California Department of Fish and Wildlife
Water Branch
P.O. Box 944209
Sacramento, CA 94244

California Endangered Species Act
Incidental Take Permit No. 2081-2023-051-00

Operations of the Sites Reservoir Project

I. 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 take[1] of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.[2] However, CDFW may authorize the take of any such species by permit pursuant to the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c). (See Cal. Code Regs., tit. 14, § 783.4.).

Permittee:	**Sites Project Authority**
Principal Officer:	**Jerry Brown, Executive Director**
Contact Person:	**Alicia Forsythe, (916) 880-0676**
Mailing Address:	**Sites Project Authority** **122 Old Highway 99 West** **Maxwell, CA 95955**

II. Effective Date and Expiration Date of this ITP:

This ITP is effective as of the date signed by CDFW below. Unless renewed by CDFW, this ITP and its authorization to take the Covered Species shall expire on **December 31, 2039**.

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 8.5 of this ITP.

[1] Pursuant 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.

III. Project Location:

The Operations of the Sites Reservoir Project (Project) will be a newly constructed off-stream reservoir with a 1.5-million-acre feet (MAF) storage capacity and associated water conveyance facilities, west of the community of Maxwell in Glenn and Colusa Counties (Figure 1).

The Project will divert water from the upper Sacramento River utilizing two previously existing water diversions, fish screen facilities, and pumping stations (together, diversion facilities). The primary diversion facility is the Red Bluff Pumping Plant (RBPP), and the secondary diversion facility is the Hamilton City Pump Station (HCPS). Water diversions from the primary and secondary diversion facilities to the Sites Reservoir will be conveyed via previously existing and newly constructed facilities within the Tehama Colusa Canal (TC Canal), Glenn Colusa Irrigation District (GCID) Main Canal and Funks Reservoir. Newly constructed facilities for the Project include a Terminal Regulating Reservoir, pump generating plants (PGP), and inlet-outlet works (I/O Works) facilities that will convey water to and from the Sites Reservoir. The Project will also conduct operational exchanges with the State Water Project (SWP) and Central Valley Project (CVP) reservoirs, and real-time exchanges of water and transfers with participants.

Water releases for downstream participants will be conveyed through existing canals within the TC Canal, GCID Main Canal and Colusa Basin Drain (CBD). The Project will also construct a new pipeline, the Dunnigan Pipeline (DP), and associated outfall that will convey water from the TC Canal to the previously existing CBD. All water conveyed in the CBD will be released at two previously existing locations. The primary release location at the Knights Landing Outfall Gates (KLOG) will release water into the lower Sacramento River. The secondary location will release water through the Knights Landing Ridge Cut (KLRC) into the Yolo Bypass through the Wallace Weir. The direction of flow from the CBD to KLOG or KLRC is determined by the operation of the gates at KLOG and Wallace Weir. KLOG and Wallace Weir are operated by the California Department of Water Resources (DWR) and Reclamation District 108 (RD 108).

The previously existing and newly constructed conveyance facilities are located in Tehama County, Glenn County, Colusa County, and Yolo County, in the State of California (Figure 1):

- The Sites Reservoir is located in Antelope Valley, ten miles west of the town of Maxwell, in Glenn and Colusa Counties, latitude and longitude 39.30908, -122.34022 (Figure 4).

- The Red Bluff Pumping Plant and associated diversion facility is located at River Mile 243 on the upper Sacramento River in the City of Red Bluff, Tehama County, latitude and longitude 40.15201, -122.20328 (Figure 2).

- The Hamilton City Pump Station and associated diversion facility is located at River Mile 206 on the upper Sacramento River in Hamilton City, Glenn County, latitude and longitude 39.78851, -122.04993 (Figure 3).

- The Tehama Colusa Canal is a 110-mile-long conveyance starting in the City of Red Bluff, Tehama County, latitude and longitude 40.14615, -122.19786 and extends to the community of Dunnigan, in Yolo County, latitude and longitude 38.84868, -121.97197 (Figure 1).

- The Glenn Colusa Irrigation District Main Canal is a 65-mile-long conveyance starting in Hamilton City, Glenn County, latitude and longitude 39.78723, -122.04887 (Figure 1) and extends to the Davis Weir in the Colusa Basin Drain eight miles east of Williams, in Colusa County, latitude and longitude 39.11439, -122.01854.

- Funks Reservoir is a previously existing facility that will be used to convey water to and from the Sites Reservoir from the Tehama Colusa Canal. Funks Reservoir is located near the community of Maxwell, in Colusa County, latitude and longitude 39.32815, -122.29463 (Figure 4).

- Terminal Regulating Reservoir is a new facility to convey water to and from the Sites Reservoir from the Glen Colusa Irrigation District Main Canal. The Terminal Regulating Reservoir is located near the community of Maxwell, in Colusa County, latitude and longitude 39.34251, -122.22044 (Figure 4).

- Dunnigan Pipeline is a new conveyance facility to convey water 4 miles east from the Tehama Colusa Canal to the Colusa Basin Drain, forty miles south of the Sites Reservoir (Figure 5). The Dunnigan pipeline initiates south of the community of Dunnigan, in Yolo County, latitude and longitude 38.85224, -121.97415 and ends via a new outlet structure to the lower portion of the Colusa Basin Drain in Yolo County, latitude and longitude 38.86225, -121.90636.

- The Lower Colusa Basin Drain is a previously existing conveyance that conveys water from the Dunnigan Pipeline to the Knights Landing Outfall Gates and Knights Landing Ridgecut. The Lower Colusa Basin Drain starts east of the city of Arbuckle, Colusa County, latitude and longitude 39.03156, -121.99258 (Figure 1) and ends at the Yolo Bypass in Yolo County, latitude and longitude 38.72191, -121.66378 (Figure 1).

- Knights Landing Outfall Gates are a previously existing facility that will act as the primary water release location from the Lower Colusa Basin Drain to the Sacramento River. The Knights Landing Outfall Gates are located in the city of Knights Landing, Yolo County, latitude and longitude 38.79947, -121.725099 (Figure 1).

- Knights Landing Ridge Cut is a previously existing conveyance channel that will convey water to the secondary water release location from the Lower Colusa Basin Drain into the Yolo Bypass, Knights Landing Ridgecut initiates at latitude and longitude 38.79546, -121.72899 (Figure 4). The Knights Landing Ridge Cut release location to the Yolo Bypass is located at Wallace Weir, southeast of the city of Knights Landing, Yolo County, latitude and longitude

38.78915, -121.720269.

Project operations will occur in the facilities described above and, in all fish-bearing waterways that include the Sacramento River, Sutter Bypass floodplain (Sutter Bypass), Yolo Bypass floodplain (Yolo Bypass), Sacramento-San Joaquin Delta (Delta), Suisun Marsh, and Suisun Bay (collectively the Project Area) (Figure 1).

IV. Project Description:

Project related activities (Covered Activities) under this ITP include: (1) Permittee's diversion of upper Sacramento River water from the Bureau of Reclamation's RBPP and the GCID's HCPS to divert a combined total of up to 986 thousand acre-feet (TAF) annually; (2) Permittee facilitated water exchanges with Oroville Reservoir of up to 136 TAF annually; (3) Permittee facilitated water exchanges with Shasta Reservoir of up to 188 TAF annually; (4) Permittee facilitated real-time exchanges and transfers[3] between participants of up to 160 TAF annually; (5) Permittee releases of up to 139 TAF annually for north-of-Delta participants and wildlife refuges north-of-Delta; (6) Permittee releases of up to 637 TAF annually for downstream and south-of-Delta participants into the TC Canal, CBD, and the KLOG to the (lower) Sacramento River and releases into KLRC to the Yolo Bypass through Wallace Weir; and (7) Limited fish screen maintenance activities associated with the Permittee's diversions at the RBPP and HCPS diversion facilities.

HISTORICAL AND CONCURRENT AUTHORIZATIONS

Incidental Take Permit 2081-2022-006-02

CDFW ITP No. 2081-2022-006-02 addressed incidental take of giant garter snake, Swainson's hawk, tricolored blackbird and Crotch's bumble bee related to the construction of the Sites Reservoir Project and its associated conveyance facilities.

PROJECT FACILITIES

Red Bluff Pumping Plant

The RBPP is a previously existing diversion facility owned by the Bureau of Reclamation (Reclamation) and operated by the Tehama Colusa Canal Authority (TCCA). The RBPP is operated and maintained by the TCCA through mutual agreement with Reclamation. The RBPP consists of a 1,118-foot-long flat plate fish screen with 1.75-millimeter (mm) slot sizing, intake channel, pumping plant, water diversion pumps, and discharge conduit to divert water from the Sacramento River into the TC Canal.

[3] Real-time exchanges and transfers refer to in-river exchanges and not the sale of water.

Hamilton City Pump Station
The HCPS is a previously existing facility owned and operated by the GCID. The HCPS consists of a 1,100-foot-long flat plate fish screen with slot sizing that ranges from 1.75 mm to 2.38mm. The HCPS facility also includes a flow gradient facility in the main Sacramento River Channel, HCPS oxbow channel inlet, rock training wall, flow control weir, water diversion pumps and pumping plant to discharge diverted water from the Sacramento River into the GCID Main Canal.

New Headgate at Hamilton City Pump Station
Conveyance of additional volumes of water for the Project to the GCID Main Canal will require installation of a new headgate structure to accommodate the increased capacity within the GCID Main Canal to control and maintain the flow of water to downstream conveyance facilities.

Tehama Colusa Canal
The TC Canal is a 110 mile long, previously existing conveyance facility owned by Reclamation and operated by the TCCA. The TC Canal will convey water from the Sacramento River at the RBPP to the FR. The TC Canal will also receive water released from the Sites Reservoir into the FR for downstream participants and deliver water to the DP bound for the CBD for release at the locations described below into the Sacramento River and Yolo Bypass.

Glenn Colusa Irrigation District Main Canal
The GCID Main Canal is a 65-mile-long, existing water conveyance facility owned and operated by GCID. The GCID Main Canal will act as a conveyance facility of water diverted from the Sacramento River at the HCPS to the Terminal Regulating Reservoir that is then pumped into the Sites Reservoir. The GCID Main Canal will also receive water released from Sites Reservoir into the Terminal Regulating Reservoir for downstream participants.

Funks Reservoir
The existing Funks Reservoir is owned by Reclamation and operated and maintained by TCCA and will be used to store and pump water from the TC Canal to and from Sites Reservoir. The Funks Reservoir would accommodate up to 2,100 cfs from the TC Canal. A pump generating plant with a 2,100 cubic feet per second (cfs) capacity will pump water into two 12-foot diameter pipes, each with 1,050 cfs capacity that will move water into the Sites Reservoir. The Funks generating facility would move up to 2,000 cfs out of Sites Reservoir into the Funks Reservoir. The Project will not alter the footprint of Funks Reservoir, but 740,000 cubic yards of sediment will be excavated to restore initial capacity of the Funks Reservoir to 2,250 AF.

Terminal Regulating Reservoir
Terminal Regulating Reservoir is a new facility that will encompass 100 acres and have a storage capacity of 600 AF. The Terminal Regulating Reservoir includes a Terminal Regulating Reservoir – PGP's, an electrical substation, and Terminal Regulating Reservoir pipelines. The Terminal Regulating Reservoir will be hydraulically connected to the GCID Main Canal to allow water conveyance to and

from the Sites Reservoir. The Terminal Regulating Reservoir will accommodate inflows of up to 1,800 cfs from the GCID Main Canal and the PGP will have a design capacity of 1,800 cfs to move water into the Sites Reservoir. The Terminal Regulating Reservoir generating facility would move up to 2,000 cfs out of Sites Reservoir into the Terminal Regulating Reservoir.

Inlet/Outlet Works Facilities
The I/O Works is a new facility located at the Sites Reservoir, south of the Golden Gate Dam, and consists of a transition manifold that will connect four 12-foot diameter pipes from the Terminal Regulating Reservoir and Funks Reservoir to a 32-foot diameter Inlet/Outlet Tunnel (I/O Tunnel). The I/O Tunnel will connect into the Sites Reservoir. The I/O works will be used to fill the Sites Reservoir and to make releases from the Sites Reservoir into the Terminal Regulating Reservoir and Funks Reservoir. Operations will allow up to 2,000 cfs to be released from the I/O Works to Funks Reservoir and up to 1,000 cfs to be released from the I/O Works to the Terminal Regulating Reservoir. The I/O Works can withdraw water from Sites Reservoir over a range of depths to manage release water temperatures.

Sites Reservoir
The 1.5 MAF Sites Reservoir will impound water by the Golden Gate Dam on Funks Creek and the Sites Dam on Stone Corral Creek. A series of saddle dams along the eastern and northern rims of Sites Reservoir will close off topographic saddles in the surrounding ridges to form Sites Reservoir.

Dunnigan Pipeline and Colusa Basin Drain Outlet
The DP is a new conveyance facility that will be 4 miles long, constructed forty miles south of the Sites Reservoir connecting the TC Canal with the CBD. The pipeline will have a minimum depth of 6 feet below ground surface, and an inner diameter of 9 feet. A CBD outlet with an energy dissipation structure will be required at the downstream end of the pipeline to discharge into the CBD. Two 60-inch-diameter, fixed cone valves will be placed at the discharge stilling basin to dissipate energy and adjust flow released into the CBD. The conveyance through the DP to the CBD will use gravity (i.e., no pumping station) and have a flow capacity up to 1,000 cfs.

Colusa Basin Drain
The CBD is a previously existing 70-mile earthen channel operated and maintained by the GCID, RD 108, Reclamation District 2047, Colusa Basin Drain District, DWR and other local reclamation and water districts. The CBD is gravity fed and will convey water for the Project from the DP that blends with agricultural runoff from the surrounding area into the Sacramento River and the Yolo Bypass via KLOG and KLRC.

Knights Landing Outfall Gates
The KLOG is a previously existing facility operated by DWR. KLOG is located 1,300 feet from the Sacramento River at RM 90 at the downstream, terminal end of the CBD. The gates are operated to prevent backwater flooding into the CBD from the Sacramento River and to allow water from the CBD

to enter the Sacramento River. The KLOG incorporates a positive fish passage barrier, installed in four in-stream water conveyance bays, as stainless-steel picket weirs, designed to prevent fish from entering the CBD when the picket weirs are operational. The Project proposes to release water from the CBD to the Sacramento River at KLOG.

Knights Landing Ridge Cut
KLRC is a previously existing channel maintained by RD 108. The KLRC channel conveys flows from the CBD into the Yolo Bypass, downstream of the Fremont Weir. Flows and water levels within the KLRC are dependent on operations at KLOG, Wallace Weir, and flows occurring within the Yolo Bypass. Project water releases that do not occur at KLOG may be conveyed from the CBD to KLRC into the Yolo Bypass through the Wallace Weir through coordinated operations at KLOG and Wallace Weir.

Wallace Weir
The Wallace Weir is a previously existing facility operated and maintained by RD 108 in coordination with DWR at the downstream end of KLRC as a water control structure to the Yolo Bypass. The Wallace Weir includes a series of pneumatic bottom hinged gates used to control flow within KLRC. The Wallace Weir also utilizes a series of six steel picket weirs downstream of the gates to block upstream fish passage. The Wallace Weir also consists of a fish rescue facility that operates to corral fish attempting to travel upstream that is overseen by CDFW.

PROJECT OPERATIONS

The Project will use existing infrastructure to divert flow from the Sacramento River at RBPP and HCPS diversion facilities to convey water to, and release water from, the new off-stream Sites Reservoir as previously described in the Project Location, Project Description, and Project Facilities sections of this ITP.

