proposed route would operate as a two lane conventional highway with twelve-foot wide lanes and eight-foot shoulders. Construction activities will include road relocation, shoulder widening, new turning lanes, and culvert installation/extension. Construction activities from this project will affect 1.28 acres of wetland habitat used by vernal pool species within the project buffer (250 feet). Impacts to

vernal pool species within the project buffer include direct impacts to 0.52 acre, and indirect impacts to 0.76 acre A permanent loss of 0.30 acre of vernal pools and 0.10 acre of other waters of the United States will result from this project. Additionally, Caltrans estimates 8 84 acres of salamander upland habitat will be affected by the project.

Preliminary Water Quality Concerns: The construction activities may impact surface waters with increased turbidity and settleable matter, and will impact important wildlife habitat.

Proposed Mitigation to Address Concerns: California Department of Transportation will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. California Department of Transportation will conduct turbidity and settleable matter testing during in water work, stopping work if Basin Plan criteria are exceeded or are observed. California Department of Transportation will implement the BMP that were proposed in the biological assessment and shall comply with the Terms and Conditions issued by the U.S. Fish and Wildlife Service in the Biological Opinion.

Fill/Excavation Area: About 1302 cubic yards of clean soil will be placed into 0.52 acre of waters of the United States.

Dredge Volume: None

U.S. Army Corps of Engineers Permit Number: Nationwide Permit #14

Department of Fish and Game Streambed Alteration Agreement: Sharon Stohrer of the California Department of Fish and Game indicated on 3 June 2009 that a Streambed Alteration Agreement was not required.

Possible Listed Species: Vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander

Status of CEQA Compliance: The California Department of Transportation approved the Categorical Exemption for this project on 21 September 2006 (State Clearinghouse Number 2005062173).

Compensatory Mitigation: The California Department of Transportation has purchased 26.52 acres of upland habitat at the Fitzgerald Ranch Mitigation Bank in San Joaquin County. This will compensate for direct impacts to 8.84 acres of upland salamander habitat (3:1 ratio). Caltrans has also purchased 1.6 acres of vernal pool preservation credits at the Fitzgerald Ranch Mitigation Bank to compensate for direct impacts (0.52 acre) to vernal pool obligate species (3:1 ratio). Additionally, Caltrans has purchased 0.8 acre of creation credits from the Drayer Ranch Conservation Bank Agreement for the indirect impacts to 0.76 acre of vernal pool obligate species (1:1). These actions have been requested and approved by the U.S. Fish and Wildlife Service. The U S. Army Corps has also required that Caltrans submit a check in the amount of $120,000.00 payable to the National Fish and Wildlife Foundation for the permanent loss of 0 30 acre of vernal pools, and 0.10 acre of other waters.

Application Fee Provided: Total fees of $2231.00 have been submitted as required by 23 CCR §3833b(3)(A) and by 23 CCR §2200(e)

DISTRIBUTION LIST

U.S. Army Corp of Engineers
Sacramento District Office
Regulatory Section, Room 1480
1325 J Street
Sacramento, CA 95814-2922

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Wetlands Section Chief (W-3)
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

United States Fish & Wildlife Service
Sacramento Fish & Wildlife Office
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Sacramento, CA 95825

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Department of Fish and Game
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Bill Orme
State Water Resources Control Board
401 Certification and Wetlands Unit Chief
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Sacramento, CA 95814

Bill Jennings
CA Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO ATTENTION OF

July 13, 2009

Regulatory Division (SPK-2002-00596)

Mr Zachary K Parker, Chief
Central Region Biology Branch
State of California
Department of Transportation
2015 East Shields Avenue, Suite A-100
Fresno, California, 93726-5428

Dear Mr. Parker:

We are responding to your February 6, 2009 request for a Department of the Army permit for the State Route 26 (SR 26) Savage Way Rehabilitation project. This approximately 3.26 mile project involves activities, including the discharge of dredged or fill material, into waters of the United States to rehabilitate pavement and improve the safety of State Route 26 (SR 26) The project is located on SR 26 between Wimer/Ospital Road, San Joaquin County and Savage Way in Calaveras County, Sections 24-27, 16-19, and 9, Township 3 North, Ranges 9 and 10 East, MDB&M Survey, Calaveras and San Joaquin Counties, California.

