

Appendix D: Biological Resources Supporting Data/ Jurisdictional Delineation

D.1 - Biological Resources Supporting Data

Summary of Special-Status Plant Species Review

Scientific Name Common Name	Listing Status* USFWS/ CDFG/CNPS	General Habitat Description	Potential for Presence **	Period of Identification
<i>Amsinckia grandiflora</i> Large-flowered fiddleneck	FE/CE/1B.1	Cismontane woodland and valley and foothill grassland habitats. 275 to 550 meters in elevation.	None. There are no natural habitats within the project site; the site contains only active agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	April – May
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	—/—/1B.2	Playas, valley and foothill grassland in adobe clay, and vernal pools. Restricted to alkaline substrates. 1 to 60 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	March – June
<i>Atriplex joaquiniana</i> San Joaquin sparscale	—/—/1B.2	Chenopod scrub, meadows and seeps, playas, and valley and foothill grassland. Restricted to alkaline soils. 1 to 835 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	April – October
<i>Atriplex minuscule</i> Lesser saltscall	—/—/1B.1	Chenopod scrub, playas, and valley and foothill grassland. Restricted to alkaline, sandy soils. 15 to 200 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	May – October
<i>Blepharizonia plumosa</i> Big tarplant	—/—/1B.1	Valley and foothill grassland. 30 to 505 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	July – October
<i>California macrophylla</i> Round-leaved filaree	—/—/1B.1	Cismontane woodland and valley and foothill grassland habitats. 15 to 1,200 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	March – May

Summary of Special-Status Plant Species Review (cont.)

Scientific Name Common Name	Listing Status* USFWS/ CDFG/CNPS	General Habitat Description	Potential for Presence **	Period of Identification
<i>Carex comosa</i> Bristly sedge	—/—/2.1	Coastal prairie and valley and foothill grassland habitats in clay soils. 0 to 625 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	May - September
<i>Cirsium crassicaule</i> Slough thistle	—/—/1B.1	Chenopod scrub, marshes and swamps, and riparian scrub habitats. 3 to 100 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There is a recorded occurrence of this species 3 miles southwest of the site (CNDDDB 2010).	May – August
<i>Cordylanthus palmatus</i> Palmate-bracted bird's-beak	FE/CE/1B.1	Chenopod scrub and valley and foothill grasslands in alkaline soils. 5 to 155 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	May - October
<i>Delphinium recurvatum</i> Recurved larkspur	—/—/1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grassland habitats in alkaline soils. 3 to 750 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	March – June
<i>Eryngium racemosum</i> Delta button-celery	—/CE/1B.1	Riparian scrub in vernal mesic clay depressions. 3 to 30 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There is a recorded occurrence of this species 3 miles southwest of the site (CNDDDB 2010).	June – October
<i>Eschscholzia rhombipetala</i> Diamond-petaled California poppy	—/—/1B.1	Valley and foothill grassland habitat in alkali, clay soils.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	March – April

Summary of Special-Status Plant Species Review (cont.)

Scientific Name Common Name	Listing Status* USFWS/ CDFG/CNPS	General Habitat Description	Potential for Presence **	Period of Identification
<i>Hisbiscus lasiocarpus</i> Woolly rose-mallow	—/—/2.2	Freshwater marshes and swamps. 0 to 120 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	June – September
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	—/—/1B.2	Freshwater and brackish marshes and swamps. 0 to 4 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	May - July
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	—/Rare/1B.1	Riparian scrub and brackish or freshwater marshes and swamps. 0 to 10 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	April – November
<i>Limosella subulata</i> Delta mudwort	—/—/2.1	Marshes and swamps. 0 to 3 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	May – August
<i>Sagittaria sanfordii</i> Sanford's arrowhead	—/—/1B.2	Assorted shallow freshwater marshes and swamps. 0 to 2,132 feet in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	May – October

Summary of Special-Status Plant Species Review (cont.)

Scientific Name Common Name	Listing Status* USFWS/ CDFG/CNPS	General Habitat Description	Potential for Presence **	Period of Identification
<i>Senecio aphanactis</i> Chaparral ragwort	—/—/2.2	Chaparral, cismontane woodland, and coastal scrub habitats; sometimes in alkaline soils. 15 to 800 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	January – April
<i>Symphyotrichum lentum</i> Suisun Marsh aster	—/—/1B.2	Brackish and freshwater marshes and swamps. 0 to 3 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There is an 1892 occurrence record from the extreme southwestern corner of the site (CNDDDB 2010).	May – November
<i>Trichocoronis wrightii</i> var. <i>wrightii</i> Wright's trichocoronis	—/—/2.1	Meadows and seeps, marshes and swamps, riparian forest, and vernal pools. Restricted to alkaline substrates. 5 to 435 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. Irrigation channels within the project site are regularly maintained through dredging. There is an occurrence record for this species 4 miles southwest of the site, although the species has not been documented here since 1914 (CNDDDB 2010).	May – September
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	—/—/1B.1	Valley and foothill grasslands on alkaline hills. 1 to 455 meters in elevation.	None. There are no natural habitats within the project site; the site contains only agricultural fields and orchards. There are no recorded-occurrences of this species within 5 miles of the project site (CNDDDB 2010).	March – April
*Status Codes:				
Federal FE = Federally Endangered FT = Federally Threatened FD = Federally Delisted	State CE = State Endangered CT = State Threatened SSC = State Species of Special Concern	CNPS 1A = Presumed extinct in California 1B.X = Rare, threatened, or endangered in California and elsewhere 2.X = Rare, threatened, or endangered in California, but more common elsewhere Threat rank: 0.1 = Seriously threatened in California 0.2 = Fairly threatened in California 0.3 = Not very threatened in California		

Summary of Special-Status Plant Species Review (cont.)

<i>Scientific Name</i> Common Name	Listing Status* USFWS/ CDFG/CNPS	General Habitat Description	Potential for Presence **	Period of Identification
**Potential for Presence				
High = Species was observed, or suitable habitat is present and the species has been recorded recently within or adjacent to the project site. Medium = Species is locally common and suitable habitat is present. Low = Habitat is marginal, or suitable habitat is present but species is rare or locally uncommon. Very Low = Habitat is poor or absent, or species is very rare and has not been recorded within 5 miles of the project site. None = Habitat is absent and/or site is not within range of this species.				

Summary of Special-Status Wildlife Species Review

Scientific Name Common name	Listing Status USFWS/ CDFG/WBWG	General Habitat Description	Potential for Presence	Period of Identification
Invertebrates				
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE/—/—	Vernal pools, swales, and ephemeral freshwater habitats.	None. The project site contains no vernal pools, swales, or other ephemeral freshwater habitats suitable for this species. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT/—/—	Vernal pools, seasonally ponded swales, and ephemeral freshwater habitats.	None. The project site contains no vernal pools, swales, or other ephemeral freshwater habitats suitable for this species. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT/—/—	Elderberry shrubs (<i>Sambucus mexicana</i>).	None. Suitable habitat is not present. Elderberry shrubs were not detected during surveys. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	FE/—/—	Vernal pools and ephemeral freshwater habitats.	None. The project site contains no vernal pools, swales, or other ephemeral freshwater habitats suitable for this species. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
Fishes				
<i>Acipenser medirostris</i> Green sturgeon	FT/SSC/—	Anadromous species; large portions of life history are spent in the ocean. Migrations by adults into freshwater occur between late February and late July, with a spawning period generally ranging from March to July. Spawning takes place in deep, fast-moving water with temperatures between 46.5 and 57 °F. Preferred spawning substrate is likely large cobble, but can range from clean sand to bedrock. Juveniles typically migrate out to sea before the end of their second year, primarily during summer and fall.	None. Irrigation channels and drains within the project site are maintained by the South San Joaquin Irrigation District (SSJID) and do not support fish species. There are no recorded occurrences of this species within 5 miles of the project (CNDDB 2010).	Year-round
<i>Hypomesus transpacificus</i> Delta smelt	FT/CT/—	Sacramento-San Joaquin Delta.	None. Irrigation channels and drains within the project site are maintained by SSJID and do not support fish species. There are no recorded occurrences of this species within 5 miles of the project (CNDDB 2010).	Year-round
<i>Mylopharodon conocephalus</i> Hardhead	—/SSC/—	Inhabits deep, rocky and sandy pools of small to large rivers.	None. Irrigation channels and drains within the project site are maintained by SSJID and do not support fish species. There are no recorded occurrences of this species within 5 miles of the project (CNDDB 2010).	Year-round
<i>Oncorhynchus mykiss</i> Central Valley steelhead	FT/—/—	Sacramento and San Joaquin Rivers and their tributaries.	None. Irrigation channels and drains within the project site are maintained by SSJID and do not support fish species. There are no	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBWG	General Habitat Description	Potential for Presence	Period of Identification
			recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	
<i>Onchorhynchus tshawytscha</i> Central Valley spring-run Chinook	FT/CT/—	Sacramento and San Joaquin Rivers and their tributaries.	None. Irrigation channels and drains within the project site are maintained by SSJID and do not support fish species. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
<i>Onchorhynchus tshawytscha</i> Central Valley winter-run Chinook	FE/CE/—	Sacramento and San Joaquin Rivers and their tributaries.	None. Irrigation channels and drains within the project site are maintained by SSJID and do not support fish species. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	FT/CC/—	Annual grassland habitat and grassy understory of valley-foothill hardwood habitats. Uncommon along streamcourses in valley-foothill riparian habitats. Adults spend most of the year in subterranean refugia, especially burrows of California ground squirrels. Migrate to vernal pools and other temporary rainwater ponds to breed and lay eggs.	None. The project site and surrounding lands are active agricultural fields and orchards. There are no upland aestivation habitats or any aquatic habitats suitable for breeding. There is a recorded occurrence of this species 4 miles south of the project site (CNDDDB 2010).	March to May (aquatic larval sampling) October through winter (drift fence surveys)
<i>Rana boylei</i> Foothill yellow-legged frog	—/CSC/—	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	None. Aquatic habitats on site are irrigation channels and drains maintained by the SSJID, and are not suitable for this species. There are no recorded	April - July (breeding season survey)

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBWG	General Habitat Description	Potential for Presence	Period of Identification
			occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	
<i>Rana draytonii</i> California red-legged frog	FT/CSC/—	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent vegetation.	None. Aquatic habitats on site are irrigation channels and drains maintained by the SSJID, and are not suitable for this species. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	January through February (breeding season survey)
<i>Spea hammondi</i> Western spadefoot toad	—/CSC/—	Grasslands with temporary pools.	None. The project site and surrounding lands are active agricultural fields and orchards. There are no habitats suitable for this species. There are no recorded occurrences of this species within 5 miles of the site (CNDDDB 2010).	January - May (adult visual survey)
Reptiles				
<i>Actinemys marmorata</i> Western pond turtle	—/CSC/—	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. My move overland up to 325 feet for egg laying.	None. Aquatic habitats on site are irrigation channels and drains maintained by the SSJID, and are not suitable for this species. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Year-round
<i>Masticophis flagellum ruddocki</i> San Joaquin whipsnake	—/SSC/—	Occurs in open, dry, treeless areas, including grassland and saltbush scrub	None. The project site and surrounding lands are active agricultural fields and orchards. There are no habitats suitable for this species. There are no recorded occurrences of this species within 5 miles of the site (CNDDDB 2010).	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
<i>Phrynosoma coronatum</i> California horned lizard	—/SSC/—	Common in lowlands along sandy washes with scattered low shrubs to provide cover and open areas for basking and loose soils in which they can bury themselves.	None. The project site and surrounding lands are active agricultural fields and orchards. There are no habitats suitable for this species. There are no recorded occurrences of this species within 5 miles of the site (CNDDDB 2010).	April to September
<i>Thamnophis gigas</i> Giant garter snake	FT/CT/—	Marshes, sloughs, irrigation channels, and occasionally in slow-moving streams. Requires emergent vegetation for cover.	None. Suitable habitat is not present. The expansion area does not contain any aquatic habitat suitable for this species. There is a recorded occurrence of this species approximately 4 miles northeast of the expansion area (CNDDDB 2010).	Mid-March to October
Birds				
<i>Accipiter striatus</i> Sharp-shinned hawk	—/CSC/—	Winter resident throughout much of the state; permanent at higher elevations. Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers but is not restricted to riparian habitats.	Moderate. This species does not nest within the region, although the site may be used for foraging. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Year-round
<i>Agelaius tricolor</i> Tricolored blackbird	—/CSC/—	Largely endemic to California, most numerous in the Central Valley and nearby vicinity. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats.	Low. There are no emergent wetlands suitable for nesting, although this species may forage on the site. There are recorded occurrences of this species within 5 miles of the site, the nearest of which is approximately 2.5 miles to the south (CNDDDB 2010).	April – July
<i>Aquila chrysaetos</i> Golden eagle	—/CFP/—	Breeds on cliffs or in large trees or electrical towers, forages in open habitats.	None. The project site is located in a relatively	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBWW	General Habitat Description	Potential for Presence	Period of Identification
			urbanized region that is unsuitable for this species. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	
<i>Athene cunicularia</i> Western burrowing owl	—/CSC/—	Open, dry annual or perennial grasslands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals.	High. Berms adjacent to agricultural fields may be suitable for this species, and much of the site is suitable for foraging. There are several recorded occurrences of this species within 5 miles of the site, the nearest of which is a sizeable population in Sharpe Depot, adjacent to the site on the west (CNDDDB 2010).	Dec. 1 to Jan. 31 and April 15 to July 15
<i>Branta hutchinsii leucopareia</i> Cackling goose	FD/—/—	Preferred habitats include lacustrine, fresh emergent wetlands, and moist grasslands, croplands, pastures, and meadows. Occurs mainly during winter in Del Norte county, the San Francisco bay-delta, and southern Central Valley.	None. This species does not nest in the region, and is not typically associated with urbanized regions. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	October – February
<i>Buteo swainsoni</i> Swainson's hawk	—/CT/—	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen Co., and Mojave Desert. Breeds in open stands in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands, grain or alfalfa fields, or livestock pastures.	Moderate. Suitable foraging habitat is present in agricultural fields, and trees associated with residences may be used for nesting. There are several recorded occurrences of this species within 5 miles of the project site, the nearest of which is 1 mile to the north (CNDDDB 2010).	March to September
<i>Buteo regalis</i> Ferruginous hawk	—/CSC/—	Forages in grasslands and occasionally in other open habitats during migration and winter.	Low. This species does not breed in California, although the area is suitable for foraging. There are no recorded occurrences of this species within 5 miles of the expansion	September to April

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
			area (CNDDDB 2010).	
<i>Circus cyaneus</i> Northern harrier	—/CSC/—	Winter resident throughout most of the state; year-round in the Central Valley and Coast Range. Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields or grasslands.	High. Suitable nesting and foraging habitat is present throughout grassland portions of the expansion area. This species was observed during the field assessment. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	April to September (breeding)
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FC/CE/—	Uncommon to rare summer resident of valley foothill and desert riparian habitats. Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut on slow-moving watercourses, backwaters, or seeps. Willow almost always a dominant component of the vegetation. In Sacramento Valley, also utilizes adjacent orchards, especially walnut.	None. The project site does not contain and is not in proximity to any dense riparian habitats. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	January to August (breeding)
<i>Dendroica petechia</i> Yellow warbler	—/CSC/—	Requires riparian thickets of willow and other brushy tangles near watercourses for cover. Nests in dense shrubs along streams or rivers.	None. The project site does not contain and is not in proximity to any dense riparian habitats. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	April - September
<i>Elanus leucurus</i> White-tailed kite	—/CFP/—	Year-round resident. Nests or roosts in dense, broad-leaved deciduous trees. Forages in herbaceous lowlands with variable tree growth and dense populations of voles.	Moderate. Agricultural fields within the project site are suitable for foraging, and trees associated with residences may be suitable for nesting. There are no recorded occurrences of this species within 5 miles of the area (CNDDDB 2010).	January to August (breeding)

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
<i>Falco columbarius</i> Merlin	—/CSC/—	Uncommon winter migrant. Seldom found in heavily wooded areas or open deserts. Frequents open habitats at low elevations near water and tree stands. Favors coastlines, lakeshores, and wetlands. Ranges from annual grasslands to ponderosa pine and montane hardwood-conifer habitats.	Low. This species does not breed in California, although suitable foraging habitat is present in agricultural fields. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	September to May
<i>Falco mexicanus</i> Prairie falcon	—/CSC/—	Year-round resident throughout much of the state; winters in the Central Valley and along the coast. Occurs in open habitats such as grasslands, desert scrub, rangelands, and croplands. Nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area.	Low. This species does not breed in the region, although suitable foraging habitat is present in agricultural fields. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).north, east, and south (CNDDDB 2010).	Year-round
<i>Falco peregrinus anatum</i> American peregrine falcon	FD/CE/—	Forages in marshes and grasslands. Nesting habitat includes high, protected cliffs and ledges, also utilizes human-made structures. Winters at lower elevations; year-round resident through much of the state.	None. The project site contains no habitat suitable for nesting or for foraging by this species. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Consult agency
<i>Haliaeetus leucocephalus</i> Bald eagle	FT/CFP/—	Year-round at ocean shorelines, lake margins, and river courses. Nests in large, old-growth, or dominant live tree with open branchwork, especially ponderosa pine.	None. The project site contains no habitat suitable for nesting or for foraging by this species. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Consult agency
<i>Icteria virens</i> Yellow-breasted chat	—/CSC/—	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	None. The project site contains no habitat suitable for nesting or for foraging by this species. There are no recorded occurrences of this species within 5 miles of the expansion area	April - July

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
			(CNDDDB 2010).	
<i>Lanius ludovicianus</i> Loggerhead shrike	—/CSC/—	Found in a variety of habitats with open areas, available perches, and dense shrubs for nesting.	Low. The project site is suitable for foraging, although there are no dense shrubs for nesting. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	March to August
<i>Pandion haliaetus</i> Osprey	—/—/—	Ocean shore, bays, freshwater lakes, and larger streams. Generally nests in treetops within 15 miles of fish-producing body of water.	None. The project site contains no habitat suitable for nesting or for foraging by this species. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	March–September
<i>Progne subis</i> Purple martin	—/CSC/—	An uncommon to rare summer resident in a variety of wooded, low-elevation habitats; a rare migrant in spring and fall, absent in winter. Breeding habitat includes old-growth, multi-layered, open forest and woodland with snags; forages over riparian areas, forest, and woodlands. Drain holes in bridges and overpasses now commonly used for nesting in urban habitats.	Low. The expansion area does not contain old-growth forest or woodland habitat suitable for nesting, although the area is suitable for foraging. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	April - September
<i>Xanthocephalus xanthocephalus</i> Yellow-headed blackbird	—/CSC/—	Breeds commonly east of Cascade Range and Sierra Nevada, in Imperial and Colorado River valleys, in the Central Valley, and at selected locations in the coast ranges. Nests in fresh emergent wetland with dense vegetation and deep water, often along borders of lakes or ponds. Forages in emergent wetland and moist, open areas, especially cropland and muddy shores of lacustrine habitat.	None. The expansion area contains no fresh emergent habitat suitable for nesting or foraging. There is a recorded occurrence of this species approximately 1 mile to the southwest, but the record is from 1894 (CNDDDB 2010).	April – July (breeding)

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
Mammals				
<i>Antrozous pallidus</i> Pallid bat	—/CSC/High	Occurs in a variety of habitats throughout the state to 6,000 feet in elevation. It is most abundant in xeric ecosystems. Pallid bats roost alone, and in both large and small groups. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and human structures such as bridges, barns, porches, bat boxes, and buildings. This species also has been found roosting on or near the ground under stone piles, rags, and baseboards. Pallid bat is a gregarious species and often roost in colonies of 20 to several hundred individuals. Non-migratory. Hibernate during winter, with very little activity.	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	April to October
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	—/CSC/High	Occurs throughout the State to 11,000 feet in elevation. Distribution correlated with availability of caves and cave-like roosting habitat. Roosts in colonies in caves, mines, tunnels, or buildings in mesic habitats. The species forages along habitat edges, gleaning insects from bushes and trees. Seasonal movement patterns not well understood. There may be local migration along altitudinal gradients. Hibernate during winter, with very little activity.	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Consult agency
<i>Euderma maculata</i> Spotted bat	—/CSC/High	Distribution is extremely patchy and is correlated closely with prominent rock features. Non-migratory, although there may be local migration along altitudinal	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
		gradients. Depends upon rock-faced cliff roosting habitat. Thought to roost singly during the day. Forages throughout the night, so it does not utilize night roosts.	are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	
<i>Eumops perotis californicus</i> Greater western mastiff bat	—/CSC/High	Roosts in rock crevices of vertical cliffs and less commonly in buildings. Does not migrate or hibernate.	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Year-round
<i>Lasiurus blossevillii</i> Western red bat	—/CSC/High	Western red bat is a solitary, foliage-roosting species. Day roosts in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. Closely associated with riparian habitats; cottonwood stands are preferred roost areas. Roosts behind foliage and hidden from sight. Females do not form maternity colonies, but give birth singly in trees. Migrates south in the winter, and returns north for breeding.	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	April to October
<i>Myotis thysanodes</i> Fringed myotis	—/—/High	Widely distributed throughout California in all habitat types. Known to migrate, but very little information available regarding migration patterns. Most abundant in xeric woodlands, such as oak and pinyon-juniper forests. Roosts in caves, buildings, underground mines, rock crevices in cliff faces, and bridges in groups ranging from 10 to 2,000. Hibernates in buildings or underground mines	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBVG	General Habitat Description	Potential for Presence	Period of Identification
<i>Myotis volans</i> Long-legged myotis	—/—/High	Found primarily in forested areas, especially blue oak-foothill pine, montane hardwood-conifer, ponderosa pine, and Sierran mixed conifer. Migrates short distances to hibernation areas. Roosts in abandoned buildings, cracks in the ground, bridges, cliff crevices, exfoliating tree bark, and hollows within snags. Females form large maternity colonies of hundreds of individuals. Hibernates in winter in caves and mines.	None. The project site contains no roosting habitat, and this species is not commonly associated with agricultural areas. There are no recorded occurrences of this species within 5 miles of the expansion area (CNDDDB 2010).	Year-round
<i>Neotoma fuscipes riparia</i> Riparian woodrat	FE/—/—	The riparian woodrat is the only subspecies found on the floor of the Central Valley and it is restricted today to small remnant patches of riparian forest along the Stanislaus river. Highly arboreal, requiring evergreen or live oaks and other thick-leaved trees and shrubs.	None. The project site contains no riparian habitat. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
<i>Sylvilagus bachmani riparius</i> Riparian brush rabbit	FE/CE/—	Historically occurred in riparian forests along the San Joaquin River and Stanislaus rivers. Currently found only along the Stanislaus River in Caswell Memorial State Park	None. The project site contains no riparian habitat and is not located within proximity to the known population in Caswell Memorial State Park. There is a 1932 occurrence record of this species 4 miles southwest of the site (CNDDDB 2010).	Year-round
<i>Taxidea taxus</i> American badger	—/SSC/—	Herbaceous, shrub, and open stages of most habitats with dry, friable soils.	None. The project site contains no natural, open habitats. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round

Summary of Special-Status Wildlife Species Review (cont.)

Scientific Name Common name	Listing Status USFWS/ CDFG/WBWG	General Habitat Description	Potential for Presence	Period of Identification
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE/CT/—	Occur in annual grasslands or grassy open stages of vegetation dominated by scattered brush, shrubs, and scrub with loose-textured, sandy and loamy soils.	Very Low. There is no suitable habitat for this species within the project site. The project site contains active agricultural fields and orchards. However, this species may disperse across the site. There are no recorded occurrences of this species within 5 miles of the project (CNDDDB 2010).	Year-round
Status Codes				
Federal FE = Federally Endangered FT = Federally Threatened FD = Federally Delisted		State CE = State Endangered CT = State Threatened CSC = State Species of Special Concern CC = State Candidate	WBWG High = Species imperiled or at high risk of imperilment. Medium = Lack of information prevents assessment of status and should be considered a threat.	
**Potential for Presence				
High = Species was observed, or suitable habitat is present and the species has been recorded recently within or adjacent to the project site. Medium = Species is locally common and suitable habitat is present. Low = Habitat is marginal, or suitable habitat is present but species is rare or locally uncommon. Very Low = Habitat is poor or absent, or species is very rare and has not been recorded within 5 miles of the project site. None = Habitat is absent and/or site is not within the range of this species.				

