

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
SOUTH COAST REGION
3883 RUFFIN ROAD
SAN DIEGO, CALIFORNIA 92123



STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2013-0019-R5

SAN GABRIEL RIVER, COYOTE CREEK, CARBON CREEK, LOS ALAMITOS CHANNEL, EAST GARDEN GROVE-WINTERSBURG CHANNEL, WESTMINSTER CHANNEL, BOLSA CHICA CHANNEL, TALBERT CHANNEL, GREENVILLE BANNING CHANNEL, SANTA ANA RIVER, SAN DIEGO CREEK, SAN MATEO CREEK, LOS TRANCOS CREEK, MUDDY CREEK, LAGUNA CANYON CHANNEL, ALISO CREEK, SALT CREEK, SAN JUAN CREEK, TRABUCO CREEK, OSO CREEK, PRIMA DESHECHA CANADA, SEGUÑDA DESHECA CAÑADA, NEWPORT BAY, TRIBUTARIES TO THESE IDENTIFIED STREAMS, FLOOD CONTROL BASINS.

ORANGE COUNTY PUBLIC WORKS
COUNTY-WIDE LONG-TERM ROUTINE MAINTENANCE PROGRAM

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Orange County Public Works (OCPW, Permittee) as represented by Khalid Bazmi.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on January 29, 2013, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The maintenance project is located within multiple streams in Orange County. Project sites include a wide range of stream channels that were constructed or adopted from other public and private entities. Specific sites where OCPW is responsible for stream channel and flood control basin maintenance are identified in the Facility Report table, dated November 8, 2012, which identifies 2,040 separate sections of stream channels

and flood control basins. Project sites where OCPW is responsible for maintenance also include 49 bridges that cross streams. Due to sensitive biological resources, maintenance activities at some of these sites are not authorized under this Agreement but may be authorized under separate individual agreements. Additional project sites may be added to this project as OCPW assumes responsibility for stream channel maintenance after being transferred from a private or public entity during the term of this Agreement. Adding sites to this Project Location requires a granted 'Request to Amend Lake or Streambed Alteration Agreement'.

PROJECT DESCRIPTION

The County-Wide Long-Term Routine Maintenance Permitting Program (project; maintenance project) is limited to routine maintenance activities within multiple streams, beneath existing bridges crossing over streams, and within constructed flood control basins located throughout Orange County. The maintenance project consists of a wide variety of site conditions, existing project designs, and maintenance requirements. Maintenance activities would include channel and basin/dam maintenance (i.e., cleaning, silt removal, slope maintenance/repair), landscape maintenance and vegetation control/removal, insect/rodent control, rip-rap repair, structural inspection/cleaning, removal/replacement of concrete lining, and the repair and backfill of washouts. Bridge maintenance activities would include maintenance of stream bed, bank, and channel in the immediate vicinity of the bridge, repair of concrete bridge elements within the channel (spalled and cracked wingwalls, abutments, piers, girders and underside of deck), and cleaning and painting of steel bridge members. A comprehensive list of covered activities is provided in Table 1.

Orange County Flood Control District (OCFCD) is tasked with the goal of protecting Orange County from the threat and damage of flooding. OCFCD currently owns over 309 miles of streams, dams, pump stations, flood control basins, and other infrastructure. Periodic maintenance of the County's existing streams and flood control facilities have been deemed necessary in order to: maintain functional capacity of facilities, minimize the risk of damage, optimize flood control capacity, prevent flooding and erosion of roadways and properties during storm events, and meet the flood control requirements and conditions of the U.S. Army Corps of Engineers.

For areas often within or near streams, the goal of the Orange County Bridge Maintenance Unit is to implement repairs recommended by the California Department of Transportation in its federally mandated biennial bridge inspections and special inspections. Timely repairs are deemed necessary to keep the 49 bridges identified for this project structurally and functionally safe for public use, and preserve the County's bridge infrastructure investment.

Maintenance activities will occur within the following channel types.

- Concrete Box/Pipe
- Metal/Steel Pipe
- Metal Sheet Channel

- Rectangular Channel with Concrete Sides and Concrete Bottom
- Rectangular Channel with Concrete Sides and Earthen Bottom
- Trapezoidal Channel with Concrete Sides and Concrete Bottom
- Trapezoidal Channel with Concrete Sides and Earthen Bottom
- Trapezoidal Channel with Earthen Sides and Earthen Bottom; and
- Trapezoidal Channel with Rip-rap Sides and Earthen/Rip-rap Bottom
- Earthen Flood Control Basins with Associated Concrete Inlet/Outlet Structures

DEFINITIONS

The following definitions shall govern this Agreement.

Sparse native vegetation – Relative to the percent cover value of the majority of the vegetation within the channel at the proposed work site. In order to be considered sparse, no more than 20% of the total vegetation cover within the channel can be native. For example: If the total vegetation cover (both native and non-native) within the channel at the proposed work site is 60% (40% is unvegetated), then native vegetation could occupy no more than 12% of the area in order to qualify as sparse.

Adjacent – Within 500 feet.

Sensitive Species – A species fully protected under state law; a candidate species or species listed as threatened or endangered under the California Endangered Species Act (CESA; Fish & G. Code §2050 *et seq.*) and/or Endangered Species Act (ESA; 16 U.S.C. §1531 *et seq.*); or a species identified by CDFW as a species of special concern.

Suitable Habitat – Habitat where there is at least moderate potential that an identified species or group of species could occur.

Biological Monitor or Qualified Biologist – A biological monitor or qualified biologist is an individual experienced with construction level biological monitoring and who is able to recognize species occurring near the project area and who is familiar with the lifecycle and behaviors of those species. Biological monitors or qualified biologists shall have documented and verified academic and professional experience in biological sciences and related resource management activities as it pertains to the project.

Channel – As used in this agreement, a channel is a section of bed, bank, and/or channel of a stream or flood control basin identified in the Facility Report table, created November 8, 2012, or any additional CDFW approved updated facility report table.

Category 1 Channels – Channels with little or no vegetation that are concrete-lined (concrete bed and banks). Category 1 channels also include those areas of existing grouted rip-rap bank protection or energy dissipation structures. Additionally, Category 1 channels include concrete and metal closed storm drains, excluding

culvert inlets, culvert outlets, and stream crossings. Channels otherwise fitting this description that are adjacent to suitable habitat for sensitive species are excluded from this category. Channels otherwise fitting this description that are identified as wildlife corridors are excluded from this category. If vegetation is present, it cannot exceed the following (Category 1 limitations):

- sparse native vegetation and herbaceous non-native species
- contiguous native emergent aquatic vegetation such as but not limited to cattails, rushes, or sedges, up to 400 square feet
- native or non-native shrubs up to 3 feet in height
- a single tree (native or non-native) up to 3" diameter at breast height (DBH)

Category 2 Channels – Channels that are in all respects as defined under Category 1, except they possess either an earthen or un-grouted rip-rap bank or earthen or un-grouted rip-rap channel bottom. Channels otherwise fitting this description that are adjacent to suitable habitat for sensitive species are excluded from this category.

Category 3 Channels – Channels that are vegetated with any of the following:

- herbaceous and woody non-native vegetation exceeding Category 1 limitations
- herbaceous and woody native riparian vegetation exceeding Category 1 limitations
- native riparian vegetation exceeding the limitations of sparse native vegetation

This category also includes channels that would otherwise fit in Category 1, but are culvert inlets, culvert outlets, or stream crossings.

Category 3 Exclusions:

- channels otherwise fitting this description that are within or adjacent to suitable habitat for sensitive species are excluded from this category
- channels otherwise fitting this description that are identified as wildlife corridors for sensitive species are excluded from this category

Category 4 Channels – Channels that support native riparian vegetation or other suitable habitat for sensitive species. Category 4 also includes all channels located adjacent to suitable habitat for sensitive species. **Maintenance activities performed within streams of this category shall be subject to separate notification pursuant to FGC 1600 et seq.**

AUTHORIZED ACTIVITIES

The project is limited to the specific activities identified in Table 1: Covered Activities

Table 1: Covered Activities

Maintenance Type	Maintenance Description	Equipment Needed	Performance Criteria
Pre-Emergent Weed Control	Application of herbicides to control growth of unwanted vegetation on flood control property.	Spray Truck, Spray Tank, All-Terrain Vehicle (ATV) and Trailer	Performed annually from early Fall to late Spring following a predetermined plan. Spraying is conducted from right-of-way to right-of-way.
Weed Control	Application of herbicides to control unwanted vegetation on flood control properties.	Spray Truck, Spray Tank, ATV and Trailer	Spray year round to eliminate or control weeds not killed by pre-emergent spraying. Generally spray four to six times per year.
Manual Removal of <i>Arundo</i>	Cutting, chipping and removal of <i>Arundo</i> . This activity is performed to remove unwanted vegetation from County right-of-ways and flood control channels.	Chipper Truck, Chipper, Trash Compactor, and Hand tools	Remove as directed.
<i>Arundo</i> Treatment	Application of herbicides to control unwanted vegetation on flood control properties.	Spray Truck, Spray Tank, ATV and Trailer	Spray two to five times per year to eliminate or control <i>Arundo</i> . During the months of February through August a biologist is required to monitor bird nesting activity.
Rodent Control	Control of rodents in flood right-of-way by the use of toxicants or fumigation to prevent erosion problems, public and safety hazards.	Pickup Truck, ATV and Trailer	All channels would follow a predetermined plan from scheduling.
Insect Control	Application of Insecticides to control insects on flood control properties, roadway right-of-way, contract cities and county parks.	Spray truck or backpack sprayer and a Bee Suit	Spray as needed for public safety or to protect landscape plants.
General Fence Maintenance	Inspection and general repair of fences to ensure control of access to flood channels.	Fence Truck and Welder	Performed on a routine basis.
Channel Cleaning	General maintenance cleaning consists of work necessary to maintain channel flow and permit access of maintenance vehicles and personnel. Work includes the removal of trash, debris, obstructions, and silt from the channel; trimming and clearing of vegetation along the vehicular and pedestrian access roads; and the removal of vegetation from channel slopes and inverts.	Inmate Crew Truck, Dump Truck, Trash Compactor Truck, Chipper and Chipper Truck	Completed whenever location prohibits use of equipment and work needed to restore facility to operating capacity and/or acceptable appearance.
Graffiti Pressure Wash	Removal of vandalized markings on fences, flood control channel walls and traffic signs with a steam cleaner.	Utility Truck and Steam Cleaner	Performed per request from Graffiti Hotline and County Inspection staff.
Graffiti Paint/Spray	Removal of vandalized markings on fences, flood control channel walls and signs on County flood control facilities.	Utility Truck and Steam Cleaner	Performed per request from Graffiti Hotline and County Inspection staff.
Graffiti Hand Roll	Painting over of vandalized markings on fences, flood control channel walls and signs on County flood control facilities using a hand roller.	Utility Truck and Van with Toilet	Performed per request from Graffiti Hotline and County Inspection staff.
Flap Gate Inspection/Maintenance	Inspection and maintenance of flap gates includes identifying repairs on gates and performance of repairs or complete gate replacement.	Utility Truck	Flap gates would be inspected and serviced annually.

Maintenance Type	Maintenance Description	Equipment Needed	Performance Criteria
Maintain Pump Stations	The maintenance of mechanical, electrical, and other aspects of pumps and/or pump station facilities to insure proper functioning of these drainage systems.	Utility Truck	Periodic cleaning and debris removal is required. Pumps are serviced and overhauled, as required, to provide peak efficiency.
Operate Pump Stations	The operation and inspection of pump stations would be conducted to ensure the operation and control of these facilities. Includes work during storm situations.	Utility Truck	Operation would be initialized after moderate rainfall. Manual control of the system would be required to completely empty the basin.
Pump Station Cleaning	The manual cleaning of pump station wet wells and grates would be conducted in order to ensure that the pumps are functioning at full capacity.	Utility, Crew Truck, Dump Truck and Trash Compactor	Pump stations are checked and cleaned annually. Recurring problem pump stations are checked and would be cleaned (as required) after storm events.
Pump Station Cleaning Sump (via Vacuum Truck)	The pump stations would be cleaned in order to ensure that the pumps are functioning at full capacity.	Vacuum Truck	Pump stations are checked and cleaned annually. Recurring problem pump stations are checked and would be cleaned (as required) after storm events.
Pump Station Inspection	Inspection of pump stations would be conducted in order to ensure the proper working condition and a safe environment.	Utility Truck	Work would be performed weekly.
Inspect/Maintain Diversions	Routine inspections and the maintenance of diversions in on-site channels.	Utility Truck	Inspections are performed routinely and the maintenance would be performed, on an as-needed basis.
Dam Operations and maintenance	Proper operations and maintenance of the County's dams, which would include gate operation, service and cleaning of equipment, instrumentation checks, and periodic inspections.	Pickup and Utility Truck	Operations and Maintenance would be performed routinely and on an as-needed basis.
Clean Drains (via vacuum truck)	The cleaning of drainage inlets, pipes, down drains and storm drainage lines with a vacuum truck to ensure the drainage system is functioning at full capacity. This activity excludes maintenance yard drains.	Vacuum Truck, Oxygen Meter, and Pickup with Arrowboard	Drains are checked and would be cleaned in accordance with an annual plan. Recurring problem drains are checked and cleaned, as needed after storm events.
Repair Storm Drain Pipe for Flood Alleviation	The repair of pipe would be conducted in order to provide drainage for flood control purposes.	Back hoe, Dump truck with Trailer, Air Compressor, Flatbed Truck, Mixer, and Excavator	Replace (or repair) pipe where flow is restricted and/or the pipe is damaged and is not functioning as designed, creating a drainage problem.
Repair Headwalls	The repair of pipe headwalls in order to provide drainage for park, flood and roadway right-of-way.	Back hoe, Dump truck with Trailer, Air Compressor, Flatbed Truck, Mixer, and Concrete Saw	Replace (or repair) pipe headwalls where flow is restricted and/or is damaged and is not functioning as designed, creating a drainage problem.
Remove/Replace Concrete Lining	Repair of concrete channel lining would be conducted in order to restore damaged channel lining per County standards.	Dump Truck, Bobcat, Backhoe, Compressor, Excavator and Concrete Saw	This work would be performed as needed. Repair or replacement lining and reinforcement of steel would be conducted.
Vault Cleaning	The cleaning of sub drain vaults to allow the system to fully operate. The intent of the system is to assist in the removal of the hydrostatic pressure on concrete slopes, walls, toeline, and the bottom of the channels. This task includes both an annual inspection and routine maintenance.	Vacuum Truck, Pick up with Wench, and Oxygen Meter. Underground Crew - Safety gear	Inspect annually and clean one-third of all vaults located on-site each year.

Maintenance Type	Maintenance Description	Equipment Needed	Performance Criteria
Concrete Channel Silt Removal - Loader	Mechanical removal of silt and debris from channel bottom to provide for normal flow of water. This activity applies to silt and debris removal from the bottom of a concrete channel with a large loader and may include stockpiling debris removed until dry.	Tender Truck, Dump Truck, and Large Loader	Normally conducted from April to October but can be performed throughout the year. Performed when the capacity of a channel is impaired or adjacent drainage structures are restricted.
Concrete Channel Silt Removal - Bobcat	Mechanical removal of silt and debris from channel bottom to provide for normal flow of water. This activity applies to silt and debris removal from a concrete channel with a Bobcat or skip loader and may include stockpiling debris removed until dry.	Tender Truck, Dump Truck, Bobcat/Skip Loader, Mobile Crane and Trailer	Normally conducted from April to October but can be performed throughout the year. Performed when the capacity of a channel is impaired or adjacent drainage structures are restricted.
Dirt Channel Silt Removal	Mechanical removal of silt, vegetation and/or debris that has been removed and stockpiled to restore dirt channels and roadways, and to provide proper flow of water.	Tender Truck, Dump Trucks, Crane, Excavator, and Dozer	Stockpiled materials have drained sufficiently to allow loading and hauling.
Compact Channel Slope	Provide soil or rock compaction (into slope) in order to inhibit subsequent erosion.	Crane, Excavator, Tender Truck, and Badger	Slopes should be compacted whenever major repairs occur and earth is imported to provide a base for the final invert surface.
Back Fill/Repair Washout	The in-kind repair and/or back fill of washouts would be conducted in order to stabilize slopes or hinder water flow.	Back hoe, Dump Truck, Crane, Equipment Trailer, and Tender	This work would be performed as needed. High priority would be given to concrete or asphalt structures that require backfill for stabilization.
Aggregate-Base (AB) Maintain Levee	Prepare roadway and plate AB and compact with rubber tire roller to increase the channel roadways to all weather facilities. This activity also includes placement of AB to maintenance of channels.	Tender Truck, Dump Trucks, Rubber T Roller and Motor Grader	Performed under direction of engineer to provide maintenance access.
Tractor Removal of <i>Arundo</i>	Removal of <i>Arundo</i> would be conducted using excavators. A large loader with a clam bucket would be utilized to stockpile material at a processing area and a water truck would be utilized for dust and fire control.	Excavator, Large Loader, Water Truck, Tender Truck, Off Road Truck, and Crew	<i>Arundo</i> would be removed if required as mitigation.
Manual Cleaning/ Inspection of Drains	The inspection and manual cleaning of drainage inlets, pipes, down drains, and storm drainage lines would be conducted in order to ensure that the drainage system is functioning at full capacity. This activity excludes maintenance yard drains.	Stakebed/Crew cab, Oxygen Meter and Mini Vac	Drains are manually checked and cleaned. Recurring problem drains are checked and cleaned (as necessary) after storm events
Landscape maintenance	Maintenance of County- landscaped areas including ground cover, trees, and shrubs often in undeveloped areas. This work effort includes the removal of trash, elimination of right-of-way encroachment, and provides security clearance in flood channels and right-of-ways.	Road Truck, Inmate and Contract Crews	This work would be performed as needed, generally outside of the bird nesting season.
Right-of-Way Pruning	Trim and prune trees and shrubs to provide equipment access, and provide right-of-way clearance.	Road Truck, Inmate and Contract Crews.	This work would be performed as needed, generally outside of the bird nesting season.
Annual DSOD Inspection/Repairs	Inspection and maintenance of dams	Excavator, Large Loader, and Off Road Water Truck	Annual Division of Safety of Dams Inspection

Maintenance Type	Maintenance Description	Equipment Needed	Performance Criteria
Repair concrete structure damage below deck level	Pressure-Epoxy-Inject Cracks - below deck or on side of bridge	Air compressor, air & high- pressure water guns, epoxy gun, variable reach forklift, boom lift	Performed as recommended by inspection reports or OC Public Works bridge maintenance staff.
Repair concrete structure damage below deck level	Remove & replace unsound or spalled concrete – below deck level	Air compressor, variable reach forklift, boom lift, sandblast & high-pressure water guns, concrete saw, chipping gun, concrete pump, concrete mixer	Performed as recommended by inspection reports or OC Public Works bridge maintenance staff.
Clean & paint bridge steel (above and/or below deck level)	Clean and paint steel girders- above or below deck	Air compressor, air & sandblast guns, variable reach forklift, boom lift, light scaffold, paint gun	Performed as recommended by inspection reports or OC Public Works bridge maintenance staff.
Restore in-kind scour protection measures at bridge	Slurry-fill scour recesses and restore eroded invert with grouted riprap within as-built footprint	Bobcat or loader, dump truck, ready-mix truck, concrete pump	Performed as recommended by inspection reports or OC Public Works bridge maintenance staff.
Restore in-kind scour protection measures at bridge	Slurry-fill scour recesses and restore eroded invert with concrete invert (including cutoff walls) within as-built footprint	Bobcat or loader, dump truck, ready-mix truck, concrete pump	Performed as recommended by inspection reports or OC Public Works bridge maintenance staff.
In-kind slope repair and/or preparation for rip-rap installation	In-kind repair of channel slopes that have eroded and/or mechanical removal of dirt from channel slopes and channel bottom to restore to as-built cross section	Crane, excavator, dump trucks	Performed as recommended by inspection reports or OC Public Works/O&M Maintenance Inspectors.
In-kind rip-rap installation	In in-kind installation (replacement of existing rip-rap areas) of rock rip-rap on channel slopes to stabilize channel slopes and prevent erosion	Crane, excavator, dump trucks	Performed as recommended by inspection reports or OC Public Works/O&M Maintenance Inspectors.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: INVERTEBRATES – California sister (*Adelpha californica*), green darner (*Anax junius*), mayfly (*Callibaetis californicus*), funereal duskywing (*Erynnis funeralis*), checkered white (*Pontia protodice*), painted lady (*Vanessa cardui*); FISH – topsmelt (*Atherinops affinis*), California killifish (*Fundulus parvipinnis*), striped mullet (*Mugil cephalus*), arroyo chub (*Gila orcuttii*); AMPHIBIANS – California slender salamander (*Batrachoseps attenuatus*), garden slender salamander (*Batrachoseps major*), western toad (*Bufo boreas*), arroyo toad (*Bufo californicus*), California treefrog (*Hyla cadaverina*), Pacific treefrog (*Hyla regilla*), western spadefoot (*Spea hammondi*), California newt (*Taricha torosa*); REPTILES – orange-throated whiptail (*Aspidoscelis hyperythra*), red diamond rattlesnake (*Crotalus ruber*), southern alligator lizard (*Elgaria multicarinata*), western pond turtle (*Emys marmorata*), western skink (*Eumeces skiltonianus*), common kingsnake (*Lampropeltis getula*), coast horned lizard (*Phrynosoma coronatum*), western fence lizard (*Sceloporus occidentalis*), two-striped garter snake (*Thamnophis*

hammondii), common side-blotched lizard (*Uta stansburiana*); BIRDS – red-winged blackbird (*Agelaius phoeniceus*), tricolored blackbird (*Agelaius tricolor*), rufous-crowned sparrow (*Aimophila ruficeps*), grasshopper sparrow (*Ammodramus savannarum*), western scrub-jay (*Aphelocoma californica*), long-eared owl (*Asio otus*), burrowing owl (*Athene cunicularia*), Anna's hummingbird (*Calypte anna*), cactus wren (*Campylorhynchus brunneicapillus*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), wrenit (*Chamaea fasciata*), western snowy plover (*Charadrius alexandrinus nivosus*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), yellow-rumped warbler (*Dendroica coronata*), yellow warbler (*Dendroica petechia*), southwestern willow flycatcher (*Empidonax traillii extimus*), horned Lark (*Eremophila alpestris*), common yellowthroat (*Geothlypis trichas*), yellow-breasted chat (*Icteria virens*), song sparrow (*Melospiza melodia*), black-crowned night heron (*Nycticorax nycticorax*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), cliff swallow (*Petrochelidon pyrrhonota*), Nuttall's woodpecker (*Picoides nuttallii*), California gnatcatcher (*Polioptila californica*), light-footed clapper rail (*Rallus longirostris levipes*), black phoebe (*Sayornis nigricans*), Allen's hummingbird (*Selasphorus sasin*), California least tern (*Sternula antillarum browni*), California thrasher (*Toxostoma redivivum*), western kingbird (*Tyrannus verticalis*), Cassin's kingbird (*Tyrannus vociferans*), least Bell's vireo (*Vireo bellii pusillus*); MAMMALS – pallid bat (*Antrozous pallidus*), coyote (*Canis latrans*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), Yuma myotis (*Myotis yumanensis*), raccoon (*Procyon lotor*), California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*); PLANTS – yerba mansa (*Anemopsis californica*), California sagebrush (*Artemisia californica*), mugwort (*Artemisia douglasiana*), Coulter's saltbush (*Atriplex coulteri*), big saltbush (*Atriplex lentiformis*), coyote bush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), broom baccharis (*Baccharis sarothroides*), thread-leaved brodiaea (*Brodiaea filifolia*), saltgrass (*Distichlis spicata*), many-stemmed dudleya (*Dudleya multicaulis*), upright burhead (*Echinodorus berteroi*), California brittlebush (*Encelia californica*), California sunflower (*Encelia californica*), goldenbush (*Isocoma menziesii*), black walnut (*Juglans californica*), laurel sumac (*Malosma laurina*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), coast live oak (*Quercus agrifolia*), lemonade berry (*Rhus integrifolia*), pickleweed (*Salicornia virginica*), sandbar willow (*Salix exigua*), black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), Mexican elderberry (*Sambucus mexicana*), California bulrush (*Scirpus californicus*), poison oak (*Toxicodendron diversilobum*), cattails (*Typha* spp.); and other riparian/wetland vegetation which provides habitat for those species, and all other aquatic and wildlife resources in the project vicinity.

The adverse effects the project could have on the fish or wildlife resources identified above include: change in contour of bed, channel or bank; change in gradient of bed, channel or bank; degradation or aggradation of channel; direct take of aquatic species from pumps; accelerated channel scour; increase of bank erosion during construction/maintenance; soil compaction or other disturbance to soil layer; restriction or increase in sediment transport; increased turbidity; increased sedimentation (chronic

or episodic); change in pH; short-term release of contaminants (e.g., incidental from construction/maintenance); long-term release of contaminants (e.g., concrete, creosote, wood preservative leachates); change in water temperature; change in dissolved oxygen; loss or decline of riparian and/or emergent marsh habitat; decline of vegetative diversity; colonization by exotic plant or animal species; loss or decline of instream channel habitat; loss or decline of instream woody material; change to, or loss or decline of natural bed substrate; direct take of fish and other aquatic species; hydroacoustic impacts to fish by pile driving; direct impacts from dredging on benthic organisms; construction/maintenance pits and trenches that can capture terrestrial organisms; disruption to nesting birds and other wildlife; direct take of terrestrial species; disturbance from project activity; loss or decline of aquatic species' habitat: migration corridors, spawning or rearing areas; loss of wildlife connectivity to water source; loss or impediment of terrestrial animal species travel routes due to temporary structures; change in shading or insolation leading to vegetative change; change in stream flow (Q); diversion of flow water from, or around, activity site; dewatering; rewatering; change (increase or decrease) in sediment delivery; change in flow depth, width or velocity; flow deflection; flow restriction (with risk of culvert or bridge failure); change in percolation; change in channel form (e.g., loss of pools or riffles); effect on another water project on the same watercourse; direct loss of resources for aquatic organisms; impediment to migration of aquatic and terrestrial species; loss of bank stability during construction/maintenance activities.

An undetermined number of acres of stream bed, bank, and channel will be impacted by the project. No new permanent impacts will result from the project. Impacts are due to routine maintenance activities defined herein.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related Notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a

provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.

- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.
- 1.5 Payment of Outstanding Fees. California Code of Regulations, Title 14, section 699.5, establishes fees for each maintenance project. Fees applicable to activities undertaken pursuant to this Agreement will be those currently in effect at the time of the activity. The 2013 paid fees include a \$2,689.50 base fee for a long term routine maintenance agreement. Permittee agrees to pay the currently applicable fee for each maintenance activity subject to this Agreement per calendar year. The per-activity fee shall be paid when the Annual Monitoring Project Report is submitted by each August, after the end of OCPW's fiscal year.
- 1.6 Agreed Work Activities. The activities in Table 1: Covered Activities constitute the limit of activities agreed to and resolved by this Agreement. The signing of this Agreement does not imply that Permittee is precluded from doing other activities within the streams identified in the project location. However, activities not specifically agreed to and resolved by this Agreement shall be subject to separate Notification.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

Resource Protection

- 2.1 Resource Education. Permittee shall conduct an annual education program for all persons employed or otherwise working on the project site prior to performing any work on-site. The program shall consist of a presentation from a qualified biologist that includes a discussion of the biology of the habitats and species identified in this Agreement and present at maintenance sites. The qualified biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations and project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on site. Upon completion of the education program, employees shall sign a form stating they attended the program and understand all protection measures. Copies of these forms shall be filed at worksite offices and be available to CDFW upon request.
- 2.2 Maintenance Area Demarcation. Prior to maintenance activities in Category 1 Channels, Permittee shall mark the authorized maintenance area to identify the limits of disturbance. Prior to maintenance activities in Category 2 or Category 3

Channels, a qualified biologist shall mark the authorized maintenance area to identify the limits of disturbance and prevent damage to nearby riparian habitat. No vegetation shall be removed during maintenance activities outside of this marked area and no construction debris, equipment, or soils shall be placed outside of the marked area. Permittee shall have a qualified biologist on-site daily during clearing of vegetation to ensure no impacts occur to nearby habitat.

- 2.3 Woody Perennial Vegetation Avoidance. No living native vegetation within the bed, bank, or channel of the stream with a DBH in excess of 3 inches shall be removed or damaged without prior consultation and approval from CDFW.
- 2.4 Native Tree Avoidance. No equipment shall be operated or parked within the dripline of native trees (e.g., oaks, sycamore, cottonwood) except where access roads already exist and routine maintenance work is required as part of the project. Temporary fencing or flagging for native trees that could potentially be impacted as a part of the project shall be placed 5 feet (20 feet for oak trees) outside of the dripline of the trees to prevent compaction of the root zone.
- 2.5 Riparian Vegetation Avoidance. The disturbance or removal of vegetation shall not exceed the minimum necessary to complete the identified activities for each maintenance activity. Appropriate precautions shall be taken to avoid inadvertent damage to vegetation by people or equipment.
- 2.6 Leave Patches of Vegetation in Channel. Permittee shall minimize vegetation removal or reduction from earthen or earthen bottom channels to the greatest extent feasible. Vegetation removal in the Category 2 channels shall be conducted in a non-continuous manner, as feasible, allowing small patches of in-channel vegetation to persist provided it will not adversely affect conveyance capacity (see Condition 2.21 for vegetation removal by Channel Category).
- 2.7 Herbaceous Vegetation Avoidance Between Sediment Removal Activities. Permittee shall avoid removal of emergent herbaceous vegetation on the channel bottom that is rooted in or near the low flow channel or a pond in order to provide cover for aquatic wildlife, where feasible. Native non-woody vegetation that does not interfere with designed flood control capacity shall be allowed to grow between sediment removal activities within Category 2 channels. If necessary to alleviate flood risk between sediment removal activities, native non-woody vegetation may be cut down to a level above the water line or root zone.
- 2.8 Maximum 8-foot Vegetation-Free Zone at the Toe of the Bank. When removing vegetation from channels for the sole purpose of visual access to inspect the toe of slopes, Permittee shall treat a maximum 8-foot wide zone from the toe of the bank.
- 2.9 Staging Areas. Staging/storage areas for equipment and materials shall be located outside of the stream/lake.

- 2.10 Work During Dry Weather Only. If work is performed within the stream channel during the winter storm period Permittee shall monitor the 5-day weather forecast. If greater than 20 percent of precipitation is forecasted, work activities shall include securing of the site, so as no materials may enter or be washed into the stream. The site shall be completely secured 24 hours prior to precipitation, unless prior written approval has been provided by CDFW. During period of precipitation, no in-stream maintenance activities may occur; activities involving the prevention of materials from entering the stream or being washed downstream may be conducted.
- 2.11 Project Lighting. Lighting required to complete project activities at night shall not illuminate Category 3 channels.
- 2.12 Personnel Compliance on Site. Permittee, its contractors, subcontractors, employees, and visitors to the site are prohibited from 1) feeding wildlife, 2) bringing domestic pets to the project site, 3) collecting native plants (unless the collection is for propagating/replanting associated with mitigation or other habitat restoration), or 4) harassing wildlife. It shall be the responsibility of Permittee to ensure compliance with this measure.
- 2.13 Prohibited Plant Species. Permittee shall not plant, seed or otherwise introduce invasive exotic plant species. Prohibited exotic plant species include those identified in the California Exotic Pest Plant Council's database, which is accessible at: <http://www.cal-ipc.org/ip/inventory/weedlist.php>.

Wildlife and Habitat Protection

- 2.14 Protected Species. This Agreement does not authorize take, incidental or otherwise, of any protected species. For the purpose of this Agreement, "protected species" means the following: a species fully protected under state law; a candidate species or species listed as threatened or endangered under CESA and/or ESA; a species identified by CDFW as a species of special concern; or any other species for which take is prohibited under state or federal law. No direct or indirect impacts shall occur to any protected species, except as may be authorized by a Natural Community Conservation Plan or one or more individual permits that authorize such impacts.
- 2.15 Avian Nesting Avoidance. If the avian nesting season cannot be avoided and construction or vegetation removal occurs between March 1st to September 15th (January 1st to July 31st for raptors), the restricted time period, a qualified biologist with experience in conducting bird breeding surveys shall conduct a minimum of 3 weekly focused surveys for nesting birds before work, including a survey completed within 3 days prior to the work in the area, to ensure no nesting birds in the project area would be impacted by the project. If an active nest is identified Permittee shall do one of the following to avoid and minimize impacts to nesting birds. Permittee, or any person acting on behalf of Permittee, is not relieved from complying with FGC sections 3503 and 3503.5.

a) Implement a 300 foot minimum avoidance buffers for all passerine bird nests (500 foot for protected species) and 500 foot minimum avoidance buffer for all raptors species. The breeding habitat/nest site shall be fenced and/or flagged in all directions. The nest site area shall not be disturbed until the nest becomes inactive, or, the young have fledged, and the young are no longer being fed by the parents, and the young have left the area, and the young will no longer be impacted by the project.

b) Develop a project specific Nesting Bird Management Plan (NBMP). The site-specific nest protection plan shall be submitted to CDFW prior to commencement of project activities subject to this Agreement within the minimum avoidance buffers described above. The NBMP should include detailed methodologies and definitions to enable a qualified avian biologist to monitor and implement nest-specific buffers based upon the life history of the individual species; species sensitivity to noise, vibration, and general disturbance; individual bird behavior; current site conditions (screening vegetation, topography, etcetera), ambient levels of human activity; the various project-related activities necessary to construct the project, and other features. The NBMP shall be supported by survey documentation including: dates of survey, total field time of survey efforts, map of survey routes, names of investigators, and if any active nests were found. The NBMP shall be submitted to CDFW prior to commencement of project activities subject to this Agreement. If this option is chosen, project activities may not commence until CDFW has acknowledged receipt of survey results and any established buffers. The NBMP shall also be supported by a Nest Log which tracks each nest and its outcome. Each nest identified in the NBMP nest shall be monitored until the nest becomes inactive, including nests that remain active beyond September 15. The Nest Log shall be submitted to CDFW at the end of each week during project activities subject to this Agreement and/or until all nests identified in the NBMP are no longer active.

c) Permittee may propose an alternative plan for avoidance of nesting birds for CDFW concurrence.

- 2.16 Sensitive Species Locations. Several streams in Orange County support native riparian vegetation or other suitable habitat for sensitive species. Sensitive species have been known to occur within some of the identified project areas. Streams (or portions of streams and/or tributaries) where sensitive species have the potential to occur or streams and/or tributaries adjacent to suitable habitat for sensitive species include, but are not limited to: San Juan Creek (including tributaries Canada Chiquita and Canada Gobernadora), Trabuco Creek, Coyote Creek, San Diego Creek (including tributaries Sand Canyon wash, Borrego Canyon wash, and Agua Chinon), Aliso Creek (including tributary English Creek), Santa Ana River, East Garden Grove-Wintersburg Channel, Santiago Creek, Silverado Creek and tributaries thereto. Maintenance activities subject to this Agreement within or adjacent to habitat where there is at least moderate potential for a sensitive species to occur are not authorized as a part of this Agreement and shall be subject to separate notification pursuant to FGC 1600 *et seq.*

- 2.17 Pile Driving. To avoid impacts to nesting birds, maintenance activities adjacent to nesting habitat between March 1 and August 31 shall not include pile driving.
- 2.18 Leave Wildlife Unharmed. If any wildlife is encountered during the course of maintenance activities, said wildlife shall be allowed to leave the maintenance area unharmed. If any sensitive wildlife species is encountered, Permittee shall immediately inform CDFW of the observation and additional measures taken to ensure the safety of the wildlife.
- 2.19 Native Amphibian Eggs and Larvae. To the extent practicable, Permittee shall avoid the disturbance or destruction of eggs and larvae of native amphibians.
- 2.20 Open Trenches. At the end of each work day, an escape ramp shall be placed at each end of any open trench or excavated pit to allow any animals that may have become entrapped in the trench or excavated pit to climb out overnight. The ramp may be constructed of earthen fill, wood planking or other suitable material that is placed at an angle no greater than 30 degrees. If an escape ramp is not feasible, other appropriate wildlife exclusionary devices shall be employed to avoid entrapping wildlife.

Vegetation Removal

- 2.21 Vegetation Removal by Category. Vegetation removal under this Agreement, after appropriate biological surveys, has been agreed to as follows:
- Category 1 channels may be cleared of all vegetation.
- Category 2 channels may be cleared of vegetation only as required to maintain the function of the channel as designed only if the clearing will not result in erosion that could adversely affect fish or wildlife resources downstream. When vegetation removal is deemed necessary, mowing and/or trimming of vegetation, or herbicide treatment if necessary, in this channel category shall be done whenever practicable in order to maintain soil stability.
- Category 3 channels may be cleared of any non-native vegetation providing it can be accomplished without damaging native vegetation communities. Native vegetation removed from Category 3 channels shall only occur as temporary impact to complete an identified maintenance activity. The temporary impact shall be subject to revegetation according measures 2.29 through 2.33. Permanent removal of native vegetation, by any means, that does not fit the definition of sparse native vegetation is not a covered activity agreed to by this Agreement.
- 2.22 Removal and Disposal of Non-Native Vegetation. Non-native vegetation removed from work areas shall be disposed of legally in a manner which prevents its reestablishment and in a manner that does not negatively affect other native habitat communities.

- 2.23 Maintenance Access Roads/Ramps. Permittee may remove sparse native vegetation, fallen trees, and branches from existing maintenance access roads and existing access ramps. Minor pruning of trees and brush growing on the stream side slope of access roads is also acceptable, except that such pruning shall be limited to the removal of vegetation that interferes with vehicle access or visual survey of existing access roads.
- 2.24 Fuel Modification Areas. Vegetation trimming or removal for fuel modification is not a covered activity of this Agreement. Vegetation trimming or removal for fuel modification purposes shall be subject to separate notification pursuant to FGC section 1600 *et seq.*
- 2.25 Herbicides – General. Only herbicides containing a harmless dye and registered with the California Department of Pesticide Regulation (DPR) shall be used. All herbicides shall be applied in accordance with regulations set by DPR. All herbicides shall be used according to labeled instructions. Herbicide mixing sites shall only be located in areas devoid of vegetation, and where there is no potential of a spill reaching a vegetated area or stream.
- 2.26 Vehicle-Based Herbicide Sprayers. Vehicle-based sprayers or boom trucks may be used only where existing roads abut non-native vegetation or unvegetated channels and where non-native vegetation is growing in large clumps with no perennial native vegetation within 10 feet (unless hose attachment used by pedestrian crews can specifically target non-native vegetation). Herbicide applied via vehicle based sprayers shall not damage native vegetation.
- 2.27 Backpack Herbicide Sprayers. Backpack sprayers or hose attachments used by pedestrian crews which can specifically target non-native vegetation shall be used in all situations where non-native vegetation exists within 10 feet of native vegetation. The application of herbicides shall be conducted in such a manner to minimize overspray of herbicide onto native vegetation. Herbicide shall be applied only on calm days to prevent airborne transfer of the herbicide. Any native vegetation inadvertently damaged during herbicide application shall be left to re-sprout.
- 2.28 Native Vegetation Intermixed with Non-Native Vegetation. In areas where native vegetation is intermixed with invasive vegetation (e.g., isolated stands of giant reed, *Arundo*, among native species), invasive vegetation shall be removed by hand-operated tools.

Temporary Impacts

- 2.29 Replace Temporary Impacts. For maintenance activities in Category 3 Channels that result in the temporary disturbance to native riparian vegetation, Permittee shall allow for revegetation where root systems remain intact. Should vegetation within temporary impact areas be completely removed, restoration shall include planting and/or seeding native plant species that were present prior to the work

and/or are compatible with existing riparian vegetation near the work area. Permittee shall prepare a Habitat Restoration Plan (HRP) for each temporary impact in Category 3 Channels that specifies the limits of temporary impact, the limits of restoration, planting mixes and densities where necessary, performance criteria for survival and growth, and maintenance and monitoring procedures. Habitat restoration shall only be required if the temporary impact areas support vegetation; no restoration is required for barren areas or areas of sparse native vegetation. Permittee shall submit an HRP to CDFW at least 30 days prior to each temporary impact. Permittee shall receive written CDFW approval of the HRP prior to each temporary impact.

- 2.30 Restoration Maintenance and Monitoring. The restoration of habitat shall be maintained and monitored for 5 years (3 years for herbaceous species) by an experienced, licensed habitat restoration contractor, or until established success criteria identified in the HRP and this Agreement are met. Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken by an experienced, licensed habitat restoration contractor during the maintenance and monitoring period if necessary to ensure the success of the restoration. Maintenance and monitoring reporting for each temporary impact shall be submitted annually with the Annual Monitoring Project Report (see Measure 5.3). If the restoration fails to meet the established success criteria after the maintenance and monitoring period, maintenance and monitoring will extend beyond the 5-year/3year period until the criteria are met or unless otherwise approved by CDFW.
- 2.31 Temporary Impact Restoration Timing. To the extent practicable, Permittee shall restore temporarily impacted sites requiring restoration by the end of the first April following completion of project activity. When restoration is not feasible by April (due to drought, access constraints, or other restrictions), the restoration of temporary impact sites shall occur no later than 1 calendar year from the completion of the activity which involves the temporary impact.
- 2.32 Restoration Success Criteria. Unless other success criteria are agreed to in writing by CDFW, the following criteria shall be used to determine the success of the restoration. All restoration planting shall have a minimum of 80% survival the first year, 85% survival the second year, and 80% survival thereafter and/or shall attain 45% cover of native woody perennials after three years and 75% cover of native woody perennials after 5 years (if woody perennial vegetation is impacted). If the survival and cover requirements have not been met, Permittee is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for the duration of the monitoring period. At the completion of the monitoring period, the restoration site shall have received no supplemental watering for a period of 2 consecutive years; the site shall display species richness of native species, divided between annuals and perennials; non-native plants shall not make up more than 5% of the entire cover of the site; bare

ground shall be equal or less than documented bare ground present at the impact site prior to maintenance activity; the site shall be free of invasive exotic plant species; and there shall be no trash.

- 2.33 Annual Monitoring Reports for Temporary Impacts. Mitigation, maintenance, and monitoring reporting for each temporary impact shall be submitted annually with the Annual Monitoring Project Report (see Measure 5.3) to CDFW during the 5-year/3-year maintenance and monitoring period or until restoration has been deemed physically and functionally successful by CDFW. Monitoring reports shall include, but not be limited to, the following:
- a. Identification of specific site boundaries and time period for which the monitoring report is applicable for each site;
 - b. A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities;
 - c. Compiled data, summary statistics and graphs;
 - d. Survival, % cover, and height of both tree and shrub species;
 - e. Methods used to assess these parameters;
 - f. Number by species of plants replaced;
 - g. Progress photographs taken from the same vantage point as baseline photographs;
 - h. Detailed remedial maintenance to be performed.

If, after 5 years, the restoration area has failed to meet success criteria, Permittee shall develop a restoration plan which shall be submitted to CDFW for approval along with the Annual Monitoring Project Report.

Structures

- 2.34 Repair to Existing Bank Protection. Permittee may repair damage to existing bank protection structures such as rip-rap or concrete lining. Such repair shall employ the same type of material used in the original construction or existing conditions and shall occur only in the locations of existing bank protection. New sites requiring bank protection, expansions in the size of protected sites, or changes in the materials to be used, are not authorized by this Agreement and shall be subject to separate notification pursuant to FGC section 1600 *et seq.* Repair work shall be accomplished without damaging native vegetation or altering the stream bed or banks more than 15 feet in any direction beyond the area of the original bank protection. Where vehicles are required, the work area limit is extended to 75 feet. The temporarily impacted area shall be passively or actively restored and monitored according to all measures of this Agreement.
- 2.35 Grouted Rip-Rap and Gabions. Grouted rip-rap is not an authorized material to replace un-grouted rip-rap. Gabions are not an authorized replacement for any structure in the stream. Grouting un-grouted rip-rap and construction or reconstruction of gabions are not authorized activities of this Agreement, and shall be subject to separate notification pursuant to FGC section 1600 *et seq.*

However, removing grouted rip-rap or gabions, then replacing with un-grouted rip-rap are authorized activities, provided there is no increase in footprint of the permanent structure.

- 2.36 Rock Slope Protection. Un-grouted rock slope protection and energy dissipater materials shall consist of clean rock sized and properly installed to resist washout. Rock slope protection shall be supported with competent boulders keyed into a footing trench with a depth sufficient to properly seat the footing course boulders and prevent instability. Voids between rocks may be planted with riparian species native to the area.
- 2.37 Stream Crossing Replacement. Replacement of an existing stream crossing structure is not an authorized activity under this Agreement and shall be subject to separate notification pursuant to FGC section 1600 *et seq.*
- 2.38 Remove Structures Before High Water Flow. Structures and associated materials not designed to withstand high water flows shall be moved to areas above high water before such flows occur.

Dewatering and Temporary Diversions

- 2.39 Diversion Plan. No equipment shall be operated in ponded or flowing areas. When work in a flowing stream is unavoidable, the entire stream flow shall be diverted around the work area by a barrier, temporary culvert, new channel, or other means approved by CDFW. Location of the upstream and downstream diversion points shall be approved by CDFW. Construction of the barrier and/or the new channel shall normally begin in the downstream area and continue in an upstream direction, and the flow shall be diverted only when construction of the diversion is completed. Channel bank or barrier construction shall be adequate to prevent seepage into or from the work area. Diversion berms shall be constructed of onsite alluvium of low silt content, inflatable dams, sand bags, or other approved materials. Channel banks or barriers shall not be made of earth or other substances subject to erosion unless first enclosed by sheet piling, rock rip-rap, or other protective material. The enclosure and the supportive material shall be removed when the work is completed and removal shall normally proceed from downstream in an upstream direction. Permittee shall obtain written approval (e-mail is sufficient) of each temporary diversion from CDFW prior to each diversion.
- 2.40 Maintain Flows. Flow diversions shall be done in a manner that shall prevent pollution and/or siltation and which shall provide flows to downstream reaches. Flows to downstream reaches shall be provided during all times that the pre-existing flow would have supported aquatic life. Said flows shall be sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Diversions shall be engineered, installed, and maintained to assure resistance to washout and erosion of the

stream bed and banks. Normal flows shall be restored to the affected stream immediately upon completion of work at that location.

- 2.41 Pump Intakes. Pump intakes placed in any stream water shall be fitted with 1/8-inch or smaller mesh screens.
- 2.42 Excavation Dewatering. If an excavation site must be dewatered, any muddy, or otherwise contaminated, water shall be pumped into a holding facility or into a settling pond located in flat stable areas outside of the stream channel or pumped up on a stable grassy area where the water clears prior to flowing back into the stream.
- 2.43 Stranded Aquatic Life. Permittee shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets and by hand. Captured aquatic life shall be released immediately in the closest body of water to the work site. This measure does not allow for the take or disturbance of any sensitive species.
- 2.44 Rewatering. Permittee shall take appropriate measures to contain sediment and reduce stream turbidity when a work area is rewatered. Permittee shall install an appropriate sediment control device downstream of the work area to contain sediment.

Erosion and Turbidity

- 2.45 Prepare Erosion Control Plan. Permittee shall submit (e-mail is sufficient) an Erosion Control Plan (ECP) for the County-Wide Long-Term Routine Maintenance Program to CDFW for approval prior to the commencement of project activities. The ECP shall include performance standards, monitoring and reporting programs, and corrective actions to be taken if necessary. The ECP shall be implemented by Permittee before, during, and at the completion of project activities. The ECP shall be approved in writing by CDFW prior to commencement of project activities.
- 2.46 Contaminated Water. Water containing mud, silt, or other pollutants used during maintenance activities shall not be allowed to enter a flowing stream or placed in locations that may be subjected to high storm flows.
- 2.47 Minimize Turbidity and Siltation. Permittee shall take precautions to minimize turbidity and siltation during and after maintenance activities. Precautions shall include, but are not limited to: pre-construction planning to identify site specific turbidity and siltation minimization measures and best management erosion control practices; best management erosion control practices during project activity; and settling, filtering, or otherwise treating silty and turbid water prior to discharge into a stream or storm drain.

- 2.48 Silt Settling Barriers. If silt catchment barriers are used, the basin(s) shall be constructed across the stream immediately downstream of the project site. Catchment barriers shall be constructed of materials which are free from mud and silt. Upon completion of the project, all basin materials along with the trapped sediments shall be removed from the stream in such a manner that does not introduce sediment to the stream.
- 2.49 Erosion Control Measures. Permittee shall utilize erosion control measures throughout all phases of projects where sediment runoff from exposed slopes threatens to enter the stream.
- 2.50 Erosion Control Monitoring. Permittee or shall monitor erosion control measures before, during, and after each storm event and repair and/or replace ineffective measures immediately.

Existing Bridges and Culverts

- 2.51 Bat Protection - Bridges. Prior to maintenance activities at any bridge, the bridge shall be surveyed for bats by a qualified bat biologist. If bats are found, maintenance activities on the bridge shall not commence. Bats shall not be disturbed without specific notice to and consultation with the CDFW. CDFW reserves the right provide additional provisions to this Agreement in order to protect nesting/roosting bats. Bat surveys and consultation with CDFW shall be conducted prior to project commencement. Additional provisions deemed necessary by CDFW shall be implemented prior to project activities.
- 2.52 Bats at Culverts. Prior to maintenance activities at culvert inlets and outlets or other water conveyance structures which may support bat habitat, the site shall be surveyed for bats by a qualified bat biologist. If bats are found, there shall be no disturbance to the culvert until CDFW has been consulted. CDFW reserves the right to provide additional provisions to this agreement designed to protect nesting/roosting bats. Bat surveys and consultation with CDFW shall be conducted prior to project commencement. Additional provisions deemed necessary by CDFW shall be implemented prior to project activities.
- 2.53 Swallow Nesting at Bridges. Maintenance activities on existing bridges shall either occur outside of the swallow nesting period (March 15 through August 31), or the suitable bridge nesting habitat shall be netted by Permittee before initiation of the breeding season to prevent nesting. The netting shall remain in place until August 1 or until maintenance activities at the site are complete. The netting shall be anchored such that swallows cannot attach nests to the structure through gaps in the net. If swallows begin building nests on the structure after net installation, the mud placed by the swallows shall be removed and the integrity of the net repaired. At no time shall an occupied nest be destroyed as a result of maintenance activities.

Flood Control Basins

- 2.54 Leave Vegetation on Basin Slopes. Permittee shall not remove vegetation on flood control basin slopes except as follows: (1) the vegetation is non-native; (2) shrubs and trees become hazards to the stability and function of the basin; (3) vegetation precludes visual surveys; (4) vegetation has established on sediment which meets or exceeds the 20 percent capacity line; or (5) slope maintenance is required to correct rill erosion or other slope damage.
- 2.55 Leave Patches of Vegetation in Basin. Permittee shall minimize vegetation removal or reduction from flood control basins to the greatest extent feasible to achieve the specific maintenance objectives for the site. Where feasible, vegetation removal (excludes herbicide treatment) shall be conducted in a non-continuous manner, allowing small patches of vegetation to persist provided it will not adversely affect conveyance capacity.
- 2.56 Herbaceous Vegetation Avoidance Between Sediment Removal Activities. Permittee shall avoid removal or reduction of emergent herbaceous vegetation within flood control basins in order to provide cover for wildlife, where feasible. Native non-woody vegetation that does not interfere with designed flood control capacity shall be allowed to grow between sediment removal activities within flood control basins. If necessary to alleviate flood risk between sediment removal activities, native non-woody vegetation may be cut down to a level above the root zone.
- Equipment and Access**
- 2.57 Avoid Road Base Discharge. Permittee shall implement appropriate measures to prevent the discharge of road base, fill, sediments, and asphalt beyond previously established roads when working near channels or flood control basins.
- 2.58 Equipment Access. Access to the work site shall be via existing roads and access ramps. If no ramps are available in the immediate area, a temporary ramp within the project footprint may be constructed. Any temporary ramp shall be removed upon completion of the project. If the temporary impact area supported native vegetation, the temporarily impacted area shall be passively or actively restored and monitored according to all measures of this Agreement.
- 2.59 Speed Limit. A 15-mile per hour speed limit shall be observed on dirt access roads to reduce dust and allow reptiles and small mammals to disperse.
- 2.60 Excavation Equipment. Prior to working within the bed, bank, or channel of the stream, all equipment shall be closely examined for oil and fuel discharges. Any contaminants shall be cleaned prior to any work and all equipment shall be examined daily for new oil and fuel discharges and cleaned as needed.
- 2.61 Wildlife Sheltered in Construction Material. All sections of pipe shall be visually checked for the presence of wildlife sheltering within them prior to the pipe

sections being placed in a trench and attached together, or shall have the ends capped while stored on site so as to prevent wildlife from entering. After attachment of the pipe sections to one another, whether in the trench or not, the exposed end(s) of the pipeline shall be capped at the end of each day during maintenance activities to prevent wildlife from entering and being trapped within the pipeline. Any pipe or post installed vertically as a part of the project shall not have an exposed opening at the top. Any opening shall be capped or otherwise permanently covered.

Fill and Spoil

- 2.62 **Alluvium Fill.** Except as otherwise specified in this Agreement, fill materials other than on-site alluvium shall consist of clean gravel or river rock.
- 2.63 **Cover Spoil Piles.** Permittee shall have readily available plastic sheeting to cover exposed spoil piles and exposed areas in order to prevent loose soil from moving into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.
- 2.64 **Temporary Stockpiles.** Temporary stockpiles located near channels or flood control basins shall be stabilized by compacting or other measures if present near the stream from December 1 to April 1. Silt fences, berms, or other methods shall be used to prevent sediment from being eroded from the temporary stockpile into the stream. Temporary stockpiles may be placed in channel bottoms or flood control basins only if they are located on barren soil or areas with only non-native vegetation, and are not placed in such a manner that they would be exposed to flowing water. All temporary stockpiles within the bed or banks of the channel shall be removed from the stream before the end of the same workday. Stockpiles shall not remain in any stream overnight.

Pesticides, Pollution, Litter, and Clean-Up

- 2.65 **Rodent Control.** Rodent control pesticides are known to cause secondary exposure to non-target wildlife. Permittee shall use rodent control methods only as deemed necessary. Secondary exposure to other wildlife can be minimized by utilizing qualified professionals that apply the rodenticide in a manner specifically described on the product label and monitor application areas until pesticides are removed or no longer in use. The qualified applicator shall conform to all applicable federal, State, and local regulations. Nothing in this Agreement represents a rodenticide use recommendation that allows for an application that conflicts with pesticide use regulations.
- 2.66 **Insect Control.** Insect control pesticides shall be applied only when necessary by licensed personnel according to product label instructions and in compliance with all local, state, and federal regulations. Proper applications maximize a product's effectiveness while avoiding or minimizing any adverse impacts to the public fish and wildlife resources.

- 2.67 Concrete. Permittee shall implement appropriate waste management practices during concrete repair or replacement. Waste management practices shall be applied to the stockpiling of concrete, curing and finishing of concrete, as well as to concrete wash-out operations. Waste management practices shall be adequate to ensure that fluids associated with the curing, finishing and wash-out of concrete shall not be discharged to the channel or flood control basin. Concrete waste shall be stockpiled separately from sediment and protected by erosion control measures so that concrete dust and debris are not discharged into the channel or flood control basin. Permittee shall determine the appropriate waste management practices based on considerations of expected flow velocities, site conditions, and availability of erosion control materials.
- 2.68 Litter and Pollution. Permittee shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Permittee to ensure compliance.
- 2.69 Secure Trash Receptacles. Permittee shall use fully covered trash receptacles with secure lids (wildlife-proof) to contain all food, food scraps, food wrappers, beverage and other miscellaneous trash.
- 2.70 Stationary Equipment. Stationary equipment such as motors, pumps, generators, and welders located within or near the stream shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.
- 2.71 Equipment Maintenance and Fueling. No equipment maintenance or fueling shall be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter these areas.
- 2.72 Equipment and Vehicle Spills and Contaminants. Any equipment or vehicles driven or operated within or near the stream shall be checked daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Permittee shall maintain all vehicles and equipment in proper working condition to minimize fugitive emissions and accidental spills from motor oil, antifreeze, hydraulic fluid, grease, and other fluids or hazardous materials. All fuel or hazardous waste leaks, spills, or releases shall be stopped or repaired immediately and cleaned up at the time of occurrence. Permittee shall be responsible for spill material removal and disposal to an approved offsite landfill and spill reporting to the permitting agencies. Service construction equipment shall be stored at designated areas only. Maintenance vehicles shall carry appropriate equipment and materials to isolate and remediate leaks or spills. A spill containment kit shall be available on site for all maintenance activities.
- 2.73 Site Cleanup. When operations are completed, any excess materials or debris shall be removed from the work area.