Operations Overview
Permittee will conduct operations as follows[4]: Permittee may divert no more than a maximum annual total of 986 TAF per year from the Sacramento River from September 1 to June 14. The maximum annual diversion at the RBPP for the Project is up to 660 TAF per year. The maximum instantaneous diversion rate at the RBPP for the Project is up to 2,120 cfs. The maximum annual diversion for the Project at the HCPS is up to 421 TAF per year. The maximum instantaneous diversion rate at HCPS for the Project is up to 2,070 cfs. The maximum annual release from the Sites Reservoir to local participants and downstream participants via the GCID Main Canal, TC Canal and Sacramento River via the CBD and KLRC through the Wallace Weir is up to 776 TAF per year. Permittee may exchange a maximum of up to 188 TAF per year with the CVP's Shasta Reservoir [5] and up to 136 TAF per year with

[4] These operations are based on the Alt 3B at 2035 CT climate modeling scenario. Maxima for a total volume do not always equal the maxima for the constituent parts since the maxima might occur in different years. Maximum annual exchanges with the CVP Shasta Reservoir does not include CVP Operational Flexibility.
[5] This exchange differed from that which is described in the Final EIR as this volume is a subset of the exchanges that only include the volume of Reclamation's water exchanges with other participant's storage account in Sites Reservoir (i.e., not including Op-flex water). The Project is not requesting take authorization for Reclamation's actions to use CVP water. The same approach is used for SWP water with Oroville exchanges.

the SWP's Oroville Reservoir. In addition, the Permittee may facilitate annual exchanges of up to 160 TAF for real-time exchanges or transfers with participants.

Diversion to Sites Reservoir from the Sacramento River

Diversions to Sites Reservoir will be made from the Sacramento River at the existing RBPP (RM 243) near Red Bluff into the TC Canal and at the existing GCID HCPS (RM 205) near Hamilton City into the GCID Main Canal. Water will only be diverted to storage in Sites Reservoir from September 1 to June 14 and when all of the following conditions are met:

- Flows in, or diversions from, the Sacramento River are consistent with the diversion criteria in Condition of Approval 9.10, 9.11, and 9.12
- The Delta is in "excess" conditions[6] as determined by Reclamation and DWR and would remain in excess conditions during diversions.
- Senior downstream water rights, existing CVP and SWP and other water rights diversions including Section 215 of the Reclamation Reform Act of 1992, Article 3(f) water, and SWP Article 21 (interruptible supply), and other more senior flow priorities have been satisfied.
- Flows are available for diversion above flows needed to meet all applicable laws, regulations, Biological Opinion(s), and ITPs, and court orders in place at the time that diversion occurs. This would include, but is not limited to, any flow requirements in Water Right Decision 1641.
- There is available capacity at the RBPP and in the TC Canal and GCID facilities to divert and convey water to Sites Reservoir, above the capacity needed for deliveries to existing TC Canal users and within the GCID service area.
- Relevant terms and conditions from the Project's water right permit are met.

Yolo Bypass Fremont Weir Notch Protections

The Project will operate to avoid effects on the Yolo Bypass Fremont Weir Big Notch Project's (also known as the Salmonid Habitat and Adult Fish Passage Project) ability to achieve its juvenile entrainment and adult passage performance goals for salmonids in the Sacramento River. The Salmonid Habitat and Adult Fish Passage Project is compensatory mitigation for DWR's long-term operation of the SWP and the objective of the project is to enhance floodplain rearing habitat and fish passage in the Yolo Bypass by implementing the project as described in in Alternative 1 of the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Final EIR/EIS[7].

Losses during Diversions from the Sacramento River

Losses due to seepage and evaporation are anticipated to occur from the locations where water is diverted from the Sacramento River at the RBPP and HCPS. Diversions at the RBPP are conveyed to

[6] Delta Excess Conditions. The Delta, as determined by Reclamation and DWR is in excess during proposed diversion events. Delta conditions shall be determined in "excess conditions" if water is available for export in excess of the flow required to meet Water Right Decision 1641 (D-1641) flow and salinity requirements as well as other applicable regulations. Excess water conditions are periods when it is mutually agreed between Reclamation and DWR that releases from upstream reservoirs plus unregulated flows exceed Sacramento Valley in-basin uses plus Delta exports.

[7] California Department of Water Resources and U.S. Bureau of Reclamation. 2019. Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project. Final Environmental Impact Statement/Environmental Impact Report. State Clearinghouse No. 2013032004. May 2019.

Funks Reservoir through the TC Canal, which is concrete lined. Conveyance losses from the Sacramento River to FR are estimated at 1 percent. The pumping plant at Funks Reservoir has a proposed capacity of 2,100 cfs, thus diversions from the Sacramento River at the RBPP will be up to 2,120 cfs. Diversions at the HCPS are conveyed to the proposed Terminal Regulating Reservoir through the GCID Main Canal, which is an unlined, earthen canal.
Conveyance losses from the Sacramento River to Terminal Regulating Reservoir are estimated at 13 percent. The pumping plant at Terminal Regulating Reservoir has a proposed capacity of 1,800 cfs, thus diversions from the Sacramento River at the HCPS will be up to 2,070 cfs. When river conditions and capacity are available for both diversion facilities to be operated simultaneously, there will be a maximum combined diversion rate of 4,190 cfs.

Diversion to Sites Reservoir from Funks and Stone Corral Creeks
Sites Reservoir will also be filled by water that is impounded due to the construction of Golden Gate and Sites Dams on Funks and Stone Corral Creeks, respectively. Water from Funks and Stone Corral Creeks could be diverted to storage in Sites Reservoir from September 1 to June 14, when senior downstream water rights on the creeks have been satisfied. This action is not a Covered Activity under the terms of this ITP as Covered Species do not occur in these creeks and is only incorporated for reference.

Storage in Sites Reservoir
Water will be stored in Sites Reservoir until requested for release by a participant(s). Sites Reservoir is currently estimated to have a dead pool of 17,700 acre-feet, below which water cannot physically be pumped from Sites Reservoir using the I/O Works. Permittee is currently planning to operate to a dead pool of up to 60 TAF, although Permittee may draw down reservoir levels below the operational dead pool in drought situations.

Coordination with CVP and SWP, Exchanges, and Transfers
Project operations will be coordinated with Reclamation and DWR to benefit portions of CVP and SWP operations, prevent conflicts with the CVP and SWP operations, and avoid additional obligations on the CVP or SWP to meet applicable laws, regulations, BOs or ITPs (in the case of the SWP), and court orders in place at the time of operations. Permittee is currently working with Reclamation and DWR to establish operating principles with both agencies that will describe the details of the coordination and collaboration that would take place during the operation of the Project. Exchanges are voluntary and any participant can choose whether to conduct an exchange in a given year. For the purposes of this ITP, the Permittee has made assumptions regarding Reclamation's actions to implement CVP operational flexibility with its storage in Sites Reservoir, associated with its 16% investment. Permittee has also made assumptions regarding the degree of real-time exchanges and transfers that participants will implement and the degree to which exchanges with Shasta and Oroville reservoirs will occur. It is expected that further clarification on the degree to which exchanges will be implemented and how Reclamation will implement CVP operational flexibility will be known after operational agreements with Reclamation and DWR are executed. Current

participants in Sites Reservoir are shown in Table 1 – Current Participants in Sites Reservoir.

Table 1. Current Participants in Sites Reservoir

North of Delta Participants
City of American Canyon[8]
Colusa County
Colusa County Water District
Cortina Water District
Davis Water District
Dunnigan Water District
Glenn-Colusa Irrigation District
LaGrande Water District
Reclamation District 108
Westside Water District
South of Delta Participants
Santa Clara Valley Water District
Zone 7 Water Agency
Rosedale-Rio Bravo Water Storage District
Wheeler Ridge – Maricopa Water Storage District
Irvine Ranch Water District
Santa Clarita Valley Water Agency
Antelope Valley-East Kern Water Agency
Coachella Valley Water District
Desert Water Agency
San Bernadino Valley Municipal Water District
San Gorgonio Pass Water Agency
Metropolitan Water District of Southern California

Coordination with the Central Valley Project

Permittee proposes to coordinate operations with Reclamation for the CVP to implement exchanges with Shasta Reservoir and CVP operational flexibility. Permittee assumes maximum annual exchanges of up to 188 TAF per year with Shasta Reservoir in Dry and Critical water years (Sacramento Valley 40-30-30 Index, hereafter SVI)[9]. These exchanges would use participants' share of Sites Reservoir storage, not including the use of Reclamation's share of the storage, in a manner to meet CVP deliveries and obligations as much as possible via Sites Reservoir to preserve water stored in Shasta Reservoir.

In the spring of years when exchanges with Shasta would occur, Sites would release water for CVP

[8] Water delivered to the City of American Canyon will be diverted at the North Bay Aqueduct and is accounted for in the total volume of 637 TAF for downstream and south-of-Delta participants.

[9] Water Year Type – as defined in the Sacramento Valley 40-30-30 Index. https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/ccc_cccwa/CCC-SC_27.pdf

uses in lieu of releases by Reclamation from Shasta Reservoir. As Sites releases water for CVP uses, Shasta Reservoir releases would be reduced, preserving Shasta Reservoir total storage and cold-water pool through the spring (April–June). The volume of delivered water by Permittee is equivalent to the exchange volume preserved in Shasta Reservoir by Reclamation. The preserved volume in Shasta Reservoir may be released (1) in late summer and fall (August–November) to assist in achieving temperature management in the upper Sacramento River; (2) October through February to assist in stabilizing flows in the upper Sacramento River; and/or (3) in a pulse release for the following spring. After serving its intended purpose, the released preserved volume would be utilized for downstream purposes as coordinated by Permittee.

CVP operational flexibility assumes up to 230 TAF are preserved in Shasta Reservoir during drier years through augmenting its cold-water pool. This action was modeled in the ITP Application assuming Shasta enters the temperature management period with greater storage, if preserved Shasta storage is not spilled during the winter, improving cold-water pool and release volumes in drier years. If additional storage remains at the end of the Shasta temperature management period, Reclamation may use storage releases to increase the duration of fall flow stability releases. In practice, how the water will be used under CVP operational flexibility will be at Reclamation's discretion.

Coordination with the State Water Project

Permittee will coordinate with the SWP regarding exchanges with Oroville Reservoir. Permittee assumes maximum annual exchanges of up to 136 TAF per year with the SWP's Oroville Reservoir in Below Normal, Dry and Critical water years (SVI 40-30-30 Index)[10]. Under an Oroville exchange, water would be released from Sites Reservoir in June and July to meet SWP purposes. In August through November, DWR would release an equivalent amount of water from Oroville Reservoir for Permittee. No exchanged water would be carried over from year to year. Exchanges with Oroville Reservoir are expected to happen more frequently than Shasta Reservoir exchanges. Releases of exchanged water shall not result in an exceedance of the maximum Feather River fall stability flow requirements.

Real-Time Exchanges or Transfers

Permittee will provide deliveries to participants north and south-of-Delta through real-time exchanges or transfers. Permittee assumes maximum annual exchanges or transfers of up to 160 TAF with north-of-Delta participants. This type of exchange or transfer is most likely to occur with GCID but could also occur with other Sacramento River Settlement Contractors and Reclamation. Instead of diverting all or a portion of its water from the Sacramento River, a north-of-Delta participant would receive a portion of its CVP contract water from Sites Reservoir. That portion of the north-of-Delta participant's CVP contract water would be left in the Sacramento River (i.e., not diverted by that contractor or agency) to be diverted by another participant.

[10] Water Year Type – as defined in the Sacramento Valley 40-30-30 Index.
https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/ccc_cccwa/CCC-SC_27.pdf

Releases from Sites Reservoir

Releases from Sites Reservoir may be made in any water year type. The releases will be made from the I/O Works in Sites Reservoir and conveyed via pipeline to either Funks Reservoir or the Terminal Regulating Reservoir. Outside of emergency flood operations, up to 2,000 cfs could be released from the I/O Works to FR and up to 1,000 cfs could be released from the I/O Works to the Terminal Regulating Reservoir. The I/O Works would allow withdrawal of water from Sites Reservoir over a range of depths to manage release water temperatures. Releases may occur through five separate operations: (1) releases along the TC Canal and GCID Main Canal; (2) releases along the CBD, Yolo Bypass, Sacramento River downstream of Knights Landing, and North Bay Aqueduct via direct release through the DP; (3) releases for participants along the Sacramento River via exchange with Sacramento River at HCPS and occasionally by RBPS by replacing CVP diversions at these locations with releases from Sites; (4) Shasta exchanges; and (5) Oroville exchanges.

Releases to the TC Canal and GCID Main Canal

Releases will be made to Funks Reservoir or the Terminal Regulating Reservoir and conveyed to the respective participant via the existing TC Canal and GCID Main Canal facilities.

Releases to the Sacramento River

Releases for participants along the Sacramento River will be made via exchange as water from Sites Reservoir cannot be physically conveyed to any storage partner on the Sacramento River between the HCPS and Knights Landing. Real-time exchanges, primarily with GCID but also with Reclamation, will be used for these participants.

Releases to the Yolo Bypass

Releases for the Proposition 1 – Yolo Bypass Pulse Flow ecosystem benefit will be made to Funks Reservoir and then be conveyed down the TC Canal to the DP and released into the CBD. The water would subsequently be conveyed down the CBD, through KLRC, to the Yolo Bypass for Proposition 1 – Yolo Bypass Pulse Flow ecosystem benefits.

Releases to Sacramento River, in Delta, and South-of-Delta

Releases for participants who are located along the Sacramento River south of Knights Landing, in the north Delta, south-of-Delta, including water for Incremental Level 4 Refuge water supply benefits, will be made to Funks Reservoir, conveyed down the TC Canal to the DP, and released into the CBD. This water will then be conveyed to the Sacramento River via the KLOG. Once in the Delta, this water could be diverted at any of the Delta pumping facilities (SWP's Banks Pumping Plant, Reclamation's Jones Pumping Plant, the North Bay Aqueduct or Contra Costa Water District's pumping plants) and conveyed to the respective participants using existing conveyance facilities and mechanisms. Releases for participants who are located south-of-Delta, including water for Incremental Level 4 Refuge water benefits, may also be made through exchanges with Reclamation and DWR. Releases for south-of-Delta participants will be made from July 1 to November 30. Releases will be coordinated with Reclamation and DWR to ensure there are no conflicts with CVP and SWP operations and no

adverse effects on the CVP and SWP. In addition, releases will be coordinated with Reclamation and DWR to ensure that there is available capacity to redivert releases at the south Delta pumping facilities for any releases that would be pumped at these locations.

LIMITED MAINTENANCE ACTIVITIES

Permittee will, in coordination with GCID, TCCA and Reclamation conduct limited maintenance activities at the RBPP and HCPS diversion facilities to maintain the fish screens at these diversion facilities within the operational criteria for minimization of impacts to Covered Species. Maintenance activities at the RBPP and HCPS diversion facilities are limited to the following, as applicable to the specific diversion facility: fish screen panel repair and replacement, removal of biofouling, fish screen tuning baffle adjustments, debris removal, and log boom repair (RBDD only), as described below.

Fish Screen Panel Repair and Replacement, and Biofouling
Fish screen panel repair and replacement will occur as needed based on inspection. Fish screen panel repair and replacement will occur using previously existing mobile cranes to remove and insert fish screen panels and tune baffle assemblies. Fish screen panels at RBPP will require periodic removals for power washing.

Debris Removal and Log Boom Maintenance
The RBPP and HCPS diversion facility fish screens will be visually inspected for debris after hydrologic events. Limited maintenance activities at RBPP will employ a log boom system within the Sacramento River in front of the RBPP diversion facility fish screens to protect the fish screens and fish screen cleaning systems from damage by large floating debris. Limited maintenance activities at RBPP may also periodically repair or replace the log boom structure.

Maintenance activities at RBPP and HCPS not included in the Project Description as Covered Activities under this ITP include sediment dredging, spoils placement on Montgomery Island, herbicide application, and use of heavy equipment within the Sacramento River, diversion facility forebays, and HCPS oxbow channel.