Based on the information you provided, the proposed activity in approximately 0.62-acres of waters of the United States is authorized by Nationwide Permit Number 14, Linear Transportation Projects. The proposed impacts associated with this work include; approximately 0.30-acre of permanent impacts and 0.18-acre of temporary impacts to vernal pools, 0.10-acre of permanent impacts and 0.045-acre of temporary impacts to seasonal streams, swales, and drainages. However, until Section 401 Water Quality Certification for the activity has been issued or waived, our authorization is denied without prejudice. Once you have provided us evidence of water quality certification, the activity is authorized and the work may proceed subject to the conditions of certification and the Nationwide Permit. Your work must comply with the general terms and conditions listed on the enclosed Nationwide Permit information sheets and the following special conditions:

1. To mitigate for the permanent loss of 0.30-acre of vernal pools, and 0.10- acre of other waters, you shall submit a check in the amount of $120,000 00 payable to the National Fish and Wildlife Foundation (NFWF). An 8-digit hydrologic unit code (HUC) for the local waterway must be indicated in the in-lieu fee agreement in order to insure the proper location of future mitigation. Prior to proceeding with any activity otherwise authorized by this permit, we must receive notification from you that your in-lieu fees have been deposited into NFWF's Sacramento District Wetlands Conservation Fund.

2. To mitigate for indirect impacts to vernal pools, you shall purchase 2.4-acres of *vernal pool habitat* credits at an approved U.S. Fish and Wildlife Service Conservation Bank. Evidence of this purchase shall be provided to this office prior to proceeding with any activity otherwise authorized by this permit.

3. To compensate for the temporary loss of 0.045-acre of other waters, you shall restore at least 0.045-acre of seasonal stream, swales, drainages and ditches adjacent to the modified roadway The drainages and ditches shall be designed to the approximate current dimensions and shall be vegetated with native seed mix.

4. To insure compliance with Section 106 of the National Historic Preservation Act, the document entitled *Programmatic Agreement between the Federal Highway Administration and the State Historic Preservation Officer Regarding the State Route 26 Rehabilitation project in San Joaquin and Calaveras Counties, California*, dated September 6, 2006, is incorporated by reference as a condition of this authorization.

5. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register.

6. To mitigate project impacts to the aquatic resources and associated habitats, you shall employ protective mats or other barriers under heavy equipment, while operating in wetlands, mudflats, and vernal pools. You shall implement all measures necessary, in order to protect the topography, hydrology, and vegetation in these aquatic habitats.

7. This Corps permit does not authorize you to take an endangered species, in particular vernal pool fairy shrimp *(Branchinecta lynchi)*, vernal pool tadpole shrimp *(Lepidurus packardi)*, California tiger salamander *(Ambystoma californiense)(salamander)*, or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion(s) (Numbers 1-1-03-F-0053, and amendments 1-1-07-F-0031 and 1-1-07-F-0088), contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached Biological Opinion(s), which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion(s), where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The permittee must comply with all conditions of this Biological Opinion(s), including those ascribed to the Corps.

8. You shall have a qualified biologist, who is aware of the locations of all water features within the project boundary monitor construction activities. The monitor shall ensure no unauthorized activities occur within avoided waters. The monitor shall have the authority to stop work immediately if any unauthorized fill occurs in potential waters of the United States, including wetlands. In the event of an unauthorized fill, our office shall be contacted immediately.

9. You shall follow the specifications and standards described in the Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Plan (WPCP), to prevent erosion and sedimentation during and after construction. Construction work within potential waters of the United States and associated wetlands shall be conducted during periods of low flow (typically June 1-October 30), outside the rainy season work window.

10. You shall employ Best Management Practices (BMP's) to avoid and minimize environmental impacts. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations and conditions. The affected areas must be re-vegetated with a weed-free native seed mix.

11. You shall design and construct all crossings of waters of the United States to retain a natural substrate, and to accommodate all reasonably foreseeable expected high flows. Examples of crossings over or through waters of the United States include box culverts, bridges, fords, causeways or overpasses.

12. Excavated sediment shall only be placed in upland locations. The upland disposal site(s) shall be delineated for waters of the U.S. and must be approved by the Corps of Engineers prior to disposal. The upland disposal site(s) should be carefully chosen to reduce impacts to the functions and values of the flora and fauna, and shall be revegetated with native plant species along with implementation of an appropriate weed management plan.

13. All equipment staging, including Temporary Construction Areas (TCA's), shall take place within approved areas within the project boundary. Prior to construction implementation, you shall ensure all equipment staging, TCA's, demolition and disposal, excavation, off pavement detours, and borrow and fill areas, have been evaluated under National Environmental Policy Act (NEPA), Section 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act and Section 106 of the National Historical Preservation Act and all required permits have been obtained.

14. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

15. To document pre-and post-project construction conditions, you shall submit numbered and dated photos of the waters (including both the temporary and permanently impacted areas) within the project site prior to project implementation and post-construction photos of the same areas within 30 days after project completion.