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait
Northwest Airport Way (MBA 2482.0003)
9-Quad Query Results (Lathrop)

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 Actinemys marmorata western pond turtle	ARAAD02030			G3G4	S3	SC
2 Agelaius tricolor tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3 Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	unknown code...	G2G3	S2S3	SC
4 Amsinckia grandiflora large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1.1	1B.1
5 Anthicus sacramento Sacramento anthicid beetle	IICOL49010			G1	S1	
6 Antrozous pallidus pallid bat	AMACC10010			G5	S3	SC
7 Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1			G1T1	S1.1	1B.2
8 Athene cunicularia burrowing owl	ABNSB10010			G4	S2	SC
9 Atriplex joaquiniana San Joaquin spearscale	PDCHE041F3			G2	S2	1B.2
10 Atriplex minuscula lesser saltscale	PDCHE042M0			G1	S1.1	1B.1
11 Blepharizonia plumosa big tarplant	PDAST1C011			G1	S1.1	1B.1
12 Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered		G1	S1	
13 Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
14 Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted		G5T4	S2	
15 Buteo swainsoni Swainson's hawk	ABNKC19070		Threatened	G5	S2	
16 California macrophylla round-leaved filaree	PDGER01070			G3	S3.1	1B.1
17 Carex comosa bristly sedge	PMCYP032Y0			G5	S2?	2.1
18 Cirsium crassicaule slough thistle	PDAST2E0U0			G2	S2.2	1B.1
19 Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
20 Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
21 Cordylanthus palmatus palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1.1	1B.1
22 Delphinium recurvatum recurved larkspur	PDRAN0B1J0			G2	S2.2	1B.2
23 Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait
Northwest Airport Way (MBA 2482.0003)
9-Quad Query Results (Lathrop)

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 Elanus leucurus white-tailed kite	ABNKC06010			G5	S3	
25 Elderberry Savanna	CTT63440CA			G2	S2.1	
26 Eremophila alpestris actia California horned lark	ABPAT02011			G5T3Q	S3	
27 Eryngium racemosum Delta button-celery	PDAPI0Z0S0		Endangered	G2Q	S2.1	1B.1
28 Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0			G1	S1.1	1B.1
29 Eumops perotis californicus western mastiff bat	AMACD02011			G5T4	S3?	SC
30 Falco columbarius merlin	ABNKD06030			G5	S3	
31 Great Valley Cottonwood Riparian Forest	CTT61410CA			G2	S2.1	
32 Great Valley Mixed Riparian Forest	CTT61420CA			G2	S2.2	
33 Great Valley Valley Oak Riparian Forest	CTT61430CA			G1	S1.1	
34 Hibiscus lasiocarpus woolly rose-mallow	PDMAL0H0Q0			G4	S2.2	2.2
35 Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2			G5T2	S2.2	1B.2
36 Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030		Rare	G3	S3.1	1B.1
37 Limosella subulata Delta mudwort	PDSCR10050			G4?Q	S2.1	2.1
38 Linderiella occidentalis California linderiella	ICBRA06010			G3	S2S3	
39 Lytta moesta moestan blister beetle	IICOL4C020			G2	S2	
40 Masticophis flagellum ruddocki San Joaquin whipsnake	ARADB21021			G5T2T3	S2?	SC
41 Mylopharodon conocephalus hardhead	AFCJB25010			G3	S3	SC
42 Neotoma fuscipes riparia riparian (=San Joaquin Valley) woodrat	AMAFF08081	Endangered		G5T1Q	S1	SC
43 Perognathus inornatus inornatus San Joaquin pocket mouse	AMAFD01061			G4T2T3	S2S3	
44 Phrynosoma blainvillii coast horned lizard	ARACF12100			G4G5	S3S4	SC
45 Rana boylei foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
46 Rana draytonii California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3	SC
47 Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0			G3	S3.2	1B.2

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait
Northwest Airport Way (MBA 2482.0003)
9-Quad Query Results (Lathrop)

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
48 <i>Spea hammondi</i> western spadefoot	AAABF02020			G3	S3	SC
49 <i>Sylvilagus bachmani riparius</i> riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S1	
50 <i>Symphyotrichum lentum</i> Suisun Marsh aster	PDASTE8470			G2	S2	1B.2
51 <i>Taxidea taxus</i> American badger	AMAJF04010			G5	S4	SC
52 <i>Thamnophis gigas</i> giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3	
53 <i>Trichocoronis wrightii</i> var. <i>wrightii</i> Wright's trichocoronis	PDAST9F031			G4T3	S1.1	2.1
54 <i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	PDBRA2R010			G1	S1.1	1B.1
55 <i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	
56 <i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	ABPBXB3010			G5	S3S4	SC

CNPS Inventory of Rare and Endangered Plants

Status: Plant Press Manager window with 20 items - Wed, Feb. 10, 2010 12:55 c

Reformat list as:

Standard List - with Plant Press controls 

ECOLOGICAL REPORT

scientific	family	life form	blooming	communities	elevation	CNPS
<u>Amsinckia grandiflora</u>	Boraginaceae	annual herb	Apr-May	•Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)	275 - 550 meters	List 1B.1
<u>Astragalus tener</u> var. <u>tener</u>	Fabaceae	annual herb	Mar-Jun	•Playas (Plyas) •Valley and foothill grassland (VFGrs)(adobe clay) •Vernal pools (VnPIs)/alkaline	1 - 60 meters	List 1B.2
<u>Atriplex joaquiniana</u>	Chenopodiaceae	annual herb	Apr-Oct	•Chenopod scrub (ChScr) •Meadows and seeps (Medws) •Playas (Plyas) •Valley and foothill grassland (VFGrs)/alkaline	1 - 835 meters	List 1B.2
<u>Atriplex minuscule</u>	Chenopodiaceae	annual herb	May-Oct	•Chenopod scrub (ChScr) •Playas (Plyas) •Valley and foothill grassland (VFGrs)/alkaline, sandy	15 - 200 meters	List 1B.1
<u>Blepharizonia plumosa</u>	Asteraceae	annual herb	Jul-Oct	•Valley and foothill grassland (VFGrs)	30 - 505 meters	List 1B.1
<u>California macrophylla</u>	Geraniaceae	annual herb	Mar-May	•Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)/clay	15 - 1200 meters	List 1B.1
<u>Carex comosa</u>	Cyperaceae	perennial rhizomatous herb	May-Sep	•Coastal prairie (CoPrr) •Marshes and swamps (MshSw)(lake margins) •Valley and foothill grassland (VFGrs)	0 - 625 meters	List 2.1
<u>Cirsium crassicaule</u>	Asteraceae	annual/perennial herb	May-Aug	•Chenopod scrub (ChScr) •Marshes and swamps (MshSw)(sloughs) •Riparian scrub (RpScr)	3 - 100 meters	List 1B.1
<u>Cordylanthus</u>		annual herb		•Chenopod scrub (ChScr)	5 - 155	List

<u>Corryanthus palmatus</u>	Scrophulariaceae	annual herb hemiparasitic	May-Oct	•Valley and foothill grassland (VFGrs)/alkaline	0 - 100 meters	List 1B.1
<u>Delphinium recurvatum</u>	Ranunculaceae	perennial herb	Mar-Jun	•Chenopod scrub (ChScr) •Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)/alkaline	3 - 750 meters	List 1B.2
<u>Eryngium racemosum</u>	Apiaceae	annual/perennial herb	Jun-Oct	•Riparian scrub (RpScr)(vernally mesic clay depressions)	3 - 30 meters	List 1B.1
<u>Eschscholzia rhombipetala</u>	Papaveraceae	annual herb	Mar-Apr	•Valley and foothill grassland (VFGrs)(alkaline, clay)	0 - 975 meters	List 1B.1
<u>Hibiscus lasiocarpus</u> var. <u>occidentalis</u>	Malvaceae	perennial rhizomatous herb emergent	Jun-Sep	•Marshes and swamps (MshSw)(freshwater)	0 - 120 meters	List 1B.2
<u>Lathyrus jepsonii</u> var. <u>jepsonii</u>	Fabaceae	perennial herb	May-Jul(Sep) Months in parentheses are uncommon.	•Marshes and swamps (MshSw)(freshwater and brackish)	0 - 4 meters	List 1B.2
<u>Lilaeopsis masonii</u>	Apiaceae	perennial rhizomatous herb	Apr-Nov	•Marshes and swamps (MshSw)(brackish or freshwater) •Riparian scrub (RpScr)	0 - 10 meters	List 1B.1
<u>Limosella subulata</u>	Scrophulariaceae	perennial stoloniferous herb	May-Aug	•Marshes and swamps (MshSw)	0 - 3 meters	List 2.1
<u>Sagittaria sanfordii</u>	Alismataceae	perennial rhizomatous herb emergent	May-Oct	•Marshes and swamps (MshSw)(assorted shallow freshwater)	0 - 650 meters	List 1B.2
<u>Symphotrichum lentum</u>	Asteraceae	perennial rhizomatous herb	May-Nov	•Marshes and swamps (MshSw)(brackish and freshwater)	0 - 3 meters	List 1B.2
<u>Trichocoronis wrightii</u> var. <u>wrightii</u>	Asteraceae	annual herb	May-Sep	•Meadows and seeps (Medws) •Marshes and swamps (MshSw) •Riparian forest (RpFrs) •Vernal pools (VnPIs)/alkaline	5 - 435 meters	List 2.1
<u>Tropidocarpum capparideum</u>	Brassicaceae	annual herb	Mar-Apr	•Valley and foothill grassland (VFGrs)(alkaline hills)	1 - 455 meters	List 1B.1

U.S. Fish & Wildlife Service Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 100210110320

Database Last Updated: December 1, 2009

Quad Lists

Listed Species

Invertebrates

- Branchinecta lynchi*
vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus*
valley elderberry longhorn beetle (T)
- Lepidurus packardii*
vernal pool tadpole shrimp (E)

Fish

- Acipenser medirostris*
green sturgeon (T) (NMFS)
- Hypomesus transpacificus*
Critical habitat, delta smelt (X)
delta smelt (T)
- Oncorhynchus mykiss*
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)
- Oncorhynchus tshawytscha*
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense*
California tiger salamander, central population (T)
- Rana aurora draytonii*
California red-legged frog (T)

Reptiles

- Thamnophis gigas*
giant garter snake (T)

Mammals

- Sylvilagus bachmani riparius*
riparian brush rabbit (E)

Quads Containing Listed, Proposed or Candidate Species:

LATHROP (462D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands,

please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 11, 2010.

D.2 - Jurisdictional Delineation

**Delineation of Jurisdictional Waters and Wetlands
386.5-Acre Northwest Airport Way Master Plan
City of Manteca
San Joaquin County, California**

Lathrop, California, USGS 7.5-minute Topographic Quadrangle Map
Township 1 South, Range 6 East, Sections 13 & 24



Prepared for:

City of Manteca
Community Development Department
1001 West Center Street
Manteca, California

Contact: Rochelle Henson, Senior Planner

Prepared by:

Michael Brandman Associates
2000 O Street, Suite 200
Sacramento, CA 92408
714.508.4100

Project Manager: Grant Gruber
Project Biologist: Deborah Stout
Regulatory Specialist: Paul Mead



Survey Dates: 06/30/2009, 08/05/2009
Report Date: February 24, 2010

TABLE OF CONTENTS

Section 1: Summary.....	1
1.1 - Introduction	1
1.2 - Results Summary	1
1.2.1 - USACE Jurisdiction	1
1.2.2 - CDFG Jurisdiction	1
Section 2: Jurisdictional Methodology	6
2.1 - Methodology Statement	6
2.2 - Pre-Survey Investigation	6
2.3 - Field Investigation	7
Section 3: Environmental Setting	8
3.1 - Location of the Property	8
3.1.1 - Directions to the Property	8
3.1.2 - Acreage and Assessor Parcel Numbers (APNs)	8
3.1.3 - Ownership	8
3.2 - Land Uses	9
3.2.1 - Existing Land Use Designations.....	9
3.2.2 - Activities Relating to Interstate or Foreign Commerce	9
3.3 - Topography	10
3.4 - Hydrology	10
3.4.1 - Pertinent Hydrogeomorphic Features	10
3.4.2 - Watershed Description	10
3.4.3 - Water Source	10
3.4.4 - Drainage Pattern	11
3.4.5 - Downstream Connectivity.....	11
3.4.6 - FEMA Flood Map	11
3.5 - Field Conditions	11
3.5.1 - Seasonal Climate Variation	11
3.5.2 - Field Conditions at time of Field Investigation	12
3.6 - Soils	12
3.7 - Vegetation	13
3.7.1 - Vegetation Associated with Upland Areas	13
3.7.2 - Vegetation Associated with Jurisdictional Drainage Area(s)	13
3.8 - Coastal Zone Evaluation	13
Section 4: Rationale for Jurisdictional Determination	17
4.1 - Drainage Canal (DC-1)	18
4.1.1 - Downstream Connectivity (SWANCC Determination)	18
4.1.2 - Drainage Characterization.....	19
4.1.3 - OHWM Determination	19
4.1.4 - Adjacent Wetlands	19
4.1.5 - Significant Nexus Determination	19
4.1.6 - USACE Jurisdiction	19
4.1.7 - CDFG Jurisdiction	19
4.2 - Roadside Ditch (RD-1)	20
4.2.1 - USACE Determination.....	20
4.2.2 - CDFG Determination.....	20
4.3 - Isolated Settling Basins (ISB-1 though 9)	21
4.3.1 - USACE Determination.....	21

4.3.2 - CDFG Determination	21
Section 5: References.....	25
Appendix A: Site Photographs	
A-1: Photograph Location Map	
A-2: Site Photographs	
Appendix B: OHWM Forms	
Appendix C: Wetlands Data Forms	
Appendix D: Approved Jurisdictional Determination Forms	
Appendix E: Regulatory Compliance Overview	
Appendix F: Jurisdictional Wetlands and Significant Nexus Evaluation Criteria	
Appendix G: Glossary of Terms	

LIST OF TABLES

Table 1: Assessor Parcel Numbers.....	8
Table 2: Watershed Information	10
Table 3: Distance to Downstream Resources.....	11
Table 4: Weather Data for 2008-2009.....	12
Table 5: USDA Soil Series Information	12
Table 6: Summary of USACE Delineated Features	17
Table 7: Summary of CDFG Delineated Features	18

LIST OF EXHIBITS

Exhibit 1: Regional Location Map.....	3
Exhibit 2: Local Vicinity Map, Topographic Base	4
Exhibit 3: Local Vicinity Map, Aerial Base	5
Exhibit 4: Watershed / Drainage Map	14
Exhibit 5: FEMA Flood Map	15
Exhibit 6: USDA Soils Map.....	16
Exhibit 7: USACE Jurisdictional Determination Map.....	22
Exhibit 8: CDFG Jurisdictional Determination Map	23
Exhibit 9: Cross Sections	24

SECTION 1: SUMMARY

Applicant Name:

Rochelle Henson, Senior Planner
City of Manteca
Community Development Department
1001 West Center Street
Manteca, CA 95337

Agent Name:

Michael Brandman Associates
2633 Camino Ramon, Suite 460
San Ramon, CA 94583
Contact: Grant Gruber, Project Manager
Phone: 925.830.2733
Email: ggruber@brandman.com

1.1 - Introduction

At the request of the City of Manteca, Community Development Department (The City), Michael Brandman Associates (MBA) conducted a jurisdictional delineation for the approximately 386.51-acre Manteca Northwest Airport Way Master Plan (project) study area. The Master Plan Area is located in unincorporated San Joaquin County, California, adjacent to the City of Manteca limits (Exhibit 1). The rectangular plan area consists of approximately 386.5 acres bounded by the Union Pacific Railroad Lathrop Intermodal Terminal (west), Roth Road (north), Airport Way (east), and Lathrop Road (south) just east of Interstate (I) 5 (Exhibit 2, and 3).

1.2 - Results Summary

1.2.1 - USACE Jurisdiction

The study area includes one U.S. Army Corps of Engineers (USACE) jurisdictional feature, a drainage canal (DC-1) with relatively permanent flows and indirect connectivity to downstream navigable waters. Jurisdictional resources include 0.53 acre of waters of the United States (U.S), (2,212 linear feet).

The site also includes a number of other surface features, which were determined to be non-jurisdictional. These include one roadside ditch, which lacks consistent/definable ordinary high water mark (OHWM) and connectivity to down stream jurisdictional resources. Notwithstanding the lack of connectivity, the roadside feature lacks sufficient/significant physical, chemical or biological indicators, which might otherwise establish a nexus to downstream resources. Similarly, nine settling basins were identified onsite. These basins are associated with cheese production at an onsite facility and also lack surface connectivity to down stream jurisdictional resources.

For reference purposes, a series of non-jurisdictional underground irrigation pipes were also identified in the delineation. The USACE does not regulate subsurface waters.

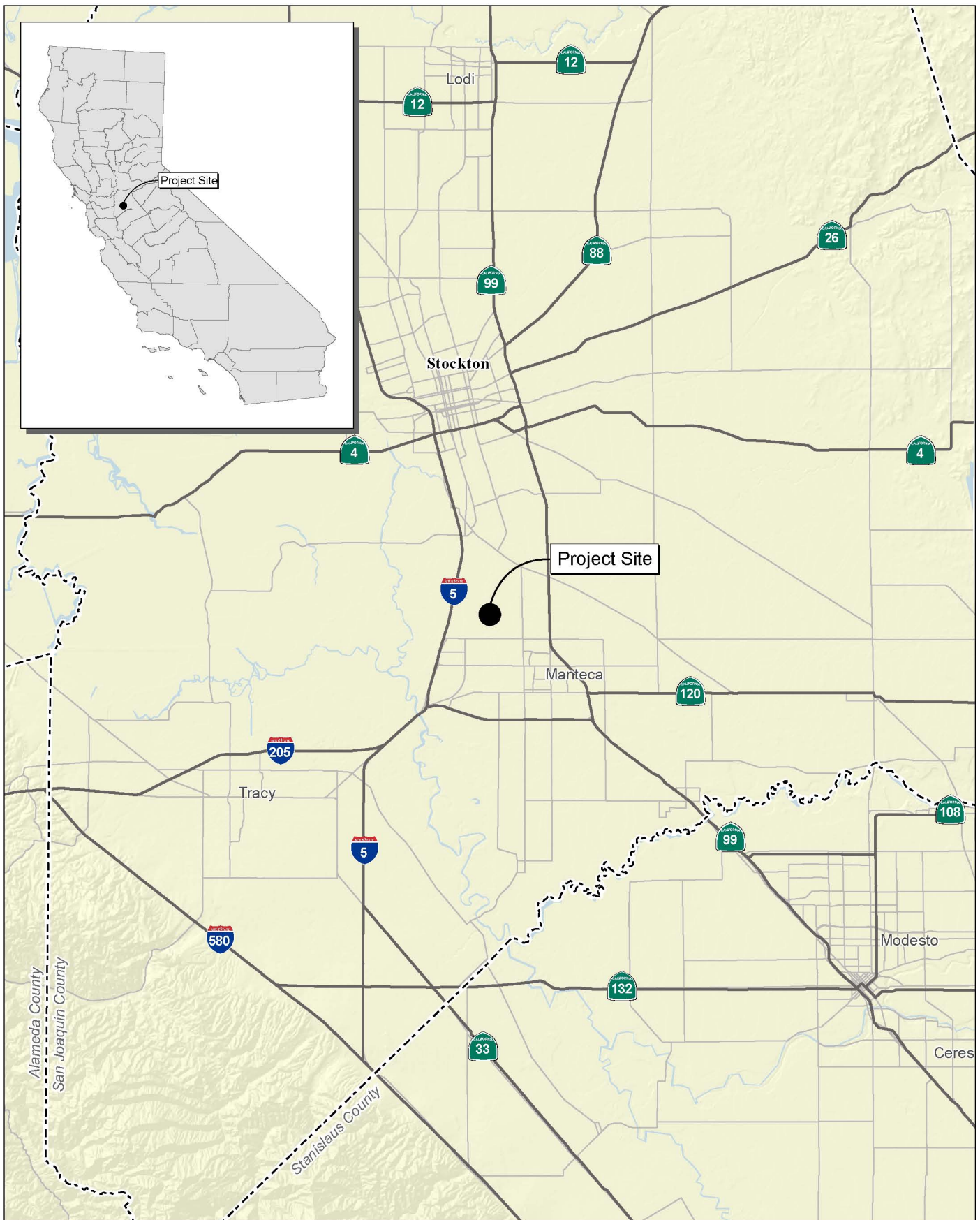
1.2.2 - CDFG Jurisdiction

The study area includes one California Department of Fish and Game (CDFG) jurisdictional feature, a drainage canal (DC-1) with relatively permanent (perennial) flows supporting aquatic resources.

CDFG was measured to the top of bank of the canal and include 1.14 acres of waters of the U.S, (2,212 linear feet).

Roadside ditches were considered non-jurisdictional because they are shallow features with no discernable aquatic resources.

Nine isolated settling basins were also present onsite. However, because field access was denied it could not be determined whether aquatic resources were present/absent. As such, CDFG was not determined for these features.



Source: Census 2000 Data, The CaSIL, MBA GIS 2009.