ACTIVITIES NOT INCLUDED IN THE PROJECT

Activities not covered by this ITP and its take authorization include, but are not limited to, the following actions:

- Sites Reservoir flood control releases to Stone Corral and Funks Creek;
- Sites Reservoir construction, operations and management Covered Activities described in Incidental Take Permit 2081-2022-006-02 for the Sites Reservoir Project;
- Maintenance and dredging of the GCID Intake Channel at the HCPS, as described in Incidental Take Permit No. 2081-2020-002-02[11];

[11] Incidental Take Permit 2081-2020-002-02 - authorizes covered activities for the Glenn-Colusa Irrigation District to conduct maintenance dredging from March 1 to July 1, at the Intake Channel associated with the Hamilton City Pump Station. These activities are not covered under the terms of this Incidental Take Permit and are included for reference purposes only.

- CVP and SWP operations;
- Oroville Reservoir and Feather River operations;
- North Bay Aqueduct and Contra Costa Water District operations;
- Repairs, upgrades or routine maintenance activities not described in the Project Description of this ITP at the RBPP and HCPS, or identified as non-Covered Activity;
- GCID and TCCA existing diversions not associated with Sites Reservoir;
- RD 108 diversions from the Sacramento River of exchanged water facilitated by the Permittee;
- Science actions and monitoring unless specifically identified as a Covered Activity;
- Restoration and Enhancement Actions associated with Habitat Mitigation Lands required by this ITP;
- Covered Species rescue and relocation at the Wallace Weir Fish Rescue Facility.

This section does not limit the language in Section VII, below.

V. Covered Species Subject to Take Authorization Provided by this ITP:

This ITP covers the following species:

Name	CESA Status[12]
1. Longfin Smelt (*Spirinchus thaleichths*)	Threatened[13]
2. Delta Smelt (*Hypomesus transpacificus*)	Endangered[14]
3. Spring-run Chinook Salmon (*Oncorhynchus tshawytscha*) of the Sacramento River drainage system	Threatened[15]
4. Winter-run Chinook Salmon (*Oncorhynchus tshawytscha*)	Endangered[16]
5. White sturgeon (*Acipenser transmontanus)*	Candidate Threatened[17]

These species and only these species are the "Covered Species" for the purposes of this ITP.

VI. 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 in the Project Description that are expected to result in incidental take of individuals of the Covered Species include: water diversions from the

[12] Under CESA, a species may be on the list of endangered species, the list of threatened species, or the list of candidate species.
[13]See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(2)(E).
[14]See Cal. Code Regs. tit. 14 § 670.5, subd. (a)(2)(O).
[15]See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(2)(C).
[16]See Cal. Code Regs. tit. 14 § 670.5, subd. (a)(2)(M).
[17] See Fish and Game Code 2074.2. Pursuant to the provisions of Section 2074.2 of the Fish and Game Code, the California Fish and Game Commission (Commission), at its June 19-20, 2024 meeting, accepted for consideration the petition submitted to list white sturgeon as threatened under CESA. The species status may change following the decision of the Fish and Game Commission to designate the species as threatened or endangered but if there is such a designation, the species will remain a Covered Species.

Sacramento River by Permittee at the RBPP and HCPS diversion facilities; water releases into the Sacramento River and Yolo Bypass for participating entities; operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs; and limited maintenance activities at the RBPP and HCPS diversion facilities (Covered Activities).

Incidental take of Covered Species in the form of mortality ("kill") may occur as a result of Covered Activities. Impacts of the authorized taking may also include adverse impacts to Covered Species related to temporal losses, reduction in habitat extent and quality, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts of the taking include: 1) an increase in predation risk and reduction in the quantity of available Covered Species habitat in the Sacramento River, Yolo Bypass, Sutter Bypass and the Delta due to the diversion of up to 986 TAF of water annually; 2) disruption to movement and/or migration patterns of Covered Species throughout the Sacramento River and the Delta due to altered hydrology and hydrodynamics associated with water diversions, water releases, increased south Delta water exports, and operational water exchanges; 3) disruption to ecosystem processes, and loss of food web resources in the Sacramento River and the Delta due to water diversions and increased South Delta water exports; 4) modifications of flow patterns within the Delta due to water diversions and increased south Delta exports, which increases risk of Covered Species entrainment into lower quality habitat in the south Delta where mortality is high due to fewer food resources, higher predation, higher water temperatures, and increased risk of entrainment into the south Delta export facilities; 5) degradation of habitat quality for Covered Species in the Sacramento River and the Delta as a result of water diversions, water releases, increased south Delta water exports, and operational water exchanges; 6) ongoing effects and cumulative impacts from the diversion of up to 986 TAF of water annually from the Sacramento River, water releases into the Sacramento River and Yolo Bypass, increases in south Delta exports for delivery of Project water, and operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs over the term of the Project that are likely to increase adverse conditions for Covered Species.

Anticipated incidental take and impacts of the taking are described in detail in the CDFW Effects Analysis (Attachment 5), which is incorporated by reference, in its entirety, into this ITP. The areas where authorized take of the Covered Species is expected to occur include: the Sacramento River, Sutter Bypass, Yolo Bypass, the Delta, Suisun Marsh, and Suisun Bay (Project Area) (Figure 1).

LONGFIN SMELT AND DELTA SMELT

The Covered Activities and their impacts are expected to result in the incidental take of Longfin Smelt (LFS) and Delta Smelt (DS). The Covered Activities that are expected to result in incidental take of LFS and DS include: water diversions at the RBPP and HCPS by Permittee; water releases to the Sacramento River and Yolo Bypass (only relevant for DS) for participating entities; and operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs. The areas where authorized take of LFS and DS are expected to

occur include: the Yolo Bypass and the Delta.

Water Diversions: Impacts of the authorized taking include adverse impacts to LFS and DS related to the Project's incremental contribution to cumulative impacts (indirect impacts). Water diversions from the Sacramento River by Permittee at the RBPP and HCPS diversion facilities will result in adverse impacts to the quality and extent of habitat for LFS and DS, including: reduction in volume of low salinity habitat, movement of low salinity habitat farther upstream and away from higher quality feeding areas near Suisun Bay and Suisun Marsh, reduction of zooplankton prey abundance due to reduced outflow, and increased risk of entrainment into lower quality habitat in the south Delta where mortality is high due to fewer food resources and higher predation, higher water temperatures, and increased risk of entrainment into the South Delta export facilities. Impacts of the authorized taking also include reduced delivery of suspended sediment to the Delta, which reduces habitat quality and increases predation risk for LFS and DS.

Water Releases to Yolo Bypass: The incidental take of DS in the form of mortality ("kill") may occur due to water releases at KLRC into the Yolo Bypass. Project releases have the potential to cause mortality or physical harm to DS due to high concentrations of pesticides and metals/metalloids, water temperatures above critical thresholds, or dissolved oxygen (DO) levels below critical species thresholds. Impacts of the authorized taking also include adverse impacts to DS related to physiological, behavioral and habitat-level effects, reduction in habitat extent and quality, degradation to water quality, and the Project's incremental contribution to cumulative impacts (indirect effects). These impacts of the taking include water quality effects through chronic exposure to sublethal levels of pesticides, metals/metalloids, and reduced DO that may result in alterations of nervous system function, decreased ability to regulate hormones, increased pesticide concentrations in prey species consumed by DS, reduced available food sources, and decreased overall survival.

Water Releases to Sacramento River and Operational Exchanges: Impacts of the authorized taking include adverse impacts to LFS and DS related to the Project's incremental contribution to cumulative impacts (indirect impacts). Increases in exports at the SWP and CVP south Delta export facilities for the delivery of Project water from releases to the Sacramento River or operational exchanges will result in adverse impacts to the quality and extent of habitat for LFS and DS, including: reduction in volume of low salinity habitat, movement of low salinity habitat farther upstream and away from higher quality feeding areas near Suisun Bay and Suisun Marsh, reduction of zooplankton prey abundance due to reduced outflow, and increased risk of entrainment into lower quality habitat in the south Delta where mortality is high due to fewer food resources, higher predation, higher water temperatures, and increased risk of entrainment into the South Delta export facilities.

WINTER-RUN CHINOOK SALMON AND SPRING-RUN CHINOOK SALMON

The Covered Activities and their resulting impacts are expected to result in the incidental take of Winter-run Chinook Salmon (CHNWR) and Spring-run Chinook Salmon (CHNSR). The Covered Activities and their resulting impacts that are expected to result in the incidental take of CHNWR and

CHNSR include: water diversions at the RBPP and HCPS by Permittee; water releases to the Sacramento River and Yolo Bypass for participating entities; operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs; and limited maintenance activities at the RBPP and HCPS diversion facilities. The areas where authorized take of CHNWR and CHNSR is expected to occur are the Sacramento River, the Yolo Bypass, the Sutter Bypass, and the Delta.

Water Diversions: Incidental take of CHNWR and CHNSR in the form of mortality ("kill") or injury may occur due to entrainment, impingement, or screen contact at the fish screens during water diversions from the Sacramento River by Permittee at the RBPP and HCPS diversion facilities. Impacts of the authorized taking also include adverse impacts to CHNWR and CHNSR due to increased risk of predation near the fish screens during Project diversions at the RBPP and HCPS. Predatory fish species are known to occur in the upper Sacramento River (e.g., striped bass (*Morone saxatilis*) and Sacramento pikeminnow (*Ptychocheilus grandis*) and may be drawn to the accumulation of CHNWR and CHNSR at the RBPP and HCPS fish screens and to suitable predator habitat associated with diversion facilities and HCPS oxbow channel, increasing predation risk of juvenile CHNWR and CHNSR at those locations.

Impacts of the authorized taking associated with Project operations also include adverse impacts to CHNWR and CHNSR related to the Project's incremental contribution to cumulative impacts (indirect impacts) due to the removal of water from the Sacramento River at the RBPP and HCPS diversion facilities. These impacts include: reduction in the quantity and accessibility of rearing habitat for CHNWR and CHNSR juveniles in the Sacramento River, the Yolo and Sutter bypasses, and the Delta; impaired migration cues, higher rates of predation, harmful water temperatures, and overall reduced survival of juvenile CHNWR and CHNSR in the Sacramento River and Delta; and degradation of habitat quality in the Sacramento river and Delta, which causes extended exposure to sub-optimal environmental conditions that reduce health or vigor of CHNWR and CHNSR.

Water Releases: Incidental take of CHNWR and CHNSR in the form of mortality ("kill") may occur due to water releases for participating entities at KLOG into the Sacramento River and KLRC into the Yolo Bypass. Project water releases for participating entities have the potential to cause mortality or physical harm to CHNWR and CHNSR if water releases for participating entities transport elevated concentrations of pesticides, DO levels below critical species thresholds, or water temperatures above critical thresholds. Project water releases for participating entities at KLRC into the Yolo Bypass may also result in incidental take of CHNSR in the form of mortality ("kill") due to increased flows attracting migrating adult CHNSR into the Yolo Bypass instead of the Sacramento River, or in the form of pursue, catch, capture, or attempt to do so during fish salvage operations at the Wallace Weir Fish Collection Facility.

Impacts of the authorized taking also include adverse impacts to CHNWR and CHNSR related to physiological, behavioral and habitat-level effects due to the reduction in habitat quality, degradation to water quality, and the Project's incremental contribution to cumulative impacts (indirect effects).

Project water releases for participating entities have the potential to degrade water quality in the Sacramento River and Yolo Bypass, which could expose CHNWR and CHNSR to high concentrations of pesticides, detrimental metals/metalloids, DO levels below critical species thresholds, water temperature above critical thresholds, or HABs. Degradation of water quality may result in sublethal impacts that reduce overall survival and physical health of CHNWR and CHNSR, such as impaired development, reduced growth rates, altered behavior, and reduced swimming abilities.

Water Releases to Sacramento River and Operational Exchanges: Impacts of the authorized taking associated with Project operations also include adverse impacts to CHNWR and CHNSR related to the Project's incremental contribution to cumulative impacts (indirect impacts) due to incremental increases in exports at the SWP and CVP south Delta export facilities for delivery of Project water from releases to the Sacramento River or operational exchanges. These impacts include but are not limited to: hydrodynamic effects of conveyance of water through the Delta and changes in the timing and volume of exports at the south Delta export facilities. Altered hydrodynamics in the Delta may result in reductions in habitat quantity and quality, as well as increased entrainment of CHNWR and CHNSR into poor quality habitat in the south Delta where they are susceptible to delayed migration and increased risk of mortality due to fewer food resources, higher predation, higher water temperatures, and increased risk of entrainment into the South Delta export facilities.

Operational Exchanges: The incidental take of CHNWR and CHNSR may occur in the form of mortality ("kill") due to operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs. Changes in the timing and volume of water released from Shasta Reservoir due to Project activities may result in incidental take of CHNWR and CHNSR through redd scour, redd dewatering, juvenile stranding, and temperature-related mortality. Changes in the timing and volume of water released from Oroville Reservoir due to Project activities may result in incidental take of CHNSR through redd dewatering and temperature-related mortality. Impacts of the authorized taking also include adverse impacts to CHNWR and CHNSR related to the Project's incremental contribution to cumulative impacts (indirect effects). Impacts of the authorized taking due to changes in the timing and volume of water released from Shasta Reservoir due to Project activities include reductions in spawning and rearing habitat in the Sacramento River and reductions in juvenile production of CHNWR and CHNSR.

Impacts of the authorized taking associated with Project operations also include adverse impacts to CHNWR and CHNSR related to the Project's incremental contribution to cumulative impacts (indirect impacts) due to changes in the magnitude and timing of water deliveries due to Covered Activities. Operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs will alter the timing and volume of flow in the Sacramento River. This altered hydrology in the Sacramento River may result in impacts including: decreases in rearing habitat quantity and quality in the lower Sacramento River and Delta, decreases in survival of migrating juvenile CHNWR and CHNSR, and increases in water temperatures above critical thresholds during important migration periods for CHNWR and CHNSR.

Limited Maintenance Activities: Incidental take of CHNWR and CHNSR in the form of mortality ("kill") or injury may occur due to limited maintenance activities at the RBPP and HCPS fish screens during employment of mechanized cleaning equipment, fish screen panel repair, fish screen panel replacement, debris removal, and log boom repair.

WHITE STURGEON

The Covered Activities and their resulting impacts are expected to result in the incidental take of White Sturgeon (WS). The Covered Activities that are expected to result in the incidental take of WS include: water diversions at the RBPP and HCPS by Permittee; water releases to the Sacramento River for participating entities; operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs; and limited maintenance activities at the RBPP and HCPS diversion facilities. The areas where authorized take of WS is expected to occur are the Sacramento River, Yolo Bypass, Sutter Bypass, and Delta.

Water Diversions: Incidental take of WS in the form of mortality ("kill") or injury may occur due to entrainment, impingement, or screen contact during water diversions from the Sacramento River by Permittee at the RBPP and HCPS diversion facilities. Impacts of the authorized taking also include adverse impacts to WS due to increased risk of predation for larval and juvenile WS near the fish screens during Project diversions at RBPP and HCPS, as well as increased risk of adult stranding behind weirs in the Yolo and Sutter bypasses.

Impacts of the authorized taking associated with Project operations also include adverse impacts to WS related to the Project's incremental contribution to cumulative impacts (indirect impacts) due to the removal of water from the Sacramento River at the RBPP and HCPS diversion facilities. These impacts include: reduction in the quantity and accessibility of rearing habitat for WS in the Sacramento River, its floodplains, and the Delta; impaired migration cues, higher rates of predation, harmful water temperatures, and overall reduced survival of juvenile WS in the Sacramento River and Delta; and degradation of habitat quality in the Sacramento river and Delta, which causes extended exposure to sub-optimal environmental conditions that reduce health or vigor of WS. Reductions in net Delta outflow as a result of Project diversions also have the potential to cause adverse impacts (indirect impacts) through reduced recruitment of juvenile WS.

Water Release: Incidental take of WS in the form of mortality ("kill") may also occur due to Project water releases at the KLOG to the Sacramento River for participating entities. Project releases have the potential to cause mortality or physical harm to WS if they expose WS to high concentrations of pesticides, DO levels below critical species thresholds, or water temperatures above critical thresholds.

Impacts of the authorized taking also include adverse impacts to WS related to physiological, behavioral and habitat-level effects due to the reduction in habitat quality, degradation to water

quality, and the Project's incremental contribution to cumulative impacts (indirect effects), and the Project's incremental contribution to cumulative impacts (indirect effects). Project water releases for participating entities have the potential to degrade water quality in the Sacramento River, which could expose WS to high concentrations of pesticides, detrimental metals/metalloids, DO levels below critical species thresholds, water temperature above critical thresholds, or HABs. Degradation of water quality may result in sublethal impacts that reduce overall survival and physical health of WS, such as impaired development, reduced growth rates, altered behavior, and reduced swimming abilities.

Water Releases to Sacramento River and Operational Exchanges: Impacts of the authorized taking include adverse impacts to impacts to WS related to the Project's incremental contribution to cumulative impacts (indirect impacts) may occur due to incremental increases in exports at the SWP and CVP south Delta export facilities for delivery of Project water from releases to the Sacramento River or operational exchanges. These impacts include, but are not limited to, hydrodynamic effects of conveyance of water through the Delta and changes in the timing and volume of exports at the south Delta export facilities. Altered hydrodynamics in the Delta may result in reductions in habitat quantity and quality, as well as increased entrainment of WS into poor quality habitat in the south Delta where they are susceptible to delayed migration and increased risk of mortality due to fewer food resources, higher predation, higher water temperatures, and increased risk of entrainment into the South Delta export facilities.

Operational Exchanges with Shasta and Oroville: Impacts of the authorized taking associated with Project operations also include adverse impacts to WS related to the Project's incremental contribution to cumulative impacts (indirect impacts) due to changes in the magnitude and timing of water deliveries due to Covered Activities. Operational exchanges, including CVP operational flexibility, real-time exchanges and transfers, and exchanges with Oroville and Shasta reservoirs will alter the timing and volume of flow in the Sacramento River. This altered hydrology in the Sacramento River may result in impacts including decreases in streamflow during important periods for spawning, rearing, and migration; and increases in water temperatures above critical thresholds during important migration periods for WS.

Limited Maintenance Activities: Incidental take of WS in the form of mortality ("kill") or injury may occur due to limited maintenance activities at the RBPP and HCPS during employment of mechanized cleaning equipment, fish screen panel repair, fish screen panel replacement, debris removal, and log boom repair.

VII. 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 only 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.

VIII. Conditions of Approval:

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including: water diversions by the Permittee at the RBPP and HCPS; operational exchanges, including CVP operational flexibility, real-time exchanges or transfers; Oroville Reservoir exchanges; Shasta Reservoir exchanges; releases for participating entities via the GCID Main Canal, TC Canal and Sacramento River via the CBD and KLOG and into the Yolo Bypass via the KLRC through the Wallace Weir; and limited maintenance activities at the RBPP and HCPS diversion facilities. 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 Environmental Impact Report (SCH No.: 2001112009) certified by the Sites Project Authority on November 17, 2023, as lead agency for the Project pursuant to the California Environmental Quality 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) Environmental Permit Information Management System (EPIMS) Notification No. COL-46998-R2 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 any United States Fish and Wildlife Service or National Marine Fisheries Service Biological Opinion 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 authorization 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. **Consultation Regarding Amendment:** The ITP may require an amendment if any of the following conditions occur:

   - Modification or replacement of the 2020 CDFW LTO ITP (ITP No. 2081-2019-066-00) for LFS, DS, CHNWR, CHNSR, and WS or any subsequent ITP addressing the long-term operations of the SWP.
   - Modification or replacement of Sites Reservoir Project (Construction ITP) ITP No. 2081-2022-006-02 or Lake and Streambed Alteration Agreement (LSAA) EPIMS Notification No. COL-46998-R2.
   - Modification, re-initiation, or replacement of the Biological Opinion(s) on Long-Term Operations of the CVP and SWP or any Biological Opinion(s) authorizing operations of the Project.
   - Issuance, modification, or replacement of a water rights order or decision for the Project by the State Water Resources Control Board in response to Water Rights Application Number A025517X01.
   - Issuance, modification, or replacement of a water rights order or decision by the State Water Resources Control Board in response to Water Rights Application Number(s) 5630, 14443, 14445A, and 1751 and/or Water Rights Permit(s) 16478, 16479, 16481, and 16482 by the Department of Water Resources for the proposed Delta Conveyance Project.
   - Modification to the Bay-Delta Plan or water rights decisions by the State Water Resources Control Board affecting operations of the Project, or execution of binding Voluntary Agreements adopted by the State Water Resources Control Board as a means of implementing the Bay-Delta Plan that modify the context in which the Covered Activities are undertaken.
   - Finalization of operational agreements between the Sites Project Authority and the Department of Water Resources, Reclamation, or Project participants that pertain to coordinated operations with the Central Valley Project and State Water Project or operations of the Lower Colusa Basin Drain.
   - Reassessment of Project impacts to Covered Species, based on any of the above changed circumstances or the conclusion of studies conducted as required by Conditions of Approval 8.7, 8.8, 8.9, 8.10 and 8.11, inclusive of their subparts, of this ITP.

   Permittee shall notify CDFW if any of the conditions listed above occurs and shall consult with CDFW to determine whether an amendment is necessary for reasons including, but not limited to, an increase or decrease in the anticipated extent of the taking of Covered Species or the impacts on the Covered Species that result from the Covered Activities, or modifications to the necessary and appropriate measures to minimize and fully mitigate the impacts of the taking.

   Permittee and CDFW acknowledge that conditions listed above may occur between the issuance of this ITP and prior to operational Covered Activities occurring. If CDFW has notified Permittee that an amendment is required before Covered Activities commence, Permittee may request to

delay amendment of this ITP in response to the occurrence of one or more of these conditions, to efficiently address multiple changed circumstances. If CDFW provides its written approval to such a request, Permittee shall not commence operational Covered Activities until such amendment has been considered and issued by CDFW.

If any of these conditions occur after the commencement of Covered Activities, Permittee shall notify and consult with CDFW and Permittee may not request a delay.

If Permittee desires to amend this ITP, or if CDFW has notified Permittee that an amendment is necessary due to a condition identified above, Permittee shall comply with Section IX (Amendment), below. CDFW will adhere to the amendment process prescribed by the California Code of Regulations, Title 14, section 783.6(c) to determine whether any proposed amendment is major or minor and whether additional or modified measures are necessary. This condition does not modify CDFW's authorities or obligations pursuant to CESA, including the obligation to amend this ITP as required by law.

7. General Provisions:

7.1. Designated Representative. Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. Permittee shall notify CDFW in writing within thirty days of issuance of this ITP 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.

7.2. Designated Fisheries Biologist(s). Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of the Designated Fisheries Biologist(s) using the Biologist Resume Form (Attachment 2) or another format containing the same information at least thirty days before starting Covered Activities. Permittee shall ensure that the Designated Fisheries Biologist(s) are knowledgeable and experienced in the biology, natural history, collecting and handling of the Covered Species. The Designated Fisheries Biologist(s) 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 Fisheries Biologist(s) in writing before starting Covered Activities and shall also obtain approval in advance, in writing, if the Designated Fisheries Biologist(s) must be changed.

A Designated Fisheries Biologist is an individual who shall meet, at minimum, the following requirements: 1) has a degree in biology; 2) has a minimum of five years of academic training and professional experience in aquatic ecology, ichthyology, marine biology or closely related field; 3) has at least two years of direct experience handling at least one of the special status fish species that may occur within the Project work area; and 4) is in

possession of appropriate State and Federal permits to handle special status species of fish that may occur within the Project work area.

7.3. Designated Fisheries Biologist Authority. To ensure compliance with the Conditions of Approval of this ITP, the Designated Fisheries Biologist shall immediately stop any activity that does not comply with this ITP and/or order any reasonable measure to avoid the unauthorized take of an individual of the Covered Species. Permittee shall facilitate unfettered access to the Project and otherwise facilitate the Designated Fisheries Biologist in the performance of his/her duties. If the Designated Fisheries Biologist is unable to comply with the ITP, then the Designated Fisheries Biologist shall notify the CDFW Representative immediately. Permittee shall not enter into any agreement or contract of any kind, including but not limited to non-disclosure agreements and confidentiality agreements, with its contractors and/or the Designated Fisheries Biologist that prohibit or impede open communication with CDFW, including but not limited to providing CDFW staff with the results of any surveys, reports, or studies or notifying CDFW of any non-compliance or take. Failure to notify CDFW of any non-compliance or take or injury of a Covered Species as a result of such agreement or contract may result in CDFW taking actions to prevent or remedy a violation of this ITP.

7.4. Designated Fisheries Biologist Onsite Monitoring Requirements. A Designated Fisheries Biologist shall be present for the duration of the following Covered Activities occurring within the Project Area and associated facilities:

- Removal, repair, maintenance, and/or installation of fish screens at RBPP or HCPS diversion facilities (Does not apply to automated maintenance cleaning events).

7.5. Education Program. Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area (applies to limited maintenance actions only) before performing any work related directly to the Designated Fisheries Biologist Onsite Monitoring Requirements. The program shall consist of a presentation from the Designated Fisheries 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 prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. 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 (applies to limited maintenance activities only). Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term

and/or permanent employees that will be conducting work in the Project Area (applies to limited maintenance activities only).

7.6. Covered Activities Monitoring Documentation. The Designated Fisheries Biologist(s) shall maintain Covered Activities-monitoring documentation on-site in either hard copy or digital format throughout the timeframes when the Designated Fisheries Biologist(s) is required on-site for Covered Activities as specified in Condition of Approval 7.4 (Designated Fisheries Biologist Onsite Monitoring Requirements), which shall include a copy of this ITP with attachments and a list of signatures of all personnel who have successfully completed the education program. Permittee shall ensure a copy of the construction-monitoring documentation is available for review at the Project site upon request by CDFW.

7.7. 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.

7.8. CDFW Access. Permittee shall provide CDFW staff with reasonable access to the Project, which shall include facilities that are owned and operated by Permittee's member agencies to implement Covered Activities and mitigation lands under Permittee control, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP.

8. Monitoring, Notification, Science Requirements and Reporting Provisions:

8.1. Notification Before Commencement. The Designated Representative shall notify CDFW fourteen calendar days before starting Covered Activities including any diversion facility testing events, and prior to diversion operations for the initial season by Permittee. Permittee shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.

8.2. Notification of Non-compliance. The Designated Representative shall immediately notify CDFW if 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 follow up within forty-eight hours with a written report to CDFW describing, in detail, any non-compliance with this ITP and suggested measures to remedy the situation.

8.3. Annual Status Report. Permittee shall provide CDFW with an Annual Status Report (ASR) no later than December 1 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. The ASR 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. 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.

Permittee shall include, at a minimum in the ASR: (1) summary information from the prior water year October 1 through September 30, as applicable to the Conditions of Approval in this ITP; (2) a copy of the table in the MMRP with notes showing the current implementation status of each Condition of Approval and mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) Notification of Species Occurrences; as described in Condition of Approval 8.4 (CNDDB Observations); (5) all available information about Project related incidental take of the Covered Species Condition of Approval 8.6 (Notification of Take or Injury); and (6) Annual updates on the status of Compensatory Mitigation as described in Condition of Approval 10 (Habitat Management Land Acquisition and Permittee Responsible Mitigation) of this ITP.

8.4. CNDDB Observations. The Designated Fisheries Biologist shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDB) annually for the term of this ITP and shall include summaries of the observations in the next ASR (Condition of Approval 8.3, Annual Status Report).

8.5. Final Mitigation Report. No later than forty-five days after completion of all mitigation measures, or ninety days prior to the expiration of this ITP (whichever is sooner), Permittee shall provide CDFW with a Final Mitigation Report. The Designated Fisheries Biologist, or Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of 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; (8) any other pertinent information.

8.6. Notification of Take or Injury. Permittee shall immediately notify the Designated Fisheries 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 Designated Fisheries Biologist or Designated Representative shall provide initial notification to CDFW by calling and providing email to the CDFW offices listed in the Notices section of this ITP. The

initial notification to CDFW shall include information regarding the location, species, and number of Covered Species taken or injured and the ITP Number (No. 2081-2023-051-00). 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 Covered Species or carcass, and if possible, provide a photograph, explanation as to cause of take or injury, and any other pertinent information.

COVERED SPECIES MONITORING AND SCIENCE REQUIREMENTS

8.7. Winter-Run and Spring-Run Chinook Salmon Monitoring and Science Requirements. To improve understanding of CHNWR and CHNSR population size, life history diversity, migration patterns, survival rates, habitat use, and impacts from Project-operations related stressors, Permittee shall fund, initiate, and implement Covered Species monitoring programs and science requirements. This new monitoring and science shall incorporate the elements identified in the Conditions of Approval 8.7.1, 8.7.2, 8.7.3, 8.7.4, 8.7.5, 8.7.6, and 8.7.7, and shall be combined with existing surveys and data to: 1) continue to build knowledge regarding the biology and life history of Covered Species; 2) better understand potential impacts of Covered Activities on Covered Species; 3) inform whether refinements or modifications to the Project's operational criteria have the potential to further minimize impacts to Covered Species.

8.7.1. Juvenile Salmonid Survival Study Program. Permittee shall prepare and implement a Juvenile Salmon Survival Study Program (JSSSP) to improve the understanding of the effects of Project operations on juvenile CHNWR and CHNSR survival near the fish screens during times when juvenile salmon are naturally present. The draft plan for the JSSSP shall be submitted to CDFW for review within three years of the issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final JSSSP plan for CDFW's approval (in writing) within four years of the issuance of this ITP. Permittee shall conduct the required JSSSP studies before initiation of Project operations (within six years of issuance of this ITP) to characterize baseline conditions during the main period of natural fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting. Permittee shall submit the pre- and post-operation reports within ninety days of study completion. The format and data reporting requirements of the reports shall be determined in consultation with CDFW during the JSSSP submission and approval process. The study plan shall include the following:

- A schedule for implementation, including deadlines for draft and final reports.
- A data management plan.
- A plan to characterize the effects of Project diversions, relative to baseline conditions, on overall juvenile CHNWR and CHNSR survival and mortality in the

immediate areas of the fish screens, including through the HCPS oxbow channel. This plan shall include:

- Quantification and characterization of trends in mortality due to impingement on the RBPP fish screen and HCPS fish screen during the main period of fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.
- Quantification and characterization of mortality due to predation in the immediate area of the RBPP fish screen and HCPS fish screen, as compared to elsewhere in the Sacramento River (may be conducted in conjunction with Condition of Approval 8.7.2 – Predator Study Program), during the main period of fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.
- Quantification and characterization of trends in mortality due to predation throughout the entire HCPS oxbow channel, especially in the spill area immediately downstream of the flow control weir, and the length and breadth of the HCPS oxbow channel outflow (may be conducted in conjunction with Condition of Approval 8.7.2 – Predator Study Program). Predation rates shall be compared to predation rates elsewhere in the Sacramento River, during the main period of fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through march of the first year of Project operations while the Project is actively diverting.
- Quantification of survival along the full HCPS oxbow channel inlet to the outlet during the main period of fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.
- Quantification and characterization of juvenile Chinook salmon usage of the RBPP fish screen fish refuge areas during the main period of fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.

8.7.2. Predator Study Program. Permittee shall prepare a Predator Study Program (PSP) to evaluate predator fish densities, spatiotemporal (seasonal) distributions and predator diets in the immediate vicinity of the RBPP and HCPS fish screens and throughout the

HCPS oxbow channel, as compared to control sites in the Sacramento River. The purpose of the PSP is to provide a more in-depth understanding of the potential effects of predation caused by Project operations at the RBPP and HCPS diversion facilities on CHNWR and CHNSR. Permittee shall submit the draft PSP plan to CDFW for review within three years of the issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final PSP for CDFW's approval (in writing) within four years of the issuance of this ITP. Permittee shall conduct the predator studies before initiation of Project operations (within six years of issuance of this ITP) to collect baseline data during the main period of natural fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting. Permittee shall develop a survey protocol in consultation with CDFW as part of the plan submission process to determine survey equipment, methods and analysis, as well as a project implementation schedule and data report format. All pre- and post-study reports shall be submitted within ninety days of completion of the study to CDFW. The PSP shall include, but shall not be limited to:

- A schedule for implementation, including deadlines for draft and final reports.
- A data management plan.
- Predator surveys concurrent with Juvenile Salmonid Survival Study Program (Condition of Approval 8.7.1) to estimate the proportion of juvenile salmonid mortality attributable to predation near the fish screens during the main period of natural fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.
- Predator surveys throughout the year to characterize spatio-temporal (seasonal) patterns in predator densities and distributions near the fish screens during the main period of natural fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.
- Live capture and gastric lavage of predator fish during predator surveys to evaluate predator diets near the fish screens during the main period of natural fish presence near the diversion facilities of October through March when no diversions are occurring, and during October through March of the first year of Project operations while the Project is actively diverting.

8.7.3. Long-Term Salmonid Monitoring Program in the Hamilton City Oxbow Channel. Permittee shall prepare a Fish Monitoring Program (FMP) for the continuous, long-term rotary screw trap monitoring of juvenile salmonid passage (CHNWR, CHNSR) through

the HCPS oxbow channel. The purpose of the monitoring is to estimate juvenile passage through the oxbow channel at HCPS diversion facility and estimate exposure to the HCPS fish screen during the Project diversion window of September 1 through June 14. Permittee shall submit the FMP draft plan to CDFW for review within one year of the issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final FMP for CDFW's approval (in writing) within two years of the issuance of this ITP. Long-term monitoring shall commence within three years of the issuance of this ITP and shall continue for the full term of the ITP. Permittee shall consult with CDFW during development of the FMP regarding the appropriate methods of analysis to estimate screen exposure of salmonids. In addition to quantifying juvenile salmonid passage through the HCPS oxbow channel, the long-term monitoring plan shall also include development and implementation of permanent juvenile salmon acoustic telemetry systems (JSATS) receiver arrays (all arrays shall be composed of two receivers on opposite sides of the channel) in the following two areas, with specific locations to be determined in consultation with CDFW:

- In the HCPS oxbow channel, upstream of the HCPS fish screen.
- In the HCPS oxbow channel outflow, between the flow control weir and the confluence.

JSATS receiver arrays shall be deployed during the Project diversion window of September 1 through June 14, at a minimum. Permittee shall provide reports for long-term monitoring at a schedule and frequency identified in the draft FMP for the term of this ITP. The schedule, frequency, format and reporting structure, and receiver array maintenance schedule shall be determined in consultation with CDFW during the FMP submission and approval process.

8.7.4. Juvenile Salmonid Sutter Bypass Entrainment and Survival Program. Permittee shall develop a Juvenile Salmonid Sutter Bypass Entrainment and Survival Program (JSSBESP). The JSSBESP shall be designed to inform the understanding of juvenile salmonid migration routing and survival in the Sacramento River and the potential impacts the Project operations may have on routing and survival of juvenile salmonids. The JSSBESP shall also further inform the effects Project operations have on the potential to influence entrainment of salmonids by influencing the flow overtopping at weirs within the Sutter Bypass in regard to the duration (number of days) and volume of water during the Project diversion window of September 1 through June 14. The JSSBESP may also improve the understanding of migration survival due to changes in entrainment probability potentially resulting from Project operations. Permittee shall, in consultation with CDFW, develop a draft plan to deploy JSAT receivers in the Sutter Bypass at the Moulton, Colusa and Tisdale weirs, as well as strategic locations within the bypass. Permittee shall submit all JSAT deployment locations for review and approval by CDFW

(in-writing) as part of the draft plan submission process. The JSAT receivers shall be strategically deployed to maximize detection probability at the river junctions with each weir that spills into the Sutter Bypass (i.e. Moulton, Colusa, and Tisdale weirs). An extensive existing array of JSATS receivers is deployed each year throughout the Sacramento River system by a collaborative team of institutions that shall be incorporated into the analysis for this study.

Permittee shall submit the draft study plan within two years of issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final plan for CDFW's approval (in-writing) within three years of the issuance of this ITP. The JSSBESP based on the final study plan shall be initiated within four years of issuance of this ITP and continue for the term of the ITP. Permittee shall maintain all associated equipment in working condition for the term of this ITP. Permittee shall submit reports at a schedule and frequency identified in the final CDFW-approved plan for the term of the ITP. The report format and reporting requirements shall also be determined in consultation with CDFW during the plan submission and approval process. All data shall be made open source and available in the following format (Environmental Data Initiative [EDI] Data Portal repository) in consultation with CDFW. Permittee shall continue the data reporting for the term of this ITP.

8.7.5. Pre-Smolt Juvenile Survival Program. Permittee shall develop a Pre-Smolt Juvenile Survival Program (PSJSP) to provide an improved understanding of potential Project impacts to migratory survival of smaller size classes of juvenile salmonids (45-80 mm fork length) that may occur from Covered Activities. The PSJSP be used to inform and quantify any degree of difference in migration survival between fish larger than 80 mm and fish between 45-80 mm fork length. Permittee shall develop an analysis to evaluate the survival estimate for fish smaller than 80 mm fork length. Permittee may employ multiple methodologies including existing monitoring efforts (such as rotary screw traps) in consultation with CDFW. A draft study plan shall be submitted within four years of issuance of this ITP that includes detailed information on the study using the principles outlined in this section. Permittee shall incorporate comments from CDFW and submit the final plan for CDFW's approval (in-writing) within five years of the issuance of this ITP. The PSJSP based on the final study shall be initiated within six years of issuance of this ITP and continue for the term of the ITP. All data shall be made open source and available in the following format (Environmental Data Initiative [EDI] Data Portal repository) in consultation with CDFW. Permittee shall develop new monitoring sites, or utilize existing monitoring sites, in the following locations:

- Location 1. Red Bluff, River Mile (RM) ~ 242 in the approximate area of the Red Bluff Rotary Screw Trap in the Sacramento River.
- Location 2. Sacramento, RM ~ 75 in the lower boundary of the reach in the approximate area of the Sacramento River near Delta Entry Rotary Screw Trap.

8.7.6. Spring-Run Chinook Salmon Life Cycle Model. Upon availability of the Spring-Run Life Cycle Model (SRLCM), currently in development as required by ITP No. 2081-2019-066-00, Permittee shall use best available science, as approved by CDFW, to analyze effects of proposed operations and the proposed use of Reclamation's investment in Sites and requirements from any subsequent permits on CHNSR. Permittee shall develop model inputs that consider and include, as determined in consultation with CDFW, the results of science actions described in Conditions of Approval 8.7.1, 8.7.2, 8.7.3, 8.7.4, and 8.7.5, when such data is available. Permittee shall, in coordination with CDFW, verify the quantification of Project impacts from the SRLCM to CHNSR and consult with CDFW about potential amendments to this ITP, if warranted.

8.7.7. Protection of the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project Objectives. Permittee shall develop, in coordination with DWR and Reclamation, a study plan within seven years of issuance of this ITP to CDFW that provides methods to analyze if Project operations have the potential to diminish the ability of Salmonid Habitat Restoration and Fish Passage Project to achieve its goals and objectives, as described below. The draft plan shall be submitted for CDFW review within five years of ITP issuance and the final plan shall be submitted for CDFW approval (in writing) within seven years of ITP issuance. After initiation of Project operations, if the Project operates in a manner that diminishes the ability of the Salmonid Habitat Restoration and Fish Passage Project to achieve its goals and objectives, the Permittee shall, in coordination with DWR and Reclamation, develop a plan to minimize and mitigate, as applicable, this impact. Permittee shall submit the minimization and mitigation plan to CDFW in draft form for review and Permittee shall obtain CDFW's written approval prior to its implementation. The study plan and subsequent analysis may also be used to inform any potential consideration of refinement to this ITP's minimization and mitigation of Covered Activities' impacts to juvenile rearing habitat in the Yolo Bypass. The goals and objectives of the Salmonid Habitat Restoration and Fish Passage Project are as follows:

The first objective is to increase the availability of floodplain rearing habitat for juvenile CHNWR, CHNSR, and Central Valley steelhead. This action can also improve conditions for Sacramento splittail and Central Valley fall-run Chinook salmon. Specific biological goals include:

- Improve access to seasonal habitat through volitional entry
- Increase access to and acreage of seasonal floodplain fisheries rearing habitat
- Reduce stranding and presence of migration barriers
- Increase aquatic primary and secondary biotic production to provide food through an ecosystem approach

The second objective is to reduce migratory delays and loss of fish at Fremont Weir and other structures in the Yolo Bypass. Specific biological goals include:

1. Improve connectivity within the Yolo Bypass for passage of salmonids and sturgeon.
2. Improve connectivity between the Sacramento River and the Yolo Bypass to provide safe and timely passage for:

    - Adult CHNWR between mid-November and mid-March when water surface elevations in the Sacramento River are amenable to fish passage
    - Adult CHNSR between January and May when elevations in the Sacramento River are amenable to fish passage
    - Adult California Central Valley steelhead in the event their presence overlaps with the defined seasonal window for other target species when elevations in the Sacramento River are amenable to fish passage
    - Adult Southern DPS green sturgeon between February and May when elevations in the Sacramento River are amenable to fish passage.
    - Adult WS between February and mid-March when elevations in the Sacramento River are amenable to fish passage.

The Salmonid Habitat Restoration and Fish Passage Project includes the construction of a new gated notch in Fremont Weir located in the northern Yolo Bypass and channel that parallels the existing east levee of the Yolo Bypass. The gated notch and channel have the ability to convey flows up to 6,000 cfs, depending on the Sacramento River, to provide open channel flow for adult fish passage, juvenile fish emigration, and floodplain inundation. This alternative also includes a supplemental fish passage facility on the west side of Fremont Weir and improvements to allow fish to pass through Agricultural Road Crossing 1 and the channel north of Agricultural Road Crossing 1.

DWR will implement the Salmonid Habitat Restoration and Fish Passage Project in accordance with its adaptive management and monitoring plan, and any subsequent revisions.

8.8. White Sturgeon Monitoring and Science Requirements. To improve understanding of WS impacts from Project-operations related stressors, Permittee shall fund, initiate, and implement WS monitoring programs and science requirements. This new monitoring and science shall incorporate the elements identified in the Conditions of Approval 8.8.1, 8.8.2, 8.8.3, and 8.8.4, and shall be combined with existing surveys and data to: 1) continue to build knowledge regarding the biology and life history of Covered Species; 2) better understand potential impacts of Covered Activities on Covered Species; 3) inform consideration of whether refinements to operational criteria that have the potential to further minimize impacts to Covered Species.

8.8.1. Juvenile White Sturgeon Survival Program. Permittee shall develop a juvenile WS Survival Study Program (WSSP) to improve the understanding of the effects of Project diversions on juvenile WS survival near the HCPS fish screens. The WSSP shall be designed to further inform on the effects of Project diversions on WS survival and

mortality in the immediate areas of the fish screens and characterize trends in mortality due to entrainment of larval and juvenile WS, 30 mm or less during the period of January 1 through June 14. Permittee shall submit a draft WSSP plan within three years of the issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final WSSP plan for CDFW's approval (in-writing) within four years of the issuance of this ITP. Permittee shall conduct the required WSSP study twice, once before initiation of Project operations, within six years of issuance of this ITP, and once after the initiation of the Project (within three years of initiation of Project operations). Permittee shall include the following as part of the WSSP:

- A WS larval entrainment monitoring protocol; based on Poytress et. al., 2012[18], or best available science, determined in consultation with CDFW, to quantify the number of larvae present in the HCPS oxbow channel subject to entrainment behind the HCPS fish screen during the main period of larval WS presence near HCPS of January 1 through June 14 when no diversions are occurring, and during January 1 through June 14 of the first year of Project operations while the Project is actively diverting.
- A schedule of implementation, including deadlines for monitoring reports as part of the plan submission process, in consultation with CDFW.
- A data management plan for each required study.
- A plan to characterize the effects of the HCPS fish screens on WS survival and mortality in the immediate vicinity of the fish screens. This plan shall include:

    - Quantification and characterization of trends in mortality due to entrainment of larval and juvenile WS, 30 mm or less through the HCPS fish screen.
    - Quantification of survival along the full HCPS oxbow channel inlet to the outlet.

8.8.2. White Sturgeon Acoustic Telemetry Program. Permittee shall outline a White Sturgeon Acoustic Telemetry Program (WSATP) to improve understanding of the routing and movement of adult and juvenile WS in the vicinity of the RBPP and HCPS diversion facility and provide further information on the potential effects of Project operations on routing and movement of WS in the upper Sacramento River. Permittee shall submit the WSATP draft plan to CDFW for review within one year of the issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final WSATP for CDFW's approval (in writing) within two years of the issuance of this ITP. Long-term monitoring shall commence within three years of the issuance of this ITP and shall continue for the full term of the ITP. Permittee shall maintain all associated equipment in working condition for the term of this ITP. Permittee shall submit Annual Reports at a schedule and frequency identified in the final CDFW-approved plan for the term of the

[18] Poytress, W. R., J. J. Gruber, and J. P. Van Eenennaam. 2012. 2011 upper Sacramento River Green Sturgeon spawning habitat and larval migration surveys. Annual Report of U.S.Fish and Wildlife Service to U.S. Bureau of Reclamation, Red Bluff, CA

ITP. The report format and reporting requirements shall also be determined in consultation with CDFW during the plan submission and approval process. Permittee shall include the following in the WSATP:

- Permittee shall determine, in consultation with CDFW through the draft submission process, the appropriate equipment to employ, the number of adult or juvenile WS individuals to tag, the schedule and duration of the tagging program, the number of acoustic receivers to install, and the locations of the acoustic receivers.
- The WSATP shall include details on permanent placement of real-time JSATS and 69 kilohertz (khz) acoustic telemetry receiver arrays (each array shall be composed of two receivers, placed on opposite sides of the channel) in a minimum of five locations that are chosen in consultation with CDFW (examples below):

    - Bend Bridge (upstream of RBPP)
    - Red Bluff Diversion Dam (downstream of the RBPP fish screen)
    - HCPS upstream of the upper HCPS oxbow channel confluence
    - In the HCPS oxbow channel upstream of the HCPS fish screen
    - In the HCPS oxbow channel below the flow control weir and lower HCPS oxbow channel confluence.

- Real-time acoustic tag data shall be provided daily on a publicly available website designed to host real-time fish movement for science and management purposes.
- In revealing patterns in WS routing and habitat usage, the WSATP may also inform the need for future minimizations.

8.8.3. Seasonal White Sturgeon Larval Monitoring Program. Permittee shall develop a Seasonal White Sturgeon Larval Monitoring Program (SWSLMP) for continuous, long-term monitoring to improve understanding of the presence and movement of larval WS in the vicinity of the HCPS diversion facility during the main period of larval WS presence near HCPS of February 1 through June 14 and provide further information on the potential effects of Project operations on routing and movement of WS in the upper Sacramento River. Permittee shall submit a draft study plan within three years of issuance of this ITP that includes detailed information on the study using the principles outlined in this section. Permittee shall incorporate comments from CDFW and submit the final plan for CDFW's approval (in writing) within four years of the issuance of this ITP. The program based on the final study shall be initiated within five years of issuance of this ITP and continue for the term of the ITP. Permittee shall include the following in the SWSLMP:

- Permittee shall determine in consultation with CDFW through the draft submission process the appropriate sampling protocol and equipment to employ (based on

Poytress et. al., 2012[19], or best available science), the seasonal sampling window and sampling intervals, and a regular reporting interval for data collected.

- In revealing patterns in larval densities and distributions, the SLWSMP may also inform the need for future minimizations related to Project operations

8.8.4. White Sturgeon Predator Study Program. Permittee shall adhere to the timeline and science requirements for a WS Predator Study Program following the protocols described in the CHNSR and CHNWR requirements in Condition of Approval 8.7.2 (Predator Study Program).

8.9. Longfin Smelt and Delta Smelt Science Requirements. To improve understanding of impacts to LFS and DS from Project operations, Permittee shall fund, initiate, and implement the monitoring program and science requirement described below. This new monitoring and science shall be identified in the Conditions of Approval 8.9.1 and 8.9.2, and may be combined with existing surveys and data to: 1) continue to build knowledge regarding the biology and life history of Covered Species; 2) better understand potential impacts of Covered Activities on Covered Species; 3) inform whether refinements or modifications to the Project's operational criteria have the potential to further minimize impacts to Covered Species.

8.9.1. Longfin Smelt Life Cycle Model. Permittee shall in collaboration with CDFW utilize the Longfin Smelt Life Cycle Model (LFSLCM) (DWR et. al., 2020)[20] to determine effects of Project-related changes in Delta flows and salinities on LFS. Permittee shall within one year of the availability of the LFSLCM for public use, further coordinate with CDFW on the development of model inputs to evaluate Project effects on all LFS life stages and vital rates (birth rates, death rates, growth rates, transition rates from one life stage to next, etc.) predicted by the LFSLCM. Permittee shall within two years of the LFSLCM availability for public use, compare LFS life stage abundances and vital rates among at least three Project scenarios depicting the full range of operations that can be reasonably foreseen and the NAA by simulating all four scenarios in CalSim 3 and DSM2 (or similar modeling tools, using the best available science), and using the relevant Calsim 3 and DSM2 outputs as inputs to the LFSLCM. Permittee shall, in coordination with CDFW, verify the quantification of Project impacts from the LFSLCM to LFS and consult with CDFW about potential amendments to this ITP, if warranted.

8.9.2. Sediment Monitoring Plan. Permittee shall develop and implement a sediment monitoring plan (SMP) to collect the necessary data to quantify the entrainment of sediment by the Project's diversions at the RBPP and HCPS diversion facilities. Permittee shall submit the draft SMP plan to CDFW within three years of ITP issuance. Permittee

[19] Poytress, W. R., J. J. Gruber, and J. P. Van Eenennaam. 2012. 2011 upper Sacramento River Green Sturgeon spawning habitat and larval migration surveys. Annual Report of U.S.Fish and Wildlife Service to U.S. Bureau of Reclamation, Red Bluff, CA

[20] California Department of Water Resources, California Department of Fish and Wildlife, California State Water Contractors, U.S. Fish and Wildlife Service. 2020. Longfin Smelt Science Plan 2020 - 2030.

shall incorporate comments from CDFW and submit the final SMP plan for CDFW's approval (in-writing) within four years of the issuance of this ITP. The SMP shall include continuous monitoring of suspended sediment concentrations in the Sacramento River and in the water diverted at RBPP and HCPS for the Project. Sediment monitoring shall begin withing five years of the issuance of this ITP and shall continue for at least five years after initiation of Project operations. The SMP shall also include the most up to date and available scientific data to determine performance criteria for assessing the impact of reduced suspended sediment in the Sacramento River on DS abundance, recruitment and spatial distribution. The sediment monitoring data shall be used to refine models of sediment entrainment at RBPP and HCPS as a result of the Project and determine if sediment management actions are needed to minimize the incremental loss of sediment due to Project operations. If performance criteria indicate biologically significant impacts are found as a result of the Project, a Sediment Reintroduction Plan shall be developed by the Permittee and approved by CDFW. Permittee shall conduct any necessary environmental review prior to finalizing and implementing the sediment reintroduction plan.

8.10. Water Quality Monitoring Plan for Pesticides at the Knights Landing Outfall Gates to the Sacramento River and the Knights Landing Ridge Cut to the Yolo Bypass. Permittee shall within seven years of ITP issuance submit a Water Quality Monitoring Plan (WQMP) to evaluate the potential for elevated pesticide concentrations due to Project-related water discharges at the KLOG to the Sacramento River and KLRC to the Yolo Bypass that may impact Covered Species (DS, CHNWR, CHNSR, and WS). Permittee shall incorporate comments from CDFW and submit the final monitoring plan for CDFW's approval (in-writing) within eight years of the issuance of this ITP. Permittee shall initiate the WQMP within the first year of Project operations and continue monitoring for the term of this ITP. Permittee shall develop the WQMP to analyze the potential impacts on Covered Species as a result of elevated pesticide concentrations in water discharges. Permittee shall as part of the WQMP include potential minimizations for pesticides, including cessation of discharges. Permittee may be subject to an amendment, as specified in Section 6 of this ITP, depending on minimization measures identified in the WQMP.

8.10.1. Pesticide Concentrations Monitoring Methods. Permittee shall collect and analyze pesticide concentrations in water and suspended sediment samples before and during water discharge from the Project conveyance facilities to the KLOG to the Sacramento River and KLRC to the Yolo Bypass. Permittee shall determine the timeframe and frequency of sample collection in consultation with CDFW as part of the WQMP review and approval process described above. Water samples will be collected at a time and frequency in relation to water releases in consultation with CDFW. Permittee shall determine the specific sample collection locations in consultation with CDFW, as part of the WQMP review and approval process described above.

8.10.2. Sample Collection Protocols. Permittee shall collect the following information with all water samples at the time of collection; temperature, DO, pH, and GPS location. Permittee shall collect all samples according to the sample collection protocols set forth in the most recent California Department of Pesticide Regulation (DPR) Report; Study 310: Surface Water Monitoring for Pesticides in Agricultural Areas of Northern California (DPR, 2024)[21], or utilizing the most up to date version of the DPR report. Permittee shall be required to analyze the water samples, including suspended sediments for the suite of pesticides listed in the DPR report recommended for monitoring. Samples will additionally be analyzed for the pesticides listed below, if they are not included in the DPR list of pesticides recommended for monitoring; Bifenthrin, Carbaryl, Carbofuran, Chloropyrifos, Diazinon, Esfenvalerate, Ethoprop, Fipronil and Malathion. Permittee shall consult with CDFW on an annual basis to determine if additional pesticides are recommended for monitoring.

8.10.3. Sample Analysis and Reporting. Permittee shall submit all sample analysis to a laboratory certified under the Environmental Laboratory Accreditation Program[22]. Permittee shall develop a reporting structure and timeline for the sample analysis reports to CDFW and determine the reporting frequency of the overall analysis as part of the final WQMP review and approval process described above.

8.11. Detrimental Metals Monitoring Plan. Permittee shall develop a Detrimental Metals Monitoring Plan (DMMP) and submit to CDFW within seven years of ITP issuance to determine the effects of Project-related water releases on detrimental metal concentrations within the CBD, KLOG to the Sacramento River, and KLRC to the Yolo Bypass that may impact Covered Species (DS, CHNWR, CHNSR and WS). Permittee shall incorporate comments from CDFW and submit the final DMMP plan for CDFW's approval (in-writing) within eight years of the issuance of this ITP. Permittee shall initiate the DMMP monitoring upon initiation of operational water releases and continue the monitoring for the term of this ITP. Permittee shall develop the DMMP to monitor detrimental metal concentrations in water and suspended sediments at multiple locations within the CBD, Yolo Bypass, and the Sacramento River. Permittee shall determine the monitoring locations in consultation with CDFW as part of the submission and review process of the DMMP. Permittee shall develop the schedule and frequency of the monitoring to occur at the stations, once station locations are determined, in consultation with CDFW as part of the submission and review process of the DMMP.

Permittee shall determine a sample collection protocol in consultation with CDFW. Permittee shall develop a reporting process for the term of this ITP in consultation with

[21] California Department of Pesticide Regulation (DPR) report, 2024; Study 310: Surface Water Monitoring for Pesticides in Agricultural Areas of Northern California. https://www.cdpr.ca.gov/docs/emon/pubs/protocol.htm.
[22] Environmental Laboratory Accreditation Program (ELAP). https://www.waterboards.ca.gov/drinking_water/certlic/labs/

CDFW as part of the final plan review and approval process described above. Permittee shall ensure that all samples are submitted to a certified laboratory to analyze samples in consultation with CDFW as part of the final plan review and approval process described above. Permittee shall as part of the DMMP include potential minimizations for detrimental metals, including cessation of discharges. Permittee may be subject to an amendment, as specified in Section 6 of this ITP, depending on minimization measures identified in the DMMP.

8.12. Data Accessibility. Permittee shall provide CDFW with access to all raw data and associated analyses, including in digital tabular format, and reports for all monitoring and reporting identified in this ITP, as specified in the corresponding subsections of Condition of Approval 8, or if not specifically identified Permittee shall provide the raw data and associated analysis upon request from CDFW.

9. 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:

OPERATIONS OF FISH SCREENS

9.1. No Diversion Without Fish Screens. Permittee shall not divert water at an individual diversion facility location (RBPP or HCPS) at any time unless the fish screen panels are installed, maintained, and fully operational at that individual diversion facility location. Permittee shall notify CDFW within two business days (in-writing) if the fish screens are not operational at the RBPP or HCPS diversion facility at a time that the Project is diverting at such facility or is projected to divert at such facility.

9.2. Velocity Requirement at Red Bluff Pumping Plant and Hamilton City Pump Station Fish Screens. To minimize impingement and entrainment of CHNWR, CHNSR and WS, Permittee may only divert when the RBPP and HCPS fish screens are operating according to the CDFW Fish Screening Criteria (CDFW, 2000)[23]. Permittee's maximum diversion rate, given the water surface elevation, shall be determined through hydraulic testing of the RBPP and HCPS fish screens. In order to comply with the CDFW Fish Screening Criteria, Permittee shall not exceed the spatially-averaged approach velocity (V_a) of 0.33 fps at the RBPP and HCPS fish screens. Spatially-averaged approach velocity shall be defined as the mean of all measurements taken on the fish screen(s). Permittee shall not cause the mean V_a of the screen to exceed one-half of the spatially-averaged sweeping velocity (V_s). Permittee may only divert, as indicated by velocity testing, if any one point measured during hydraulic testing does not exceed 0.33 × 1.2 (1.2 = 20 percent approach velocity fluctuation factor), or

[23] California Department of Fish and Wildlife (CDFW). 2000. Fish Screening Criteria.

0.4 fps. If Permittee is using a testing grid with more points than required in this condition, then Permittee may only divert, as indicated by velocity testing, if less than 0.2 percent of the points measured during hydraulic testing does not exceed 0.33 × 1.2 (1.2 = 20 percent approach velocity fluctuation factor), or 0.4 fps. Compliance shall be determined through periodic hydraulic testing as specified below.

9.2.1. Hydraulic Testing Plan for Velocity Requirements. Permittee shall prepare a Hydraulic Testing Plan (HTP) to demonstrate the RBPP and HCPS fish screens are operating within the CDFW Fish Screening Criteria under the flow conditions under which the Project would be operating as specified in Condition of Approval 9.2 above. The Plan shall also include a test to demonstrate that the automated cleaning system is working as expected to remove accumulated debris from the fish screen surface. A draft HTP shall be submitted to CDFW within five years of the issuance of this ITP. Permittee shall incorporate comments from CDFW and submit the final HTP for CDFW's approval (in-writing) within six years of the issuance of this ITP. The HTP shall include all elements required by Conditions of Approval 9.2; 9.2.2, 9.2.3, 9.2.4, 9.2.5, 9.2.6, and 9.2.7.

9.2.2. Hydraulic Testing Schedule. After final HTP approval, Permittee shall conduct one initial hydraulic test at the RBPP and HCPS fish screens after installation of the new headgate structure within the GCID Main Canal and the new diversion pumps at the RBPP diversion facility, but before Project operations commence. Permittee shall conduct one additional hydraulic test within the first year of Project diversions at the RBPP and HCPS diversion facilities. In the event that the new diversion pumps at RBPP or the new headgate structure within the GCID Main Canal become operational within one year of Project diversions, the testing at each screen may be combined into one testing period. Thereafter, Permittee shall conduct periodic hydraulic testing during Project diversions every five years for the term of this ITP. Permittee may also be required to conduct additional hydraulic testing following a qualifying event as specified below:

- Changes to Project facilities or Permittee's operations affecting fish screen operations, as determined by CDFW.
- Channel morphology changes in the vicinity of the RBPP and HCPS fish screens that may affect the efficacy of the fish screen function, such as the HCPS oxbow channel.
- Changes or adjustments to the RBPP or HCPS fish screens that may affect fish screen function, such as, tuning baffle adjustments or replacement of fish screen panels with new design (e.g., screen panel size or screen slot size changes).
- Additional qualifying events identified by Permittee or CDFW in the HTP with the potential to increase V_a above the CDFW Fish Screening Criteria.

All hydraulic testing associated with qualifying events shall be initiated within three months of the completion of the qualifying event, or as may be approved by CDFW,

considering Project operations, potential safety hazards, and specific conditions at the facility to be tested.

9.2.3. Hydraulic Testing Procedures. The Permittee shall conduct all hydraulic testing events previously described above, using the following procedures and parameters for the RBPP and HCPS fish screens. Permittee shall also provide detailed methods of the procedures and parameters for hydraulic testing in the HTP:

- Permittee shall test each fish screen at the maximum allowable diversion rate, given the water surface elevation at the screen, such that the theoretical mean V_a across the screen does not exceed 0.33 fps.
- Permittee shall measure V_a and V_s on a grid spanning the length and height of each fish screen at the RBPP and HCPS using methods that follow guidance from the U.S. Bureau of Reclamation (USBR 2009[24]; USBR 2017[25]).
- The V_a and V_s measurement grid shall cover the entire wetted area of each fish screen at a resolution of no less than 15 square feet (e.g., if the wetted area of the screen is 7,500 square feet, V_a and V_s measurements should be made at a minimum of 500 evenly spaced locations on the screen face). An approximate schematic of the testing grid shall be included in the HTP.
- If required, tuning baffles on each screen shall be adjusted prior to testing to minimize V_a hotspots ($V_a > 0.33$ fps or $V_a > 0.5V_s$). If V_a hotspots are still detected during testing, tuning baffles shall be readjusted and the affected screen area re-tested until V_a conforms to CDFW Fish Screening Criteria.

9.2.4. Red Bluff Pumping Plant Testing Parameters. Permittee shall conduct hydraulic testing under the maximum allowable diversion rate at RBPP, as specified by the Conditions of Approval in this ITP (maintaining spatially-averaged $V_a \leq 0.33$ fps), given the water surface elevation during testing. Once the HTP is approved, the Permittee shall conduct hydraulic testing in high instream flow conditions (instream flows greater than or equal to 7,860 cfs). Instream flow for the RBPP shall be determined by the Bend Bridge – California Data Exchange (C-DEC) Station ID: BND[26].

9.2.5. Hamilton City Pump Station Testing Parameters. Permittee shall conduct hydraulic testing under the maximum allowable diversion rate at HCPS, as specified by the conditions of this ITP (maintaining spatially-averaged $V_a \leq 0.33$ fps), given the water surface elevation during testing. Once the HTP is approved, the Permittee shall conduct hydraulic testing in high instream flow conditions (instream flows greater than or equal to 7,700 cfs). The Permittee shall also monitor the mean HCPS oxbow channel flow upstream and downstream of the HCPS fish screen and the flow-control weir crest

[24] US Department of the Interior, Bureau of Reclamation (USBR). Microsoft Word - Guidelines for Fish Screening Evaluations-NEW.doc (usbr.gov)
[25] US Department of the Interior, Bureau of Reclamation (USBR). 2017. Improving Data Collection Methods for Hydraulic Evaluations of Fish Screens. Denver, Colorado. Accessed September 2023. https://www.usbr.gov/tsc/techreferences/hydraulics_lab/pubs/HL/HL-2017-03.pdf
[26] California Data Exchange Station for Bend Bridge; Station ID: BND – Weblink: https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=BND

elevation during all testing events and include these measurements in all HCPS hydraulic testing reports (Condition of Approval 9.2.7). Instream flow for the HCPS shall be determined by the Hamilton City Station – California Data Exchange (CDEC) Station ID: HMC[27] plus Permittee and non-Permittee diversions at the HCPS diversion facility.

9.2.6. Approach Velocity Testing Compliance. Permittee shall provide all hydraulic testing data to CDFW within seventy-two hours of all approach velocity tests. Permittee shall, if testing data determines non-compliance with the CDFW Fish Screening Criteria, conduct baffle adjustments within seven days of a non-compliant hydraulic test, and Permittee shall retest within seven days of the baffle adjustment and provide the subsequent hydraulic testing data to CDFW within seventy-two hours. CDFW shall determine whether baffle adjustment and retesting has demonstrated compliance, and if additional baffle adjustments and testing are required. Permittee shall employ additional actions, as needed, to maintain approach velocity such as the decrease of Project diversion rates at the RBPP or HCPS diversion facilities, if approach velocity cannot be maintained under the CDFW Fish Screening Criteria. Permittee shall detail all retesting in the subsequent Hydraulic Testing Report as described below.

9.2.7. Hydraulic Testing Reports. Permittee shall submit all hydraulic testing reports within thirty days of completion for all hydraulic tests described above to CDFW. The reports shall at minimum include:

- The date(s), times and total duration of each testing session;
- The testing methods employed;
- The condition of the screen during testing (percent of screen damaged, percent fouled, etc.);
- Time since automated cleaning equipment last operated;
- Date of last manual cleaning of the screen;
- A detailed account of any difficulties encountered during testing that prevented measurement, or affected V_a or V_s at one or more locations on the screens;
- A detailed account of fish screen tuning baffle positions before any adjustments made for testing, all tuning baffle adjustments made before testing, and all readjustments and re-testing performed.
- The water surface elevation at the screen face during testing;
- The mean bypass flow and diversion rate during testing; for HCPS, the mean Oxbow flow upstream and downstream of the HCPS fish screen during testing and the flow control weir crest height during testing.
- The fish screen panel tested, and exact location of each measurement point on each panel;

[27] California Data Exchange Station for Hamilton City; Station ID: HMC – Weblink: Metadata (ca.gov)https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=HMC

- Each measured V_a and each measured V_s for the HCPS fish screen, the mean HCPS oxbow channel flow upstream and downstream of the HCPS fish screen, and the flow-control weir crest elevation during testing shall be provided.
- All data shall be submitted to CDFW in long format (one row per observation) in a .csv file. Hydraulic testing reports and data files for each screen shall be submitted in the same format for data accessibility and analysis purposes.

9.3. Disinfect Equipment Prior to Entry into Watercourses. To prevent spread of invasive aquatic species and diseases, gear and equipment to be used in watercourses including, but not limited to, boots, waders, hand tools, and nets must be decontaminated pursuant to the CDFW Aquatic Species Decontamination Protocol[28] prior to entry into a watercourse.

DIVERSION CRITERIA

9.4. Maximum Total Annual Diversions. Permittee shall not exceed the maximum total annual diversion of 986 TAF combined at the RBPP and HCPS diversion facilities. The Permittee shall not divert water at the RBPP and HCPS above the maximum annual diversion volumes of 660 TAF and 421 TAF, respectively, for each location, while still remaining below the maximum total annual diversion of 986 TAF at the diversion facilities for the Project.

9.5. Red Bluff Pumping Plant Maximum Diversion Rate. Permittee shall not divert water in exceedance of the maximum instantaneous diversion rate at the RBPP of 2,120 cfs.

9.6. Hamilton City Pump Station Maximum Diversion Rate. Permittee shall not divert water in exceedance of the maximum instantaneous diversion rate at the HCPS of 2,070 cfs.

9.7. Water Diversion Season. Permittee shall only divert water from RBPP and HCPS between September 1 and June 14 each year.

9.8. Diversions During Excess Conditions. Permittee shall only divert when the Delta has been determined by DWR and Reclamation to be in excess conditions and in initiating diversions, Net Delta Outflow Index has increased by an additional 3,000 cfs after the determination of the excess conditions.

9.9. Temporary Urgency Change Order for Delta Water Quality Objectives. Permittee shall not divert water to storage during times when Bay-Delta Water Quality Control Plan requirements for Delta Outflow, X2 (Spring), Rio Vista, Emmaton, Jersey Point, and Delta Export to Inflow (E:I) ratio are modified by a Temporary Urgency Change Petition/Order and the CVP or SWP are operating to the modified conditions.

[28]CDFW Aquatic Species Decontamination Protocol - https://wildlife.ca.gov/Conservation/Invasives/Quagga-Mussels Invasive Species (ca.gov))

9.10. Sacramento River Bypass Flow Criteria at Red Bluff Pumping Plant. Permittee shall not divert water until the Sacramento River flow at RBPP is at or above 3,250 cfs. Diversions shall not result in Sacramento River flow at RBPP to be less than 3,250 cfs at all times. Diversions shall cease once Sacramento River flow at RBPP drop below 3,250 cfs. Sacramento River flow shall be determined by California Data Exchange (CDEC) Station at Bend Bridge (BND)[29] minus Permittee and non-Permittee diversions at the RBPP diversion facility.

9.11. Sacramento River Bypass Flow Criteria at Hamilton City Pump Station. Permittee shall not divert water until the Sacramento River flow at HCPS is at or above 4,000 cfs. Diversions shall not result in Sacramento River flow at HCPS to be less than 4,000 cfs at all times. Diversions shall cease once Sacramento River flow at HCPS drops below 4,000 cfs. Sacramento River flow shall be determined by CDEC Station at Hamilton City (HMC)[30].

9.12. Sacramento River Bypass Flow Criteria at Wilkins Slough. Permittee shall not divert water if the flow in the Sacramento River at Wilkins Slough will decline below 10,930 cfs as indicated by United States Geological Survey (USGS) Station 11390500[31] - Sacramento R BL Wilkins Slough NR Grimes CA. This will be determined using the following criteria:

- The Real-Time flow at USGS Station 11390500 exceeds 10,930 cubic feet per second (cfs).
- The California Nevada River Forecast Center (CNRFC) forecasted flow at station WLKC1[32] exceeds 10,930 cfs for the subsequent seventy-two hours following the estimated start time of any diversion event.
- The forecasted flow continues to exceed 10,930 cfs at CNRFC station WLKC1 for seventy-two hours after the diversion event is scheduled to end.
- The forecasted flow at CNRFC station WLKC1 shall be re-evaluated for the duration of the diversion event, a minimum of every twenty-four hours by the Permittee to ensure the projected forecast has not changed and the forecasted flow continues to exceed 10,930 cfs.
- Forecasting of the seventy-two-hour travel time between the diversions facilities and Wilkins Slough may be modified based on best available science and with approval from CDFW.

9.13. Allowable Diversions During Simultaneous Use at Red Bluff Pumping Plant and Hamilton City Pump Station. If Permittee and non-Permittee diversions occur simultaneously at the RBPP or HCPS, the Permittee shall continue to maintain USGS Station 11390500 and CNRFC Station WLKC1 above 10,930 cfs while accounting for the additional non-Permittee diversions. The total allowable diversions shall be determined by the following equation:

[29] California Data Exchange Center Station Bend Bridge (BND) - https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=BND
[30] California Data Exchange Center Station Hamilton City (HMC) - https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=HMC
[31] Real-time flow at USGS Station# 11390500 - https://waterdata.usgs.gov/monitoring-location/11390500/#parameterCode=00065&period=P7D&showMedian=false
[32] California Nevada River Forecast Center (CNRFC) deterministic forecasted flow at station WLKC1 - https://www.cnrfc.noaa.gov/ensembleProduct.php?id=WLKC1&prodID=3

$$Available\ Flow\ for\ Permittee\ Diversions\ (cfs) = WLK_{72hrForecast} - (10{,}930 + RB_{NonPermitteeDiv} + HC_{NonPermitteeDiv})$$

where $WLK_{72hrForecast}$ is the CNRFC 72-hour forecast, $RB_{NonPermitteeDiv}$ is non-Permittee diversions at Red Bluff and $HC_{NonPermitteeDiv}$ is non-Permittee diversions at Hamilton City to the extent these diversions are not already accounted for in $WLK_{72hrForecast}$.

9.14. Flow Dependent Diversion. Permittee shall divert no more than a specified amount of Sacramento River flow at the RBPP and HCPS under the following criteria for Flow Dependent Diversion (FDD) to minimize impacts to CHNWR, CHNSR, and WS from near-field effects at the RBDD and HCPS fish screens and to minimize the effects of reduced flow in the Sacramento River. The requirements specified in this Condition of Approval shall be adhered to in addition to all other applicable diversion requirements specified in this ITP. Permittee shall not initiate diversions at the RBPP from January 1 to February 28 (Feb. 29 in leap years) until Sacramento River flow at Bend Bridge exceeds 4,800 cfs. Permittee shall not initiate diversions at the RBPP from September 1 to December 31 and March 1 to June 14 until Sacramento River flow at Bend Bridge exceeds 6,295 cfs. Permittee shall not initiate diversions at HCPS from September 1 to June 14 until Sacramento River flow at HCPS exceeds 10,500 cfs. Permittee shall determine river flow at RBPP utilizing real-time observations at CDEC Station Bend Bridge (BND)[33]. Permittee shall determine river flow at HCPS by adding the real-time observations at CDEC Station Hamilton City (HMC)[34] to the current HCPS diversion rate for Permittee and non-Permittee diversions, as CDEC Station HMC is downstream of HCPS. Adjustments to diversions shall be required once per day as needed. However, Permittee may elect to adjust diversions more frequently than once per day.

9.14.1. Flow Dependent Diversion Requirements at the Red Bluff Pumping Plant. Permittee shall divert no more than the maximum allowable diversion rate (cfs) from January 1 to February 28 (Feb. 29 in leap years) as specified in Table 2 for the RBPP. From January 1 to February 28, if real-time flow at Bend Bridge (BND) is within the range given in Table 2 but is other than the values given in Table 2, Permittee shall determine the maximum allowable diversion rate at RBPP by linear interpolation between the values in Table 2.

[33] California Data Exchange Center Station Bend Bridge (BND) - https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=BND
[34] California Data Exchange (CDEC) Station Hamilton City (HMC) - https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=HMC

Table 2.[35]Flow Dependent Diversion Requirements at Red Bluff Pumping Plant (Jan. 1 to Feb. 28/29).

Real-Time Flow at Bend Bridge (BND) in (cfs)	Maximum Diversion (cfs)
4,800	0
5,000	130
6,000	230
7,000	360
8,000	520
9,000	710
10,000	930
11,000	1,180
12,000	1,450
13,000	1,760
14,000	2,100
14,100	2,120
>14,000	2,120

[35] Table 2. BND = Bend Bridge California Data Exchange Station; cfs = cubic feet per second.

Permittee shall divert no more than the maximum allowable diversion rate (cfs) from March 1 to June 14 and September 1 to December 31 as specified in Table 3 for the RBPP. From March 1 to June 14 and from September 1 to December 31, if real-time flow at Bend Bridge (BND) is within the range given in Table 3 but is other than the values given in Table 3, Permittee shall determine the maximum allowable diversion rate at RBPP by linear interpolation between the values in Table 3.

Table 3.[36] Flow Dependent Diversion Requirements at Red Bluff Pumping Plant (March 1 to June 14 and Sep. 1 to Dec. 31)

Real-Time Flow at Bend Bridge (BND) in (cfs)	Maximum Diversion (cfs)
6,300	0
7,000	120
8,000	220
9,000	340
10,000	480
11,000	640
12,000	810
13,000	1,010
14,000	1,220
15,000	1,460
16,000	1,710
17,000	1,980
17,500	2,120

[36] Table 3. BND = Bend Bridge California Data Exchange Station; cfs = cubic feet per second.

9.14.2. Flow Dependent Diversion Requirements at the Hamilton City Pump Station. Permittee shall divert no more than the maximum allowable diversion rate (cfs) from September 1 to June 14 as specified in Table 4 at the HCPS. From September 1 to June 14, if real-time flow at Hamilton City (HMC) is within the range given in Table 4 but is other than the values given in Table 4, Permittee shall determine the maximum allowable diversion rate at RBPP by linear interpolation between the values in Table 4.

Table 4.[37] Flow Dependent Diversion Requirements at Hamilton City Pump Station (Full Diversion Period: Sep. 1 to June 14)

Real-Time Flow at Hamilton City (HMC) in (cfs)[38]	Maximum Diversion (cfs)
10,500	0
11,500	280
12,500	370
13,500	480
14,500	590
15,500	720
16,500	850
17,500	980
18,500	1,130
19,500	1,290
20,500	1,450
21,500	1,620
22,500	1,800
23,500	1,990
24,500	2,200
>24,500	2,200

9.15. Cessation of Diversions at Red Bluff Pumping Plant and Hamilton City Pump Station. The Permittee shall initiate ramp down procedures for diversions immediately, when any of the following occur:

- Either USGS Station 11390500 or CNRFC - WLKC1[39] Station is nonoperational, or the data centers cease to provide data. Alternative methods of compliance may be developed if stations are non-operational by the Permittee and shall be submitted to CDFW for review and approval (in-writing) prior to the initiation of operations.
- USGS Station 11390500 no longer exceeds 10,930 cfs.

[37] Table 4. HMC = Hamilton City California Data Exchange Monitoring Station; cfs = cubic feet per second.
[38] Permittee shall determine real-time river flow at HCPS by adding the flow reported by the DWR stream gage at Hamilton City (CDEC Station HMC) to the current HCPS diversion rate, as the DWR stream gage is downstream of HCPS.
[39] California Nevada River Forecast Center (CNRFC) deterministic forecasted flow at station WLKC1 - https://www.cnrfc.noaa.gov/ensembleProduct.php?id=WLKC1&prodID=3

- The seventy-two-hour forecast indicates the CNRFC Station WLKC1 no longer exceeds 10,930 cfs for the seventy-two-hour period following the estimated start time or end time of a diversion event.
- Any twenty-four-hour re-evaluation of the forecast indicates CNRFC Station WLKC1 will no longer exceed 10,930 cfs.
- The total diversion volume of Permittee and non-Permittee diversions as specified in Condition of Approval 9.13 (Allowable Diversions During Simultaneous Use at Red Bluff Pumping Plant and Hamilton City Pump Station) will reduce flow below 10,930 cfs as indicated at USGS Station 11390500 and CNRFC Station WLKC1.
- Downstream flow monitoring equipment or Project facilities that monitor water volumes diverted, exported, transferred, or exchanged related to the Project are nonoperational or cease to provide data. The equipment or facilities include, but are not limited to, Supervisory Control and Data Acquisition (SCADA) components at the RBPP or HCPS diversion facilities, flow monitoring equipment at the Terminal Regulating Reservoir, Funks Reservoir, I/O Facility, Sites Reservoir and at the DP.