16. To prevent unauthorized fills and unforeseen impacts, you shall, prior to proceeding with any activity otherwise authorized by this permit, install high-visibility fencing and appropriate signage around the entire perimeter of avoided waters of the U.S. within the project area. All fencing surrounding avoidance areas shall allow unrestricted visibility of these areas to discourage vandalism, destruction or disturbance.

17. You must sign the enclosed Compliance Certification and return it to this office within 30 days after completion of the authorized work.

This verification is valid for two years from the date of this letter or until the Nationwide Permit is modified, reissued, or revoked, whichever comes first. Failure to comply with the General Conditions of this Nationwide Permit, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website at: http://per2.nwp.usace.army.mil/survey.html.

Please refer to identification number SPK-2002-00596 in any correspondence concerning this project. If you have any questions, please contact Ms. Leah Fisher at our California North Branch Office, 1325 J Street, Room 1480, Sacramento, California 95814-2922 email *leah.m.fisher@usace.army.mil*, or telephone 916-557-6639. You may also use our website: *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

Nancy A. Haley
Chief, California North Branch

Enclosures

Copy Furnished without enclosures:

Ms. Susan Jones, Chief, San Joaquin Valley Branch, Endangered Species Division, U.S. Fish and Wildlife Service, 2800 Cottage Way, Sacramento, California 95825-3901

Mr. Loudermilk, Regional Manager, Central Region, California Department of Fish and Game, 1234 East Shaw Avenue, Fresno, California 93710-7802

Mr. Daniel Worth, Water Quality Certification Program, Central Valley Water Board, 11020 Sun Center Dr. #200, Rancho Cordova, CA 95670

COMPLIANCE CERTIFICATION

Permit File Number: SPK-2002-00596, State Route 26 Savage Way Rehabilitation Project

Nationwide Permit Number: 14, Linear Transportation Projects.

Permittee:
Mr. Zachary K Parker, Chief
Central Region Biology Branch
State of California
Department of Transportation
2015 East Shields Avenue, Suite A-100
Fresno, California, 93726-5428

County: Calaveras and San Joaquin

Date of Verification: July 8, 2009

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Regulatory Division
California North Branch
1325 J Street, Room 1480, Sacramento, California
FAX 916-557-6877

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____ _____
Signature of Permittee Date

Nationwide Permit Summary

U S Army Corps of Engineers
Sacramento District

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

14. Linear Transportation Projects Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e g , roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands (See general condition 27) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323 4)

A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP

☐ 1. **Navigation**.

☐ (a) No activity may cause more than a minimal adverse effect on navigation

☐ (b) Any safety lights and signals prescribed by the U S Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration

☐ 2. **Aquatic Life Movements** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water Culverts placed in streams must be installed to maintain low flow conditions.

☐ 3 **Spawning Areas**. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable Activities that result in the physical destruction (e g , through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

☐ 4. **Migratory Bird Breeding Areas**. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable

☐ 5. **Shellfish Beds** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

☐ 6. **Suitable Material** No activity may use unsuitable material (e g , trash, debris, car bodies, asphalt, etc) Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act)

☐ 7. **Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization

☐ 8. **Adverse Effects From Impoundments** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or

restricting its flow must be minimized to the maximum extent practicable

☐ 9. **Management of Water Flows** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e g , stream restoration or relocation activities).

☐ 10. **Fills Within 100-Year Floodplains** The activity must comply with applicable FEMA-approved state or local floodplain management requirements

☐ 11. **Equipment** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance

☐ 12. **Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ 13. **Removal of Temporary Fills** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate

☐ 14. **Proper Maintenance** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety

☐ 15. **Wild and Scenic Rivers** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g , National Park Service, U S Forest Service, Bureau of Land Management, U S Fish and Wildlife Service)

☐ 16. **Tribal Rights** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights

☐ 17. **Endangered Species**

☐ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

☐ (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs

☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U S FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

☐ 18. **Historic Properties**.

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330 4(g)) The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800 3(a)) If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U S C 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties

☐ **19. Designated Critical Resource Waters**. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal

☐ **20 Mitigation**. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i e , on site)

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the

aquatic environment Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e g , conservation easements) of riparian areas next to open waters In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e g , riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan

☐ (h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☐ **21. Water Quality**. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality

☐ **22. Coastal Zone Management** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330 4(d)) The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements

☐ **23. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330 4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination

☐ **24. Use of Multiple Nationwide Permits**. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre

☐ **25. Transfer of Nationwide Permit Verifications**. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

> "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below "
>
> ---
>
> (Transferee)
>
> ---
>
> (Date)

☐ **26. Compliance Certification**. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation The certification form must be forwarded by the Corps with the NWP verification letter and will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

☐ (b) A statement that any required mitigation was completed in accordance with the permit conditions; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation

☐ **27. Pre-Construction Notification.**

☐ (a) **Timing** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer, or

☐ (2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330 4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330 5(d)(2)

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision);

☐ (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic

property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act

☐ (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

☐ (5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

☐ (e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant

submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan

☐ **(a) 28. Single and Complete Project.** The activity must be a single and complete project The same NWP cannot be used more than once for the same single and complete project

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

1 When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

a A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

c Pre-project color photographs of the project site taken from designatedlocations documented on the plan drawing

2 The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction

3 The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404) The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

4 The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument

5 The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts

7 Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District

8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands

9 For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27

10 For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act

11 For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries

12 For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed

13 For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies

14 For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.

15 For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width

16 All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater Fens are normally saturated throughout the growing season, although they may not be during drought conditions For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

17 For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27 A spring source is defined as any location where ground water emanates from a point in the ground For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

1 In the Lake Tahoe Basin, all NWPs are revoked Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit

2 In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked New development activities in the Legal Delta will be reviewed through the Corps' standard permit process

III. Nevada Only

1 In the Lake Tahoe Basin, all NWPs are revoked Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit

IV. Utah Only

1 For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake

2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream

3 For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical drop For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity Sinuosity is defined as the ratio of stream length to project reach length Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer

V. Colorado Only

1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado

a Nationwide Permit Nos 12 and 14, Utility Line Activities and Linear Transportation Projects In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).

b. Nationwide Permit No 13 Bank Stabilization In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]

c. Nationwide Permit No 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities

(1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to provide those comments If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit

(2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length)

(3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer The use of grout and/or concrete in

building structures is not authorized by this nationwide permit

(4) The construction of water parks (i.e , kayak courses) and flood control projects are not authorized by this nationwide permit

d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions

2 Final Regional Conditions Applicable to All Nationwide Permits within Colorado

e. Removal of Temporary Fills General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i e fabric, certified weed-free straw, etc) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction

f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material in not authorized by the following nationwide permits in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

h. Invasive Aquatic Species General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

(1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc) and keep the equipment dry for 10 days. OR

(2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water) Treated equipment must be kept moist for at least 10 minutes OR

(3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes

3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas

i Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens Use of nationwide permit Nos 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions The primary source of hydrology for fens is groundwater Histosols are defined in accordance with the U S Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (http://soils.usda.gov/technical classification taxonomy)

j Springs: Within the state of Colorado, all NWPs, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs A spring source is defined as any location where groundwater emanates from a point in the ground For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

4 Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

a. Permittees are reminded of the existing General Condition No 6 which prohibits the use of unsuitable material Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i e. all fills must be permanently stabilized to

prevent erosion and siltation into waters and wetlands at the earliest practicable date) Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12 Also, use of erosion control mates that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife

b. Designated Critical Resource Waters in Colorado In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (http://www.spa usace.army.mil/reg/)

c. Federally-Listed Threatened and Endangered Species General condition 17 requires that nod-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project Information on such species, to include occurrence by county in Colorado, may be found at the following U S Fish and Wildlife Service website: http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm

C. Further Information

1 District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3 NWPs do not grant any property rights or exclusive privileges

4. NWPs do not authorize any injury to the property or rights of others

5 NWPs do not authorize interference with any existing or proposed Federal project

D. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development BMPs are categorized as structural or non-structural

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction

Discharge: The term "discharge" means any discharge of dredged or fill material

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s) Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s) Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year Ephemeral stream beds are located above the water table year-round Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60)

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow During dry periods, intermittent streams may not have flowing water Runoff from rainfall is a supplemental source of water for stream flow

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services The loss of stream bed includes the linear feet of stream bed that is filled or excavated Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters The definition of a wetland can be found at 33 CFR 328 3(b) Non-tidal wetlands

contiguous to tidal waters are located landward of the high tide line (i e , spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent Vegetated shallows are considered to be open waters Examples of "open waters" include rivers, streams, lakes, and ponds

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328 3(e))

Perennial stream: A perennial stream has flowing water year-round during a typical year The water table is located above the stream bed for most of the year Groundwater is the primary source of water for stream flow Runoff from rainfall is a supplemental source of water for stream flow

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water Pools are deeper areas associated with riffles A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality (See general condition 20)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e , spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat

Single and complete project: The term "single and complete project" is defined at 33 CFR 330 2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i e , a single waterbody) at a specific location For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e , by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks The substrate may be bedrock or inorganic particles that range in size from clay to boulders Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal

interruption of normal stream processes A channelized stream remains a water of the United States

Structure: An object that is arranged in a definite pattern of organization Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction

Tidal wetland: A tidal wetland is a wetland (i e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328 3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328 3(d)

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328 4(c)(2)) Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands