

DEPARTMENT OF WATER RESOURCES

DIVISION OF ENVIRONMENTAL SERVICES
3500 INDUSTRIAL BOULEVARD
WEST SACRAMENTO, CA 95691



February 22, 2019

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534

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MAR 01 2019

**HABITAT CONSERVATION
PLANNING BRANCH**

Subject: Sherman and Twitchell Islands Fish Screens Project
Incidental Take Permit No. 2081-2017-049-03

To Whom It May Concern,

Please find the enclosed original signed duplicate copy of the Incidental Take Permit issued for the Sherman and Twitchell Islands Fish Screens Project. A duplicate copy has been retained by the permittee for our records.

Please let me know if any additional information is required at this time.

Thank you,

A handwritten signature in blue ink, appearing to read "Lesley Hamamoto".

Lesley Hamamoto
Program Manager I
Division of Environmental Services
CA Department of Water Resources



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MAR 01 2019

HABITAT CONSERVATION
PLANNING BRANCH

California Department of Fish and Wildlife
BAY DELTA REGION
2825 CORDELIA ROAD, SUITE 100
FAIRFIELD, CA 94534
(707) 428-2002

California Endangered Species Act
Incidental Take Permit No. 2081-2017-049-03

SHERMAN AND TWITCHELL ISLANDS FISH SCREENS PROJECT

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, section 783.0 et seq. CESA prohibits the take¹ of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.² CDFW may authorize the take of any such species by permit if the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c) are met. (See Cal. Code Regs., tit. 14, § 783.4).

Permittee:	California Department of Water Resources
Principal Officer:	Jeanne Kuttel, Division Chief
Contact Person:	Lesley Hamamoto, (916) 376-9784
Mailing Address:	1416 Ninth Street Sacramento, CA 95814

Effective Date and Expiration Date of this ITP:

This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of this ITP and returned to CDFW's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by CDFW, this ITP's authorization to take the Covered Species shall expire on **December 31, 2023**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 7.7 of this ITP.

Project Location:

The Project consists of five separate sites along the Sacramento and San Joaquin Rivers (Figure 1). Sites 1 and 2 are located on West Sherman Island Road on the northwestern levee of Sherman Island along the Sacramento River. Sites 3, 4, and 5 are located on the southern levee of Twitchell Island along the San Joaquin River, in the County of Sacramento, State of California; USGS 7.5 Minute Quadrangle is Antioch North and Jersey Island; Latitude 38.070722, Longitude -121.764229, and Latitude 38.097467, Longitude -121.654265 respectively; Assessor's Parcel Numbers 158-0080-005, 158-0060-018, 157-0130-008, 157-0140-009, and 157-0140-010 (Figure 1).

¹Pursuant to Fish and Game Code section 86, "'take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (See also *Environmental Protection Information Center v. California Department of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 507 [for purposes of incidental take permitting under Fish and Game Code section 2081, subdivision (b), "'take' ... means to catch, capture or kill"].)

²"The definition of an endangered, threatened, and candidate species for purposes of CESA are found in Fish and Game Code sections 2062, 2067, and 2068, respectively.

Project Description:

California Department of Water Resources (DWR) proposes to place five self-cleaning, retractable fish screens at the waterside termini of five existing DWR-owned intake siphons located on Sherman Island and Twitchell Island in order to reduce potential entrainment of Delta Smelt and other fish species by agricultural diversions on state-owned lands. Each installation will require modification of the existing intake siphon to accommodate attachment of the self-cleaning fish screen, construction of a structural steel access walkway, generator-powered winch retrieval track, and additional steel piles to support the structure. In general, each site will utilize piles as the foundation for supporting the framework for a self-cleaning, retrievable fish screen system. Each system will consist of a cylindrical drum-shaped screen with internal and external brushes that will clean the screens. The brushes will be powered by a propeller drive system that rotates the brushes whenever water flows through the screen. The screens are retrievable through a track and winch system, which will be powered by a portable generator. Retrieval will allow for screen maintenance and will also serve to dry out the screens in a desiccation process focused on preventing the attachment and spread of invasive mussels. The control structure will be accessible via a walkway supported by concrete footings at the edge of the levee road. The descriptions below address the standard construction plans for the sites. Due to the variable conditions at each site, some modifications to the general design will need to be made to accommodate specific circumstances. Modifications to the standard design and construction will be discussed below.

Intake Siphon Modification/Replacement

Terminal sections of the intake siphons at each of the five DWR-owned sites will need to be modified in order to extend the pipe farther into the channel and at an appropriate angle to allow for fish screen attachment and appropriate submersion depth. Extension of intake pipes will utilize additional pipe length that will match the diameter of the existing pipes and be welded to the existing waterside siphon, with some land-side pipes tapering to match. Additional piles will be needed to support the pipe extension and the number of piles necessary for each site will vary based on the extension length.

Pile Driving

Installation of steel pipe piles will be required to support the siphon, screen, and associated structure. 18-inch diameter steel piles, approximately 45-55 feet long, will be driven by diesel impact hammer into the riverbed, approximately 7-19 feet apart. The embedment depth of the piles will be approximately 42 feet at the Sherman Island sites and approximately 43 feet at the Twitchell Island sites, based on the interpolated water levels which were derived from the modeling studies that were developed for the Bay Delta Conservation Plan.

Each site will utilize eight piles to support a control structure and a varying number of piles ranging from 4 to 12 piles depending on siphon length, diameter, terrain, and avoidance activities. Sites 1 and 2 on Sherman Island are located on a U.S. Army Corps of Engineers (USACE) federally authorized civil works project levee ("project levee"). At these sites, any piles located within 15 feet of the theoretical levee prism will be pre-drilled prior to pile driving.

Pile driving will be performed mainly from barges (approximately 150-foot vessel) utilizing a crane set-up. Up to two barges may be used simultaneously to hold and drive the pilings. The barges may be self-propelled or maneuvered into place using a tugboat. During Project Activities, the barges are expected to be anchored with spuds without the engine idling. If a tugboat is used, the tugboat will remain tethered to the barge while the barge is on-site. The crane is expected to idle throughout the day during Project

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Activities. A land-operated crane may also be used where a barge-operated crane has difficulty maneuvering. Field welding of steel piles with extra pile sections may be necessary in order for the piles to acquire the designed support capacity. If field welding or cutting is necessary, the contractor will be required to use tarps or shields to prevent slag or other debris from falling in to the water. Pile driving will be conducted between the hours of 6 a.m. and 6 p.m., Monday through Friday, or between the hours of 7 a.m. and 6 p.m. on weekends to comply with Sacramento County noise ordinances.

Fish Screen Criteria

The criteria for choosing the fish screens for this Project were selected based on the requirements set forth by CDFW's "Fish Screening Criteria" (2000) (http://www.fgc.ca.gov/regulations/2008/749_3_EXHIBIT%20A.pdf), and the National Marine Fisheries Service-National Oceanic and Atmospheric Administration (NMFS/NOAA) "Fish Screening Criteria for Anadromous Salmonids" (1997) (http://www.westcoast.fisheries.noaa.gov/publications/hydropower/southwest_region_1997_fish_screen_design_criteria.pdf), with the addendum "Juvenile Fish Screen Criteria for Pump Intakes" (1996) (http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_screen_criteria_for_pumped_water_intakes.pdf). Based on the design criteria and configuration of the Project Areas, cylindrical submerged fish screens with a self-cleaning brush system were selected for this Project. The self-cleaning brush system was chosen because use of the brushes to clean debris and potential invasive mussels from the fish screen surface was determined to be more effective than the other systems evaluated in DWR's document "Screen Delta Intakes, Sherman and Twitchell Islands-Fish Screens Preliminary Design". Additionally, the system has been demonstrated to work well under Delta region conditions, and the product and technology are already approved by NOAA Fisheries.

Fish Screen Assembly

The fish screen assembly, including the screen, steel pipe retrieval track, and supporting components will be constructed off-site by the manufacturer and will be assembled on-site. The fish screens will require the use of divers for installation. Bolted flange connections will be used to attach the screen to the siphon. Wire cables and winches may be used by a crane during installation to aid the screen's maneuverability.

Access Platform and Control Structure Construction

Each control structure will consist of an access walkway and guardrail supported by structural steel framing and a concrete footing, and a platform (approximately 20 feet by 12 feet at Sites 1, 2, and 5, and 25 feet by 13 feet at Sites 3 and 4) with retrievable winch surrounded by an 8-foot tall chain link enclosure with barbed wire along the upper fence line and manual entry gate. Each access platform and control structure will require the installation of eight 18-inch diameter steel support piles.

Spoil Sites, Staging Areas and Road Maintenance

Existing levee roads will be used to access any construction operations occurring outside of the waterside construction area. Any spoils that may be generated by this Project would be associated with the reinforced concrete footing construction and landside pipe replacement work, which includes excavation on the levee road and the land at or adjacent to the levee toe. Excavated material will be temporarily stored near the siphon pipelines until it can be re-placed or disposed of at an appropriate disposal facility.