3. Compensatory Measures

- 3.1 Mitigation for Unauthorized Impacts. Permittee shall mitigate at a minimum 5:1 ratio for impacts beyond those authorized in this Agreement. In the event that additional mitigation is required, the type of mitigation shall be determined by CDFW, and may include creation, restoration, enhancement and/or preservation.

4. General Conditions for Covered Activities

The following general measures apply to any covered maintenance activity in accordance with this Agreement.

- 4.1 Category Evaluation. Prior to June 30 of each year, OCPW will submit a written request to OCPW Regulatory Permits for maintenance projects deemed necessary within stream channels, containing the location and dimension of the channel, volume and type of materials proposed, and site photographs. A qualified biologist will evaluate the site for potential impacts to fish and wildlife resources, particularly those considered sensitive, and shall determine if the stream is in Category 1, 2, 3, or 4. The qualified biologist will quantitatively describe the rationale for the determination of the category. If the activity is proposed within a Category 4 Channel, the activity is not authorized by this Agreement and is subject to separate notification pursuant to FGC section 1600 *et seq.*
- 4.2 Biological Surveys in Appropriate Habitat Prior to Maintenance Activities. Prior to any sediment removal, vegetation control (by herbicide application, pruning, excavation, mowing, discing, etc.), or repair work in channels or flood control basins that contain habitat suitable for fish and wildlife resources, Permittee shall conduct appropriate desk and field investigations to determine if any sensitive species have the potential to occur. Maintenance activities subject to this Agreement within or adjacent to habitat where there is at least moderate potential for a sensitive species to occur are not authorized as a part of this Agreement and shall be subject to separate notification pursuant to FGC 1600 *et seq.*
- 4.3 Pre-Project Wildlife Habitat Surveys. At least 30 days prior to the commencement of the any maintenance activity subject to this Agreement within a Category 2 Channel or Category 3 Channel, Permittee shall have a qualified biologist perform wildlife habitat surveys of any channel where maintenance activities are proposed. Data collected during the surveys shall include at least: a written description of the general habitat types occurring within the channel, identification of observed wildlife species, a list of sensitive species known to occur within the region, and a description of the potential for sensitive species to occur on-site. This information, along with copies of all field notes taken during the surveys, shall be made available upon request from CDFW.
- 4.4 Pre-Project Vegetation Surveys. At least 30 days prior to the commencement of the any maintenance activity subject to this Agreement within an earthen

channel, Permittee shall have a qualified biologist perform vegetation surveys of any channel where maintenance activities are proposed. Data collected during surveys shall include at least: quantitative data of native and non-native vegetation coverage of the channels, identification of observed native species, acreages of vegetation types occurring within the channel, a list of sensitive species known to occur within the region, and a description of the potential for sensitive species to occur on-site. This information, along with copies of all field notes taken during the surveys, shall be made available upon request from CDFW.

- 4.5 Project Photo-Documentation. Prior to commencement of work within each channel, Permittee shall photograph the project site and associated habitat. Spatial information shall be obtained with each photograph location (photopoint). Photopoints shall be collected in a repeatable manner and identified as permanent photopoints for additional maintenance activity reporting. Upon completion of maintenance activities, Permittee shall photograph the project site from the same identified photopoints, as described above. This information shall be made available to CDFW upon request.

5. Reporting Measures

Permittee shall meet all reporting measures described below and submit to CDFW's South Coast Office at the address on page 1, ATTN: Streambed Alteration Program – SAA # 1600-2013-0019-R5 or alternatively by electronic mail to R5LSACompliance@wildlife.ca.gov.

- 5.1 Annual Work Plan. Permittee shall submit an Annual Work Plan (AWP) to CDFW by July 1 of each year describing all maintenance projects proposed for the following year. The plan should include at least the following information for each work site:
- a. Identification of the channel and specific location of the work area within the channel, including aerial views of the site;
 - b. Identification of channel categories within and adjacent to the work area as it relates to this Agreement.
 - c. Dimensions of any existing structures, including slope measurements of constructed stream banks;
 - d. Total acreage within the channel impacted by the project;
 - e. Known biological constraints;
 - f. A quantitative description of acreage and habitat type of any areas to be temporarily impacted as a part of the maintenance activity;
 - g. Approximate volumes of types of material(s), that will be removed from or deposited within the channel;
 - h. Site-specific measures recommended by a qualified biologist that will occur prior to and during maintenance activities to reduce impacts to the maximum extent practicable.

- 5.2 Annual Monitoring Project Report. Permittee shall submit an Annual Monitoring Project Report to CDFW by June 30 of each year. The report shall include at least the following:
- a. Maintenance projects completed as identified in the AWP, verification that all maintenance activities conducted were accomplished in accordance with the terms of this Agreement, or clarification of differences between proposed impacts identified in the AWP versus actual impacts.
 - b. Maintenance projects completed under this Agreement that were not anticipated as a part of the AWP. Information for these projects should include at least the information required as a part of the AWP, above.
 - c. Data collected as described in Measures 4.3, 4.4, and 4.5 for maintenance activities identified in the pertinent AWP as well maintenance activities completed under this Agreement that were not anticipated as a part of the AWP.
 - d. For projects where active or passive restoration was a component, the report shall include a detailed description of the revegetation efforts in light of the defined performance criteria, representative photographs taken from designated photopoints, remedial measures enacted or planned if necessary to ensure restoration success. Projects from previous years shall also be included in each annual report until restoration success has been achieved.
 - e. An evaluation of the success or failure of the avoidance measures in this Agreement designed to protect the fish and wildlife resources that the projects this Agreement covers may substantially adversely affect.
 - f. A discussion of any factors that could increase the predicted adverse impacts on fish and wildlife resources, and a description of the resources that may be adversely affected.
- 5.3 Notification Prior to Work. Covered maintenance activities identified in Table 1, when performed within Category 1 and Category 2 channels in accordance with the definitions and agreed upon measures described in this Agreement, shall not require further notice to, or agreement with, CDFW. Covered maintenance activities within Category 3 require Permittee to notify CDFW, in writing, at least 30 days prior to initiation of maintenance activities.
- 5.4 Crossing Maintenance Report. When maintenance is proposed at a stream crossing or its associated structure(s), Permittee shall submit a Crossing Maintenance Report (CMR) to CDFW. The CMR shall be submitted at least 30 days prior to any work at the crossing. The CMR shall include at least: identification of proposed activities; existing conditions within the vicinity; information regarding previous Notifications of Lake or Streambed Alteration or Notifications of Emergency Work near the crossing; additional measures to protect fish and wildlife resources; a determination regarding the adequacy of the crossing to pass peak flows without increasing flow velocities; and information

regarding the crossing's compliance with FGC sections 5901 (fish passage) and 5937 (sufficient water for fish).

- 5.5 Sensitive Species Observations. Permittee shall be responsible for reporting all observations of threatened /endangered species or of species of special concern to CDFW's Natural Diversity Data Base (CNDDDB) within 60 days of sighting. The form and instructions for completing the form and submitting the information are available on-line at http://www.wildlife.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp. In addition to sending the information to CNDDDB a copy should be sent to CDFW's South Coast Office at the address on page 1, ATTN: Streambed Alteration Program – SAA #1600-2013-0019-R5.
- 5.6 Failure to Provide Reports. If Permittee fails to provide timely reports as required by this Agreement, CDFW may suspend or revoke this Agreement.

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Orange County Public Works
Vincent Gin
300 North Flower Street
Santa Ana, California 92702
vincent.gin@ocpw.ocgov.com

To CDFW:

California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, California 92123
Attn: Lake and Streambed Alteration Program
Notification #1600-2013-0019-R5

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, §699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, §699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, §699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new Notification and Notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall expire on March 15, 2026, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to

protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

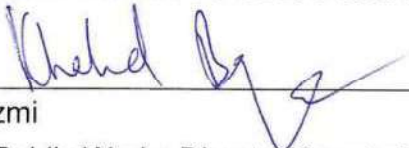
AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR ORANGE COUNTY PUBLIC WORKS



Khalid Bazmi
Assistant Public Works Director/County Engineer

3/17/16

Date

FOR DEPARTMENT OF FISH AND WILDLIFE



Gail K. Sevrens
Environmental Program Manager

4/13/16

Date