Michael Brandman Associates

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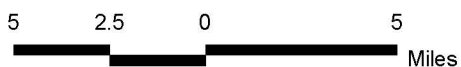


Exhibit 1 Regional Location Map

CITY OF MANTECA • NORTHWEST AIRPORT WAY MASTER PLAN
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS

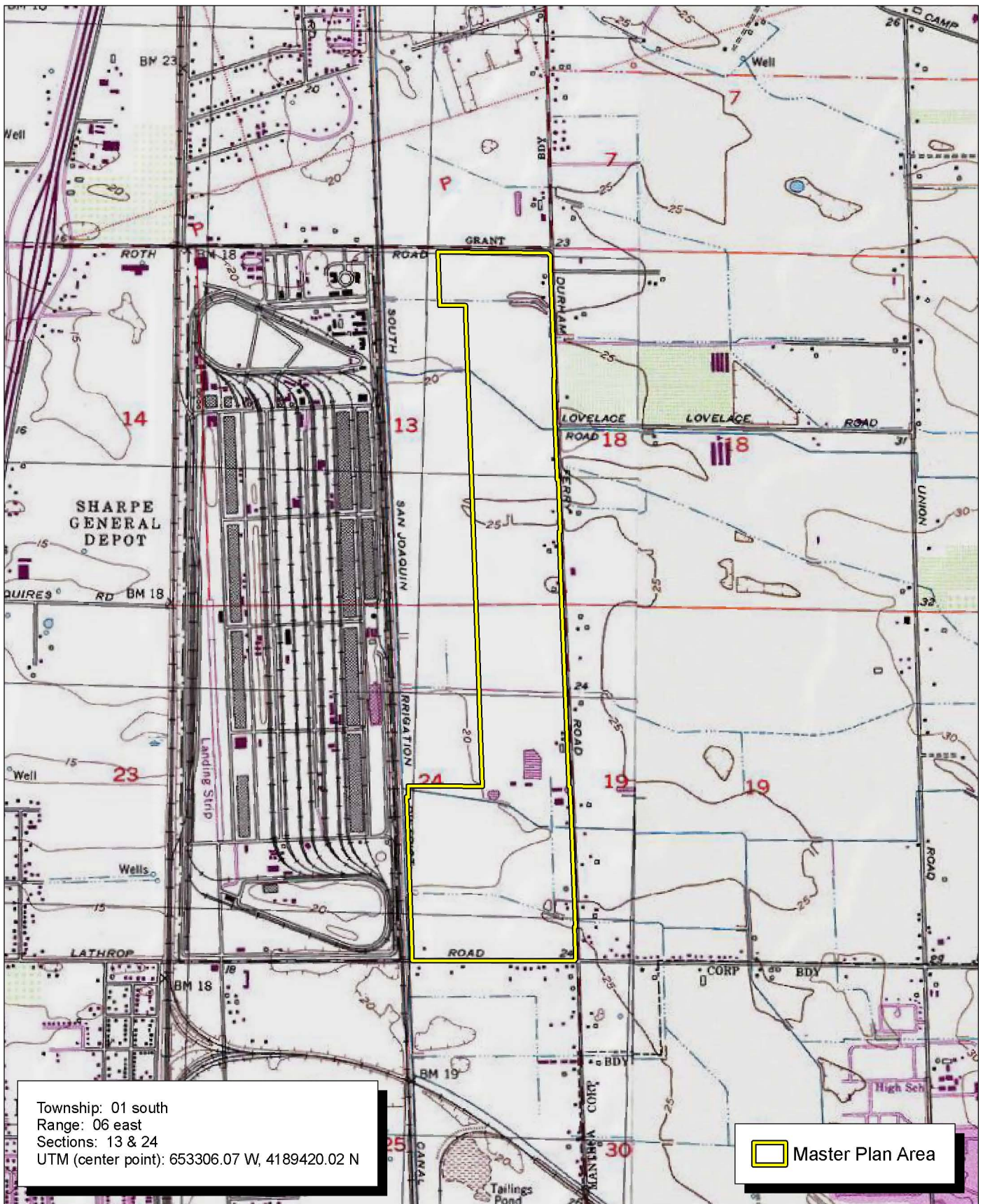


Exhibit 2

Local Vicinity Map Topographic Base

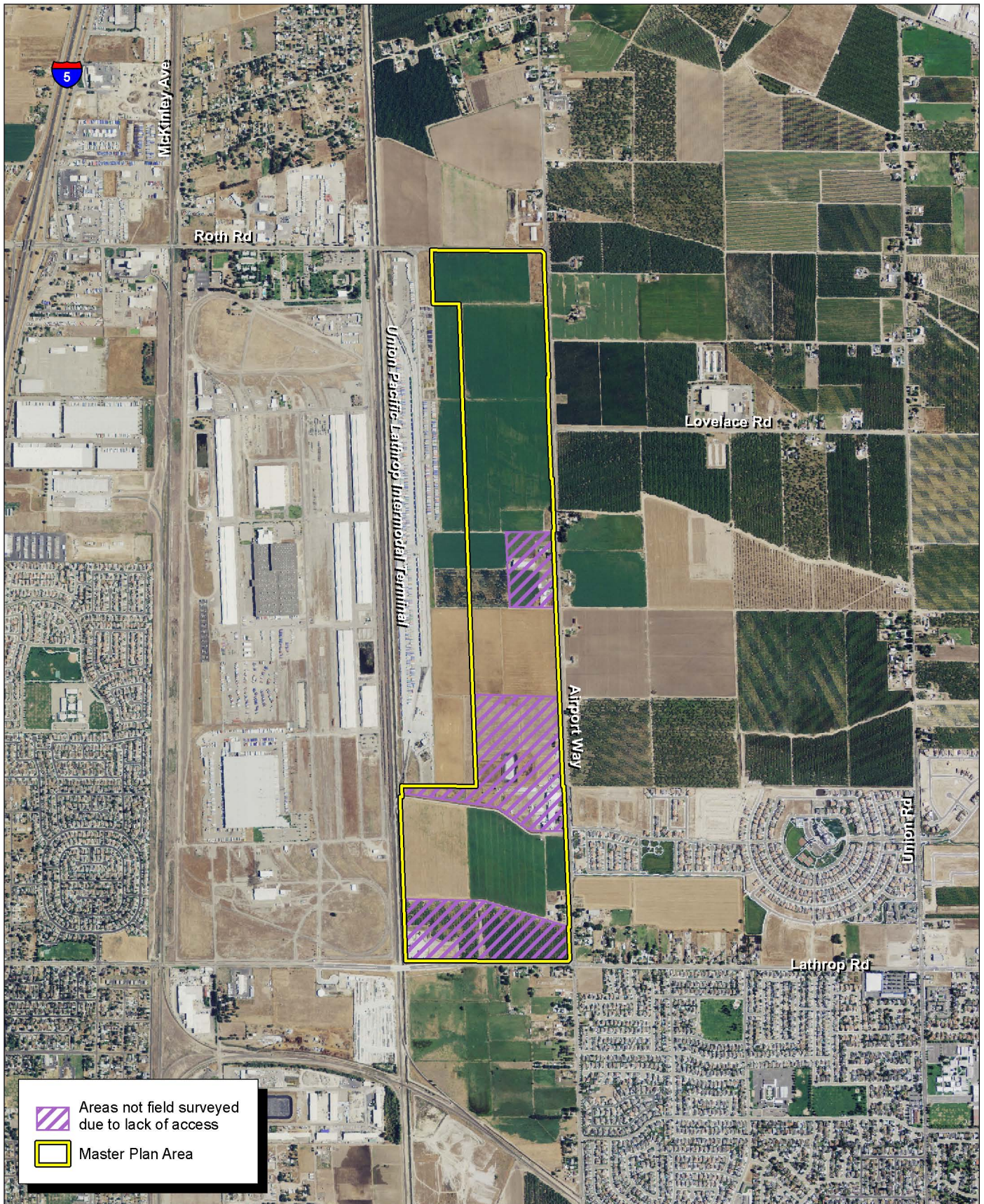


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DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Source: NAIP for San Joaquin County (2009) & San Joaquin County Parcels (2008).

SECTION 2: JURISDICTIONAL METHODOLOGY

2.1 - Methodology Statement

This Delineation of Jurisdictional Waters and Wetlands was conducted in accordance with regulations set forth in 33 Code of Federal Regulations (CFR) Part 328 and the USACE guidance documents referenced below:

- USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition), Wetlands Delineation Manual, Environmental Laboratory, 1987 (Wetland Manual).
- USFWS Classification of Wetlands and Deepwater Habitats of the United States, Lexis M. Cowardin, U.S. Department of Interior, Fish and Wildlife Service, FWS/OBS-79/31, December 1979, updated 1992 (Cowardin).
- USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, 2001 (Arid Southwest Guidelines).
- USACE Minimum Standards for Acceptance of Preliminary Wetlands Delineations, November 30, 2001 (Minimum Standards).
- USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006 (Arid West Supplement).
- USACE Jurisdictional Determination Form Instructional Guidebook, May 30, 2007 (JD Form Guidebook).
- Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* and *Carabell v. United States* (June 5, 2007) (Rapanos Guidance).
- USACE A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States, August 2008 (OHWM Manual).

A summary of applicable federal and State regulations affecting jurisdictional waters is provided in Appendix E, Regulatory Compliance Overview. Similarly, a summary of assessment criteria used in making wetland determinations and significant nexus evaluations is provided in Appendix F, Jurisdictional Wetlands and Significant Nexus Evaluation Criteria. A glossary of terms used in preparation of this document is provided in Appendix G, Glossary of Terms.

2.2 - Pre-Survey Investigation

Prior to the field visit, an aerial photograph of the study area was compared with the Lathrop, California, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map to identify drainage features within the project study area, as indicated from topographic changes or visible drainage patterns. The South San Joaquin Irrigation District (SSJID) map also was reviewed, and

SSJID was contacted to determine the water source and drainage patterns for the District. The United States Department of Agriculture (USDA) Soil Survey Map was reviewed to identify all soil series that occur on within the study area.

2.3 - Field Investigation

Field investigations were conducted within the project study area by Deborah Stout, Certified Wetland Delineator, on June 30, 2009 and August 5, 2009. All features were mapped onto an aerial photograph. Other tools used included a 30-meter tape measure, shovel, Munsell color chart, digital camera, and pin flags.

All surveys were conducted on foot. Potential jurisdictional features were systematically inspected to record existing conditions and to determine the jurisdictional limits. The study area was assessed carefully for surface flow indicators (presence of hydrophytic vegetation, staining, cracked soil, ponding, etc.). The apparent flow regimes and corresponding hydrogeomorphic features were subsequently identified. In non-wetland jurisdictional areas, the lateral extent of USACE jurisdiction was measured at the OHWM. Where appropriate, multiple measurements were recorded at various representative locations along the length of the feature.

Potential wetland areas were assessed to the outer reach of the applicable (hydrophytic) vegetative community or (where vegetation was absent/disturbed) to the natural topographical rim of the depressional feature (whichever was greater). Features previously indicated on aerial photographs (dark/saturated areas, associated riparian vegetation, etc.) were field verified during the site visit. Plant species for each vegetative community were identified and given an indicator status as prescribed in the “National List of Plant Species That Occur in Wetlands: 1988 National Summary” (Reed 1988). All data collected were recorded on wetland data forms and evaluated using the 2006 USACE Arid West Regional Guidance (see Appendix B for wetland data forms).

Width and length measurements were entered into Geographical Information System (GIS) ArcView software to identify the location and dimensions of jurisdictional areas. The ArcView application was then used to compute federal jurisdiction in acres. Acreage computations were verified using a 200-scale aerial photograph and field data.

SECTION 3: ENVIRONMENTAL SETTING

3.1 - Location of the Property

The project study area is located at the northwestern edge of the City of Manteca along the southern edge of Roth Road, approximately 1.12 miles east of the intersection of I-5 and Roth Road. The study area is bounded to the north by Roth Road, to the east by South Airport Way, to the south by Lathrop Road, and to the west by the Union Pacific Railroad Intermodal Facility (Exhibit 3). The location of the project corresponds to Sections 13 and 24, Township 01South, Range 06 East of the Lathrop, California USGS 7.5-minute topographic quadrangle, City of Manteca, San Joaquin County, California (Exhibit 2). UTM (Center Point) 653306.07 W, 4.189420.02 N, (Lat/Lon: Decimal Degrees: 37.839494 N, -121.257741).

3.1.1 - Directions to the Property

From I-5, exit at the Roth Road and travel east on Roth Road for approximately 1.12 miles; this location corresponds to the northwestern corner of the project study area.

3.1.2 - Acreage and Assessor Parcel Numbers (APNs)

The project study area encompasses approximately 386.5 acres and includes the following APNs in whole or in part.

Table 1: Assessor Parcel Numbers

APN	Acres	Notes	APN	Acres	Notes
198-020-04	23.43	Part thereof	198-030-17	37.21	NA
198-020-07	178.72	Part thereof	198-030-19	2.21	NA
198-030-03	39.79	NA	198-030-20	1.85	NA
198-030-04	19.23	NA	198-030-21	0.63	NA
198-030-05	0.24	NA	198-200-02	74.36	NA
198-030-06	0.34	NA	198-200-06	0.23	NA
198-030-07	0.24	NA	198-200-08	1.04	Part thereof
198-030-08	2.87	NA	198-200-09	2.27	NA
198-030-11	2.75	NA	198-200-10	19.87	Part thereof
198-030-16	77.79	NA	—	—	—

3.1.3 - Ownership

Most of the lands within the Master Plan area are controlled by four parties, summarized below from north to south.

- **Center Point Properties:** CenterPoint Properties controls two, non-contiguous portions of the Master Plan totaling 236 acres. The northern portion extends from Roth Road to the central portion of the Master Plan area, while the southern portion is located south of the RCCI PTP property. This acreage consists mainly of agricultural uses.
- **Riella Trust:** The Riella Trust controls approximately 44 acres along Airport Way adjacent to the northern CenterPoint property. This acreage consists mainly of agricultural uses.
- **RCCI PTP:** RCCI PTP: controls approximately 60 acres between the two CenterPoint Properties-controlled portions. This acreage consists of the cheese factory and the associated settling basins.
- **Cardoza:** Cardoza controls approximately 41 acres located along Lathrop Road and Airport Way. This acreage consists of orchards.

In addition to the parties listed above, the City of Lathrop controls two parcels totaling 3 acres adjacent to the southwestern corner of the Master Plan Area, and a private property owner (Stumphausen) holds a 2.5-acre parcel along Airport Way that is surrounded on three sides by the Riella Trust property.

3.2 - Land Uses

The Master Plan area consists of agricultural operations, industrial uses, and rural residences.

Agricultural uses consist of orchards, row crops, grazing, and fallow fields. These areas include flood-irrigated agricultural fields and rural residences. Agricultural fields were planted in alfalfa (*Medicago sativa*) or were fallow at the time the delineation was conducted.

Industrial uses consist of a cheese factory (Cal Suprema Cheese) and associated settling basins, and a cement plant. Rural residences are located in various places along the Airport Way frontage.

3.2.1 - Existing Land Use Designations

The San Joaquin County General Plan currently designates the Master Plan area “General Agriculture.” The San Joaquin County Zoning Ordinance designates the Master Plan area “General Agriculture, 40-Acre Minimum Parcel Size (AG-40).” The City of Manteca General Plan currently designates the plan area “Light Industrial” and “Urban Reserve.”

3.2.2 - Activities Relating to Interstate or Foreign Commerce

The surveyed area has been used for farming and cheese manufacturing which may have a nexus to interstate commerce. However, within the meaning of 33 CFR 328.3(a)(3), none of the features investigated are presently used for recreation or other use by interstate or foreign travelers or used in relation to interstate or foreign commerce. Onsite resources are not used for sale of fish or shellfish.

Similarly, the land is not currently used for industry or other activities operating in interstate or foreign commerce. At present, no nexus to commerce is evident.

3.3 - Topography

The project study area has been leveled for agricultural uses. Topographic features within the study area include slightly elevated berms, irrigation drainage canals, and shallow roadside ditches. The property slopes down from west to east. Elevation ranges from approximately 22 feet to 27 feet above mean sea level (MSL).

3.4 - Hydrology

3.4.1 - Pertinent Hydrogeomorphic Features

The study area is bisected by one major drainage feature, Drainage Canal (DC-1), which flows east-west through the study area. This feature is considered a RPW; during the August 5, 2009 site visit there were active flows at depths ranging from 1 to 9 inches.

One roadside ditch with non-relatively permanent (n-RPW) flows was identified along the northern property boundary.

Nine isolated settling basins (ISB) were identified in the south central portion of the property.

3.4.2 - Watershed Description

Watershed information is summarized in Table 2 below.

Table 2: Watershed Information

Hydrologic Information	Description	Acres	Square Miles	Percent of Watershed
Hydrologic (Cataloging) Unit	Middle San Joaquin - Lower Merced - Lower Stanislaus (18040002)	1,130,762	1,766.8	100.0
Hydrologic Area	Manteca	84,980	39.0	7.515
Hydrologic Sub-Area	"Undefined" Sub-Area (535.10)	84,980	39.0	7.515
Drainage Area (Drainage Canal)	Undetermined	NA	NA	NA

Source: ESRI Hydrology Data (2005).

3.4.3 - Water Source

Surface flows within the project study area are derived from precipitation events and from flood irrigation water, which is diverted for local agricultural purposes by the SSJID. These contribute to a

small extent to flows within the drainage canal. However, most flows within the canal originate upstream from several drains to the south and east that are part of the City of Manteca's stormwater system.

3.4.4 - Drainage Pattern

There are no natural drainage patterns within the project study area; the area was leveled in the past for agricultural uses though the property gently slopes from east to west. Surface flows from stormwater and/or runoff from excess flood irrigation result in ponding in low-lying areas. Several inundated areas near the edges of row crops and orchards were observed during field visits. In fields south of the drainage canal, excess surface water tends to flow in north westerly direction and is channeled into the drainage canal via narrow-diameter pipes that run beneath a compacted dirt road that parallels the drainage canal on the south (Appendix A, Photographs 1 to 5). The drainage canal flows west and discharges into the French Camp Outlet, which flows north to French Camp Slough, which discharges eventually into the San Joaquin River (Appendix A, Photograph 6).

3.4.5 - Downstream Connectivity

The onsite drainage canal (DC-1) has indirect connectivity to the San Joaquin River, which has been identified by the USACE as a "Traditional Navigable Water" (TNW). (See inset,

Exhibit 4). Downstream connectivity is summarized in Table 3 (below).

Table 3: Distance to Downstream Resources

Downstream Resource (Name)	Type	River Miles	Aerial Miles
French Camp Outlet	RPW	0.0	0.0
French Camp Slough	RPW	3.86	3.81
San Joaquin River	TNW	8.00	6.72

3.4.6 - FEMA Flood Map

The Federal Emergency Management Agency (FEMA) Flood Map for areas indicates that the project does not lie within a designated 100-year flood zone. However, significant portions of the property are within 500-year zone (Exhibit 5).

3.5 - Field Conditions

3.5.1 - Seasonal Climate Variation

The northern San Joaquin Valley, including the City of Manteca, is subject to relatively strong seasonal and annual variation in temperature and precipitation. Average temperatures range from December lows of 37.5 °F to July highs of 94.3 °F (Western Regional Climate Center [WRCC] 2009).

Average annual precipitation is approximately 13.81 inches; precipitation falls as rain with most precipitation occurring between the months of November through April, peaking in January at 2.85 inches (WRCC 2009).

3.5.2 - Field Conditions at time of Field Investigation

Northern California was experiencing Severe Drought through the early part of 2009 (January through May), and Moderate Drought during the months preceding the delineation (June and July). Table 4 provides weather information for the 2008-2009 calendar year.

Table 4: Weather Data for 2008-2009

Date	Palmer Severity Index
August 2008	Severe Drought
November 2008	Severe Drought
February 2009	Severe Drought
May 2009	Severe Drought
August 29, 2009	Extreme Drought
Source: NOAA Palmer Drought Severity Index Long-term Hydrological Conditions, (2009)	

3.6 - Soils

The NRCS/USDA Web Soil Survey (Soil Staff undated) revealed a consociation of three (3) soil series occurring within the project study area (USDA Soil Series Map, Table 6). Soil series are identified in descending order of prevalence in Table 5.

Table 5: USDA Soil Series Information

Soil Series Name	Description	Source Material	Pedon/Depth	Drainage
Veritas	Fine Sandy loam, 0-2% slopes	Alluvium from mixed rock sources	40-60 inches to duripan	Moderately well-drained
Timor	Loamy sand, 0-2% slopes	Alluvium from granitic rock sources	40-60 inches to duripan	Moderately well-drained
Tinnin	Loamy coarse sand, 0-2% slopes	Alluvium from granitic rock sources	>80 inches	Well drained
Source: USDA/NRCS, National Cooperative Soil Survey 01/98 ____.				

3.7 - Vegetation

3.7.1 - Vegetation Associated with Upland Areas

Vegetation communities are classified according to “A Manual of California Vegetation” (Sawyer and Keeler-Wolf 2000). This system classifies communities based upon floristic components, which are the plant taxa making up the vegetation of a given area. The floristically- based system classifies communities at the lower units of the series or association, thereby allowing for a finer-scale description of the community and a better understanding of community function.

The study area contains no natural plant communities. The area is primarily actively cultivated field used for row crops; although there walnut orchards present at the southern boundary of the site, as well as a small inclusion located centrally. There are also a few rural residences at the eastern edge of the study area along South Airport Road with associated irrigated pastures of a few acres or less.

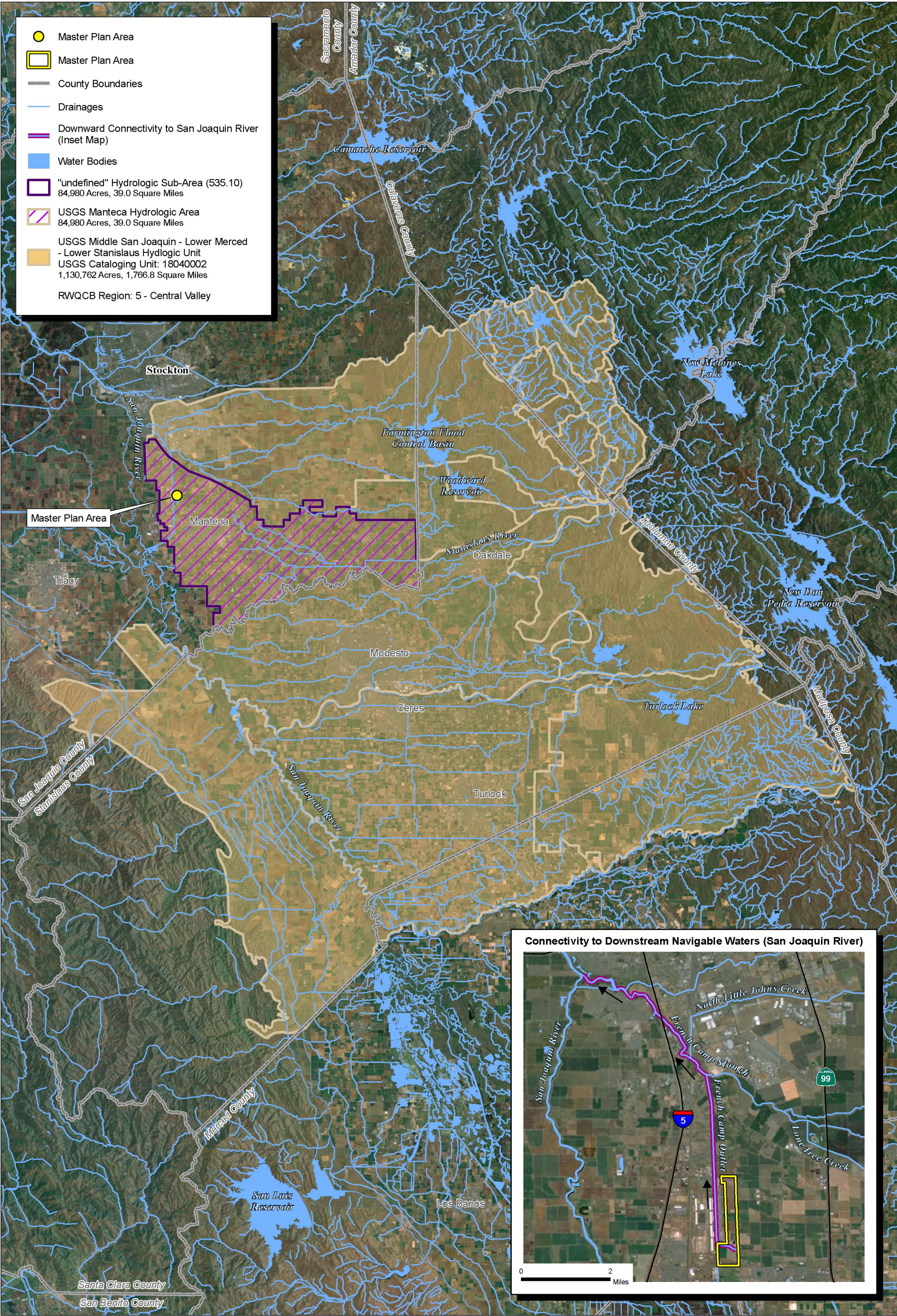
Plant species observed within the study area include almond (*Prunus dulcis*), wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), alfalfa (*Medicago sativa*), tumble weed (*Salsola tragus*), sun cup (*Camissonia* sp.), sunflower (*Helianthus annuus*), umbrella sedge (*Cyperus* sp.), verbena (*Verbena lasiostachys*), pigweed (*Amaranthus albus*), sorghum (*Sorghum halapense*), nightshade (*Solanum* sp.), caltrop (*Tribulus terrestris*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), barley (*Hordeum* sp.), and heliotrope (*Heliotropium curassavicum*).

3.7.2 - Vegetation Associated with Jurisdictional Drainage Area(s)

Plants associated with the Irrigation Drain: echinochloa (*Echinochloa crus-galli*), watercress (*Rorippa nasturtium-aquaticum*), prickly lettuce, curly dock (*Rumex crispus*), Bermuda grass (*Cynodon dactylon*), water plantain (*Alisma plantago-aquatica*), and field mustard (*Brassica rapa*).

3.8 - Coastal Zone Evaluation

The project site is not within the coastal zone as defined by the California Coastal Act. As such, a Coastal Zone Management Act consistency determination is not required.



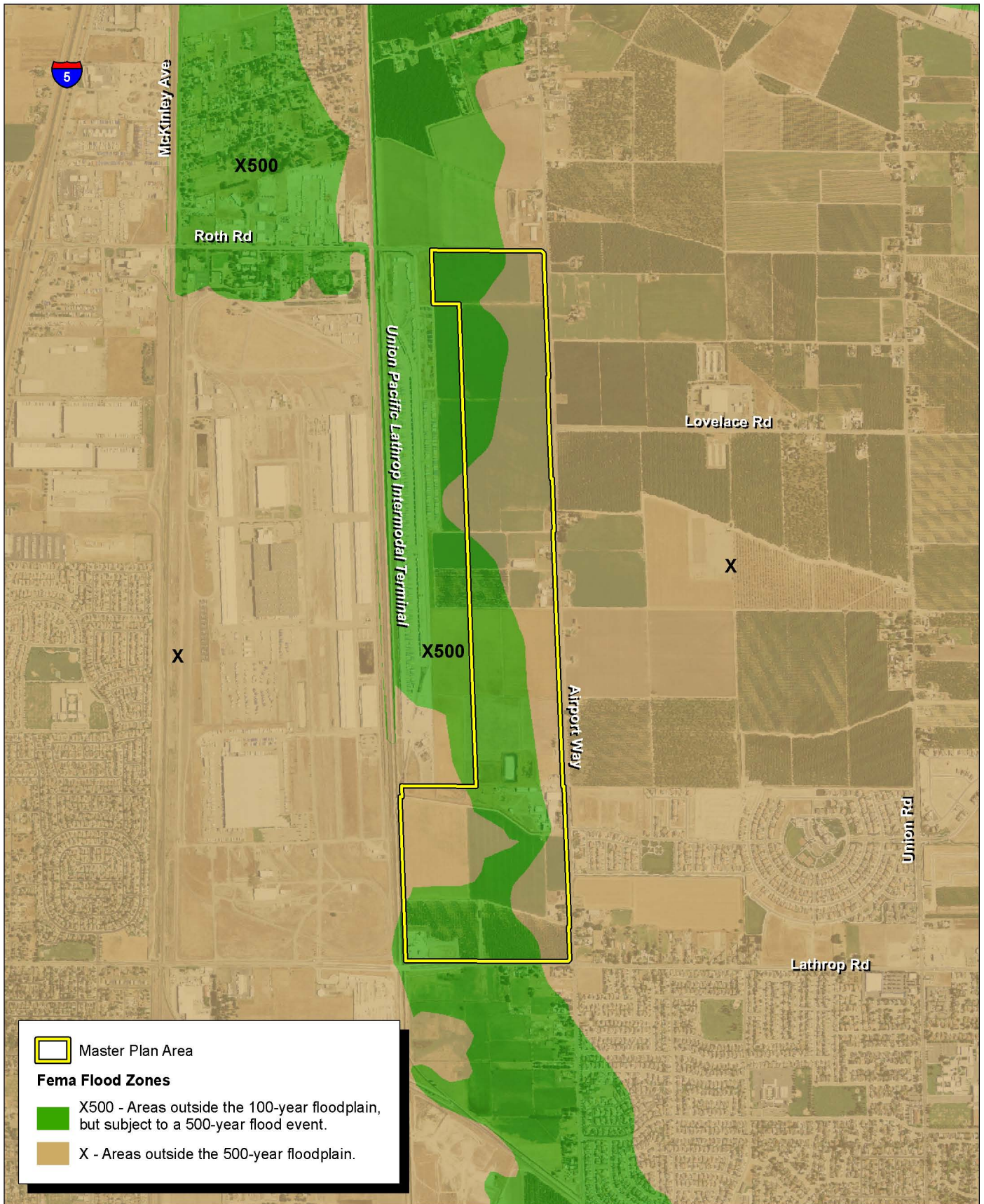
Source: ESRI World Imagery, ESRI Hydrology Data (2005).



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Exhibit 4 Watershed / Drainage Map

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DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Source: NAIP for San Joaquin County (2009) & FEMA NFHL Data (November 2009).



Michael Brandman Associates

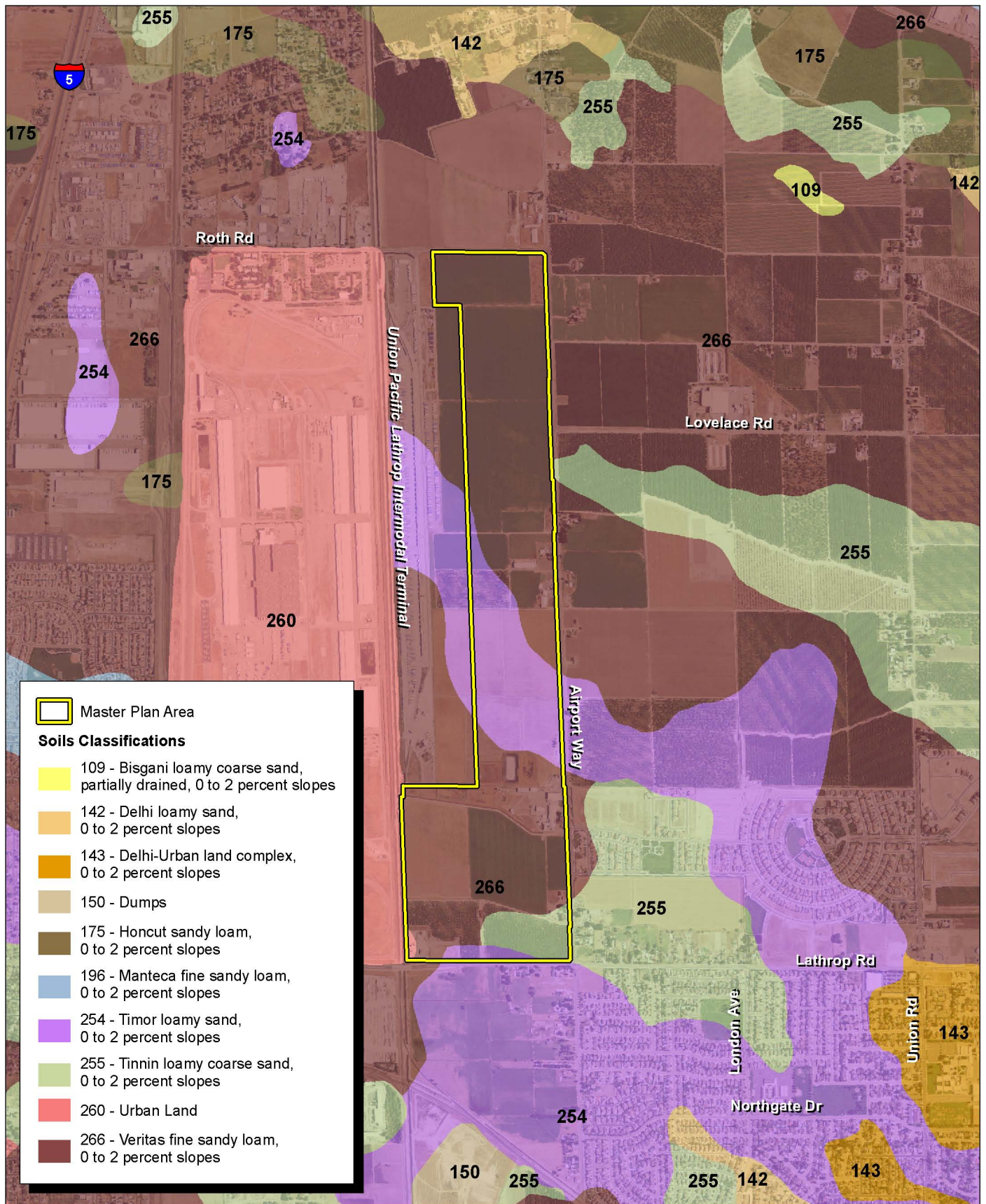
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2,000 1,000 0 2,000
Feet

Exhibit 5 FEMA Flood Map

CITY OF MANTECA • NORTHWEST AIRPORT WAY MASTER PLAN
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS



Source: NAIP for San Joaquin County (2009) & FMMP Farmland Data (2006).

SECTION 4: RATIONALE FOR JURISDICTIONAL DETERMINATION

Table 6 provides a summary of USACE delineated features present onsite. A delineation map is provided in

Exhibit 7. In addition, the following information is provided in the attached appendices: Site Photographs (Appendix A), OHWM forms (Appendix B), Wetland data forms (Appendix C), and Approved Jurisdictional Determination forms (Appendix D).

Table 6: Summary of USACE Delineated Features

Hydrogeomorphic Feature	Type	Length (LF)	Average Width (LF)	Area (acres)	USACE Jurisdiction (Rationale)
Drainage Canal (DC-1)	Channelized soft-bottom drainage	2,212	10.4	0.53	Yes (RPW with indirect connectivity to TNW)
Roadside Ditch (RD-1)	Earthen roadside ditch.	1574	1.1	0.04	No (Lacks continuous surface connectivity to TNW)
Isolated Settling Basin (ISB-1)	Artificial basin created wholly in uplands	NA	NA	1.43	No (Isolated feature)
Isolated Settling Basin (ISB-2)	Artificial basin created wholly in uplands	NA	NA	1.70	No (Isolated feature)
Isolated Settling Basin (ISB-3)	Artificial basin created wholly in uplands	NA	NA	1.26	No (Isolated feature)
Isolated Settling Basin (ISB-4)	Artificial basin created wholly in uplands	NA	NA	0.33	No (Isolated feature)
Isolated Settling Basin (ISB-5)	Artificial basin created wholly in uplands	NA	NA	0.44	No (Isolated feature)
Isolated Settling Basin (ISB-6)	Artificial basin created wholly in uplands	NA	NA	0.15	No (Isolated feature)
Isolated Settling Basin (ISB-7)	Artificial basin created wholly in uplands	NA	NA	2.76	No (Isolated feature)
Isolated Settling Basin (ISB-8)	Artificial basin created wholly in uplands	NA	NA	2.06	No (Isolated feature)
Isolated Settling Basin (ISB-9)	Artificial basin created wholly in uplands	NA	NA	2.36	No (Isolated feature)
Source: MBA Field Data, 08/05/2009_____.					

A detailed discussion of the rationale for the jurisdictional determination is provided in Section 4.1. The USACE with oversight by the Environmental Protection Agency (EPA) will make the final jurisdictional determination.

Table 7 provides a summary of CDFG delineated features present onsite. A delineation map is provided in Exhibit 1. CDFG Jurisdiction was measured to the top of bank or to the outer extent of associated riparian vegetation (including adjacent wetlands).

Table 7: Summary of CDFG Delineated Features

Hydrogeomorphic Feature	Type	Length (LF)	Average Width (LF)	Area (acres)	CDFG Jurisdiction (Rationale)
Drainage Canal (DC-1)	Channelized soft-bottom drainage	2,212	22.4	1.14	Yes (Perennial feature, with aquatic resources)
Roadside Ditch (RD-1)	Earthen roadside ditch.	1574	2.0	0.07	No (Constructed in uplands and Lack sufficient resource value)
Isolated Settling Basin (ISB-1)	Artificial basin created wholly in uplands	NA	NA	1.43	Undetermined (the basins are constructed in uplands. Primary hydrology is provided from artificial sources. However, at the time of the survey, field access was denied and thorough evaluation of the potential aquatic resources within the basins/basins could not be determined).
Isolated Settling Basin (ISB-2)	Artificial basin created wholly in uplands	NA	NA	1.70	
Isolated Settling Basin (ISB-3)	Artificial basin created wholly in uplands	NA	NA	1.26	
Isolated Settling Basin (ISB-4)	Artificial basin created wholly in uplands	NA	NA	0.33	
Isolated Settling Basin (ISB-5)	Artificial basin created wholly in uplands	NA	NA	0.44	
Isolated Settling Basin (ISB-6)	Artificial basin created wholly in uplands	NA	NA	0.15	
Isolated Settling Basin (ISB-7)	Artificial basin created wholly in uplands	NA	NA	2.76	
Isolated Settling Basin (ISB-8)	Artificial basin created wholly in uplands	NA	NA	2.06	
Isolated Settling Basin (ISB-9)	Artificial basin created wholly in uplands	NA	NA	2.36	
Source: MBA Field Data, 08/05/2009 ____.					

A detailed discussion of the rationale for the jurisdictional determination is provided in Section 4.1. The USACE with oversight by the EPA will make the final jurisdictional determination.

4.1 - Drainage Canal (DC-1)

4.1.1 - Downstream Connectivity (SWANCC Determination)

The Drainage Canal (DC-1) enters the project site through a grated culvert located near the eastern property boundary, in the southern half of the project site. The feature flows due west before veering to the northwest, eventually reaching its confluence with French Camp Drain (RPW) immediately

west of the site's western property boundary. Once off site, flows continue due north connecting to French Camp Slough (RPW), which ultimately connects to the San Joaquin River (A USACE designated TNW). Thereby establish the requisite nexus to down stream navigable waters.

4.1.2 - Drainage Characterization

Water within the drainage canal, originates as both agricultural and urban runoff from areas east of the property. Several irrigation outlet pipes were also observed entering the drainage at several points onsite. Irrigation water is supplied by the SSJID, which redirects waters from the Stanislaus River located approximate to 10 miles to the southeast. During both the June 30, 2009 and August 5, 2009 site visits active flows were observed at depths ranging from 1 to 9 inches, suggesting that the feature has relatively permanent flows and should properly be described as a RPW.

4.1.3 - OHWM Determination

The Drainage Canal appears to be an artificially constructed soft-bottom conveyance, but has taken on a natural character within the defined channel. The ordinary high water mark within the drainage was determined by clear demarcation between hydrophytic (OBL, FACW, FAC) and upland vegetation (FACU, UPL). On average, hydrophytic (wetland) vegetation extended 2 feet up-slope from the tow of the slope (see Cross Sections, Exhibit 9).

Plants associated with the Irrigation Drain: echinochloa (FACW), watercress (OBL), prickly lettuce (FAC) curly dock (FACW), water plantain (OBL), Bermuda grass (UPL), field mustard (UPL).

4.1.4 - Adjacent Wetlands

All wetlands were present within the defined OHWM. Based on the presence of vegetation, no adjacent wetlands were observed extending outward beyond the OHWM.

4.1.5 - Significant Nexus Determination

Because the drainage is a relatively permanent water is assumed to have a significant physical, chemical and/or biological nexus to downstream navigable waters. As such, further more detailed analysis of hydrological and ecological factors is not required.

4.1.6 - USACE Jurisdiction

Because the drainage is a relatively permanent water with indirect connectivity to downstream navigable water, it will be subject to USACE jurisdiction. USACE jurisdiction includes 0.53 acre (2,212 linear feet).

4.1.7 - CDFG Jurisdiction

CDFG was measured/delineated to the top of bank of the channel/canal. No adjacent riparian/wetland habitat was found to extend jurisdiction beyond the top of bank. Though the drainage is artificially constructed, it appears to convey perennial flows and exhibits aquatic resources which include the presence of obligate plants the potential presence for both aquatic invertebrates and vertebrates. As

such, the drainage will be subject to CDFG jurisdiction under Fish & Game Code 1600/1602. CDFG jurisdiction includes 1.14 acres of jurisdictional streambed.

4.2 - Roadside Ditch (RD-1)

A roadside ditch weaves in and out of the northern property boundary. Typically, the USACE will not assert jurisdiction over ditches (including roadside ditches) excavated wholly in and drainage only uplands and that do not carry a relatively permanent flow of water.¹ Similarly, Subsequent to the 2001 US Supreme Court decision in *Solid Waste Agency of North Cook County v. USACE* (SWANCC), drainages and wetlands that are isolated from downstream navigable or established jurisdictional waters, may be excluded from federal jurisdiction (see discussion in Appendix E).

The drainage is dominated by non-native grasses and mostly upland vegetation including: ripgut brome (UPL, invasive), tumbleweed (*Salsola tragus*, UPL), and rescue grass (*Bromus catharticus*, UPL). Some facultative plants were also observed along the ditch including common sunflower (FAC) and Bermuda grass (FAC, invasive.)

The drainage was constructed wholly within uplands and has an inconsistent flow regime where a definable OHWM is sometimes absent. During the August 5, 2009 site visit some standing water was present near the small culvert located in the northwest corner of the property. The source of the standing water was not determined, though it appears the water results from street runoff and not from agricultural/flood irrigation activities.

The ditch continues offsite, but appears to dissipate along the entrance road to the Union Pacific Lathrop Intermodal Terminal. The drainage does not appear to have connectivity to French Camp Outlet or other downstream jurisdictional resources.

4.2.1 - USACE Determination

Because the roadside is isolated from downstream navigable (jurisdictional) resources, it will not be subject to USACE jurisdiction.

4.2.2 - CDFG Determination

The roadside ditch supports vegetation, which is largely indistinguishable from upland areas. Similarly, the drainage does not appear to support aquatic resources. As such, the roadside ditch will not be subject to CDFG jurisdiction.

¹ Joint EPA/USACE Memorandum, June 5, 2007. Clean Water Act Jurisdiction Following the U.S. Supreme Court Decision, *Rapanos v. United States & Carabell v. United States*. (Hereafter: Rapanos Memorandum) At page 1.

4.3 - Isolated Settling Basins (ISB-1 through 9)

A series of nine discharge/settling basins are located in within the fenced enclosures adjacent to the Cal Suprema Cheese Factory. During the survey period, access was denied so a complete assessment of the resources within the basins could not be determined. However, observations from adjacent areas and from aerial photography suggest that most of the basins have earthen bottoms, with a few lined with high-density polyethylene (HDPE). Most of the basins were dry and exhibit a dominance of upland vegetation including ripgut brome (UPL), rescue grass (UPL) and tumbleweed (UPL). However, one of the basins (ISB-6) contained standing water and supported a dominance of hydrophytes including: sunflower (FAC) and creeping bentgrass (*Agrostis stolonifera*, FACW) along the fringe of the standing water. Because access was denied to the basins, it is unknown whether aquatic vertebrates and or invertebrates were present within the basins.

Inlet pipes suggest that hydrology to the basins results primarily result from discharge from the adjacent Cheese Factory though it is likely that precipitation may result in the presence of basin water during the wet season.

Walking the perimeter of the site, no outlet pipes could be found that would establish connectivity to the either the onsite Drainage Canal (DC-1) or to French Camp Drain or other off-site resources with down stream connectivity to jurisdictional/navigable resources. As such, these basins are all isolated features.

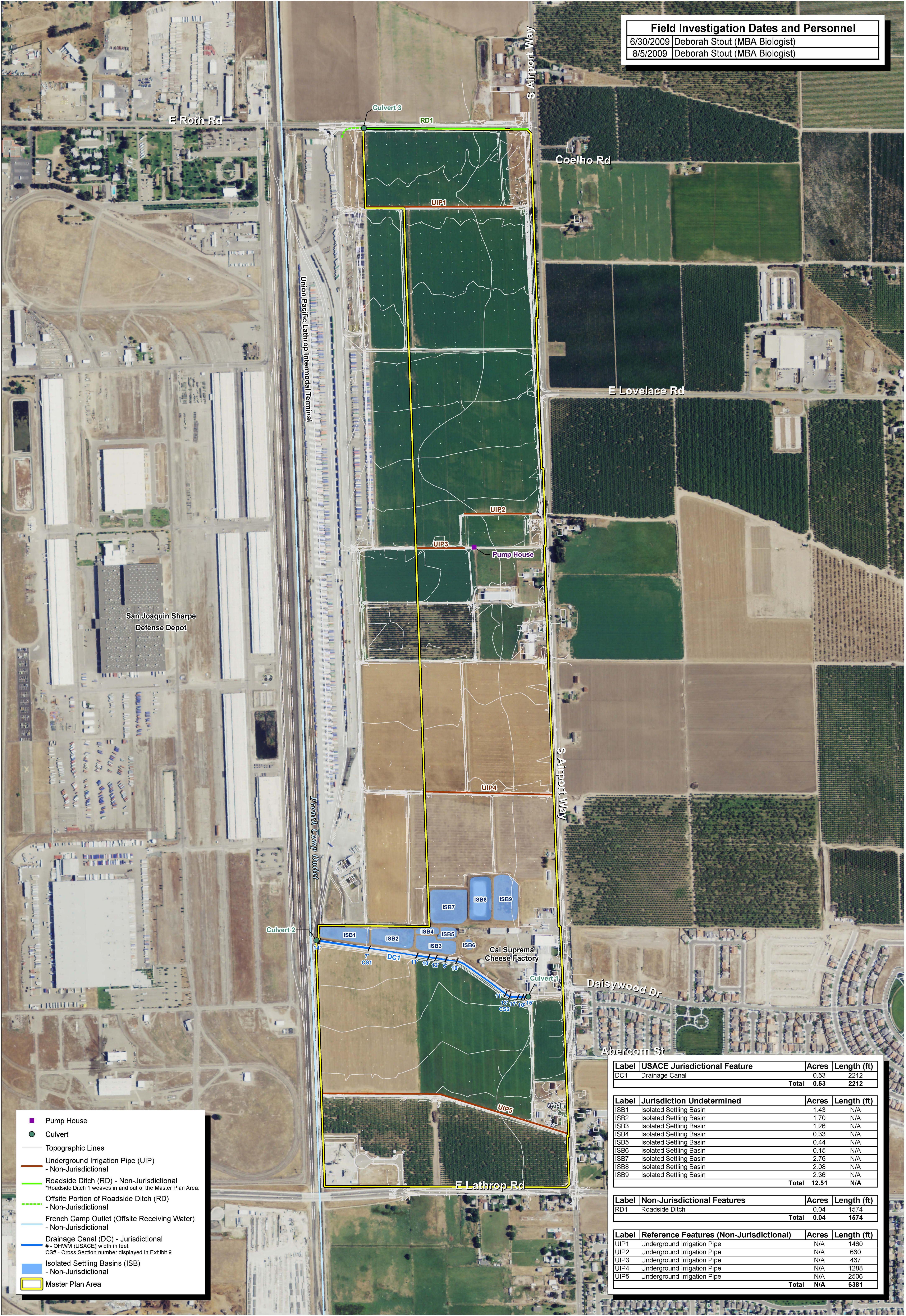
4.3.1 - USACE Determination

Because, the basins are isolated from downstream jurisdictional/navigable resources they will not be subject to USACE jurisdiction.

4.3.2 - CDFG Determination

CDFG will not typically assert jurisdiction over artificial basins supported by artificial hydrology so long as aquatic resources are absent.

Because, field access was denied, the presence/absence of aquatic resources within the basins could not be established with certainty. As such, a CDFG jurisdictional determination could not be made.



Field Investigation Dates and Personnel	
6/30/2009	Deborah Stout (MBA Biologist)
8/5/2009	Deborah Stout (MBA Biologist)

- Pump House
- Culvert
- Topographic Lines
- Underground Irrigation Pipe (UIP)
- Non-Jurisdictional
- Roadside Ditch (RD) - Non-Jurisdictional
*Roadside Ditch 1 weaves in and out of the Master Plan Area.
- Offsite Portion of Roadside Ditch (RD)
- Non-Jurisdictional
- French Camp Outlet (Offsite Receiving Water)
- Non-Jurisdictional
- Drainage Canal (DC) - Jurisdictional
- OHWM (USACE) width in feet
CS# - Cross Section number displayed in Exhibit 9
- Isolated Settling Basins (ISB)
- Non-Jurisdictional
- Master Plan Area

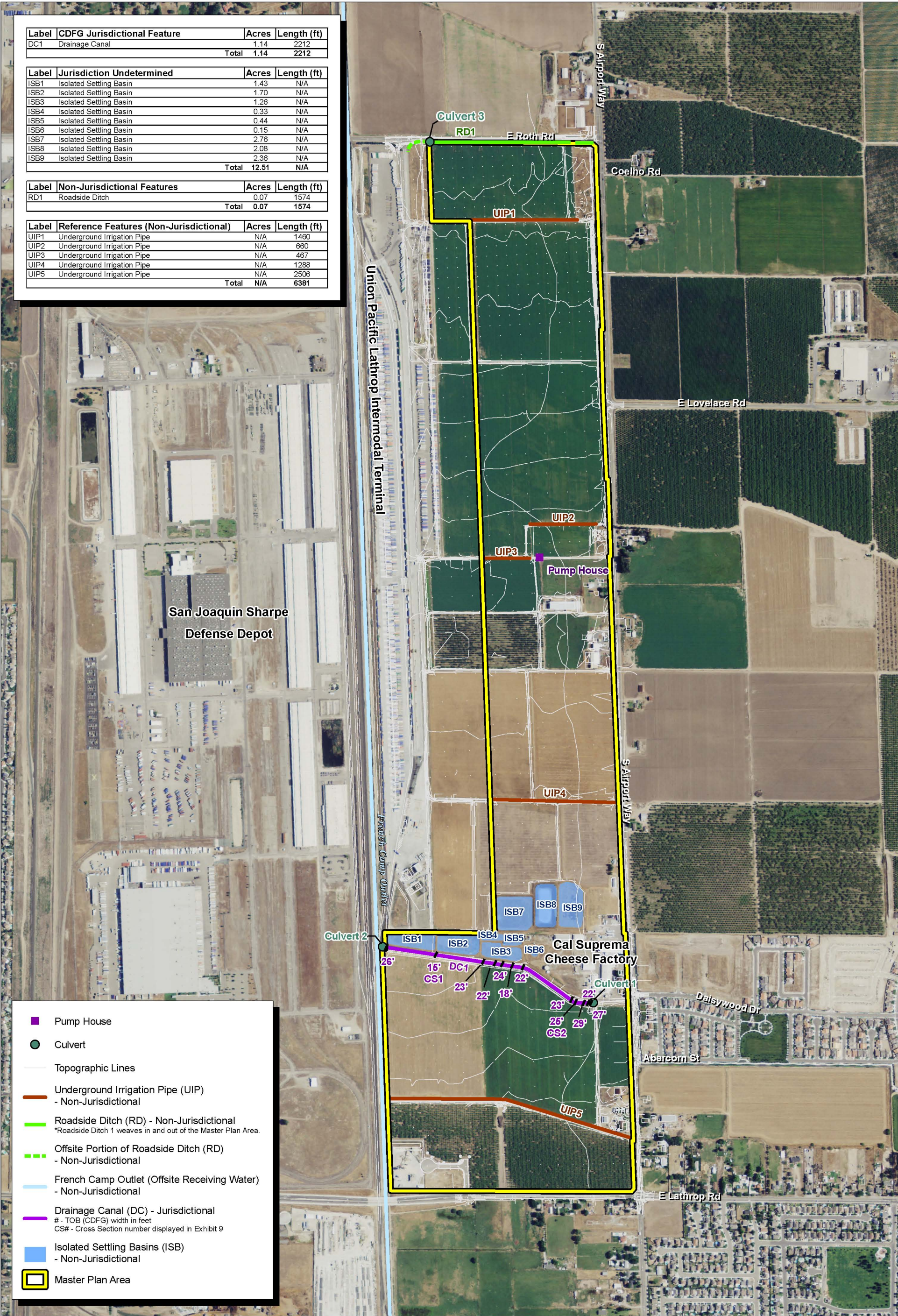
Label	USACE Jurisdictional Feature	Acres	Length (ft)
DC1	Drainage Canal	0.53	2212
Total		0.53	2212

Label	Jurisdiction Undetermined	Acres	Length (ft)
ISB1	Isolated Settling Basin	1.43	N/A
ISB2	Isolated Settling Basin	1.70	N/A
ISB3	Isolated Settling Basin	1.26	N/A
ISB4	Isolated Settling Basin	0.33	N/A
ISB5	Isolated Settling Basin	0.44	N/A
ISB6	Isolated Settling Basin	0.15	N/A
ISB7	Isolated Settling Basin	2.76	N/A
ISB8	Isolated Settling Basin	2.08	N/A
ISB9	Isolated Settling Basin	2.36	N/A
Total		12.51	N/A

Label	Non-Jurisdictional Features	Acres	Length (ft)
RD1	Roadside Ditch	0.04	1574
Total		0.04	1574

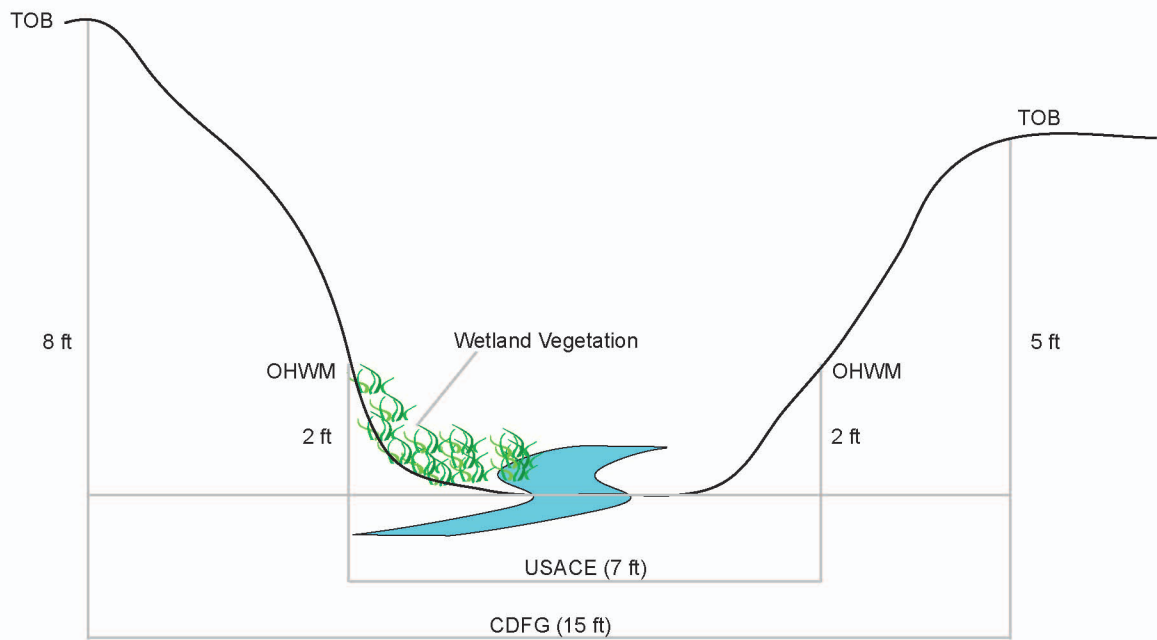
Label	Reference Features (Non-Jurisdictional)	Acres	Length (ft)
UIP1	Underground Irrigation Pipe	N/A	1460
UIP2	Underground Irrigation Pipe	N/A	660
UIP3	Underground Irrigation Pipe	N/A	467
UIP4	Underground Irrigation Pipe	N/A	1288
UIP5	Underground Irrigation Pipe	N/A	2506
Total		N/A	6381

Source: San Joaquin County NAIP Imagery, 2009. MBA Field Survey Data, 2009.

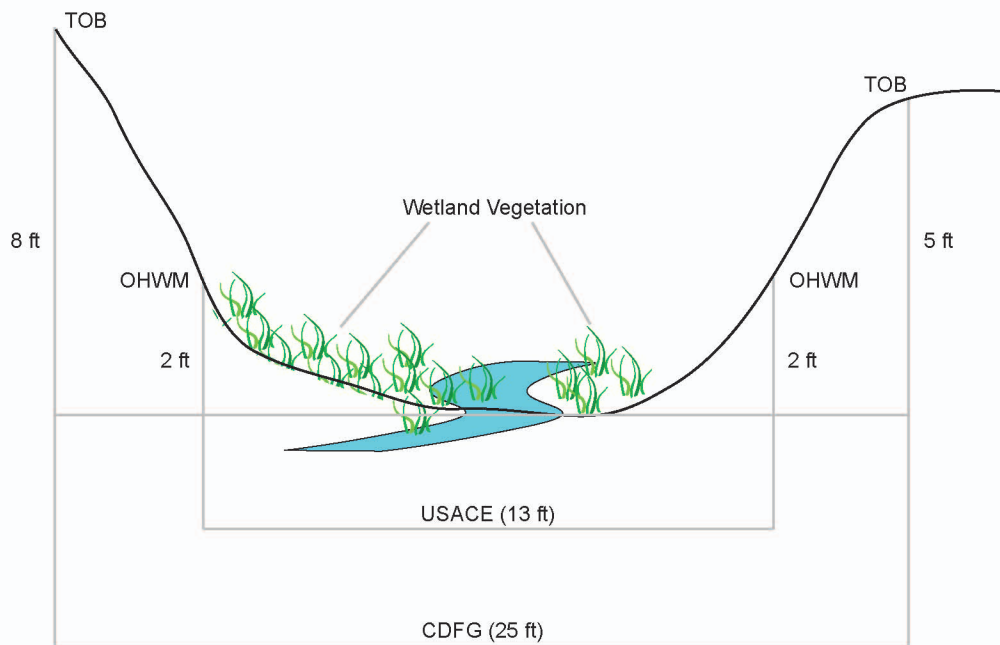


Source: San Joaquin County NAIP Imagery, 2009. MBA Field Survey Data, 2009.

Cross Section 1 (CS1)



Cross Section 2 (CS2)



Source: MBA GIS (2010).



Not To Scale

Michael Brandman Associates

24820003 • 02/2010 | 9_Cross_Sections.ai

Exhibit 9 Cross Sections

CITY OF MANTECA • NORTHWEST AIRPORT WAY MASTER PLAN
DELINEATION OF JURISDICTIONAL WATERS AND WETLANDS

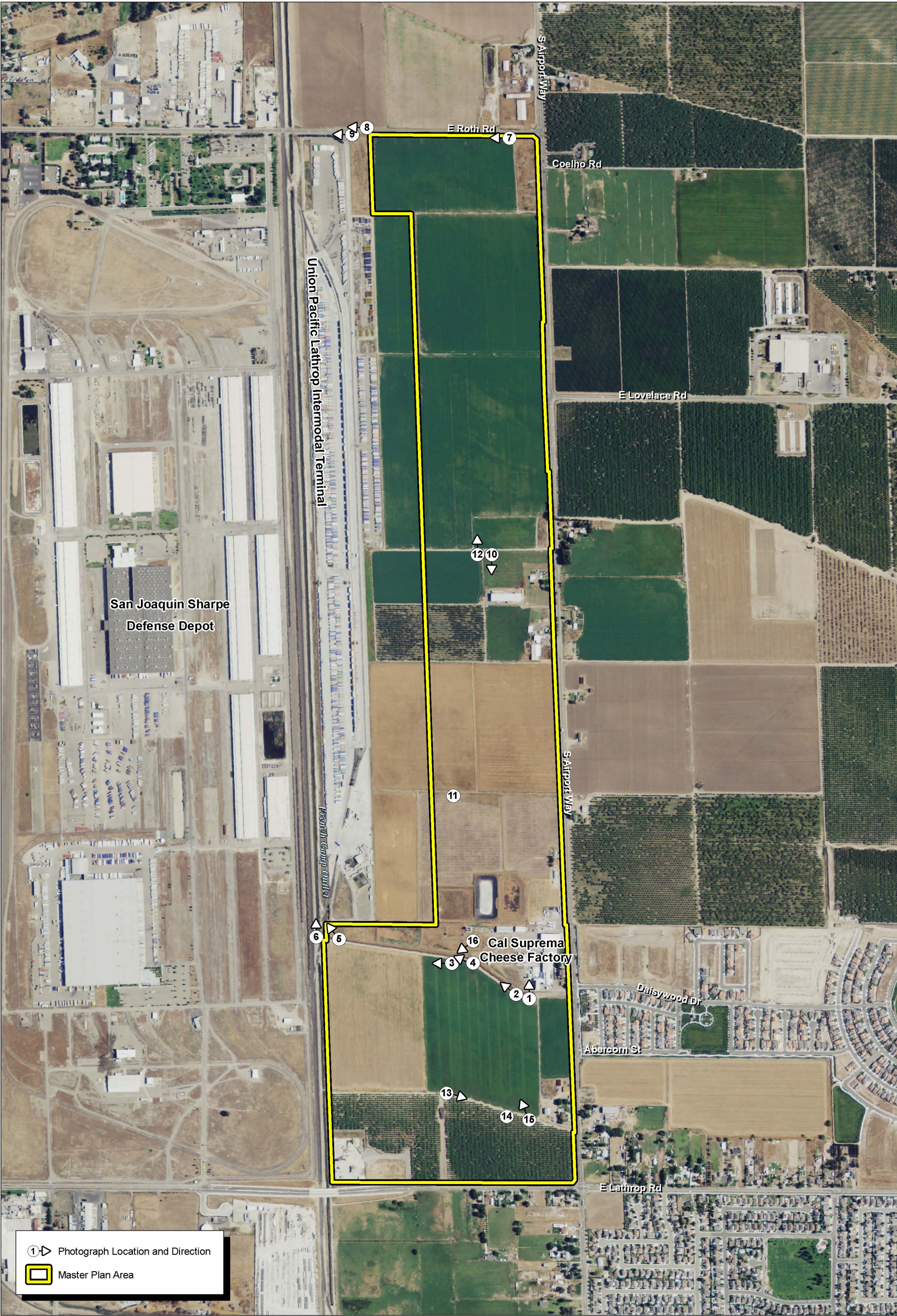
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Appendix A: Site Photographs

A-1: Photograph Location Map



Source: San Joaquin County NAIP Imagery, 2009. MBA Field Survey Data, 2009.

A-2: Site Photographs



[1] DRAINAGE CANAL: Grated boxed culvert (Culvert 1) located near the eastern property boundary immediately south of the Cal Suprema Cheese Factory. The culvert conveys water from agricultural drainage ditches located east of S. Airport Way. Source water is diverted by the local irrigation district from the Stanislaus River located 10 miles to the south/southeast.



[2] DRAINAGE CANAL: (Facing west). Photograph was taken just west of the culvert (Photo 1) near the eastern property boundary. The Cal Suprema Cheese Factory is located within the fenced area on the far upper bank..

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs



[3] DRAINAGE CANAL: (Facing). The OHWM extends up the channel slope to the change in vegetation which establishes a clear demarcation approximately 2 feet above the slope toe. Plants within the OHWM include a mix of hydrophytic and upland species including: water plantain, echinocloa, watercress, curly dock, prickly lettuce, Bermuda grass, field mustard. Vegetation above the OHWM is dominated by upland grasses including ripgut brome.



[4] DRAINAGE CANAL: Excess irrigation water from the adjacent fields to the south enter the canal through a network of PVC (3-4 inch) outlet pipes. No outlet pipes were visible on the north bank.

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs



[5] DRAINAGE 1: (Facing northwest). Box culvert (Culvert 2) conveys flows from the Drainage Canal to the “French Camp Outlet” (See Photo 6) along the southwestern property boundary.



[6] FRENCH CAMP OUTLET: (Facing North). The off-site French Camp Outlet is the receiving water for the onsite Drainage Canal. The San Joaquin Sharpe Defense Depot is visible to the west (left) and the Union Pacific Lathrop Intermodal (Railroad) Terminal is visible to the east (right),

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs

City of Manteca · Northwest Airport Way Master Plan



[7] ROADSIDE DITCH: (Facing west). Photo taken along the northeastern property boundary. The road side ditch is shallow characterized by ephemeral flows, an intermittent OHWM and a dominance of upland vegetation.



[8] ROADSIDE DITCH/CULVERT 3: (Facing West) A Small culvert is located at the northwest corner of the property. During the field visit, water was ponded near the culvert, originating from an undetermined source. Vegetation is dominated by upland species.

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs



[9] ROADSIDE DITCH: (Facing West) Offsite portion of the roadside ditch as it veers south into the Union Pacific Facility. The drainage is shallow, with no continuous surface connectivity to downstream USACE jurisdictional resources, and lacks any discernable aquatic resources.



[10] PROJECT SITE: (Facing south) Indicative photo showing the center of the project site.

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs

City of Manteca · Northwest Airport Way Master Plan



[11] PROJECT SITE: Outlet weir for flood irrigation. Water is delivered to the site by the SSJID which diverted from the Stanislaus River located 10 miles to the southeast.



[12] IRRIGATION PUMP STATION: (Facing North) Flood irrigation distribution station.

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs



[13] FLOOD IRRIGATION/SOUTHERN PART (Facing East) Flood irrigation in the nut orchards in the southern portion of the property. Standing water does not pond for extended periods and readily dissipates via percolation or evapo-transpiration.



[14] FLOOD IRRIGATION/SOUTHERN PART (Facing South) Flood irrigation weir.

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs



[15] PROJECT SITE: (Facing Northwest) Indicative view of the open space in the southern portion of the property immediately north of the orchard and south of the Cal Suprema Cheese Facility visible in the far distance.



[16] ISOLATED SETTLING BASIN (ISB-6): (Facing Southwest). The basin appears to receive flows from the Cal Suprema facility. Unlike the other settling basins ISB-6 had standing water during the 08/05/09 survey. A thin fringe of hydrophytes (creeping bent grass, sunflower) is visible immediately above the water line. Though access to the settling basins was denied, no outlet structures were evident to evidence connectivity to the USACE jurisdictional Drainage Canal located immediately to the south. It is unknown whether the ponds support aquatic biota.

Source: Michael Brandman Associates, 2007



Michael Brandman Associates

24820003 · 02/2010: Jurisdictional Delineation

Appendix A Site Photographs

Appendix B: OHWM Forms

Project: Northwest Airport Way Master Plan

Date: 08/05/2009

Time:

Project Number: 24820003

Town: City of Manteca

State: CA

Stream: Drainage Canal

Photo begin file#: JD, App A. 1 **Photo end file#:** 5

Investigator(s): Deborah Stout, Biologist

Y ☒ N ☐ Do normal circumstances exist on the site?

Location Details: South of Roth Rd, North of Lathrop Rd.
West of Airport Way. East of I5.

Y ☒ N ☐ Is the site significantly disturbed?

Projection: N/A

Datum: N/A

Type: Channelization

Coordinates: 37.832772°N / -121-258573°W

Notes: The Drainage Canal is an artificial system, conveying perennial flows (Source, SSJID, nuisance) The Drainage Canal originates from a grated boxed culvert located along the southeastern property boundary, immediately south of the Cal Suprema Cheese Factory. The Drainage flows 2,212 linear feet through the property to its confluence with "French Camp Outlet" immediately west of the western property boundary. The OHWM is defined by a noticeable change in vegetation from hydrophytes to upland varieties (See JD).

Brief site description: The project site is primarily agricultural, includes farmss/residence, cheese factory.

Checklist of resources (if available):

☒ Aerial Photography

Dates: 2008, 2009

☐ Stream gage data

Gage number:

☒ Topographic maps

Scale:

Period of record:

☐ Geologic Maps

☐ Clinometer / level

☒ Vegetation maps

☐ History of recent effective discharges

☒ Soil Maps

☐ Results of flood frequency analysis

☐ Rainfall/precipitation maps

☐ Most recent shift-adjusted rating

☐ Existing Delineation(s) for site

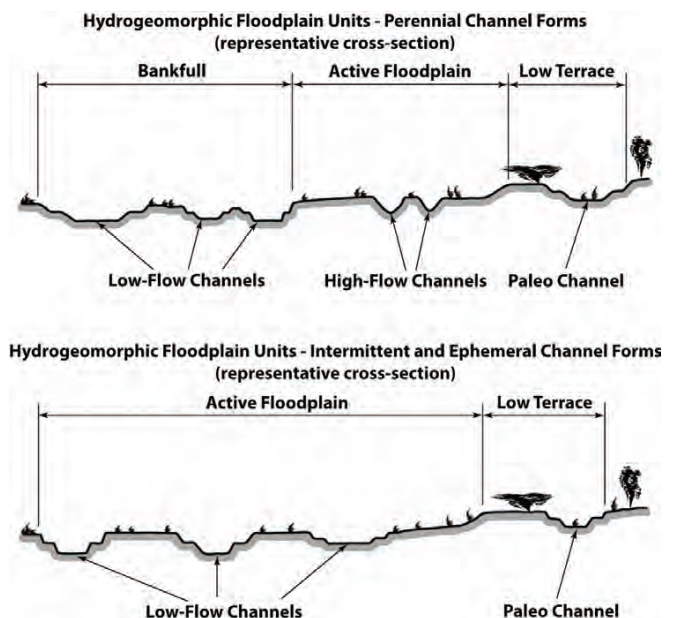
☐ Gage heights for 2-, 5-, 10-, and 25-year events and the
most recent event exceeding a 5-year event

☒ Global positioning system (GPS)

☐ Other Studies

The dominant Wentworth size class that imparts a characteristic texture to each of a channel cross-section is recorded in the average sediment texture filed under the characteristics section for the zone of interest.

Inches (in)	Millimeters (mm)	Wentworth size class
10.08	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
		Granule
0.079	2.00	Very coarse sand
0.039	1.00	Coarse sand
0.020	0.50	Medium sand
1/2	0.0098	Fine sand
1/4	0.005	Very fine sand
1/8	0.0025	Coarse silt
1/16	0.0012	Medium silt
1/32	0.00061	Fine silt
1/64	0.00031	Very fine silt
1/128	0.00015	Clay



	Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.
☒	Locate the low-flow channel (lowest part of the channel). Record observations. <u>Characteristics of the low-flow channel:</u> Average sediment texture: <u>sandy loam</u> Total veg cover: <u>50</u> % Tree: <u>0</u> % Shrub: <u>0</u> % Herb: <u>100</u> % <u>Community successional stage:</u> ☐ NA ☐ Mid (herbaceous, shrubs, saplings) ☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees) Dominant species present: <u>water plantain, echinocloa, watercress, curly dock, prickly lettuce, Bermuda grass, field mustard</u> Other: ☐ _____ ☐ _____ ☐ _____ ☐ _____
☐	Walk away from the low-flow channel along cross-section. Record characteristics of the lowflow/ active floodplain boundary. <u>Characteristics used to delineate the low-flow/active floodplain boundary:</u> ☐ Change in total veg cover ☐ Tree ☐ Shrub ☒ Herb ☐ Change in overall vegetation maturity ☒ Change in dominant species present ☐ Other ☐ Presence of bed and bank ☐ Drift and/or debris ☐ Other: _____ ☐ Other: _____
☐	Continue walking the channel cross-section. Record observations below. <u>Characteristics of the active floodplain:</u> Average sediment texture: <u>Sandy loam</u> Total veg cover: <u>100</u> % Tree: _____ % Shrub: _____ % Herb: <u>100</u> % <u>Community successional stage:</u> ☐ NA ☐ Mid (herbaceous, shrubs, saplings) ☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees) Dominant species present: <u>upland grasses including ripgut brome</u> Other: ☐ _____ ☐ _____ ☐ _____ ☐ _____

☐	Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary. <u>Characteristics used to delineate the active floodplain/ low terrace boundary:</u> ☐ Change in average sediment texture ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb ☐ Change in overall vegetation maturity ☐ Change in dominant species present ☐ Other ☐ Presence of bed and bank ☐ Drift and/or debris ☐ Other: _____ ☐ Other: _____
☐	Walk the active floodplain/low terrace boundary both upstream and downstream of the crosssection to verify that the indicators used to identify the transition are consistently associated the transition in both directions. <u>Consistency of indicators used to delineate the active floodplain/low terrace boundary:</u> Y ☐ N ☐ Change in average sediment texture Y ☐ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb Y ☐ N ☐ Change in overall vegetation maturity Y ☐ N ☐ Change in dominant species present Y ☐ N ☐ Other: Y ☐ N ☐ Presence of bed and bank Y ☐ N ☐ Drift and/or debris Y ☐ N ☐ Other: _____ Y ☐ N ☐ Other: _____
☐	If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.
☐	Continue walking the channel cross-section. Record characteristics of the low terrace. <u>Characteristics of the low terrace:</u> Average sediment texture: _____ Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ % <u>Community successional stage:</u> ☐ NA ☐ Mid (herbaceous, shrubs, saplings) ☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees) Dominant species present: _____ Other: ☐ _____ ☐ _____ ☐ _____ ☐ _____
☐	If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary. <u>Active floodplain/low terrace boundary acquired via:</u> ☐ Mapping on aerial photograph ☐ GPS ☐ Digitized on computer ☐ Other: _____

Appendix C: Wetlands Data Forms

NO WETLAND FORMS WERE GENERATED

Appendix D: Approved Jurisdictional Determination Forms

APPROVED JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): _____

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento

C. PROJECT LOCATION AND BACKGROUND INFORMATION: DRAINAGE CANAL (DC-1)

The project study area is located at the northwestern edge of the City of Manteca along the southern edge of Roth Road, approximately 1.12 miles east of the intersection of I-5 and Roth Road. The study area is bounded to the north by Roth Road, to the east by South Airport Way, to the south by Lathrop Road, and to the west by the Union Pacific Railroad Intermodal Facility. The location of the project corresponds to Sections 13 and 24, Township 01South, Range 06 East of the Lathrop, California USGS 7.5-minute topographic quadrangle, City of Manteca, San Joaquin County, California.

State: CA County/parish/borough: San Joaquin City: Unincorporated areas northwest of Manteca

Center coordinates of site (lat/long in degree decimal format): 37.832772°N / -121-258573°W.

Universal Transverse Mercator: _____

Name of nearest waterbody: French Camp Outlet

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: San Joaquin River

Name of watershed or Hydrologic Unit Code (HUC): Middle San Joaquin-Lower Merced-Lower Stanislaus Hydrologic Unit: 18040002

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date: _____

☐ Field Determination. Date(s): _____

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There "**Are No**" "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "**Are**" "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): ¹

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☒ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 2,212 linear feet: width 10.4 (ft) and/or 0.53 acres.

Wetlands: None acres.

c. Limits (boundaries) of jurisdiction based on:

Elevation of established OHWM (if known): 22-23 AMSL Feet.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

2. **Non-regulated waters/wetlands (check if applicable):**³

- ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 39 (Square Miles)

Drainage area: N/A (Square Miles)

Average annual rainfall: 13.81 inches

Average annual snowfall: _____ inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☒ Tributary flows through 2 tributaries before entering TNW.

Project waters are 8.0 (or less) river miles from TNW. ()

Project waters are 0.0 (or less) river miles from RPW. ()

³ Supporting documentation is presented in Section III.F.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **6.72 (or less)** aerial (straight) miles from TNW.

Project waters are **0.0 (or less)** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

NA

Identify flow route to TNW⁵:

Onsite Drainage Canal - Franch Camppl Outlet - French Camp Slough - San Joaquin River

Tributary stream order, if known: .

Unknown

(b) General Tributary Characteristics (check all that apply):

Tributary is:

☐ Natural

☒ Artificial (man-made). Explain: Conveys SSJID water diveted from the the Stanislaus River, and nuisance flows from urban development.

☐ Manipulated (man-altered). Explain: _____

Tributary properties with respect to top of bank (estimate):

Average width: **5-8** feet

Average depth: **0.1-0.8** feet

Average side slopes: **3:1**

Primary tributary substrate composition (check all that apply):

☒ Silts

☒ Sands

☐ Concrete

☐ Cobbles

☐ Gravel

☐ Muck

☐ Bedrock

☒ Vegetation.

☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Semi-stable Explain:

Tributary geometry: U-shaped channel

Tributary gradient (approximate average slope): 3:1

(c) Flow:

Tributary provides for: Perennial

Estimate average number of flow events in review area/year:

Describe flow regime:

Other information on duration and volume:.

Surface flow is: _____.

Characteristics:

Subsurface flow: . Explain findings: .

☐ Dye (or other) test performed:

Tributary has (check all that apply):

☒ Bed and banks

☒ OHWM⁶ (check all indicators that apply):

☒ clear, natural line impressed on the bank

☐ changes in the character of soil

☐ shelving

☒ vegetation matted down, bent, or absent

☐ leaf litter disturbed or washed away

☐ sediment deposition

☐ water staining

☐ other (list): _____

☐ Discontinuous OHWM.⁷ Explain: _____

☐ the presence of litter and debris

☒ destruction of terrestrial vegetation

☐ the presence of wrack line

☐ sediment sorting

☐ scour

☐ multiple observed or predicted flow events

☒ abrupt change in plant community

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:

☐ oil or scum line along shore objects

☐ Mean High Water Mark indicated by:

☐ survey to available datum;

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷ Ibid.

- | | |
|--|--|
| ☐ fine shell or debris deposits (foreshore) | ☐ physical markings; |
| ☐ physical markings/characteristics | ☐ vegetation lines/changes in vegetation types. |
| ☐ tidal gauges | |
| ☐ other (list): _____ | |

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): _____
- ☐ Wetland fringe. Characteristics: _____
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: _____
 - ☐ Fish/spawn areas. Explain findings: _____
 - ☐ Other environmentally-sensitive species. Explain findings: _____
 - ☐ Aquatic/wildlife diversity. Explain findings: _____

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: _____ acres

Wetland type: _____ Explain: _____

Wetland quality: _____. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: _____. Explain:

Surface flow is:

Characteristics:

Subsurface flow: _____. Explain findings:

☐ Dye (or other) test performed:.

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
 - ☐ Discrete wetland hydrologic connection. Explain: _____
 - ☐ Ecological connection. Explain: _____
 - ☐ Separated by berm/barrier. Explain: _____

(d) Proximity (Relationship) to TNW

Project wetlands are _____ river miles from TNW.

Project waters are _____ aerial (straight) miles from TNW.

Flow is from: _____

Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): _____

- ☐ Vegetation type/percent cover. Explain: _____
- ☐ Habitat for:
- ☐ Federally Listed species. Explain findings: _____
- ☐ Fish/spawn areas. Explain findings: _____
- ☐ Other environmentally-sensitive species. Explain findings: _____
- ☐ Aquatic/wildlife diversity. Explain findings: _____

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:

Approximately (____) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Description (of Wetland)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW? _____
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? _____
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs? _____.
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW? _____

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: _____ linear feet, width _____ (ft), Or, _____ acres.
☐ Wetlands adjacent to TNWs: _____ acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width _____ (ft).
☐ Other non-wetland waters: _____ acres.

Identify type(s) of waters:

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width: _____ (ft).
☐ Other non-wetland waters: _____ acres.

Identify type(s) of waters: .

<u>Description</u>	<u>Type</u>	<u>Linear feet width (ft)</u>	<u>Size (in acres)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

- ☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: _____ acres.

⁸See Footnote # 3.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: _____
- ☐ Other factors. Explain: _____

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width _____ (ft).
- ☐ Other non-wetland waters: _____ acres.
Identify type(s) of waters: _____
- ☐ Wetlands: _____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - ☐ Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- ☐ Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: _____
- ☐ Other: (explain, if not covered above): _____

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): _____ linear feet _____ width (ft).
- ☐ Lakes/ponds: _____ acres.
- ☐ Other non-wetland waters: _____ acres. List type of aquatic resource: _____.
- ☐ Wetlands: _____ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- ☒ Non-wetland waters (i.e., rivers, streams): _____ linear feet, width _____ (ft).
- ☐ Lakes/ponds: _____ acres.
- ☐ Other non-wetland waters: _____ acres. List type of aquatic resource: _____
- ☐ Wetlands: _____ acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: _____
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: _____

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- ☐ Corps navigable waters' study: _____
- ☒ U.S. Geological Survey Hydrologic Atlas: **ESRI Hydrology Data (2005)**
 - ☐ USGS NHD data.
 - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **Lathrop (1996) 7.5' DRG**
- ☒ USDA Natural Resources Conservation Service Soil Survey.
Citation: **AIP for San Joaquin County (2009) & USDA Soils ca077 (2008)**
- ☐ National wetlands inventory map(s). Cite name: _____
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **NAIP for San Joaquin County (2009) & San Joaquin County Parcels (2008)**
or ☐ Other (Name & Date): _____
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Applicable/supporting case law: _____
- ☐ Applicable/supporting scientific literature: _____
- ☐ Other information (please specify): Hydrologic calculations.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

APPROVED JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): _____

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento

C. PROJECT LOCATION AND BACKGROUND INFORMATION: ROADSIDE DITCH (RD-1)

The project study area is located at the northwestern edge of the City of Manteca along the southern edge of Roth Road, approximately 1.12 miles east of the intersection of I-5 and Roth Road. The study area is bounded to the north by Roth Road, to the east by South Airport Way, to the south by Lathrop Road, and to the west by the Union Pacific Railroad Intermodal Facility. The location of the project corresponds to Sections 13 and 24, Township 01South, Range 06 East of the Lathrop, California USGS 7.5-minute topographic quadrangle, City of Manteca, San Joaquin County, California.

State: CA County/parish/borough: San Joaquin City: Unincorporated areas northwest of Manteca

Center coordinates of site (lat/long in degree decimal format): 37.855496°N / -121.259318°W.

Universal Transverse Mercator: _____.

Name of nearest waterbody: French Camp Outlet

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None - Isolated

Name of watershed or Hydrologic Unit Code (HUC): Middle San Joaquin-Lower Merced-Lower Stanislaus Hydrologic Unit: 18040002

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date: _____

☐ Field Determination. Date(s): _____

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There "**Are No**" "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "**Are No**" "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): ¹

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: _____ linear feet: width _____ (ft) and/or _____ acres.

Wetlands: _____ acres.

c. Limits (boundaries) of jurisdiction based on:

Elevation of established OHWM (if known): 1 Feet.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

2. **Non-regulated waters/wetlands (check if applicable):**³

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

The Drainage is a roadside ditch constructed wholly in uplands and draining only uplands. The drainage is ephemeral with no discernable aquatic resource value. the drainage does not exhibit direct or indirect surface connectivity to downstream navigable waters.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: _____ (Square Miles)

Drainage area: _____ (Square Miles)

Average annual rainfall: _____ inches

Average annual snowfall: _____ inches

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

☐ Tributary flows directly into TNW.

☒ Tributary flows through 2 tributaries before entering TNW.

³ Supporting documentation is presented in Section III.F.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are _____ (or less) river miles from TNW. ()
 Project waters are _____ (or less) river miles from RPW. ()
 Project waters are _____ (or less) aerial (straight) miles from TNW.
 Project waters are _____ (or less) aerial (straight) miles from RPW.
 Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: _____
☐ Manipulated (man-altered). Explain: _____

Tributary properties with respect to top of bank (estimate):

Average width: _____ feet
 Average depth: _____ feet
 Average side slopes: 3:1

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation.	
☐ Other. Explain: _____		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. _____ Explain:

Tributary geometry: 1

Tributary gradient (approximate average slope): _____

(c) Flow:

Tributary provides for: Ephemeral

Estimate average number of flow events in review area/year:

Describe flow regime:

Other information on duration and volume:.

Surface flow is: _____.

Characteristics:

Subsurface flow: . Explain findings: .

☐ Dye (or other) test performed:

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list): _____	
☐ Discontinuous OHWM. ⁷ Explain: _____	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷ Ibid.

- | | |
|--|--|
| ☐ oil or scum line along shore objects | ☐ survey to available datum; |
| ☐ fine shell or debris deposits (foreshore) | ☐ physical markings; |
| ☐ physical markings/characteristics | ☐ vegetation lines/changes in vegetation types. |
| ☐ tidal gauges | |
| ☐ other (list): _____ | |

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:

Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): _____
- ☐ Wetland fringe. Characteristics: _____
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: _____
 - ☐ Fish/spawn areas. Explain findings: _____
 - ☐ Other environmentally-sensitive species. Explain findings: _____
 - ☐ Aquatic/wildlife diversity. Explain findings: _____

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: _____ acres

Wetland type: _____ Explain: _____.

Wetland quality: _____. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: _____. Explain:

Surface flow is:

Characteristics:

Subsurface flow: _____. Explain findings:

☐ Dye (or other) test performed:.

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
 - ☐ Discrete wetland hydrologic connection. Explain: _____
 - ☐ Ecological connection. Explain: _____
 - ☐ Separated by berm/barrier. Explain: _____

(d) Proximity (Relationship) to TNW

Project wetlands are _____ river miles from TNW.

Project waters are _____ aerial (straight) miles from TNW.

Flow is from: _____

Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): _____
- ☐ Vegetation type/percent cover. Explain: _____
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: _____
 - ☐ Fish/spawn areas. Explain findings: _____
 - ☐ Other environmentally-sensitive species. Explain findings: _____
 - ☐ Aquatic/wildlife diversity. Explain findings: _____

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:

Approximately (____) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Description (of Wetland)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW? _____
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? _____
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs? _____.
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW? _____

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: _____ linear feet, width _____ (ft), Or, _____ acres.
☐ Wetlands adjacent to TNWs: _____ acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width _____ (ft).
☐ Other non-wetland waters: _____ acres.

Identify type(s) of waters:

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet,width: _____ (ft).
☐ Other non-wetland waters: _____ acres.

Identify type(s) of waters: .

<u>Description</u>	<u>Type</u>	<u>Linear feet width (ft)</u>	<u>Size (in acres)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

- ☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

⁸See Footnote # 3.

Provide estimates for jurisdictional wetlands in the review area: _____ acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: _____
- ☐ Other factors. Explain: _____

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width _____ (ft).
- ☐ Other non-wetland waters: _____ acres.
- Identify type(s) of waters: _____
- ☐ Wetlands: _____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - ☐ Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- ☒ Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: _____
- ☐ Other: (explain, if not covered above): _____

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): _____ linear feet _____ width (ft).
- ☐ Lakes/ponds: _____ acres.
- ☐ Other non-wetland waters: _____ acres. List type of aquatic resource: _____
- ☐ Wetlands: _____ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- ☒ Non-wetland waters (i.e., rivers, streams): 1574 linear feet, width 1 (ft).
- ☐ Lakes/ponds: _____ acres.
- ☐ Other non-wetland waters: _____ acres. List type of aquatic resource: _____
- ☐ Wetlands: _____ acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: _____
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☒ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- ☐ Data sheets prepared by the Corps: _____
- ☐ Corps navigable waters' study: _____
- ☒ U.S. Geological Survey Hydrologic Atlas: **ESRI Hydrology Data (2005)**
 - ☐ USGS NHD data.
 - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **Lathrop (1996) 7.5' DRG**
- ☒ USDA Natural Resources Conservation Service Soil Survey.
Citation: **NAIP for San Joaquin County (2009 & USDA Soils ca077 (2008)**
- ☐ National wetlands inventory map(s). Cite name: _____
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **NAIP for San Joaquin County (2009) & San Joaquin County Parcels (2008)**
or ☐ Other (Name & Date): _____
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Applicable/supporting case law: _____
- ☐ Applicable/supporting scientific literature: _____
- ☒ Other information (please specify): Hydrologic calculations.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

APPROVED JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): _____

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento

C. PROJECT LOCATION AND BACKGROUND INFORMATION: **ISOLATED SETTTLING BASINS (ISB 1-9)**

The project study area is located at the northwestern edge of the City of Manteca along the southern edge of Roth Road, approximately 1.12 miles east of the intersection of I-5 and Roth Road. The study area is bounded to the north by Roth Road, to the east by South Airport Way, to the south by Lathrop Road, and to the west by the Union Pacific Railroad Intermodal Facility. The location of the project corresponds to Sections 13 and 24, Township 01South, Range 06 East of the Lathrop, California USGS 7.5-minute topographic quadrangle, City of Manteca, San Joaquin County, California.

State: CA County/parish/borough: San Joaquin City: Unincorporated areas northwest of Manteca

Center coordinates of site (lat/long in degree decimal format): 37.833592°N / -121.258415°W.

Universal Transverse Mercator: _____.

Name of nearest waterbody: French Camp Outlet

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None - Isolated

Name of watershed or Hydrologic Unit Code (HUC): Middle San Joaquin-Lower Merced-Lower Stanislaus Hydrologic Unit: 18040002

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date: _____

☐ Field Determination. Date(s): _____

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There "**Are No**" "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "**Are No**" "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): ¹

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: _____ linear feet: width _____ (ft) and/or _____ acres.

Wetlands: _____ acres.

c. Limits (boundaries) of jurisdiction based on:

Elevation of established OHWM (if known): 1 Feet.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

2. **Non-regulated waters/wetlands (check if applicable):**³

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

The settling basins appear to be used as part of the Cal Suprema Chees Factory Operations. During the filed investigation, no outlet structures could be identified to establish that water flows from the basins to down stream navigable waters. The Basins are isolated features. .

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**

Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**

Watershed size: 39 (Square Miles)

Drainage area: N/A (Square Miles)

Average annual rainfall: 13.81 inches

Average annual snowfall: _____ inches

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through _____ tributaries before entering TNW.

³ Supporting documentation is presented in Section III.F.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are _____ (or less) river miles from TNW. ()
 Project waters are _____ (or less) river miles from RPW. ()
 Project waters are _____ (or less) aerial (straight) miles from TNW.
 Project waters are _____ (or less) aerial (straight) miles from RPW.
 Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: _____
☐ Manipulated (man-altered). Explain: _____

Tributary properties with respect to top of bank (estimate):

Average width: _____ feet
 Average depth: _____ feet
 Average side slopes: _____

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation.	
☐ Other. Explain: _____		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. _____ Explain:

Tributary geometry: _____

Tributary gradient (approximate average slope): 3:1

(c) Flow:

Tributary provides for: Perennial

Estimate average number of flow events in review area/year:

Describe flow regime:

Other information on duration and volume:.

Surface flow is: _____.

Characteristics:

Subsurface flow: . Explain findings: .

☐ Dye (or other) test performed:

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list): _____	
☐ Discontinuous OHWM. ⁷ Explain: _____	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷ Ibid.

- | | |
|--|--|
| ☐ oil or scum line along shore objects | ☐ survey to available datum; |
| ☐ fine shell or debris deposits (foreshore) | ☐ physical markings; |
| ☐ physical markings/characteristics | ☐ vegetation lines/changes in vegetation types. |
| ☐ tidal gauges | |
| ☐ other (list): _____ | |

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:

Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): _____
- ☐ Wetland fringe. Characteristics: _____
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: _____
 - ☐ Fish/spawn areas. Explain findings: _____
 - ☐ Other environmentally-sensitive species. Explain findings: _____
 - ☐ Aquatic/wildlife diversity. Explain findings: _____

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: _____ acres

Wetland type: _____ Explain: _____.

Wetland quality: _____. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: _____. Explain:

Surface flow is:

Characteristics:

Subsurface flow: _____. Explain findings:

☐ Dye (or other) test performed:.

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
 - ☐ Discrete wetland hydrologic connection. Explain: _____
 - ☐ Ecological connection. Explain: _____
 - ☐ Separated by berm/barrier. Explain: _____

(d) Proximity (Relationship) to TNW

Project wetlands are _____ river miles from TNW.

Project waters are _____ aerial (straight) miles from TNW.

Flow is from: _____

Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): _____
- ☐ Vegetation type/percent cover. Explain: _____
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: _____
 - ☐ Fish/spawn areas. Explain findings: _____
 - ☐ Other environmentally-sensitive species. Explain findings: _____
 - ☐ Aquatic/wildlife diversity. Explain findings: _____

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:

Approximately (____) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Description (of Wetland)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW? _____
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? _____
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs? _____.
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW? _____

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: _____ linear feet, width _____ (ft), Or, _____ acres.
☐ Wetlands adjacent to TNWs: _____ acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width _____ (ft).
☐ Other non-wetland waters: _____ acres.

Identify type(s) of waters:

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet,width: _____ (ft).
☐ Other non-wetland waters: _____ acres.

Identify type(s) of waters: .

<u>Description</u>	<u>Type</u>	<u>Linear feet width (ft)</u>	<u>Size (in acres)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

- ☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

⁸See Footnote # 3.

Provide estimates for jurisdictional wetlands in the review area: _____ acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: _____
- ☐ Other factors. Explain: _____

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: _____ linear feet, width _____ (ft).
- ☐ Other non-wetland waters: _____ acres.
- Identify type(s) of waters: _____
- ☐ Wetlands: _____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - ☐ Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- ☐ Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: _____
- ☐ Other: (explain, if not covered above): _____

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): _____ linear feet _____ width (ft).
- ☐ Lakes/ponds: _____ acres.
- ☐ Other non-wetland waters: _____ acres. List type of aquatic resource: _____.
- ☐ Wetlands: _____ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): _____ linear feet, width _____ (ft).
- ☐ Lakes/ponds: _____ acres.
- ☒ Other non-wetland waters: **12.51** acres. List type of aquatic resource: **Settling Basins**
- ☐ Wetlands: _____ acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: _____
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☒ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- ☐ Data sheets prepared by the Corps: _____
- ☐ Corps navigable waters' study: _____
- ☒ U.S. Geological Survey Hydrologic Atlas: **ESRI Hydrology Data (2005)**
 - ☐ USGS NHD data.
 - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **Lathrop (1996) 7.5' DRG**
- ☒ USDA Natural Resources Conservation Service Soil Survey.
Citation: **NAIP for San Joaquin County (2009 & USDA Soils ca077 (2008)**
- ☐ National wetlands inventory map(s). Cite name: _____
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): **NAIP for San Joaquin County (2009) & San Joaquin County Parcels (2008)**
or ☐ Other (Name & Date): _____
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Applicable/supporting case law: _____
- ☐ Applicable/supporting scientific literature: _____
- ☒ Other information (please specify): Hydrologic calculations.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Appendix E: Regulatory Compliance Overview

REGULATORY COMPLIANCE OVERVIEW

Regulatory permitting for dredge and fill activities involves a compliance framework requiring interaction with federal, state and local agencies, often involving a diverse number of statutes and regulations.

FEDERAL STATUTES AND REGULATIONS - USACE

Clean Water Act Section 404

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged or fill material into waters of the U.S. Regulated activities include but are not limited to, grading, placing of riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material. In general, any activity, which proposes to carry out an activity, which will temporarily or permanently affect areas delineated as waters of the US, including wetlands, typically requires prior authorization from the USACE, pursuant to Section 404 of the Clean Water Act (CWA). Successful applications will put forth projects with a valid purpose, which generally comply with the avoidance, minimization, and mitigation (“no net loss”) goals of the USACE.

Federal Jurisdiction over Waters and Wetlands

The USACE will assert jurisdiction over waters that are presently used or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The definition of “Waters of the U.S.” is set forth in the Title 33 Code of Federal Regulations (CFR) 328.3. The term “waters of the United States” means:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters, which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and
 - (iii) Which are used or could be used for industrial purpose by industries in interstate commerce.
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;

- (5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;
- (6) The territorial seas;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section. (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States), and
- (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Subsequent to the U.S. Supreme Court decision in *Rapanos, et al v. United States* (2006) the Environmental Protection Agency (EPA) and the USACE (the agencies) issued a joint memorandum (*Clean Water Act Jurisdiction Following Rapanos v. United States*, (June 5, 2007)), which integrates the *Rapanos* standards with the process presented in 33 CFR 328.3(a).

Pursuant to the memorandum, federal jurisdiction will be asserted over the following categories of water bodies:

- (TNWs): TNW, including territorial seas;
- Wetlands adjacent to TNWs;
- (RPWS): Non- navigable tributaries of TNWs with relatively permanent water flow that are flow directly or indirectly to TNWs. "Relatively permanent" means water flowing for at least three months of the year. (Usually, perennial streams and some intermittent streams); and
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs.

In addition, the agencies will assert jurisdiction over the following categories of water bodies only if, based on fact-specific analysis, the water body is determined to have a significant nexus with a TNW:

- (Non-RPWs): Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (Usually ephemeral and some intermittent streams);
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; and
- Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

"A significant nexus exists if the tributary, in combination with all of its adjacent wetlands has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a TNW."

The agencies will not assert jurisdiction over the following geomorphic features:

- “Swales or erosional features (e.g., gullies small washes characterized by low volume, infrequent or short duration flows),” and
- “Ditches (including roadsides ditches) excavated wholly in and draining only uplands that do not carry relatively permanent water flows.”

The agencies now require that all determinations for non-navigable waters, isolated-waters and/or wetlands be evaluated by the USACE and EPA before making a final jurisdictional determination.

In the absence of wetlands, the lateral extent of federal jurisdiction over non-tidal waters of the U.S. is defined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR 328.3, as “*that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*”

In June 2001, the USACE South Pacific Division issued *Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest*. The purpose of this document was to aid delineators in assessing the physical characteristics of dry land drainage systems in the Arid West. With respect to jurisdictional determinations, the factors for determining waters of the U.S. include *evaluating* the flow regime geomorphic feature, and general indicators of flow. These methods are consistent with the criteria set forth in 328.3(a) and 328.3(e), but are also subject to guidance set forth in the *Rapanos* guidance, including “significant nexus determinations,” as appropriate.

Subject to *Rapanos* limitations (See Appendix B), Federal Jurisdiction will extend to “adjacent” wetlands. “Adjacent” means “bordering *contiguous* or neighboring.” According to the USACE *Wetlands Delineation Manual, Technical Report*, (1987) three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and
3. Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual. The Interim Regional Supplement for the Arid West was published in December 2006. Similarly Draft guidance for Western Mountains, Valleys and Coast Regions” was published in April 2007. In performing its delineations, MBA applies these supplemental guidance as appropriate.

Limits on USACE Jurisdiction under the Clean Water Act

Beginning with the 2001 US Supreme Court in *Solid Waste Agency of North Cook County v. USACE* (SWANCC) case, the reach of federal jurisdiction over waters has been curtailed. Subsequent to the SWANCC decision, federal jurisdiction will not reach wholly intra-state wetlands, which are not “adjacent” to a jurisdictional stream course. Similarly, the SWANCC decision eliminated the Corps ability to regulate isolated waters based solely on the presence of migratory birds and federally listed species.

Similarly, the 2006 U.S. Supreme Court Decision in *Rapanos v. United States*, 547 U.S. 715 (Rapanos), requires that non-relatively permanent waters (n-RPWs) and their adjacent wetlands have significant chemical, physical and biological nexus to downstream navigable waters. This requirement may limit USACE jurisdiction over some ephemeral and intermittent waters that connect directly or indirectly to downstream navigable waters. Details on “significant nexus” analysis is provided in Appendix B.

Preliminary vs. Approved Jurisdictional Determinations:

In August 2008, the Army Corps issued regulatory Guidance Letter 08-02 (Hereafter, RGL-0802) which provides for the use of “Preliminary Jurisdictional Determination” (PJD) in place of the standard or “Approved Jurisdictional Determination” (AJD). RGL-08-02 alleviates some of the timing and documentation hurdles (and costs), which otherwise would be realized in preparing a “significant nexus” analysis under an AJD. By opting to prepare a PJD the applicant has made an informed decision to assume all features that “could” be jurisdictional are treated as if they “are” jurisdictional. All features treated as jurisdictional, will be so assessed when calculating impacts, no-net loss compliance and in calculating appropriate mitigation. As such, PJDs allow for maximum protection of the environment without the need for establishing “significant nexus” (in essence significant nexus is assumed).

Unlike AJDs, PJDs are not considered final administrative decisions and are therefore not appealable. However, an applicant can always decide to subsequently process an AJD for submittal.

Nationwide Permits v. Individual Permits

Nationwide permits (NWP) are a type of general permit issued by the Chief of Engineers and are designed to expedite the regulatory process for those types of projects/activities expected to have minimal impacts on jurisdictional areas.

The nationwide permitting program is reauthorized every five years. The current NWP program became effective on March 19, 2007 and includes 49 different nationwide permit categories including “*Linear Transportation Projects*” (NWP 14), “*Residential Developments*” (NWP 29), “*Commercial and Institutional Developments*” (NWP 39) and “*Stormwater Management Facilities*” (NWP 43) among others. Each NWP establishes thresholds, which trigger the need for submitting a pre-construction notification (PCN) to the USACE and which set upper limits to accepted impacts based

on the total acreage and/or linear feet of impacts, which result from project. Exceeding these limits will require processing an Individual Permit (IP), which may involve a significantly longer processing time.

Primary General Conditions (GC) of 404 Permits

GC # 4: Migratory Bird Breeding Areas - Compliance with the Migratory Bird Treaty Act

The MBTA protects all common wild birds found in the US except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

The primary responsibility for complying with the Migratory Bird Treaty Act (MBTA) is that of the project proponent (permittee) and is independent of Department of the Army permitting processes (404). It should be noted, however, that the nationwide permitting program (General Condition 4) does require that breeding areas for migratory birds in waters of the United States must be avoided to the maximum extent practicable.

GC # 17: Compliance with Federal Endangered Species Act

In administering the Section 404 permitting program, the USACE is required to abide by Section 7(a)(2) of the Federal Endangered Species Act (ESA), which requires federal agencies to consult with the United States Fish and Wildlife Service (USFWS) “to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.” As a result, the presence of federally listed species must be determined prior to submittal of the Section 404 application. In the nationwide permitting program, compliance with the ESA is set forth in general condition (GC 17)

The USFWS *administers* the Federal Endangered Species Act. The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A “threatened” species is a species that is likely to become *endangered*. A “proposed” species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Section 9 of the ESA prohibits “take” of threatened or endangered species. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a

project area generally imposes severe constraints on development, particularly if development would result in take of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize take when it is incidental to, but not the purpose of, an otherwise lawful act.

GC # 18: Compliance with National Historic Preservation Act

In processing a Section 404 permit, the USACE is required to comply with section 106 of the National Historic Preservation Act (NHPA). Section 106 consultation is triggered when historic or archaeological sites are potentially affected by the proposed project. In the nationwide permitting program, compliance with the NHPA is set forth in general condition (GC 18). The USACE will initiate section 106 consultation with the appropriate state agency (SHPO in California) with federal oversight (ACHP). The process usually requires one month from the date the USACE triggers consultation with the state agency.

GC # 21: Compliance with Section 401 of the Clean Water Act

In connection with notification to the USACE under Section 404 of the Clean Water Act (CWA), pursuant to 33 CFR Part 330, a written request for Section 401 water quality certification must be submitted to the RWQCB to ensure that no degradation of water quality will result from the proposed project. Subject to CWA section 401(a)(1), the USACE cannot issue a section 404 dredge/fill permit until such time as a CWA section 401 Water Quality Certification (WQC) has been approved by the applicable RWQCB. In the nationwide permitting program, compliance with the Section 401 is set forth in general condition (GC 21).

In order to meet the requirements of the RWQCB for issuance of a 401-water quality certification, the project proponent must provide assurances that the project will not adversely affect the water quality of receiving water bodies. A written request for 401 water quality certification must be prepared and submitted to the RWQCB for review. The request will include a detailed project description, a description of *proposed* impacts, identification and discussion of beneficial uses of affected receiving waters (as described within the appropriate Basin Plan), a water quality plan identifying project-specific Best Management practices (BMPs), discussion of other approvals and certifications being obtained, a conceptual restoration plan, and a completed notification form.

CEQA Compliance: Pursuant to Title 23, Section 3856(f) of the California Code of Regulations (CCR), the *Regional* Water Quality Control Board (RWQCB) may not issue a Clean Water Act (Section 401) Water Quality Certification (WQC) for a project before being provided with (and having had ample time to review) a copy of the final CEQA documentation prepared for the project. Upon formal request for certification, water quality certification should be forthcoming within 90-120 days of completion of the CEQA process.

Fee Structure: Subject to California Code of Regulations (CCR), Title 23, §3833, a section 401 *application* must be accompanied by an initial deposit of not less than \$500.00. If the initial deposit

does not cover the agency's application review costs, the RWQCB may require an additional (one-time) amount using the calculus set forth in section 2200(e), Title 23, of the California Code of Regulations.

GC # 22: Compliance with the Coastal Zone Management Act

In administering the Section 404 permitting program, the USACE is required to abide by Section 307(c)(1) of the Coastal Zone Management Act (CZMA). This requirement is set forth in General Condition No. 22 of the NWP (2007) program and detailed in 33 CFR 330.4(d). This condition requires the USACE to provide a consistency determination and receive state agreement prior to the authorization of activities affecting land, water, or natural resources within the coastal zone.

The California "Coastal zone" means that land and water area within the State extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it *extends* inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, *including* any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

STATE STATUTES AND REGULATIONS - RWQCB

The State of California has concurrent jurisdiction with the Federal government over §401 Water Quality Certification over jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the State will exert independent jurisdiction via the Porter Cologne Water Quality Act.

Porter-Cologne Water Quality Act

Section 13260(a) of the California Water Code ("Water Code" or "Porter Cologne") requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the waters of the State, file a report of waste discharge (ROWD). The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State (Defined in Water Code §13050(e)).

Typically, the State of California relies upon its authority under section 401 of the Federal Clean Water Act (CWA (33 U.S.C. §1341) to regulate discharges of dredged or fill material to California waters that are also within the jurisdiction of the USACE. Given the water quality certification (WQC) process employed under section 401, waste discharge requirements under Porter Cologne are

typically waived for those projects requiring a water quality certification. In 2001 the U.S. Supreme decision in *Sold Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (“SWANCC”) invalidated the Army Corp’s use of the “Migratory Bird Rule” to establish federal jurisdiction over isolated waters. Since 2001, the State of California has reasserted its authority under state law to assert jurisdiction over isolated waters for water quality purposes by requiring a ROWD.

Regulation of Isolated Waters

Dredging, filling, or excavation of “isolated” waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of the State Porter Cologne Water Quality Act (Water Code).

Scope of Regulation: With respect to isolated waters, discharges and/or dredging of wetlands, active channels or beds of waterbodies are regulated. Discharges to riparian or areas in proximity to a waterbody are regulated when such activity will directly or indirectly result a change to water quality. Such changes may include discharge of stormwater pollutants and runoff; change in the nature of vegetation that could affect water quality (e.g., affecting pollutant removal, stream shading or bank stability); or change to the hydrological or geomorphic characteristics of the waterbody.

Application of Regulation: Whenever the USACE issues a jurisdictional disclaimer (concurrs with a finding of no federal jurisdiction), the respective RWQCB is notified of the disclaimer. Typically, the RWQCB will issue a letter notifying the project proponent that a ROWD must be filed. A ROWD must be submitted in one of two forms, depending on the anticipated impacts.

(1) General Waste Discharge Requirement (GWDR): The GWDR program is substantively set forth in SWRCB Water Quality Order No. 2004-0004-DWQ. GWDRs are generally prescribed for a category of discharges (either temporary or permanent) involving earth, rock, or similar solid materials if the discharge will not be greater than 0.2 acres and 400 linear feet (for fill or excavation) or 50 cubic yards (for dredging). The type of projects that may be covered under these General WDRs include land development, detention basins, disposal of dredged material, bank stabilization, revetment, channelization, and other similar projects. GWDRs do not apply to discharges that adversely impact, either directly or through habitat modification, any plants or animals identified as candidate, sensitive, or special status species in local or regional plans, or by the CDFG (including NCCPs), or USFWS (including HCPs). Similarly, GWDRs do not apply to discharges impacting significant historical, archaeological or paleontological resources.

Requirements: The GWDR typically requires submittal of the following items: (1) A Notice of Intent (NOI), (2) Any CEQA documents that have been prepared for the project, (3) A fee pursuant to Title 23, section 2200 of the CCR, (4) A Mitigation Plan demonstrating that the discharger will sequentially avoid, minimize, and compensate for the adverse impacts to the affected water bodies, and beneficial uses (as set forth in the applicable Basin Plan), and (5) Any other relevant information

requested by the SWRCB or RWQCB. A copy of the application must be submitted to both the applicable RWQCB and to the SWANC-ROWD, Water Quality Certification Unit in Sacramento.

Timing: Pursuant to the requirements of the California Permit Streamlining Act, RWQCB has 30 days to deem the application complete. Upon receipt of a complete submittal, the RWQCB has 45 days in which to issue a Notice of Applicability (NOA) (authorizing the activity) or a Notice of Exclusion (NOE) (denying authorization). The discharge activity is operationally authorized if no NOE is issued within the 45-day evaluation period, provided that the proposed activity is not a prohibited activity.

(2) Individual Waste Discharge Requirements (IWDR): Projects not qualifying for the GWDRs will need to satisfy individual waste discharge requirements, typically requiring submittal of 401 Water Quality Certification forms and supporting documentation as set forth by the respective RWQCB. Such submittals are subject to fees as set forth in California Code of Regulations Title 23 Section 2200(a)(2). Pursuant to the Water Code the project proponent is required to file with the appropriate Regional Water Quality Control Board (RWQCB) a Report of Waste Discharge describing the proposed discharge at least 140 days before it occurs (Water Code §§13260, 13264).

STATE STATUTES AND REGULATIONS - CDFG

Section 1600/1602 of the California Fish and Game Code

In the public interest of protection and conservation of fish and wildlife resources of the state (§1600), Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. CDFG's jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by:

1. The presence of hydrophytic vegetation.
2. The location of definable bed and banks.
3. The presence of existing fish or wildlife resources.

Furthermore, CDFG jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. However, CDFG does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

CDFG Regulated Activities

The CDFG regulates activities that involve diversions, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife resources. When a project requires such activities, a Section 1602 Streambed Alteration Notification will be prepared and submitted to the CDFG for review. The request will include a detailed project description, a description of proposed impacts, a conceptual mitigation plan, and completed notification forms. Typically, CDFG will be able to complete the agreement within 60-90 days of the completion of the CEQA process.

CEQA Compliance: It should be noted that CDFG must also comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code, §21000, et seq.) before it may issue a *final* Lake or Streambed Alteration Agreement. Issuance of a final Lake or Streambed Alteration Agreement occurs after the Department receives a *draft* Lake or Streambed Alteration Agreement from the applicant and the Department signs it. In many instances, the Department will receive a signed draft Lake or Streambed Alteration Agreement from an applicant before the lead agency has fully complied with CEQA. In those instances, the Department must wait for the lead agency to fully comply with CEQA before it may sign the draft Lake or Streambed Alteration Agreement, thereby making it final.

Fee Structure: Pursuant to California Code of Regulations (CCR), Title 14 §699.3, CDFG assesses a fee to cover the cost of reviewing §1602 applications. The fee calculus is based on the sum cost of the proposed activities within the streambed or riparian community.

Sensitive Plant and Wildlife Species

Sensitive species are native species that have been accorded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

California Endangered Species Act

The CDFG administers the California Endangered Species Act (CESA). The State of California considers an “endangered” species one whose prospects of survival and reproduction are in immediate jeopardy. A “threatened” species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A “rare” species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term “species of special concern” is an informal designation used by CDFG for some declining wildlife species that are not

state candidates for listing. This designation does not provide legal protection under CESA, but signifies that these species are recognized as sensitive by CDFG.

California Native Plant Society

The CNPS is a California resource conservation organization that has developed and inventory of California's sensitive plant species (Tibor 2001). This inventory summarizes information on the distribution, rarity, and endangerment of California's vascular plants. The inventory is divided into four lists based on the rarity of the species. In addition, the CNPS provides an inventory of plant communities that are considered sensitive by the state and federal resource agencies, academic institutions, and various conservation groups. Determination of the level of sensitivity is based on the number and size of remaining occurrences as well as recognized threats.

Section 3503 and 3511 of the California Fish and Game Code

The CDFG administers the California Fish and Game Code. Code 3503 makes it illegal to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Code 3503.5 further protects all birds in the orders *Falconiformes* and *Strigiformes* (birds of prey, such as hawks and owls) and their eggs and nests from any form of take. Section 3511 of the Code lists fully protected bird species, where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

Appendix F: Jurisdictional Wetlands and Significant Nexus Evaluation Criteria

CRITERIA FOR WETLAND DETERMINATIONS

USACE (DEFINITION OF WETLANDS)

As defined in 33 CFR part 328.3(a)(7) and as established by current case law, the USACE will currently assert jurisdiction over wetlands adjacent to waters of the U.S., except for those wetlands adjacent to other wetlands.

The term “wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence or vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR part 328.3(b)).

Typically, the term “adjacent” means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent (33 CFR part 328.3(c)). Similarly, the wetland must be adjacent to either a navigable in-fact water way or tributary thereof. Where “adjacency” cannot be established, the wetlands will be determined to be an “isolated” non-jurisdictional feature unless an independent nexus to interstate or foreign commerce can be established pursuant to 33 CFR part 328.3(a)(3). (Also, see *SWANCC v. US*, 2001).

Based on the standards established in *Rapanos v. U.S.*, the USACE will not assert jurisdiction over wetlands where: (1) the wetlands are adjacent to non-navigable tributaries that lack relatively permanent flows, or (2) wetlands are adjacent to but not abutting non-navigable tributaries with relatively permanent water, unless in both cases the relevant portion (reach) of the drainage, together with all of its wetlands, have a significant nexus to a TNW.

According to the USACE *Wetlands Delineation Manual, Technical Report* (1987), three criteria must be satisfied to classify an area as a jurisdictional wetland:

1. **Hydrophytic Vegetation**: A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation);
2. **Hydric Soils**: Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils), and
3. **Wetland Hydrology**: Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).

The USACE has established regional guidance to address specific regional variations in wetlands determinations. These regional guidance documents supplement the 1987 manual, *The Interim Regional Supplement for the Arid West*, which was published in December 2006. Similarly, *Draft guidance for Western Mountains, Valleys and Coast Regions* was published in April 2007. In performing its delineations, MBA applies this supplemental guidance as appropriate.

As established in both the USACE 87 Manual and the “Arid West” regional guidance, the following criteria apply.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as plant life growing in water, soil, or substrate that is at least periodically deficient in oxygen because of excessive water content. The USFWS has published the *National List of Vascular Plant Species That Occur in Wetlands*, (1996 National Summary, hereafter NLVPS) and divided plants into 5 groups based on their “wetland indicator status:”

- Obligate wetland plants (OBL) that occur almost always in wetlands under natural conditions;
- Facultative wetland plants (FACW) that usually occur in wetlands but occasionally are found in upland areas;
- Facultative plants (FAC) that are equally likely to occur in wetlands as well as upland;
- Facultative upland plants (FACU) that usually occur in upland areas but occasionally are found in wetlands; and
- Upland plants (UPL) that occur almost always in upland areas under natural conditions.

Plus (+) and minus (-) values, used in identifying indicator status in the NLVPS are not applied when evaluating plants in the arid west region. In the arid west, an area is deemed to have hydrophytic vegetation when it (1) passes the dominance test; (2) has a prevalence index ≤ 3 ; (3) morphological adaptations are present; or (4) the area is a “problem area.” (See *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, December 2006.)

Dominance Test: An area has hydrophytic vegetation when, under normal circumstances, more than 50 percent of the composition of dominant plant species (using the 50/20 rule) from all strata are obligate wetland (OBL), facultative wetland (FACW) and/or facultative species (FAC). If the plant community passes the dominance test, then the vegetation is hydrophytic and no further vegetation analysis is required. If the plant community fails the dominance test, and indicators of hydric soil and/or wetland are absent then hydrophytic vegetation is absent unless the site meets requirements for a problematic wetland situation.

Prevalence Test: In areas failing the dominance test yet having indicators of hydric soil and wetland hydrology, the vegetation must be re-evaluated using the “prevalence index” (PI). The prevalence index takes into account all plant species in the community, not just a few dominants. The index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL =1, FACW =2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (percent cover). The sum of the weighted indicator values are then divided by the sum of the percent cover values for each indicator type. Where the PI value is ≤ 3 , the area is considered positive for hydrophytic vegetation. Generally, the index is a more comprehensive analysis of the hydrophytic status of the community than one based on just a few dominant species. The index is particularly useful: (1) in communities only one or two dominants;

(2) in highly diverse communities where many species may be present at roughly equal coverage; and
(3) when strata differ greatly in total plant cover. The prevalence index is used on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

Morphological Adaptations: In areas failing both the dominance test and prevalence test, yet having indicators of hydric soil and wetland hydrology, hydrophytic vegetation will still be deemed present when the morphological adaptations are present. In the arid west, the most common morphological adaptations are adventitious roots and shallow root systems developed on or near the soil surface on FACU species. If more than 50 percent of the FACU species have morphological adaptations, then these species are classified as FAC species and the dominance test and/or prevalence index are recalculated. The vegetation is hydrophytic if either test is positive.

Hydric Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. “Long enough” generally means 1 week during the growing season and soils that are saturated for this period usually support hydrophytic vegetation. The criteria for establishing the presence of hydric soils vary among different types of soils and between normal circumstances, disturbed areas, and problem areas. Due to their wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Prolonged anaerobic soil conditions typically lower the soil redox potential, causing a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction is typically reflected by the presence of iron or manganese concretions, gleying, or mottling. Other field indicators of hydric soils include the presence of sulfidic material, an aquic or peraquic moisture regime, or a spodic horizon. (All organic soils, with the exception of Folists, are classified as hydric soils.)

Wetland Hydrology

Wetland hydrology is permanent or periodic inundation, or soil saturation for a significant period during the growing season. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. At certain times of the year in most wetlands, and in certain types of wetlands at most times, wetland hydrology is quite evident, since surface water or saturated soils may be observed. Yet, in many instances, especially along the uppermost boundary of wetlands, hydrology is not readily apparent. Despite this limitation, hydrologic indicators can be useful for confirming that a site with hydrophytic vegetation and hydric soils still exhibits wetland hydrology. While hydrologic indicators are sometimes diagnostic of the presence of wetlands, they are generally either operationally impracticable (e.g. in the case of recorded data) or technically inaccurate (e.g., in the case of some field indicators) for delineating wetland boundaries.

The following hydrologic indicators, while not necessarily indicative of hydrologic events during the growing season or in wetlands alone, do provide evidence that inundation or soil saturation has occurred at some time: visual observation of inundation, visual observation of soil saturation, oxidized channels (rhizospheres) associated with living roots and rhizomes, water marks, drift lines, waterborne sediment deposits, water-stained leaves, surface scoured areas, morphological plant adaptations, and hydric soil characteristics.

Problem Areas and Atypical Situations

In the arid west, some wetlands may periodically lack indicators of hydrophytic vegetation, hydric soils or wetland hydrology due to normal (natural) seasonal or annual variability. Similarly, indicators in some areas may be affected by atypical situations brought about by recent human activities or unusual natural events. The Arid West Regional Guidance sets forth a number of procedures to identify and analyze problems areas. Examples of problem areas and atypical situations may include:

Problematic Vegetation:

- *Temporal Shifts in Vegetation:* plant communities in playas, vernal pools, seepas, and springs change in response to seasonal climatic fluctuations. These changes may result from:
 - Seasonal shifts in plant communities between normal wet/dry season
 - Drought Conditions* lasting more than one growing season.
- *Sparse and Patchy Vegetation:* A seasonal pond must have at least 5 percent plant cover to be considered vegetated. To be considered jurisdictional, unvegetated areas may be considered as other waters of the U.S. if they exhibit Ordinary High Water (OHW) indicators as set forth in 33 CFR 328.3
- *Riparian Areas:* Where there is high variability in wetland vegetation indicator status between the different strata. (Usually the tree stratum has wetter indicator status than other strata.)
- *Areas Affected by Grazing:*
 - Managed Plant Communities:* horticulture, tilling/disking.
- *Areas Affected by Fires, Floods and Other Natural Disturbances:*
 - Vigor and Stress Response to Wetland Conditions:* horticulture is either robust or impeded by hydric soils, and/or wetland hydrology.

Problematic Hydric Soils:

- *Moderately to Very Strong Alkaline Soils:* Redox concentrations and depletions are not always evident in soils with pH of 7.9 or higher.
- *Volcanic Ash:* Soils of volcanic origin are high in silica content and low in redoximorphic minerals such as iron, manganese, and sulfur.

- *Vegetated Sand and Gravel Bars within Flood Plains:* Flood plains may lack hydric soil indicators because seasonal flooding deposits new layers of soil material or the deposited material may lack redoximorphic minerals.
- *Recently Developed Wetlands:* may include mitigation sites, wetland management areas, unintentionally produced wetlands (flood irrigation, leaking water pipes, etc.).
- *Seasonally Ponded Soils:* depressional wetlands, usually with perched systems above a restrictive soil layer (hardpan or clay) where the saturation depth or saline conditions prohibit hydric soil indicators.
- *Soils with Relict or Induced hydric Soil Indicators:* In some areas, redoximorphic features in hydric soils were formed in the recent or distant past when conditions were substantially wetter than at present. Hydric soil indicators may persist in low land areas which were historically flooded (such as in California's Central Valley) even though the area has been drained for agricultural purposes. Alternatively, hydric soils indicators in upland areas may have formed historically from flood irrigation or like agricultural activities that no longer persist.

Problematic Wetland Hydrology:

- *Site Visits During the Dry Season:* Hydrophytic vegetation may be absent or diminished during the dry-season (when evapotranspiration exceeds precipitation). When possible the site should be visited (or re-visited) during the normal wet season.
- *Periods with Below Normal Rainfall:* Rainfall in the 3-month period prior to the site visit should be compared to historical averages from the National Water and Climate Center (NRCS). Rainfall should be between the high and low 30 percent probability values.
- *Drought Years:* Areas subject to drought conditions particularly lasting several years may affect wetland hydrology indicators. The **Palmer Drought Severity Index (PDSI)**—known operationally as the *Palmer Drought Index (PDI)*—attempts to measure the duration and intensity of the long-term drought-inducing circulation patterns. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns plus the cumulative patterns of previous months. Since weather patterns can change almost literally overnight from a long-term drought pattern to a long-term wet pattern, the PDSI (PDI) can respond fairly rapidly. PDSI values range between -6 and +6 with negative values indicating dry periods and positive values indicating wet periods:

- (-4 to -6) - Extreme Drought;
- (-3) - Severe Drought;
- (-2) - Moderate Drought; and
- (-1) - Mild Drought.

- *Years with Unusually Low Winter Snowpack*: the hydrology of areas with water-sheds in adjacent mountain regions may be affected by annual variability in the liquid equivalent of the snow pack.
- *Reference Sites*: If indicators of hydric soil and hydrophytic vegetation are present on a site that lacks wetland hydrology indicators, the site may be considered to be a wetland if the landscape setting, topography, soils, and vegetation are substantially the same as those on nearby reference areas.
- *Hydrology Tools*: A collection of methods can be used to determine whether wetland hydrology is present on a potential wetland site that lacks indicators due to disturbances or other reasons (particularly in agricultural areas).
- *Long-term Hydrological Monitoring*: Areas may be monitored over long periods of time.

CALIFORNIA DEPARTMENT OF FISH & GAME: (DEFINITION OF WETLANDS)

The California Wildlife Protection Act as codified in the Fish & Game code defines “wetlands” as “lands which may be covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools.” (Fish & Game Code §2785(g))

COASTAL ZONE: (DEFINITION OF WETLANDS)

Jurisdictional assessments in the California coastal zone must also evaluate potential wetland areas using the criteria established in the California Coastal Act and set forth in the California Code of Regulations.

The California “Coastal zone” means that land and water area within the State extending seaward to the state’s outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission, established pursuant to Title 7.2 (commencing with Section 66600) of the Government Code, nor any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area.

The California Coast Act section 30121 defines the term “wetland” as, “Lands within the coastal zone which be covered periodically or permanently with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mud flats, and fens.”

The Coastal Act is administered in the State by the California Coastal Commission (CCC). Coastal Commission regulations (California Code of Regulations Title 14 [14 CCR]) establish a “one parameter definition” that only requires evidence of a single parameter to establish wetland conditions:

Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentration of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some during each year and their location within, or adjacent to vegetated wetland or deepwater habitats. (14 CCR 13577)

The Commission’s one parameter definition is similar to the USFWS wetlands classification system, which states that wetlands must have one or more of the following three attributes: (1) at least periodically the land supports predominantly hydrophytes; (2) the substrate is predominantly un-drained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION JURISDICTION (DEFINITION OF WETLANDS)

Within the area of San Francisco Bay Conservation and Development Commission (BCDC) CCC jurisdictional criteria does not apply, however USACE wetland determination criteria will apply.

It is also noted that the primary State law governing the BCDC, the McAteer-Petris Act, does not define wetlands but does outline the BCDC’s jurisdiction respective of wetlands.

Managed wetlands consisting of all areas which have been diked off from the bay and have been maintained during the three years immediately preceding the effective date of the amendment of this section during the 1969 Regular Session of the Legislature as a duck hunting preserve, game refuge or for agriculture. (Gov. Code §66610(b))

USACE - SIGNIFICANT NEXUS DETERMINATION:

Once it has been determined that a resource exhibits surface connectivity to downstream jurisdictional (navigable) waters the feature may then need to be assessed under the “Significant Nexus” rule. (Also see “*Rapanos*” in Appendix A).

A significant nexus determination is required when the following water bodies are present:

(1) Non-navigable tributaries that do not have relatively permanent water flow that flow directly or indirectly into TNWs (usually ephemeral and some intermittent streams); (2) Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs; or (3) Wetlands adjacent to, but not directly abutting RPWs that flow directly or indirectly into TNWs.

The determination begins by first identifying the relative reach of the applicable tributary. With respect to “significant nexus determinations,” the “relevant reach” will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching downstream from the project site to the confluence with the next tributary, and upstream to any a similar confluence.

To have a significant nexus a tributary and its adjacent wetlands must have more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. A significant nexus determination requires evaluation of hydrological and ecological factors, which may contribute to the maintenance of water quality, aquatic life, commerce, navigation, recreation, and public health in the TNW.

- Hydrological Factors:

Volume, duration, and frequency of flow: including consideration of certain characteristics of the tributary, including historic records of flow, flood predictions, gauge data and personal observations (OHWM, Shelving, water staining, sediment sorting and scouring);

Proximity to the TNW: If a tributary is too far from the TNW it’s remoteness is more likely to make the impact on the TNW speculative;

Contextual hydrological factors: including (1) size of the watershed, (2) average annual rainfall, and (3) average annual snow pack, and

The presence of tributary or wetland within the flood plain: It should be noted, however that a significant nexus determination cannot be based solely on presence of the water body within or outside the flood plain.

- Ecological Factors:

The ability of the tributary and its adjacent wetlands (if any) to carry pollutants and flood waters to TNW;

The Ability of the tributary and its adjacent wetlands (if any) to provide aquatic habitat that supports biota of a TNW;
The ability of adjacent wetlands to trap and filter pollutants or store flood water, and
The ability to maintain water quality.

Appendix G: Glossary of Terms

GLOSSARY OF TERMS

Term	Source	Page	Definition
<i>Abutting</i>	6	69	Wetlands that are not separated from the tributary by an upland feature such as a berm or dike.
<i>Adjacent</i>	7	N/A	Bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands.”
<i>Aerial Miles</i>	6	53	The straight line (linear) distance between water bodies.
<i>Aggradation</i>	10	69	An increase in the channel bed elevation through deposition of sediment.
<i>Arroyo</i>	10	69	Entrenched ephemeral streams with vertical walls that form in desert environments.
<i>Assemblage</i>	10	69	A collection of individual plant species.
<i>Avulsion</i>	10	69	The rapid diversion of flow from one channel into another due to blockage of the channel by sediment or debris.
<i>Base flow</i>	10		In hydrologic terms, stream flow which results from precipitation that infiltrates into the soil and eventually moves through the soil to the stream channel. This is also referred to as ground water flow, or dry-weather flow.
<i>Best Management Practices (BMPs)</i>	4	11196	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.
<i>Calcrete</i>	10	69	Conglomerate consisting of surficial sand and gravel cemented into a hard mass by calcium carbonate.
<i>Caliche rubble</i>	10	69	Fragments of a sedimentary rock formed by evaporation and precipitation of calcite (CaCO ₃) in soil, sediments, or preexisting rock.
<i>Clean Water Act (CWA) of 1972</i>	N/A	N/A	Also known as the Federal Water Pollution Control Act (FWPCA) 33U.S.C.A §§1251 to 1387 (alternatively cited as §§101 - 607). The primary goal as defined in §1251(a) is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Jurisdiction to regulate “waters of the United States,” vested under this Act include: §303 (Water Quality Standards and implementation Plans), §311 (Spill Program and <i>Oil Pollution Act</i>), §401 (State Water Quality Certification), §402 (National Pollutant Discharge Elimination System - NPDES), §404 (Permits for dredge or fill material).
<i>Clean Water Act (CWA) §303</i>	N/A	N/A	Section 303 Water Quality Standards Program: Under this program, State and authorized Indian Tribes establish water quality standards for navigable waters to “protect the public health or welfare” and “enhance the quality of water,” “taking

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Clean Water Act (CWA) §303 (cont.)</i>	N/A	N/A	<i>into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agriculture, industrial, and other purposes, and also taking into consideration their use and value for navigation.”</i>
<i>Clean Water Act (CWA) §311</i>	N/A	N/A	Section 311 Spill Program and the Oil Production Act (OPA): Under this program, the CWA addresses pollution from both oil and hazardous substance releases. Together with the Oil Pollution Act, it provides EPA and the U.S. Coast Guard with the authority to establish a program for preventing, preparing for, and responding to, spills that occur in navigable waters of the United States.
<i>Clean Water Act (CWA) §401</i>	N/A	N/A	Section 401 State Water-Quality Certification: Provides that no Federal permit or license for activities that might result in a discharge to navigable waters may be issued unless a CWA Section 401 water quality certification is obtained from or waived by States or authorized Tribes.
<i>Clean Water Act (CWA) §402</i>	N/A	N/A	Section 402 National Pollutant Discharge Elimination Program (NPDES): This program established a permitting system to regulate point source discharges of pollutants (other than dredged or fill material) into waters of the United States.
<i>Clean Water Act (CWA) §404</i>	N/A	N/A	Section 404 Dredged and Fill Material Permit Program: This program established a permitting system to regulate discharges of dredged or fill material into waters of the United States.
<i>Clonal Species</i>	10	69	A group of genetically identical individuals growing in a given location, all originating vegetatively (not sexually) from a single ancestor
<i>Compensatory Mitigation</i>	4	11196	The restoration, establishment (creation), enhancement, or reservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.
<i>Currently Serviceable</i>	4	11196	Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
<i>Debris Flow</i>	10	69	A moving mass of rock fragments, soil, and mud where more than 50 percent of the particles are larger than sand-sized.
<i>Desert pavement</i>	10	69	Tightly interlocking gravel at the surface formed after years of surface exposure in the absence of active streamflow over the surface
<i>Desert varnish</i>	10	69	A thin, dark, shiny film, composed of iron oxide with traces of manganese oxide and silica, formed on the surface of pebbles, boulders, and rock outcrops in desert regions after long exposure.
<i>Discharge</i>	4	11196	The term “discharge” means any discharge of dredged or fill material and any activity that causes or results in such a discharge.

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Diurnal Tide Level</i>	9	N/A	The arithmetic mean of mean higher high water and mean lower low water.
<i>Divide</i>	10	69	High ground that forms the boundary of a watershed.
<i>Drift</i>	10	70	Organic debris oriented to flow direction(s) (larger than small twigs).
<i>Effective discharge</i>	10	70	Discharge that is capable of carrying a large proportion of sediment over time.
<i>Enhancement</i>	4	11196	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.
<i>Ephemeral Stream</i>	4	11196	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.
<i>Establishment (Creation)</i>	4	11196	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.
<i>Facultative Plants (FAC)</i>	1	14	Plants with a similar likelihood (estimated probability of 33 percent to 67 percent) of occurring in both wetlands and non-wetlands.
<i>Facultative Wetland Plants (FACW)</i>	1	14	Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in non-wetlands.
<i>Facultative Upland Plants (FACU)</i>	1	14	Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands, but occur more often (estimated probability >67 percent to 99 percent) in non-wetlands.
<i>Flashy discharge pattern</i>	10	70	Periods of no flow or low-magnitude, high-frequency events separated by short-duration, high-magnitude, low-frequency events.
<i>Floodplain</i>	10	70	That portion of a drainage basin (see watershed), adjacent to the channel, that is covered by sediments deposited during overbank flood flow.
<i>Great Diurnal Range (GT)</i>	9	N/A	The difference in height between mean higher high water and mean lower low water.
<i>Greenwich High Water Interval (HWI)</i>	9	N/A	The average interval (in hours) between the moon's transit over the Greenwich meridian and the following high water at a location.

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Greenwich Low Water Interval (LWI)</i>	9	N/A	The average interval (in hours) between the moon's transit over the Greenwich meridian and the following low water at a location.
<i>Headcut</i>	10	70	An abrupt vertical drop in the bed of a stream channel that is an active erosion feature.
<i>Herbaceous</i>	10	70	Pertaining to plants with little or no woody tissue.
<i>High tide line (HTL)</i>	7	N/A	The term "high tide line" means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
<i>Historic Property</i>	4	11196	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 that meet the National Register criteria (36 CFR part 60).
<i>Hydraulic parameters</i>	10	70	Slope, roughness, channel geometry, discharge, velocity, turbulence, fluid properties, sediment size, etc.
<i>Hydraulic roughness</i>	10	70	Channel boundary characteristic contributing to energy losses, commonly described by Manning's roughness coefficient (n).
<i>Hydric soil</i>	10	70	A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.
<i>Hydrological Units</i>	8	1-3	As prescribed by the USGS, refers to the four levels of subdivisions, used for the collection and organization of hydrological data. The hierarchy of hydrological units include (1) Regions, (2) Subregions, (3) Accounting Units, and (4) Cataloging Units. The identifying codes associated with these units are "hydrological unit codes."
<i>Hydrological Units - "Regions"</i>	8	3	The first level of USGS hydrological classification, which divides the Nation into 21 Major geographic areas. These geographic areas (hydrologic areas based on surface topography) contain either the drainage area of a major river, or the combined drainage areas of a series of rivers. Most of

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
			California is located within region “18.” Notable exceptions include the Tahoe basin (“Great Basin Region 16”) and the Colorado River (“Lower Colorado Region 15”). All smaller hydrological units with the region begin with the region number (18).
<i>Hydrological Units - “Subregions”</i>	8	3	The second level of USGS hydrological classification, divides the 21 regions into 222 subregions (nationally). A subregion includes the area drained by a river system a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area. Within Region 18, the state of California includes 10 sub-regions.
<i>Hydrological Units - “Accounting Units”</i>	8	3	The third level of USGS hydrological classification, subdivides many of the subregions in accounting units. These 352 hydrologic accounting units nest within, or are equivalent to, the subregions. The accounting units are used by the Geological Survey for designing and managing the National Water Data Network. Within Region 18, the state of California includes 16 Accounting Units.
<i>Hydrological Units - “Cataloging Units”</i>	8	3	The fourth level of USGS hydrological classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geographic area representing part of all of a surface drainage basin, a combination of drainage basins, or a distinct hydrological feature. There are 2,150 cataloging units in the United States. Within Region 18, the state of California includes 135 cataloging units.
<i>Hydrologic regime</i>	10	70	Characteristic pattern of precipitation, runoff, infiltration, and evaporation affecting a water body.
<i>Hydromesic</i>	10	70	Physiographic class; soil retains water for long periods of time, will drain.
<i>Hyper-concentrated flow</i>	10	71	Suspension flow with large suspended sediment concentrations (i.e., greater than 1 to 3 percent).
<i>Independent utility</i>	4	11196	A test to determine what constitutes a single and complete project in the USACE 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.
<i>Intermittent stream</i>	4	11196	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.

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Litter</i>	10	71	Organic debris oriented to flow direction(s) (small twigs and leaves).
<i>Loss of Waters of the United States</i>	4	11196	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 water body, or change the use of a water body. 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 Nationwide Permit (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.
<i>Mean Diurnal High Water Inequality (DLQ)</i>	9	N/A	The difference in height of the two low waters of each tidal day for a mixed or semidiurnal tide.
<i>Mean Diurnal High Water Inequality (DHQ)</i>	9	N/A	The difference in height of the two high waters of each tidal day for a mixed or semidiurnal tide.
<i>Mean Lower Low Water (MLLW)</i>	9	N/A	The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.
<i>Mean Low Water (MLW)</i>	9	N/A	The average of all the low water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent data of the National Tidal Datum Epoch.
<i>Mean Higher High Water (MHHW)</i>	9	N/A	The average of the higher high water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent data of the National Tidal Datum Epoch.
<i>Mean High Water (MHW)</i>	9	N/A	The average of all the high water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent data of the National Tidal Datum Epoch.

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Mean Range of Tide (MN)</i>	9	N/A	The difference in height between mean high water and mean low water.
<i>Mean Sea Level (MSL)</i>	9	N/A	The arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; e.g. monthly mean sea level and yearly mean sea level.
<i>Mean Tide Level (MTL)</i>	9	N/A	The arithmetic mean of mean high water and mean low water.
<i>Non-tidal wetland</i>	4	11196	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).
<i>National Tidal Datum Epoch</i>	9	N/A	The specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values (e.g., mean lower low water, etc.) for tidal data. It is necessary for standardization because of periodic and apparent secular trends in sea level. The present NTDE is 1983 through 2001 and is actively considered for revision every 20-25 years. Tidal data in certain regions with anomalous sea level changes (Alaska, Gulf of Mexico) are calculated on a Modified 5-Year Epoch.
<i>Obligate Wetland Plants (OBL)</i>	1	14	Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.
<i>Obligate Upland Plants (UPL)</i>	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
<i>Open Water</i>	4	11196	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.
<i>Ordinary High Water Mark</i>	7	N/A	The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
<i>Ordinary High Water Mark</i>	4	11196	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)).

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Perennial Stream</i>	4	11197	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.
<i>Pioneer Species</i>	10	71	A species that colonizes a previously uncolonized area.
<i>Practicable</i>	4	11197	Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
<i>Pre-construction notification</i>	4	11197	A request submitted by the project proponent to the USACE for confirmation that a particular activity is authorized by a NWP. 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 NWP, 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 a NWP.
<i>Preservation</i>	4	11197	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.
<i>Rating curve</i>	10	71	A curve that illustrates the relationship between depth (stage) and the amount of flow (discharge) in a channel.
<i>Reach</i>	10	71	Segment of a stream channel.
<i>Re-establishment</i>	4	11197	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.
<i>Rehabilitation</i>	4	11197	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.
<i>Relatively Permanent Water (RPW)</i>	5,	5,69	In the context of CWA jurisdiction post- <i>Rapanos</i> , a water body is “relatively permanent” if it flows year-round or its flow is continuous at least “seasonally,” (typically 3 months). Wetlands adjacent to a “relatively permanent” tributary are also jurisdictional if those wetlands directly abut such a tributary.

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Relevant Reach</i>	6	40	With respect to “significant nexus determinations,” the “relevant reach” will include all tributary waters of the same order. Typically this will include the tributary and all adjacent wetlands reaching downstream from the project site to the confluence with the next tributary or upstream to a similar confluence.
<i>Restoration</i>	4	11197	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.
<i>Riffle and pool complex</i>	4	11197	Riffle and pool complexes are special aquatic sites under CWA Section 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 coarse 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. Pools are characterized by a slower stream velocity, a streaming flow, a smooth surface, and a finer substrate.
<i>Riparian area</i>	4	11197	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 water bodies 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, in the NWP.)
<i>River Miles</i>	6	53	The flowing distance between the water bodies in question. Typically not a straight line; rather, the measurement is based on how far the water will travel from water body A to water body B. For example, the water in a meandering tributary will flow further than water flowing in a channelized tributary provided the two water bodies are the same distance apart in the landscape.
<i>Ruderals</i>	10	71	Disturbance-adapted herbaceous plant.
<i>Scour</i>	10	71	Soil and debris movement.
<i>Sheetflood</i>	10	71	Sheet of unconfined floodwater moving down a slope; a relatively low-frequency, high-magnitude event.
<i>Sheetflow</i>	10	71	Overland flow occurring in a continuous sheet; a relatively high-frequency, low-magnitude event.
<i>Shellfish seeding</i>	4	11197	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

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
			appropriate materials placed into waters for shellfish habitat.
<i>Shift-adjusted rating curve</i>	10	71	A curve that reflects changes (shifts) in the rating for a gage. Ratings may change due to erosion or deposition within the streambed or growth of riparian vegetation.
<i>Significant Nexus</i>	5	40	In the context of CWA jurisdiction post- <i>Rapanos</i> , a water body is considered to have a “significant nexus” with a traditional navigable water if its flow characteristics and functions in combination with the ecological and hydrological functions performed by all wetlands adjacent to such a tributary, affect the chemical, physical, and biological integrity of a downstream traditional navigable water.
<i>Single and complete project</i>	4	11197	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 water body) at a specific location. For linear projects crossing a single water body 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 water bodies, and crossings of such features cannot be considered separately.
<i>Station Datum</i>	9	N/A	A fixed base elevation at a tide station to which all water level measurements are referred. The datum is unique to each station and is established at a lower elevation than the water is ever expected to reach. It is referenced to the primary benchmark at the station and is held constant regardless of changes to the water level gauge or tide staff. The datum of tabulation is most often at the zero of the first tide staff installed.
<i>Stormwater management</i>	4	11197	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.
<i>Stormwater management facilities</i>	4	11197	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.
<i>Stream bed</i>	4	11197	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 streambed, but outside of the ordinary high water marks, are not considered part of the streambed.

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
<i>Stream channelization</i>	4	11197	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.
<i>Stream Order</i>	N/A	N/A	A method of numbering streams as part of a drainage basin network. The smallest unbranched mapped tributary is called first order, the stream receiving the tributary is called second order, and so on.
<i>Stream power</i>	10	71	The rate of doing work, or a measure of the energy available for moving rock, sediment, or woody or other debris in a stream channel, as determined by discharge, water surface slope, and the specific weight of water.
<i>Structure</i>	4	11197	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.
<i>Succession</i>	10	41	Changes in the composition or structure of an ecological community.
<i>Tidal waters</i>	7	N/A	The term "tidal waters" means those waters that 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 hydrologic, wind, or other effects.
<i>Tidal wetland</i>	7	N/A	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 channel-ward of the high tide line, which is defined at 33 CFR 328.3(d).
<i>Traditional Navigable Waters (TNW)</i>	6	68	A "traditional navigable water" includes all the "navigable waters of the United States," defines in 33 CFR §329, and by numerous decisions of the Federal courts, plus all other waters that are navigable-in-fact. Pursuant to 33 CFR §329: Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events that impede or destroy navigable capacity. The USACE is currently drafting new regulations defining TNWs.
<i>Transmission</i>	10	72	Loss of discharge due to infiltration of flow into the channel

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
loss			bed and banks.
Tributary	6	69	A “tributary,” as defined in the <i>Rapanos</i> guidance document, means a natural, man-altered, or man-made water body that carries directly or indirectly into a traditional navigable water. For the purposes of determining significant nexus with a traditional navigable water, a “tributary” is the entire reach of the stream that is of the same order (i.e., from the point of confluence, where two lower order streams meet to form the tributary, downstream to the point such tributary enters a higher order stream).
Upland Plants (UPL)	1	14	Plants that occur rarely (estimated probability <1 percent) in wetlands, but occur almost always (estimated probability >99 percent) in non-wetlands under natural conditions.
Vegetated shallows	4	11197	Vegetated shallows are special aquatic sites under CWA Section 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as sea grasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.
Wash	10	72	Broad gravelly dry bed of an intermittent stream.
Waterbody	4	11197	For purposes of the NWP, 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.
Watershed (Drainage basin)	10	72	An area of land that drains to a single outlet and is separated from other watersheds by a divide.
Waters of The United States	7	N/A	The term “waters of the United States” means: (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

GLOSSARY OF TERMS (cont.)

Term	Source	Page	Definition
			(iii) Which are used or could be used for industrial purpose by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the United States under the definition; (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section; (6) The territorial seas; (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section, (Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA [other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition] are not waters of the United States.) and (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.
Wetlands	1,2,7	N/A	The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The criteria for determining wetlands is set forth in the USACE Wetlands Delineation Manual (1987) and relevant Regional Supplements (Arid West, December 2006)
Xeric	10	72	Relating or adapted to an extremely dry habitat.
Sources: 1. USACE Wetlands Delineation Manual, January 1987 2. USACE Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest, June 2001 3. USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, December 2006 4. FEDERAL REGISTER: Department of Defense; Department of the Army, Corps of Engineers, Re-issuance of Nationwide Permits; Notice, March 12, 2007 5. EPA/USACE Joint Memorandum: Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States, (June 5, 2007) 6. USACE Jurisdictional Delineation Form Instructional Guidebook, May 30, 2007 7. Code of Federal Regulations (CFR): 33 CFR 328.3 Definitions of Waters of the United States and/or 33 CFR 329 Definitions of Navigable Waters of the United States. 8. USGS Hydrologic Unit Maps, U.S. Geological Survey Water-Supply Paper 2294 (1994), by Paul R. Seaber, F. Paul Kapinos, and George L. Knapp. 9. Center for Operational Oceanographic Products and Services. 10. USACE, A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States, August 2008			