Each island will have a staging area located on property that is DWR-owned. Both the Sherman and Twitchell Island staging areas will be 100 feet by 200 feet in area. The contractor hired by DWR to

complete Project work will be responsible for repairing roadway surfacing if the roadway is damaged by construction operations within the Project Area. Roadway excavation will be necessary at Sites 2, 4, and 5 in order to replace landside pipes. Site 2 is located along an asphalt paved road, and Sites 4 and 5 cross a graded road with aggregate base overlay. Roadway repairs will be restricted to the existing road surface.

Site-Specific Activities

Due to variables in the existing site locations, some modifications will need to be made to the general design and construction plans to accommodate site-specific conditions and achieve appropriate submersion depth for the fish screens. These modifications are presented in the table below.

Table 2. Site Specific Activities	
Site	Activities
1	Cut and replace waterside siphon with a new pipe section extending 72 feet into the channel from levee centerline. Six piles needed to support siphon extension and screen.
2	Cut and replace entire siphon pipeline from waterside to landside outfall, and remove willow tree encroaching over existing landside siphon pipe to realign in order to avoid impacts to willow and walnut trees. Dense vegetation (willows and blackberry) growing within the project footprint will be removed from the waterside to accommodate the construction of the control structure. New pipe section will extend 170 feet into the channel from levee centerline. Sixteen piles needed to support siphon extension and screen.
3	Cut and replace waterside siphon with a new pipe section extending 118 feet into the channel from levee centerline. Ten piles needed to support siphon extension and screen.
4	Cut and replace waterside siphon and 66 feet of landside siphon. New pipe section will extend 94 feet into the channel from levee centerline. Eight piles needed to support siphon extension and screen.
5	Cut and replace waterside siphon with a new pipe section extending 65 feet into the channel from the levee centerline. Four piles needed to support siphon extension and screen.

Fish Screen Routine Maintenance

A routine monthly visual inspection will be performed at each of the five siphon locations. Maintenance staff will access the site via pickup truck and inspect for debris around the screened siphon and structure. Staff will inspect all of the above water components of the siphon that are accessible by land. These inspections may also include retrieving the fish screen out of the water using the system's winch and track to inspect for any damage or deficiencies of the screen. A more thorough inspection of the sites will be conducted yearly that will include a dive crew to inspect, document, and make minor repairs as needed to the underwater components of the system. If woody or other debris is found during inspections, and is determined to have the potential to damage the siphon and screen or hinders the function of the screen retrieval system, debris may be removed by hand. Debris removal may include the use of a boat, dive crew, and hand tools.

Covered Species Subject to Take Authorization Provided by this ITP:

This ITP covers the following species:

Name	CESA Status
1. Giant garter snake (<i>Thamnophis gigas</i>)	Threatened ³

This species and only this species is the "Covered Species" for the purposes of this ITP.

³See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(3)(E).

Impacts of the Taking on Covered Species:

Project Activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above expected to result in incidental take of individuals of the Covered Species include relocation of giant garter snake (GGS) outside of the Project construction footprint, excavation of the levees for modification and installation of siphon pipes, installation of piles, installation of concrete footings, grading, and construction traffic (Covered Activities).

Incidental take of individuals of the Covered Species in the form of mortality ("kill") may occur as a result of Covered Activities such as pile installation, levee excavation, installation of piles, grading, and construction traffic. Incidental take of individuals of the Covered Species may also occur from the Covered Activities in the form of pursue, catch, capture, or attempt to do so of the Covered Species from relocations of GGS. The areas where authorized take of the Covered Species is expected to occur include: within and along the landside and waterside of the levees on Sherman and Twitchell Islands (collectively, the Project Area) (Figure 1).

The Project is expected to cause the permanent loss of 0.0014 acres of GGS habitat. The Project is also expected to result in the temporary loss of 1.192 acres of GGS habitat. Impacts of the authorized taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, change of habitat use, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts include: mortality resulting from Project Activities, and long-term effects due to displacement from preferred habitat; increased competition for food and space; and increased vulnerability to predation.

Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species except for capture and relocation of Covered Species as authorized by this ITP.

Conditions of Approval:

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular, aircraft (e.g. helicopter) ingress and egress, staging and parking, and noise and vibration generating activities that may/will cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

- 1. Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.
- 2. CEQA Compliance:** Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Mitigated Negative Declaration and Initial Study (SCH No.: 2016032007) adopted by California Department of Water Resources on April 11, 2016 as lead agency for the Project pursuant to the California Environmental Quality

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Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

3. **LSA Agreement Compliance:** Permittee shall implement and adhere to the mitigation measures and conditions related to the Covered Species in the Lake and Streambed Alteration Agreement (LSAA) (Notification No. 1600-2016-0133-R3) for the Project executed by CDFW pursuant to Fish and Game Code section 1600 et seq.
4. **ESA Compliance:** Permittee shall implement and adhere to the terms and conditions related to the Covered Species in the Biological Opinion for the Sherman and Twitchell Islands Fish Screens Project, Sacramento County, California (U.S. Fish and Wildlife's Service file No. 81420-2008-F-1804) for the Project pursuant to the Federal Endangered Species Act (ESA). For purposes of this ITP, where the terms and conditions for the Covered Species in the federal authorizations are less protective of the Covered Species or otherwise conflict with this ITP, the conditions of approval set forth in this ITP shall control.
5. **ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.
6. **General Provisions:**
 - 6.1 Designated Representative: Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.
 - 6.2 Designated Biologist: Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of the Designated Biologist at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist is knowledgeable and experienced in the biology, natural history of the Covered Species. The Designated Biologist shall be responsible for monitoring Covered Activities to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed. If more than one Designated Biologist is needed, then a Lead Designated Biologist shall be appointed.
 - 6.3 Designated Biologist Authority: To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall have authority to immediately stop any activity that does not comply with this ITP, and/or to order any reasonable conditions to avoid the unauthorized take of an individual of the Covered Species.

Permittee shall accommodate the Designated Biologist in the performance of his/her duties. If the Designated Biologist is unable to comply with the ITP due to a conflict with Project construction, then the Designated Biologist shall notify the CDFW representative immediately.

- 6.4 Education Program: Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Lead Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures.
- 6.5 Construction Monitoring Notebook: The Designated Biologist shall maintain a construction-monitoring notebook on-site throughout the construction period, which shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, dates construction occurred, pertinent information concerning the success of the Project in meeting avoidance and minimization measures, mitigation measures, conservation measures, and detailed summaries of any wildlife discovered at the site. Permittee shall ensure a copy of the construction-monitoring notebook is available for review at the Project Area upon request by CDFW.
- 6.6 Trash Abatement: Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in animal-proof containers and removed at least once a week to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.
- 6.7 Dust Control: Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee shall keep the amount of water used to the minimum amount needed, and shall not allow water to form puddles.
- 6.8 Erosion Control Material and Installation: Tightly woven fiber netting (mesh size less than ¼-inch) or similar material shall be used for erosion control and other purposes at the Project Area. Coconut coir matting is an acceptable erosion control material; no plastic, monofilament, jute, or other similar erosion control matting shall be used. The edge of the material shall be buried or weighted with sandbags or similar to prevent GGS from crawling underneath the edge of the material.
- 6.9 Delineation of Project Area: Before starting Covered Activities, Permittee shall clearly delineate the boundaries of the Project Area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities.
- 6.10 Project Access: Project-related personnel shall access the Project Area using existing routes, or routes identified in the Project Description and shall not cross Covered Species' habitat

outside of or en-route to the Project Area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas. Permittee shall ensure that vehicle speeds do not exceed 20 miles per hour to avoid Covered Species on or traversing the roads. If Permittee determines construction of routes for travel are necessary outside of the Project Area, the Designated Representative shall contact CDFW for written approval before carrying out such an activity. CDFW may require an amendment to this ITP, among other reasons, if additional take of Covered Species will occur as a result of the Project modification.

- 6.11 Staging Areas: Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project Area using, to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project Area unless provided for as described in Condition of Approval 6.10 of this ITP.

6.11.1 Materials shall not be stored or placed in GGS habitat and shall be removed from the Project Area within 1 month of completion of Project Activities, and either disposed of off-site or stored in an upland location.

- 6.12 Hazardous Waste: Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.

- 6.13 Refuse Removal: Upon completion of Covered Activities, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.

- 6.14 CDFW Access: Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP and provide the necessary safety equipment to access the site.

7. Monitoring, Notification and Reporting Provisions:

- 7.1 Notification Before Commencement: The Designated Representative shall notify CDFW 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.
- 7.2 Notification of Non-compliance: The Designated Representative shall immediately notify CDFW in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall report any non-compliance with this ITP to CDFW within 24 hours.

- 7.3 Compliance Monitoring: The Designated Biologist shall be on-site during the following activities: all initial ground-disturbing and excavation activities, all exclusion fencing installations and removals, all vegetation removal or modifications, removal or modification to rip rap on levees, movement of heavy equipment in Covered Species habitat, all dewatering and flow diversion system installation and removal. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) check all exclusion zones; (5) ensure that signs, stakes, and fencing are intact; (6) be on site during Covered Activities to ensure compliance and that Covered Activities are only occurring in the Project Area. The Designated Representative or Lead Designated Biologist shall prepare daily written observation and inspection records summarizing: oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP. The Designated Biologist shall conduct compliance inspections a minimum of once a week during periods of inactivity and after clearing, grubbing, and grading are completed.
- 7.4 Quarterly Compliance Report: The Designated Representative or Lead Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 7.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to the CDFW offices listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representative and Headquarters CESA Program. At the time of this ITP's approval, the CDFW Regional Representative is Jeanette Griffin (Jeanette.Griffin@wildlife.ca.gov) and Headquarters CESA Program email is CESA@wildlife.ca.gov. CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.
- 7.5 Annual Status Report: Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 7.4; (2) a general description of the status of the Project Area and Covered Activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (5) all available information about Project-related incidental take of the Covered Species; and (6) information about other Project impacts on the Covered Species.
- 7.6 CNDDDB Observations: The Lead Designated Biologist shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Lead Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.

- 7.7 Final Mitigation Report: No later than 45 days after completion of all mitigation measures, Permittee shall provide CDFW with a Final Mitigation Report. The Lead Designated Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.
- 7.8 Notification of Take or Injury: Permittee shall immediately notify the Lead Designated Biologist if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Lead Designated Biologist or Designated Representative shall provide initial notification to CDFW by calling the Regional Office at (707) 428-2002. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within two calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.

8. Take Minimization Measures:

The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

General Minimization Measures

- 8.1 Seasonal Work Period: Unless approved by CDFW, all in-water Covered Activities shall occur between August 1 to November 30, and all Covered Activities within non-aquatic GGS habitat shall occur between May 1 and October 1.
- 8.2 Daily Work Window: Permittee shall terminate all Project Activities covered under this Agreement thirty (30) minutes prior to sunset and shall not resume until thirty (30) minutes after sunrise. Permittee shall use sunrise and sunset times established by the U.S. Naval Observatory Astronomical Applications Department for the geographic area (http://aa.usno.navy.mil/data/docs/RS_OneYear.php). All lighting shall be turned off thirty (30) minutes prior to sunset, unless required for safety or security purposes.
- 8.3 Open Pipes Restriction: All pipes, culverts, or similar structures that are stored at the construction vertically or horizontally on site for one or more overnight periods shall be securely capped on both ends prior to storage and thoroughly inspected for wildlife prior to implementation at the Project Area by the Designated Biologist. All hollow pipes or posts installed as part of the Project and exposed to the environment shall be capped, screened,

or filled with material by Permittee prior to the end of the work day in which installation occurs.

- 8.4 Provide Escape Ramps or Cover Open Trenches: To avoid entrapment of wildlife, all excavated steep-walled holes or trenches more than 2 feet deep will be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday. If escape ramps cannot be provided, then holes or trenches will be covered with plywood or similar materials. Providing escape ramps or covering open trenches will prevent injury or mortality of wildlife resulting from falling into trenches and becoming trapped. The trenches will be thoroughly inspected by the Designated Biologist for the presence of species at the beginning of each workday.

Giant Garter Snake

- 8.5 GGs Work Window: Initial ground-disturbance activities within potential habitat for GGS shall be conducted in the active season of May 1 to October 1. Snakes are more active at this time of year and are expected to be better able to avoid danger, thus reducing chances for direct mortality.
- 8.6 Delineation of Environmentally Sensitive Areas: Permittee shall clearly delineate habitat of the Covered Species within the Project Area with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of Covered Species' habitat. The Designated Biologist(s) shall identify and flag all potential small mammal burrows within the Project Area as ESAs. In addition, all potential GGS habitat that can be reasonably avoided during construction activities shall be identified as ESAs and shall be marked by the Designated Biologist(s). ESAs will be demarked by tying high visibility poly wire to stakes placed every six feet along the ESA boundary. The high visibility poly wire will be raised at least four feet above grade. The high visibility wire and stakes shall be marked with high visibility flagging or markers. All construction personnel shall avoid ESAs during all phases of construction. Permittee shall avoid ESAs when siting all staging areas, spoils disposal areas, borrow pits, and construction equipment access routes. Permittee shall not use plastic mono-filament netting on the Project Area for ESA boundaries, erosion control, or any other purpose to avoid entanglement of GGS. The Designated Biologist(s) shall inspect the boundary before the start of each workday and the Permittee shall maintain the fencing until the completion of the Project. Permittee shall remove all boundary material upon completion of the Project.
- 8.7 Daily Clearance Surveys: Prior to the initiation of daily Covered Activities the Designated Biologist shall survey for special status species listed within the Project Area. Surveys shall entail walking the entire boundary of the ESA and motorized vehicle pathways as well as walking linear transects inside the Project Area. Transects shall be spaced approximately 50 feet or less apart. Once initial grading has been completed, ESA demarcation or the exclusion fencing system has been installed then a Biological Monitor may conduct the daily clearance surveys. The Designated Biologist must be on-site a minimum of once per week to assist in clearance surveys. If special-status species are discovered within the ESA areas or directly outside the areas, findings shall be reported to CDFW in accordance with the measures cited above but no later than 4 hours from the time the species are observed.

- 8.8 GGG Avoidance: All encountered GGS shall not be intentionally harassed, harmed, or killed and shall either be allowed to leave the construction area of their own volition or relocated out of harm's way by the Designated Biologist. If any snake is observed retreating into an underground burrow within the Project Area where Covered Activities are taking place that cannot be avoided, then no Covered Activities shall be allowed within a 30-foot radius of the burrow until the Designated Biologist is on site to supervise excavation of the burrow. Excavation shall be done by hand to allow the Designated Biologist to capture and handle the snake to relocate it outside of the Project Area.
- 8.9 GGG Checks and Observations: Workers shall inspect under vehicles and equipment for GGS before the vehicles and equipment are moved. All workers shall inform the Designated Biologist(s) if they encounter a snake within or near the Project Area during all phases of Project construction, operation, and maintenance. If a snake is present, the worker shall notify the Designated Biologist(s). Covered Activities with potential to cause take of GGS within a 100-foot radius shall cease until the snake moves away from construction activities on its own or the Designated Biologist(s) moves the animal to a safe location nearby. If the individual is found within the fenced Project Area, the Designated Biologist shall move the individual outside of the area of construction.
- 8.10 Capture and Handling of GGS: GGS may only be captured and handled by the Designated Biologist. The Designated Biologist shall determine whether the animal should be captured and handled. The Designated Biologist(s) shall minimize capture and handling to the extent feasible as most reptiles experience stress in response to capture and short-term confinement.

Spill Containment

- 8.11 On-Site Specialist: Permittee shall have on site a person properly trained in spill containment/clean up to implement spill control devices in the event a spill occurs.
- 8.12 Emergency Spill Contingency Plan Required: Permittee shall prepare and submit for acceptance an emergency spill response plan to CDFW prior to commencement of construction. The plan shall identify the location of containment and abatement materials on site, the actions which shall be taken in the event of a spill of hazardous or other material harmful to aquatic or plant life, the emergency materials which shall be kept at the Project Area to allow the rapid containment and clean-up of any spilled material, and the notification and cleanup procedures to be followed by Permittee in the event of a spill.
- 8.13 Spill Containment: All activities performed in or near waters of the state shall have absorbent materials designated for spill containment and clean up activities on-site for use in an accidental spill. The Permittee shall immediately notify the California Governor's Office of Emergency Services at 1-800-852-7550 or (916) 845-8911 and immediately initiate the clean up activities. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.
- 8.14 Spill Cleanup: Permittee shall begin the cleanup of all spills immediately. CDFW shall be notified immediately by the Permittee of any spills and shall be consulted regarding cleanup procedures. The Permittee shall have all spill clean-up equipment on site during construction.

- 8.15 Refueling Equipment on a Barge: Any fueling and lubricating of the drilling barge while it is in or adjacent to a waterway shall be supervised by a minimum of two crew members experienced in such operations. Spill equipment such as booms shall be on-site and be ready to deploy in case of spill.

Concrete Leachate Containment

- 8.16 Containment of Concrete Leachate: Containment of concrete leachate shall adhere to the following practices:

- 8.16.1 Any and all concrete structures that may come in contact with channel flows (e.g., piers, abutments) shall be poured by September 30. Permittee shall notify CDFW by September 15 if in-stream concrete work is expected to extend beyond September 30. All other concrete pouring twenty-five (25) feet above the top of the bank (e.g., bridge surfaces, upland structures) shall be completed by October 31.
- 8.16.2 Water that has come in contact with uncured concrete or other cement products shall not be allowed to enter the main stream channel until the pH of the water is between 6.3 and 8.5 pH units. Water shall be diverted around uncured concrete structures, and the areas around poured concrete shall be dewatered.
- 8.16.3 Unsealed structures shall be allowed to cure (dry) for at least twenty-eight (28) days before flows are reintroduced.
- 8.16.4 To shorten the curing period, Permittee may use a non-toxic sealant designed for use in aquatic environments. Prior to use, Permittee shall submit the product Material Safety Data Sheet (MSDS), including information about environmental toxicity, to CDFW for review and approval. Approval may be obtained by providing a written request to Jeanette Griffin at Jeanette.Griffin@wildlife.ca.gov. If a sealant is to be applied, concrete structures shall be allowed to cure for at least seven (7) days prior to application and for an additional (three) 3 days following application of the sealant before flows are reintroduced.
- 8.16.5 Concrete curing compounds shall not be used within twenty-five (25) feet of the stream without written acceptance from CDFW and use of appropriate best management practices.
- 8.16.6 Wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment shall not be allowed to enter the stream channel and should be removed from the site for treatment following work. No dry concrete shall be placed on the banks or in a location where it could be carried into the channel by wind or runoff.

9. Habitat Management Land Acquisition and Restoration:

CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result with implementation of the Covered Activities. This

determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation.

To meet this requirement, the Permittee shall purchase 1.20 acres of Covered Species Credits from a CDFW-approved mitigation or conservation bank (Condition of Approval 9.1). Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 10 below for all uncompleted obligations.

The Permittee shall also restore on-site the 1.192 acres of temporarily impacted Covered Species habitat pursuant to Condition of Approval 9.3 below.

9.1 Cost Estimates: CDFW has estimated the cost of Covered Species credits and restoration of temporarily disturbed habitat as follows:

9.1.1 CDFW has estimated the cost of the Covered Species credits for Giant Garter Snake habitat as \$55,000.00/acre for 1.20 acres: **\$66,000.00.**

9.1.2 Restoration of on-site temporary effects to Covered Species habitat as described in Condition of Approval 9.2 calculated at \$2,831.00/acre for 1.192 acres: **\$3,374.55.**

9.2 Habitat Restoration: Permittee shall prepare a Vegetation Restoration Plan (VRP) to restore on-site the 1.192 acres of GGS habitat that will be temporarily disturbed during construction to pre-Project or better conditions. The VRP shall be submitted to CDFW for approval prior to the start of Covered Activities. The VRP shall identify plant species that will be damaged or removed as a result of Project Activities. Permittee will plant replacement vegetation within 6 months after construction is complete.

The VRP shall include a planting layout design with sufficient space appropriate for each species. The VRP shall include measures the Permittee will implement (i.e., irrigation methods, weed management, maintenance and replanting if necessary) to ensure a minimum of 80 percent survivorship for 5 years, after the last planting (i.e., if up to 30 percent of any of the species are at risk of not surviving and repeated plantings are necessary, then monitoring, maintenance, and annual reporting shall continue for the subsequent 3 years. Recommended plantings consist of a mix of the following:

- a) Emergent Wetland Habitats. Emergent wetland plants recommended for giant garter snake habitat are hard stem bulrush (*Scirpus acutus*), and California bulrush (*Scirpus californicus*). Additional wetland plantings may include cattail (*Typha* spp.), and water primrose (*Ludwigia peploides*), or Baltic rush (*Juncus balticus*).
- b) Ground Cover on or Adjacent to Banks of Watercourses. Low growing cover on or adjacent to the banks of watercourses should include grasses and forbs described in the hydroseeding mix below. Additional cover may include California blackberry (*Rubus vitifolius*) or wild grape (*Vitis californica*).

- c) Upland Plantings/Hydroseeding Mix. Disturbed soil surfaces such as levee slopes should be hydroseeded to prevent erosion. A mix of at least 20-40 percent native grass seeds (such as annual fescue (*Vulpia* spp.), California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), and needle grass (*Nassella* spp.)), 2-10 percent native forb seeds, five percent rose clover (*Trifolium hirtum*), and five percent alfalfa (*Medicago sativa*) is recommended. Approximately 40-68 percent of the mixture may be non-aggressive European annual grasses [such as wild oats (*Avena sativa*), wheat (*Triticum* spp.), and barley (*Hordeum vulgare*)]. Permittee will not include aggressive non-native grasses, such as perennial ryegrass (*Lolium perenne*), cheatgrass (*Bromus tectorum*), fescue (*Festuca* spp.), giant reed (*Arundo donax*), medusa-head (*Taeniatherum caput-medusae*), or Pampas grass (*Cortaderia selloana*) in the hydroseed mix. Permittee will not include endophyte-infected grasses in the mix. Mixes of one-hundred percent native grasses and forbs may also be used, and are encouraged.

Riparian plantings are not appropriate because shading may result in lack of basking sites. Native plantings are encouraged except where non-natives will provide additional values to wildlife habitat and will not become invasive in native communities.

An annual status report on the restoration shall be provided to the CDFW by January 31 of each year per Reporting Condition 7.5. The annual report shall include wildlife found at the Project Area, the survival, percent cover, and height of tree and shrub species, the number by species of plants replaced, an overview of the revegetation effort, and the method used to assess these parameters. Before and after photos from designated photo stations shall be included.

10. Performance Security

The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 9 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:

- 10.1 Security Amount: The Security shall be in the amount of **\$69,374.55**. This amount is based on the cost estimates identified in Condition of Approval 9.1 above.
- 10.2 Security Form: The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.
- 10.3 Security Timeline: The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.
- 10.4 Security Holder: The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.
- 10.5 Security Transmittal: If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.

10.6 Security Drawing: The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.

10.7 Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:

- Written documentation of the acquisition of the Covered Species Credits;
- Timely submission of all required reports;
- An on-site inspection by CDFW; and
- Written approval from CDFW

Even if Security is provided, the Permittee must complete the required acquisition, protection and restoration of all lands no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.

Amendment:

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may be amended without the concurrence of the Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

Stop-Work Order:

CDFW may issue Permittee a written stop-work order requiring Permittee to suspend any Covered Activity for an initial period of up to 25 days to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the unauthorized take of any CESA endangered, threatened, or candidate species. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 25 additional days. Suspension and revocation of this ITP shall be governed by California Code of Regulations, Title 14, section 783.7, and any other applicable law. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

Compliance with Other Laws:

This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local law.

Notices:

The Permittee shall deliver a fully executed duplicate original ITP by registered first class mail or overnight delivery to the following address:

Incidental Take Permit
No. 2081-2017-049-03
CALIFORNIA DEPARTMENT OF WATER RESOURCES
SHERMAN AND TWITCHELL ISLANDS FISH SCREENS PROJECT

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
Post Office Box 944209
Sacramento, CA 94244-2090

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2017-049-03) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Gregg Erickson, Regional Manager
California Department of Fish and Wildlife – Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Telephone (707) 428-2002

and a copy to:

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
Post Office Box 944209
Sacramento, CA 94244-2090

Unless Permittee is notified otherwise, CDFW's Regional Representative for purposes of addressing issues that arise during implementation of this ITP is:

Jeanette Griffin, Environmental Scientist
California Department of Fish and Wildlife – Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Telephone (209) 234-3447
Fax (707) 428-2036

Compliance with CEQA:

CDFW's issuance of this ITP is subject to CEQA. CDFW is a responsible agency pursuant to CEQA with respect to this ITP because of prior environmental review of the Project by the lead agency, California Department of Water Resources. (See generally Pub. Resources Code, §§ 21067, 21069). The lead agency's prior environmental review of the Project is set forth in the Sherman and Twitchell Islands Fish Screen Project Initial Study/Mitigated Negative Declaration, (SCH No.: 2016032007) dated April 2016 adopted by the California Department of Water Resources on April 11, 2016. At the time the lead agency adopted the Mitigated Negative Declaration and approved the Project, it also adopted various mitigation measures for the Covered Species as conditions of Project approval.

Incidental Take Permit
No. 2081-2017-049-03
CALIFORNIA DEPARTMENT OF WATER RESOURCES
SHERMAN AND TWITCHELL ISLANDS FISH SCREENS PROJECT

This ITP, along with CDFW's related CEQA findings, which are available as a separate document, provide evidence of CDFW's consideration of the lead agency's Mitigated Negative Declaration for the Project and the environmental effects related to issuance of this ITP [CEQA Guidelines, § 15096, subd. (f)]. CDFW finds that issuance of this ITP will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, CDFW finds adherence to and implementation of the Conditions of Project Approval adopted by the lead agency, and that adherence to and implementation of the Conditions of Approval imposed by CDFW through the issuance of this ITP, will avoid or reduce to below a level of significance any such potential effects. CDFW consequently finds that issuance of this ITP will not result in any significant, adverse impacts on the environment.

Findings Pursuant to CESA:

These findings are intended to document CDFW's compliance with the specific findings requirements set forth in CESA and related regulations. [Fish and Game Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds. (a)-(b), 783.5, subd. (c)(2)].

CDFW finds based on substantial evidence in the ITP application, Sherman and Twitchell Islands Fish Screen Project Initial Study/Mitigated Negative Declaration, the results of site visits and consultations, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

- (1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;
- (2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) establishment of avoidance zones; (3) worker education; and (4) Quarterly Compliance Reports. CDFW evaluated factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of 1,200 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking caused by the Project;
- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;

- (6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;
- (7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and
- (8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

FIGURE 1	Project Location Map, Appendix A, dated March 11, 2016 authored by Lesley Hamamoto, CA Department of Water Resources
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Letter of Credit Form
ATTACHMENT 3	Mitigation Payment Transmittal Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

on

July 27, 2018.



Gregg Erickson, Regional Manager
Bay Delta Region

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of this ITP, and (3) agrees on behalf of the Permittee to comply with all terms and conditions

By:

Jeanne M. Kuttel

Date:

2/13/19

Printed Name:

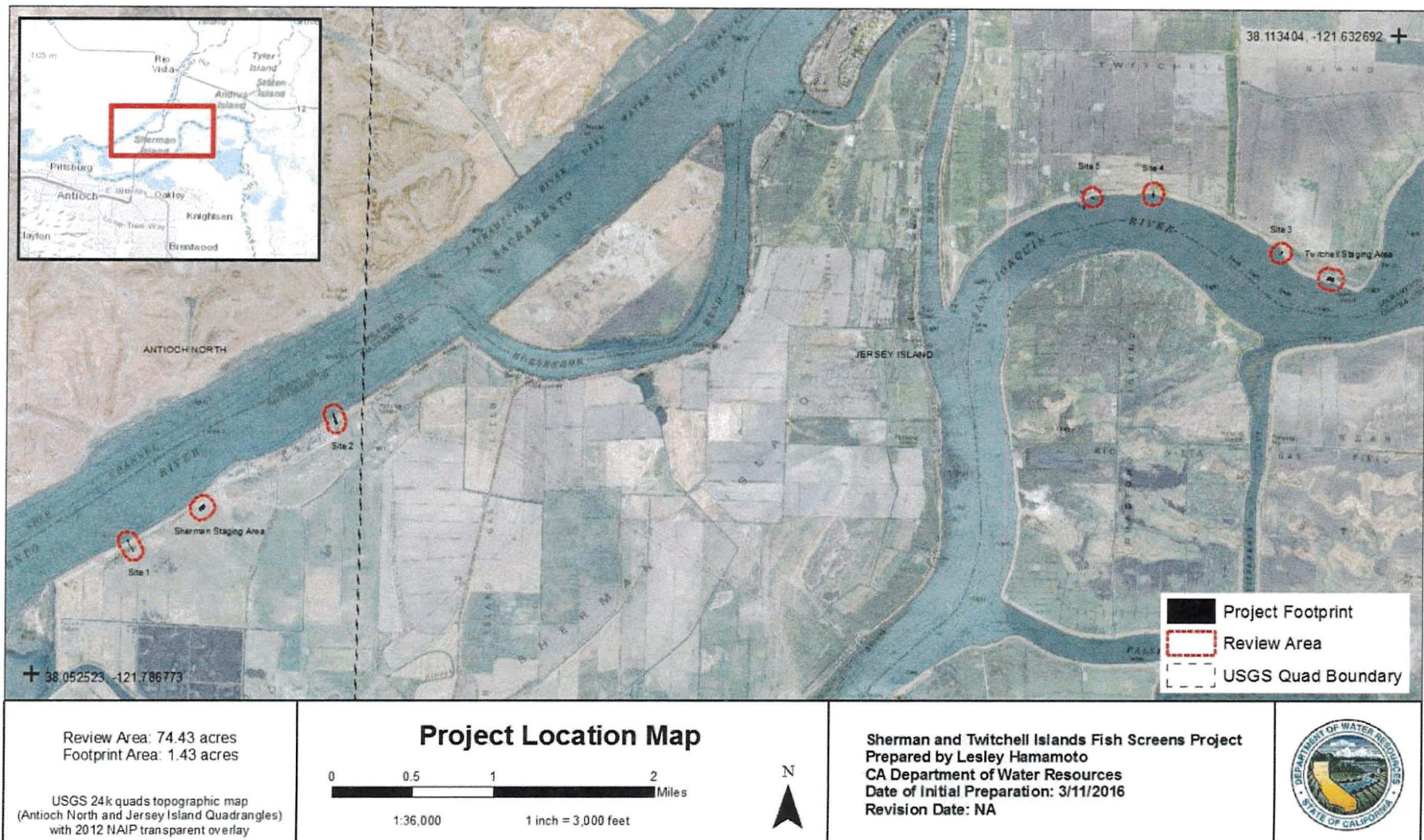
Jeanne M. Kuttel

Title:

Chief, Div of Eng.

Incidental Take Permit
No. 2081-2017-049-03

CALIFORNIA DEPARTMENT OF WATER RESOURCES
SHERMAN AND TWITCHELL ISLANDS FISH SCREENS PROJECT



Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT**

INCIDENTAL TAKE PERMIT NO. 2081-2017-049-03

PERMITTEE: California Department of Water Resources

PROJECT: Sherman and Twitchell Islands Fish Screens Project

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the California Department of Fish and Wildlife (CDFW) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by CDFW is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to CDFW on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

CDFW may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE DISTURBING SOIL OR VEGETATION					
1	Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing before starting Covered Activities of the Designated Representative's name, business address, and contact information, and shall notify CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this ITP.	ITP Condition # 6.1	Before commencing ground- or vegetation-disturbing activities/ Entire Project	Permittee	
2	Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of the Designated Biologist at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist is knowledgeable and experienced in the biology, natural history of the Covered Species. The Designated Biologist shall be responsible for monitoring Covered Activities to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed. If more than one Designated Biologist is needed, then a Lead Designated Biologist shall be appointed.	ITP Condition # 6.2	Before commencing ground- or vegetation-disturbing activities	Permittee	
3	Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Lead Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures.	ITP Condition # 6.4	Entire Project	Permittee	
4	Permittee shall initiate a trash abatement program before starting Covered Activities and shall continue the program for the duration of the Project. Permittee shall ensure that trash and food items are contained in animal-proof containers and removed at least once a week to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.	ITP Condition # 6.6	Entire Project	Permittee	
5	Permittee shall implement dust control measures during Covered Activities to facilitate visibility for monitoring of the Covered Species by the Designated Biologist. Permittee shall keep the amount of water used to the minimum amount needed, and shall not allow water to form puddles.	ITP Condition # 6.7	Entire Project	Permittee	
6	Permittee shall clearly delineate the boundaries of the Project Area with fencing, stakes, or flags. Permittee shall restrict all Covered Activities to within the fenced, staked, or flagged areas. Permittee shall maintain all fencing, stakes, and flags until the completion of Covered Activities.	ITP Condition # 6.9	Before commencing Covered Activities	Permittee	
7	The Designated Representative shall notify CDFW 14 calendar days before starting Covered Activities and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.	ITP Condition # 7.1	Before commencing Covered Activities	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
8	<p>Permittee shall clearly delineate habitat of the Covered Species within the Project Area with posted signs, posting stakes, flags, and/or rope or cord, and place fencing as necessary to minimize the disturbance of Covered Species' habitat. The Designated Biologist(s) shall identify and flag all potential small mammal burrows within the Project Area as ESAs. In addition, all potential GGS habitat that can be reasonably avoided during construction activities shall be identified as ESAs and shall be marked by the Designated Biologist(s). ESAs will be demarked by tying high visibility poly wire to stakes placed every six feet along the ESA boundary. The high visibility poly wire will be raised at least four feet above grade. The high visibility wire and stakes shall be marked with high visibility flagging or markers. All construction personnel shall avoid ESAs during all phases of construction. Permittee shall avoid ESAs when siting all staging areas, spoils disposal areas, borrow pits, and construction equipment access routes. Permittee shall not use plastic mono-filament netting on the Project Area for ESA boundaries, erosion control, or any other purpose to avoid entanglement of GGS. The Designated Biologist(s) shall inspect the boundary before the start of each workday and the Permittee shall maintain the fencing until the completion of the Project. Permittee shall remove all boundary material upon completion of the Project.</p>	ITP Condition # 8.6	Before commencing Covered Activities	Permittee	
9	<p>Permittee shall purchase 1.20 acres of Covered Species Credits from a CDFW-approved mitigation or conservation bank (Condition of Approval 9.1). Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 10 below for all uncompleted obligations.</p> <p>CDFW has estimated the cost of Covered Species credits and restoration of temporarily disturbed habitat as follows:</p> <ol style="list-style-type: none"> 1. CDFW has estimated the cost of the Covered Species credits for Giant Garter Snake habitat as \$55,000.00/acre for 1.20 acres: \$66,000.00. 2. Restoration of on-site temporary effects to Covered Species habitat as described in Condition of Approval 9.2 calculated at \$2,831.00/acre for 1.192 acres: \$3,374.55 	ITP Condition # 9	Before commencing Covered Activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
10	<p>Permittee shall prepare a Vegetation Restoration Plan (VRP) to restore on-site the 1.192 acres of GGS habitat that will be temporarily disturbed during construction to pre-Project or better conditions. The VRP shall be submitted to CDFW for approval prior to the start of Covered Activities. The VRP shall identify plant species that will be damaged or removed as a result of Project Activities. Permittee will plant replacement vegetation within 6 months after construction is complete.</p> <p>The VRP shall include a planting layout design with sufficient space appropriate for each species. The VRP shall include measures the Permittee will implement (i.e., irrigation methods, weed management, maintenance and replanting if necessary) to ensure a minimum of 80 percent survivorship for 5 years, after the last planting (i.e., if up to 30 percent of any of the species are at risk of not surviving and repeated plantings are necessary, then monitoring, maintenance, and annual reporting shall continue for the subsequent 3 years. Recommended plantings consist of a mix of the following:</p> <ol style="list-style-type: none"> 1. Emergent Wetland Habitats. Emergent wetland plants recommended for giant garter snake habitat are hard stem bulrush (<i>Scirpus acutus</i>), and California bulrush (<i>Scirpus californicus</i>). Additional wetland plantings may include cattail (<i>Typha</i> spp.), and water primrose (<i>Ludwigia peploides</i>), or Baltic rush (<i>Juncus balticus</i>). 2. Ground Cover on or Adjacent to Banks of Watercourses. Low growing cover on or adjacent to the banks of watercourses should include grasses and forbs described in the hydroseeding mix below. Additional cover may include California blackberry (<i>Rubus vitifolius</i>) or wild grape (<i>Vitis californica</i>). 3. Upland Plantings/Hydroseeding Mix. Disturbed soil surfaces such as levee slopes should be hydroseeded to prevent erosion. A mix of at least 20-40 percent native grass seeds (such as annual fescue (<i>Vulpia</i> spp.), California brome (<i>Bromus carinatus</i>), blue wildrye (<i>Elymus glaucus</i>), and needle grass (<i>Nassella</i> spp.)), 2-10 percent native forb seeds, five percent rose clover (<i>Trifolium hirtum</i>), and five percent alfalfa (<i>Medicago sativa</i>) is recommended. Approximately 40-68 percent of the mixture may be non-aggressive European annual grasses [such as wild oats (<i>Avena sativa</i>), wheat (<i>Triticum</i> spp.), and barley (<i>Hordeum vulgare</i>)]. Permittee will not include aggressive non-native grasses, such as perennial ryegrass (<i>Lolium perenne</i>), cheatgrass (<i>Bromus tectorum</i>), fescue (<i>Festuca</i> spp.), giant reed (<i>Arundo donax</i>), medusa-head (<i>Taeniatherum caput-medusae</i>), or Pampas grass (<i>Cortaderia selloana</i>) in the hydroseed mix. Permittee will not include endophyte-infected grasses in the mix. Mixes of one-hundred percent native grasses and forbs may also be used, and are encouraged. <p>Riparian plantings are not appropriate because shading may result in lack of basking sites. Native plantings are encouraged except where non-natives will provide additional values to wildlife habitat and will not become invasive in native communities.</p> <p>An annual status report on the restoration shall be provided to the CDFW by January 31 of each year per Reporting Condition 7.5. The annual report shall include wildlife found at the Project Area, the survival, percent cover, and height of tree and shrub species, the number by species of plants replaced, an overview of the revegetation effort, and the method used to assess these parameters. Before and after photos from designated photo stations shall be included.</p>	ITP Condition # 9.2	Before commencing Covered Activities, and within 6 months after construction is complete	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
11	<p>Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 9 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:</p> <ol style="list-style-type: none"> 1. Security Amount: The Security shall be in the amount of \$69,374.55. This amount is based on the cost estimates identified in Condition of Approval 9.1 above. 2. Security Form: The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel. 3. Security Timeline: The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first. 4. Security Holder: The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW. 5. Security Transmittal: If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other. 6. Security Drawing: The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP. 7. Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by: <ul style="list-style-type: none"> • Written documentation of the acquisition of the Covered Species Credits; • Timely submission of all required reports; • An on-site inspection by CDFW; and • Written approval from CDFW <p>Even if Security is provided, the Permittee must complete the required acquisition, protection and restoration of all lands no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.</p>	ITP Condition # 10	Before commencing ground- or vegetation-disturbing activities (or within 18 months of issuance of the ITP if Security is provided)	Permittee	
DURING CONSTRUCTION					
12	To ensure compliance with the Conditions of Approval of this ITP, the Designated Biologist shall have authority to immediately stop any activity that does not comply with this ITP, and/or to order any reasonable conditions to avoid the unauthorized take of an individual of the Covered Species. Permittee shall accommodate the Designated Biologist in the performance of his/her duties. If the Designated Biologist is unable to comply with the ITP due to a conflict with Project construction, then the Designated Biologist shall notify the CDFW representative immediately.	ITP Condition # 6.3	Entire Project	CDFW	
13	The Designated Biologist shall maintain a construction-monitoring notebook on-site throughout the construction period, which shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, dates construction occurred, pertinent information concerning the success of the Project in meeting avoidance and minimization measures, mitigation measures, conservation measures, and detailed summaries of any wildlife discovered at the site. Permittee shall ensure a copy of the construction-monitoring notebook is available for review at the Project Area upon request by CDFW.	ITP Condition # 6.5	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
14	Tightly woven fiber netting (mesh size less than ¼-inch) or similar material shall be used for erosion control and other purposes at the Project Area. Coconut coir matting is an acceptable erosion control material; no plastic, monofilament, jute, or other similar erosion control matting shall be used. The edge of the material shall be buried or weighted with sandbags or similar to prevent GGS from crawling underneath the edge of the material.	ITP Condition # 6.8	Entire Project	Permittee	
15	Project-related personnel shall access the Project Area using existing routes, or routes identified in the Project Description and shall not cross Covered Species' habitat outside of or en-route to the Project Area. Permittee shall restrict Project-related vehicle traffic to established roads, staging, and parking areas. Permittee shall ensure that vehicle speeds do not exceed 20 miles per hour to avoid Covered Species on or traversing the roads. If Permittee determines construction of routes for travel are necessary outside of the Project Area, the Designated Representative shall contact CDFW for written approval before carrying out such an activity. CDFW may require an amendment to this ITP, among other reasons, if additional take of Covered Species will occur as a result of the Project modification.	ITP Condition # 6.10	Entire Project	Permittee	
16	Permittee shall confine all Project-related parking, storage areas, laydown sites, equipment storage, and any other surface-disturbing activities to the Project Area using, to the extent possible, previously disturbed areas. Additionally, Permittee shall not use or cross Covered Species' habitat outside of the marked Project Area unless provided for as described in Condition of Approval 6.10 of this ITP.	ITP Condition # 6.11	Entire Project	Permittee	
17	Materials shall not be stored or placed in GGS habitat and shall be removed from the Project Area within 1 month of completion of Project Activities, and either disposed of off-site or stored in an upland location.	ITP Condition # 6.11.1	Entire Project	Permittee	
18	Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.	ITP Condition # 6.12	Entire Project	Permittee	
19	Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP and provide the necessary safety equipment to access the site.	ITP Condition # 6.14	Entire Project	Permittee	
20	The Designated Representative shall immediately notify CDFW in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall report any non-compliance with this ITP to CDFW within 24 hours	ITP Condition # 7.2	Entire Project	Permittee	
21	The Designated Biologist shall be on-site during the following activities: all initial ground-disturbing and excavation activities, all exclusion fencing installations and removals, all vegetation removal or modifications, removal or modification to rip rap on levees, movement of heavy equipment in Covered Species habitat, all dewatering and flow diversion system installation and removal. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) check all exclusion zones; (5) ensure that signs, stakes, and fencing are intact; (6) be on site during Covered Activities to ensure compliance and that Covered Activities are only occurring in the Project Area. The Designated Representative or Lead Designated Biologist shall prepare daily written observation and inspection records summarizing: oversight activities and compliance inspections, observations of Covered Species and their sign, survey results, and monitoring activities required by this ITP. The Designated Biologist shall conduct compliance inspections a minimum of once a week during periods of inactivity and after clearing, grubbing, and grading are completed.	ITP Condition # 7.3	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
22	The Designated Representative or Lead Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 7.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to the CDFW offices listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representative and Headquarters CESA Program. At the time of this ITP's approval, the CDFW Regional Representative is Jeanette Griffin (Jeanette.Griffin@wildlife.ca.gov) and Headquarters CESA Program email is CESA@wildlife.ca.gov. CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.	ITP Condition # 7.4	Entire Project	Permittee	
23	Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 7.4; (2) a general description of the status of the Project Area and Covered Activities, including actual or projected completion dates, if known; (3) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (4) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (5) all available information about Project-related incidental take of the Covered Species; and (6) information about other Project impacts on the Covered Species.	ITP Condition # 7.5	Entire Project	Permittee	
24	The Lead Designated Biologist shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Lead Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.	ITP Condition # 7.6	Entire Project	Permittee	
25	Permittee shall immediately notify the Lead Designated Biologist if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Lead Designated Biologist or Designated Representative shall provide initial notification to CDFW by calling the Regional Office at (707) 428-2002. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within two calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.	ITP Condition # 7.8	Entire Project	Permittee	
26	Unless approved by CDFW, all in-water Covered Activities shall occur between August 1 to November 30, and all Covered Activities within non-aquatic GGS habitat shall occur between May 1 and October 1.	ITP Condition #8.1	Entire Project	Permittee	
27	Initial ground-disturbance activities within potential habitat for GGS shall be conducted in the active season of May 1 to October 1. Snakes are more active at this time of year and are expected to be better able to avoid danger, thus reducing chances for direct mortality.	ITP Condition #8.5	Entire Project	Permittee	
28	Permittee shall terminate all Project Activities covered under this Agreement thirty (30) minutes prior to sunset and shall not resume until thirty (30) minutes after sunrise. Permittee shall use sunrise and sunset times established by the U.S. Naval Observatory Astronomical Applications Department for the geographic area (http://aa.usno.navy.mil/data/docs/RS_OneYear.php). All lighting shall be turned off thirty (30) minutes prior to sunset, unless required for safety or security purposes.	ITP Condition # 8.2	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
29	All pipes, culverts, or similar structures that are stored at the construction vertically or horizontally on site for one or more overnight periods shall be securely capped on both ends prior to storage and thoroughly inspected for wildlife prior to implementation at the Project Area by the Designated Biologist. All hollow pipes or posts installed as part of the Project and exposed to the environment shall be capped, screened, or filled with material by Permittee prior to the end of the work day in which installation occurs.	ITP Condition # 8.3	Entire Project	Permittee	
30	To avoid entrapment of wildlife, all excavated steep-walled holes or trenches more than 2 feet deep will be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday. If escape ramps cannot be provided, then holes or trenches will be covered with plywood or similar materials. Providing escape ramps or covering open trenches will prevent injury or mortality of wildlife resulting from falling into trenches and becoming trapped. The trenches will be thoroughly inspected by the Designated Biologist for the presence of species at the beginning of each workday.	ITP Condition # 8.4	Entire Project	Permittee	
31	Prior to the initiation of daily Covered Activities the Designated Biologist shall survey for special status species listed within the Project Area. Surveys shall entail walking the entire boundary of the ESA and motorized vehicle pathways as well as walking linear transects inside the Project Area. Transects shall be spaced approximately 50 feet or less apart. Once initial grading has been completed, ESA demarcation or the exclusion fencing system has been installed then a Biological Monitor may conduct the daily clearance surveys. The Designated Biologist must be on-site a minimum of once per week to assist in clearance surveys. If special-status species are discovered within the ESA areas or directly outside the areas, findings shall be reported to CDFW in accordance with the measures cited above but no later than 4 hours from the time the species are observed.	ITP Condition # 8.7	Entire Project	Permittee	
32	All encountered GGS shall not be harassed, harmed, or killed and shall either be allowed to leave the construction area of their own volition or relocated out of harm's way by the Designated Biologist. If any snake is observed retreating into an underground burrow within the active Project Area where Covered Activities are taking place that cannot be fully avoided by the Project, then no Covered Activities shall be allowed within a 30-foot radius of the burrow until the Designated Biologist is on site to supervise excavation of the burrow. Excavation shall be done by hand to allow the Designated Biologist to capture and handle the snake to relocate it outside of the Project Area.	ITP Condition # 8.8	Entire Project	Permittee	
33	Workers shall inspect under vehicles and equipment for GGS before the vehicles and equipment are moved. All workers shall inform the Designated Biologist(s) if they encounter a snake within or near the Project Area during all phases of Project construction, operation, and maintenance. If a snake is present, the worker shall notify the Designated Biologist(s). Covered Activities with potential to cause take of GGS within a 100-foot radius shall cease until the snake moves away from construction activities on its own or the Designated Biologist(s) moves the animal to a safe location nearby. If the individual is found within the fenced Project Area, the Designated Biologist shall move the individual outside of the area of construction.	ITP Condition # 8.9	Entire Project	Permittee	
34	GGS may only be captured and handled by the Designated Biologist. The Designated Biologist shall determine whether the animal should be captured and handled. The Designated Biologist(s) shall minimize capture and handling to the extent feasible as most reptiles experience stress in response to capture and short-term confinement.	ITP Condition # 8.10	Entire Project	Designated Biologist	
35	Permittee shall have on site a person properly trained in spill containment/clean up to implement spill control devices in the event a spill occurs.	ITP Condition # 8.11	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
36	Permittee shall prepare and submit for acceptance an emergency spill response plan to CDFW prior to commencement of construction. The plan shall identify the location of containment and abatement materials on site, the actions which shall be taken in the event of a spill of hazardous or other material harmful to aquatic or plant life, the emergency materials which shall be kept at the Project Area to allow the rapid containment and clean-up of any spilled material, and the notification and cleanup procedures to be followed by Permittee in the event of a spill.	ITP Condition # 8.12	Entire Project	Permittee	
37	All activities performed in or near waters of the state shall have absorbent materials designated for spill containment and clean up activities on-site for use in an accidental spill. The Permittee shall immediately notify the California Governor's Office of Emergency Services at 1-800-852-7550 or (916) 845-8911 and immediately initiate the clean up activities. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.	ITP Condition # 8.13	Entire Project	Permittee	
38	Permittee shall begin the cleanup of all spills immediately. CDFW shall be notified immediately by the Permittee of any spills and shall be consulted regarding cleanup procedures. The Permittee shall have all spill clean-up equipment on site during construction.	ITP Condition # 8.14	Entire Project	Permittee	
39	Any fueling and lubricating of the drilling barge while it is in or adjacent to a waterway shall be supervised by a minimum of two crew members experienced in such operations. Spill equipment such as booms shall be on site and be ready to deploy in case of spill.	ITP Condition # 8.15	Entire Project	Permittee	
40	<p>Containment of concrete leachate shall adhere to the following practices:</p> <ol style="list-style-type: none"> Any and all concrete structures that may come in contact with channel flows (e.g., piers, abutments) shall be poured by September 30. Permittee shall notify CDFW by September 15 if in-stream concrete work is expected to extend beyond September 30. All other concrete pouring twenty-five (25) feet above the top of the bank (e.g., bridge surfaces, upland structures) shall be completed by October 31. Water that has come in contact with uncured concrete or other cement products shall not be allowed to enter the main stream channel until the pH of the water is between 6.3 and 8.5 pH units. Water shall be diverted around uncured concrete structures, and the areas around poured concrete shall be dewatered. Unsealed structures shall be allowed to cure (dry) for at least twenty-eight (28) days before flows are reintroduced. To shorten the curing period, Permittee may use a non-toxic sealant designed for use in aquatic environments. Prior to use, Permittee shall submit the product Material Safety Data Sheet (MSDS), including information about environmental toxicity, to CDFW for review and approval. Approval may be obtained by providing a written request to Jeanette Griffin at Jeanette.Griffin@wildlife.ca.gov. If a sealant is to be applied, concrete structures shall be allowed to cure for at least seven (7) days prior to application and for an additional (three) 3 days following application of the sealant before flows are reintroduced. Concrete curing compounds shall not be used within twenty-five (25) feet of the stream without written acceptance from CDFW and use of appropriate best management practices. Wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment shall not be allowed to enter the stream channel and should be removed from the site for treatment following work. No dry concrete shall be placed on the banks or in a location where it could be carried into the channel by wind or runoff. 	ITP Condition # 8.16	Entire Project	Permittee	
POST-CONSTRUCTION					
41	Upon completion of Covered Activities, Permittee shall remove from the Project Area and properly dispose of all temporary fill and construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes.	ITP Condition # 6.13	Post-construction	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
42	No later than 45 days after completion of all mitigation measures, Permittee shall provide CDFW with a Final Mitigation Report. The Lead Designated Biologist shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; and (8) any other pertinent information.	ITP Condition # 7.7	Post-construction and after completion of mitigation	Permittee	

IRREVOCABLE STANDBY LETTER OF CREDIT
NO. **[Number issued by financial institution]**

Issue Date: **[date]**

Beneficiary:

California Department of Fish and Wildlife
Post Office Box 944209
Sacramento, CA 94244-2090
Attn: HCPB Mitigation Account Coordinator

Amount: U.S. \$**[dollar number]** **[(dollar amount)]**

Expiry: **[Date]** at our counters

Dear Sirs:

1. At the request and on the instruction of our customer, **[name of applicant]** ("Applicant"), we, **[Name of financial institution]** ("Issuer"), hereby establish in favor of the beneficiary, the California Department of Fish and Wildlife ("CDFW"), this irrevocable standby letter of credit ("Credit") in the principal sum of U.S. \$**[dollar number]** **[(dollar amount)]** ("Principal Sum").
2. We are informed this Credit is and has been established for the benefit of the CDFW pursuant to the terms of the incidental take permit for the **[name of project]** issued by the CDFW to the Applicant on **[date]** (No. **[number]**) ("Permit").
3. We are further informed that pursuant to the Permit, the Applicant has agreed to complete certain mitigation requirements, as set forth in Conditions **[numbers]** in the Permit ("Mitigation Requirements").
4. We are finally informed that this Credit is intended by the CDFW and the Applicant to serve as a security device for the performance by the Applicant of the Mitigation Requirements.
5. The CDFW shall be entitled to draw upon this Credit only by presentation of a duly executed Certificate for Drawing ("Certificate") in the same form as Attachment A, which is attached hereto, at our office located at **[name and address of financial institution]**.
6. The Certificate shall be completed and signed by an "Authorized Representative" of the CDFW as defined in paragraph 12 below. Presentation by the CDFW of a completed Certificate may be made in person or by registered mail, return receipt requested, or by overnight courier.
7. Upon presentation of a duly executed Certificate as above provided, payment shall be made to the CDFW, or to the account of the CDFW, in immediately available funds, as the CDFW shall specify.

8. If a demand for payment does not conform to the terms and conditions of this Credit, we shall give the CDFW prompt notice that the demand for payment was not effected in accordance with the terms and conditions of this Credit, state the reasons therefore, and await further instruction.
9. Upon being notified that the demand for payment was not effected in conformity with the Credit, the CDFW may correct any such non-conforming demand for payment under the terms and conditions stated herein.
10. All drawings under this Credit shall be paid with our funds. Each drawing honored by us hereunder shall reduce, *pro tanto*, the Principal Sum. By paying to the CDFW an amount demanded in accordance herewith, we make no representations as to the correctness of the amount demanded.
11. This Credit will be cancelled upon receipt by us of Certificate of Cancellation, which: (i) shall be in the form of Attachment B, which is attached hereto, and (ii) shall be completed and signed by an Authorized Representative of the CDFW, as defined in paragraph 12 below.
12. An "Authorized Representative" shall mean either the Director of the California Department of Fish and Wildlife, the General Counsel of the California Department of Fish and Wildlife, or a Regional Manager of the California Department of Fish and Wildlife.
13. This Credit shall be automatically extended without amendment for additional periods of one year from the present or any future expiration date hereof, unless at least sixty (60) days prior to any such date, we notify the CDFW in writing by registered mail, return receipt requested, or by overnight courier that we elect not to consider this Credit extended for any such period.
14. Communications with respect to this Credit shall be in writing and addressed to us at **[name and address of financial institution]**, specifically referring upon such writing to this credit by number. The address for notices with respect to this Credit shall be: (i) for the CDFW: California Department of Fish and Wildlife, Habitat Conservation Planning Branch, 1416 Ninth Street, 12th Floor, Sacramento, California 95814-2090 Attn: HCPB Mitigation Account Coordinator; and (ii) for the Applicant: **[name and address of applicant]**.
15. This Credit may not be transferred.
16. This Credit is subject to the International Standby Practices 1998 ("ISP 98"). As to matters not covered by the ISP 98 and to the extent not inconsistent with the ISP 98, this credit shall be governed by and construed in accordance with the Uniform Commercial Code, Article 5 of the State of California.
17. This Credit shall, if not canceled, expire on **[expiration date]**, or any extended expiration date.

18. We hereby agree with the CDFW that documents presented in compliance with the terms of this Credit will be duly honored upon presentation, as specified herein.

19. This Credit sets forth in full the terms of our undertaking. Such undertaking shall not in any way be modified, amended or amplified by reference to any document or instrument referred to herein or in which this Credit is referred to or to which this Credit relates and any such reference shall not be deemed to incorporate herein by reference any document or instrument.

[Name of financial institution]

By: _____

Name: _____

Title: _____

ATTACHMENT A

IRREVOCABLE STANDBY LETTER OF CREDIT NO. [**Number issued by financial institution**]
CERTIFICATE FOR DRAWING

To:

[**Name and address of financial institution**]

Re: Incidental Take Permit No. [**permit number**]

The undersigned, a duly Authorized Representative of the California Department of Fish and Wildlife ("CDFW"), as defined in paragraph 12 in the above-referenced Irrevocable Standby Letter of Credit ("Credit"), hereby certifies to the Issuer that:

1. [**Insert one of the following statements:** "In the opinion of the CDFW, the Applicant has failed to complete the Mitigation Requirements referenced in paragraph 3 of the Credit." **or** "As set forth in paragraph 13, the Issuer has informed the CDFW that the Credit will not be extended and the Applicant has not provided the CDFW with an equivalent security approved by the CDFW to replace the Credit."]
2. The undersigned is authorized under the terms of the Credit to present this Certificate as the sole means of demanding payment on the Credit.
3. The CDFW is therefore making a drawing under the Credit in amount of U.S. \$_____.
4. The amount demanded does not exceed the Principal Sum of the Credit.

Therefore, the CDFW has executed and delivered this Certificate as of the ____ day of _____, _____.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

BY: _____

[**Insert one of the following:** "DIRECTOR" **or** "GENERAL COUNSEL" **or** "REGIONAL MANAGER, [**NAME OF REGIONAL OFFICE**"]]

ATTACHMENT B

IRREVOCABLE LETTER OF CREDIT NO. [**Number issued by financial institution**]
CERTIFICATE FOR CANCELLATION

To:

[**Name of financial institution and address**]

Re: Incidental Take Permit No. [**permit number**]

The undersigned, a duly Authorized Representative of the California Department of Fish and Wildlife ("CDFW"), as defined in the paragraph 12 in the above-referenced Irrevocable Standby Letter of Credit ("Credit"), hereby certifies to the Issuer that:

1. [**Insert one of the following statements:** "The Applicant has presented documentary evidence of full compliance with the Mitigation Requirements referenced in paragraph 3 of the Credit." **or** "The natural expiration of this Credit has occurred."]
2. The CDFW therefore requests the cancellation of the Credit.

Therefore, the CDFW has executed and delivered this Certificate for Cancellation as of the ____ day of _____, _____.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

BY: _____

[**Insert one of the following:** "DIRECTOR" **or** "GENERAL COUNSEL" **or** "REGIONAL MANAGER, [**NAME OF REGIONAL OFFICE**"]]

State of California - Department of Fish and Wildlife
MITIGATION PAYMENT TRANSMITTAL FORM
DFW 1057 (NEW 07/28/17)

Project Applicant Instructions: Please fill out and attach this form to payment. For conservation banks, also attach the Bill(s) of Sale for credits sold. One form may be used for multiple transactions, **BUT YOU MUST USE A SEPARATE FORM FOR EACH CHECK YOU TRANSMIT.** Make sure to include Project Name, Project Tracking Number, and ASB Mitigation Tracking Number (if available) on the attached payment type.

1. DATE: _____ TO: _____ Regional Manager _____ Region Office Address	2. FROM: _____ Name _____ Mailing Address _____ City, State, Zip _____ Telephone Number/FAX Number
3. RE: _____ Project Name as appears on permit/agreement	

4. AGREEMENT/ACCOUNT INFORMATION: (check the applicable type) <input type="checkbox"/> 2081 Permit <input type="checkbox"/> Conservation Bank <input type="checkbox"/> 2835 NCCP <input type="checkbox"/> 1802 Agreement <input type="checkbox"/> 1600 Agreement <input type="checkbox"/> Other _____ _____ Project Tracking Number

5. PAYMENT TYPE (One check per form only): The following funds are being remitted in connection with the above referenced project:

Check information:

Total \$ _____ Check No. _____

Account No. _____ Bank Routing No. _____

a. Endowment: for Long-Term Management Subtotal \$ _____

b. Habitat Enhancement Subtotal \$ _____

c. Security:

1. Cash Refundable Security Deposit Subtotal \$ _____

2. Letter of Credit Subtotal \$ _____

1. Financial Institution: _____

2. Letter of Credit Number: _____

3. Date of Expiration: _____

ACCOUNTING OFFICE USE ONLY	
Description	FI\$Cal Coding
Speedchart (Project, Program, Reference, Fund)	
Reporting Structure	
Category	
Date Established: _____ By: _____	