9.16. Diversion Criteria Reporting. Permittee shall provide diversion reports for the RBPP and HCPS diversion facilities for all applicable Conditions of Approval in the Diversion Criteria section of this ITP (Conditions of Approval 9.4, 9.5, 9.6, 9.10, 9.11, 9.12, 9.13, 9.14, and 9.15). Permittee shall provide real-time diversion rate reports, in 15-minute time intervals using a public access data exchange webpage that publishes all required information on a real-time basis (15-minute time intervals). Diversion reporting for the real-time reports shall include:

- Date and Time (YYYY-MM-DD HH:MM:SS) of the observation
- Diversion rate at the diversion facility in cubic feet per second (cfs)
- Project diversion rate at the diversion facility in cubic feet per second (cfs)
- Sacramento River stage height at the diversion facility in feet (ft)
- Water Surface elevation on face of the fish screen at the diversion facility in feet (ft)

Permittee shall submit seasonal diversion reports annually by August 15 with all the diversion data for the previous diversion season (September 1 to June 14), including all 15-minute time interval diversion data, to CDFW using a .csv (comma-separated values) spreadsheet or HEC DSSVue (.dss) file. The seasonal diversion report shall also include the following:

For the RBPP:

- Date and time (YYYY-MM-DD HH:MM:SS) of the observation
- Diversion rate at diversion facility (in cfs)
- Sacramento River stage height (in ft) at diversion facility
- Water surface elevation (in ft) on the face of the fish screen
- Head differential (in ft or in) at the front and back of fish screen(s)

- Sacramento River flow (in cfs) at Bend Bridge as reported by CDEC Station BND[40]
- Sacramento River bypass flow, calculated as BND minus diversions
- Real-time flow (in cfs) at Wilkins Slough reported by USGS Station number 11390500[41]
- Minimum flow (in cfs) at Wilkins Slough forecasted over the seventy-two (72) hour window following the current real-time observation reported by CNRFC station WLKC1[42]

For the HCPS:

- Date and time (YYYY-MM-DD HH:MM:SS) of the observation
- Diversion rate at diversion facility (in cfs)
- Sacramento River stage height (in ft) at diversion facility
- Water surface elevation (in ft) on the face of the fish screen
- Head differential in feet or inches at the front and back of fish screen(s)
- Sacramento River flow (in cfs) at Hamilton City, calculated as CDEC Station HMC[43] plus all diversion at the HCPS
- Sacramento River bypass flow (in cfs) at Hamilton City as reported by CDEC Station HMC
- Real-time flow (in cfs) at Wilkins Slough reported by USGS Station number 11390500
- Minimum flow (in cfs) at Wilkins Slough forecasted over the seventy-two (72) hour window following the current real-time observation reported by CNRFC station WLKC1
- HCPS oxbow channel in-flow in (cfs)
- HCPS oxbow channel out-flow in (cfs)
- Flow control weir crest elevation in (ft)

9.17. Conveyance Reporting. Annually by August 15, Permittee shall provide conveyance reports with the daily water volumes conveyed by the Project to the Funks Reservoir, Terminal Regulating Reservoir and water pumped into and released from the Sites Reservoir via the Inlet/Outlet Tower. Permittee shall also provide the end of day (measured at 11:59 PM) water surface elevations from the Sites Reservoir. The conveyance reports shall be submitted seasonally (including data from September 1 to June 14) by August 15 each year to CDFW. The conveyance reports shall be made available as a .csv spreadsheet format with the following column headers; date; time; entity Permittee or Non-Permittee; transaction type (transfer, exchange, delivery, etc.); water volume, as applicable (acre-feet); diversion rate (cfs); and daily conveyance losses or gains estimated as a percent for a given conveyance.

[40] California Data Exchange (CDEC) Station Bend Bridge (BND) - https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=BND
[41] California Nevada River Forecast Center (CNRFC) deterministic forecasted flow at station WLKC1 - https://www.cnrfc.noaa.gov/ensembleProduct.php?id=WLKC1&prodID=3
[42] California Nevada River Forecast Center (CNRFC) deterministic forecasted flow at station WLKC1 - https://www.cnrfc.noaa.gov/ensembleProduct.php?id=WLKC1&prodID=3
[43] California Data Exchange (CDEC) Station Hamilton City (HMC) - https://cdec.water.ca.gov/dynamicapp/staMeta?station_id=HMC

OPERATIONAL EXCHANGES AND TRANSFERS

9.18. Water Exchanges and Transfers. Permittee shall not facilitate exchanges, including CVP operational flexibility, real-time exchanges and transfers, Shasta exchanges, and Oroville exchanges, that will conflict with the conditions in this ITP.

9.19. Exchanges with Shasta Reservoir. Permittee shall not conduct an exchange with Shasta Reservoir if that exchange results in Reclamation not meeting its regulatory requirements.

9.20. Exchanges with Oroville Reservoir. Permittee shall not conduct an exchange with Oroville Reservoir if that exchange results in DWR not meeting its regulatory requirements.

9.21. Water Exchange and Temperature Management Requirement. Permittee shall develop a Water Exchange and Temperature Management Plan (WETMP) to demonstrate that Project-related exchanges with Shasta Reservoir, CVP operational flexibility, and real-time exchanges and transfers, will not result in significantly higher water temperatures in the Sacramento River between Hamilton City and the confluence of the Feather River during the months of April through June and August through October. For the purposes of this condition, water temperatures are considered significantly higher if the three-day average water temperature is between 60 degrees Fahrenheit (F) and 70 degrees F and the exchange or transfer would result in a three-day average water temperature that is more than 0.5 degrees F higher than would otherwise occur without exchanges. The WETMP shall be informed by, and its effectiveness demonstrated through, a water temperature modeling study to better understand the relationship between changes in flow volume and water temperature in the Sacramento River between Hamilton City and the confluence with the Feather River due to exchanges between Sites and Shasta Reservoir, CVP operational flexibility, and real-time exchanges and transfers.

Permittee shall in coordination with CDFW, utilize a water temperature model to evaluate the influence of different factors on changes in water temperature, including but not limited to water year type, Sacramento River flow, and the timing and magnitude of flow change as a result of the Project. Results of the water temperature modeling study will be used to inform development of a WETMP, which shall describe details about the timing and magnitude of Project-related exchanges with Shasta Reservoir, CVP operational flexibility, and real-time exchanges and transfers would occur, and demonstrate through modeling that they will not result in significantly higher water temperatures.

Permittee shall submit a proposed model and study design for CDFW review within two years of ITP issuance. Permittee shall submit the water temperature model, with CDFW's comments incorporated, and initial model results into a draft WETMP for CDFW review within three years of ITP issuance. Permittee shall incorporate comments from CDFW and submit the final plan for CDFW's approval (in-writing) within five years of the issuance of this

ITP. Permittee shall operate according to the final plan approved by CDFW (in-writing) for the term of this ITP.

WATER RELEASES

9.22. Timing of Releases to the Yolo Bypass. Permittee shall only release water at KLRC to the Yolo Bypass from August 1 to October 31.

9.23. Knights Landing Outfall Gates Water Releases Temperature Requirements. Permittee shall only release water to the Sacramento River at KLOG after demonstrating through a temperature monitoring and modeling study that Project-related releases will not result in significantly higher water temperatures in the Sacramento River below KLOG during the months of April through June and August through October. For the purposes of this condition, water temperatures are considered significantly higher if the three-day average water temperature in the Sacramento River above KLOG is between 60 degrees F and 70 degrees F, and the release would result in the three-day average water temperatures at KLOG that are more than 0.5 degrees F higher than would otherwise occur without releases. Permittee shall use field data, including data collected under Condition of Approval 9.23.1, and conduct analyses to understand the water temperatures and total volume of release flows at KLOG due to actions of the Project and 1) water temperatures at the KLOG release point to the Sacramento River and 2) water temperatures in the Sacramento River as a result of mixing. Actions include releases by the Project at KLOG, including water released for exchanges and transfers, and the movement of additional water from the CBD to KLOG and the Sacramento River. The study plan shall also consider any changes to temperature in the Sacramento River determined by the results from studies required by Condition of Approval 9.21 (Water Exchange and Temperature Management Requirement). Permittee shall submit a draft study plan for CDFW review within two years of ITP issuance. Permittee shall incorporate comments from CDFW and submit the final study plan for CDFW's approval (in-writing) within three years of the issuance of this ITP. Permittee will complete the study and submit a final report for CDFW approval within two years of the monitoring station required under Condition of Approval 9.23.1 being operational. Permittee shall operate according to the results in the final report, as approved by CDFW (in-writing), that will specify the volume of Project-related releases that can occur without resulting in significantly higher water temperatures in the Sacramento River below KLOG during the months of April through June and August through October, for the term of this ITP.

9.23.1. Temperature Compliance Monitoring Station and Reporting. Permittee shall identify, install, and maintain one temperature monitoring station on the mainstem of the Sacramento River between the KLOG and the Knights Landing Rotary Screw Trap operated by CDFW for the term of the ITP. The monitoring location shall be subject to CDFW approval (in-writing) as part of the study plan required in Condition of Approval 9.23 (Knights Landing Outfall Gates Water Releases Temperature Requirements). Data

from the monitoring station shall be made available on the CDEC Station in 15-minute resolution and shall report temperature, flow volume, and DO levels at minimum. A reporting schedule for temperature monitoring and the criteria of all temperature monitoring reports shall be developed as part of the study plan in consultation with CDFW. The new station shall be installed and fully operational within five years of ITP issuance.

9.24. Knights Landing Ridge Cut (Yolo Bypass) Water Releases Temperature Requirements. Permittee shall not release water from KLRC to the Yolo Bypass when resulting water temperatures would exceed 70 degrees F as measured at Wallace Weir Fish Collection Facility to minimize impacts to CHNSR and DS.

9.25. Knights Landing Outfall Gates Water Releases Dissolved Oxygen Requirements. Permittee shall only release water at the KLOG to the Sacramento River after demonstrating that releases will not cause Sacramento River DO levels, between the KLOG gates and the western end of the Fremont Weir, to decrease to less than 5.0 milligrams per liter (mg/L). Permittee shall demonstrate through development of a study designed to collect data and conduct analyses to inform the relationship between the volume of release flows at KLOG due to actions of the Project and; 1) DO at the KLOG release point to the Sacramento River; and 2) DO in the Sacramento River below KLOG as a result of mixing. Actions include releases by the Project and releases that occur as a result of the Project, such as exchanges and transfers and the movement of additional water from the CBD to KLOG and the Sacramento River. Permittee shall submit the draft study plan for CDFW review and approval (in-writing) within two years of ITP issuance. Permittee shall incorporate comments from CDFW and submit the final study plan for CDFW's approval (in-writing) within three years of the issuance of this ITP. Permittee will complete the study and submit a final report for CDFW approval within two years of the monitoring stations required under Condition of Approval 9.25.1 being operational. Permittee shall operate according to the results in the final report, as approved by CDFW (in-writing), that will specify the volume of Project-related releases that can occur without resulting in DO in the Sacramento River below KLOG to decrease to less than 5.0 mg/L during the months of April through June and August through October, throughout the term of this ITP.

9.25.1. Knights Landing Outfall Gates Dissolved Oxygen Monitoring Stations and Reports. Permittee shall install and maintain at minimum two continuous monitoring stations within the geographic range described above in Condition of Approval 9.25 (Knights Landing Outfall Gates Water Releases Dissolved Oxygen Requirements) to measure DO (mg/L) and flow (cfs) at 15-minute intervals. The stations shall be in operation at minimum during the months of April through November each year. Permittee shall determine the placement of the stations with approval from CDFW. The new stations shall be installed and fully operational within five years of ITP issuance.

If the stations identified above become non-operational the Permittee shall be responsible for the installation and maintenance of new or replacement stations for the term of the ITP. Permittee shall make DO Reports available for all DO stations using a public access, data exchange webpage that reports the station information on a real-time basis, at 15-minute time intervals. The DO Reports shall be made available in a .csv spreadsheet format with the following column headers; date, time, monitoring station and mg/L measurement.

9.26. Knights Landing Ridge Cut (Yolo Bypass) Water Releases Dissolved Oxygen Requirements. Permittee shall not release water from KLRC to the Yolo Bypass when DO levels at Ridge Cut Slough at HWY 113 – (Station A0D84761435)[44] are 5.0 mg/L or lower. Permittee shall utilize another station as approved by CDFW if Station A0D84761435 ceases to function, prior to the release of water. Permittee shall be required to initiate, install and maintain a new station if no feasible alternative exists. The location of any new station shall be subject to CDFW approval (in writing). Permittee shall make DO Reports available for all DO stations using a public access, data exchange webpage that reports the station information on a real-time basis, at 15-minute time intervals. The DO Reports shall be made available in a .csv spreadsheet format with the following column headers; date, time, monitoring station and mg/L measurement.

9.27. Wallace Weir Upstream Attraction Flows. Permittee shall not release water at KLRC to Yolo Bypass via Wallace Weir, if adult salmonids are determined to be present at the Wallace Weir Fish Rescue Facility. Permittee shall not release water outside the August 1 to October 31 window. Permittee shall develop a monitoring plan designed to further inform whether Project releases to the Yolo Bypass attract salmonids. The plan shall include a minimum of two additional monitoring locations to be determined in coordination with CDFW, as well as methods to determine if attraction of adult salmonids has increased as a result of the Project. Permittee shall provide a draft of the monitoring plan to CDFW for review, and the final plan shall be subject to CDFW approval (in writing). Permittee shall fund additional staff, facility maintenance costs and costs for additional operations at the Wallace Weir Fish Rescue Facility caused by the Project and genetic testing during the interim testing period, as applicable. Permittee shall develop and submit a draft monitoring plan to CDFW within three years of issuance of this ITP. The additional timeline of deliverables for installation of monitoring stations, and a cost estimate shall be determined in coordination with CDFW, as applicable.

9.28. Winter-Run Chinook Salmon Protections. Within one year of obtaining a signed coordinated operational agreement among the Permittee, DWR, and Reclamation, Permittee shall use best available science as approved by CDFW to analyze proposed operations,

[44] Ridge Cut Slough at HWY 113 – (Station A0D84761435) - https://wdl.water.ca.gov/WaterDataLibrary/StationDetails.aspx?Station=A0D84761435&source=map

considering the operational agreement, and the proposed use of Reclamation's investment in Sites and requirements from any subsequent permits. Permittee shall demonstrate that proposed operations do not result in a net decrease in average annual escapement, as compared to a no-Project scenario, using best available science.

10. Habitat Management Land Acquisition and Permittee Responsible Mitigation:

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 from 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 protected acreage required to provide for adequate compensation.

To meet this requirement, the Permittee shall either purchase 378.4 acres of Covered Species credits specified in Table 5 (Covered Species Impacts, Compensatory Mitigation, and Cost Estimates) from a CDFW-approved mitigation or conservation bank pursuant to Condition of Approval 10.4 below AND/OR shall provide for both the permanent protection and management of the 378.4 acres of Habitat Management (HM) lands, as specified in Table 5, pursuant to Condition of Approval 10.5 below and the calculation and deposit of the management funds pursuant to Condition of Approval 10.6 below. Purchase of Covered Species credits OR permanent protection and funding for perpetual management of HM lands must be complete before starting Covered Activities, or Security must be provided as specified in Condition of Approval 11 below for all uncompleted obligations.

Permittee's implementation of the protection, restoration or perpetual management of HM lands may require separate CEQA evaluation. Because no take authorization is provided through this permit for the HM lands activities, Permittee shall obtain CESA authorization as necessary to implement HM land requirements. All individual protection and restoration projects proposed to achieve the compensatory habitat required in this Condition of Approval shall be subject to CDFW approval (in writing).

Longfin Smelt and Delta Smelt Compensatory Habitat:

Permittee shall purchase a total of 13.2 acres of tidal habitat identified in Table 5 of Covered Species credits from a CDFW-approved mitigation or conservation bank AND/OR shall provide for both the permanent protection and management of 13.2 acre of HM Lands for LFS and DS as specified in this ITP. Permittee may be subject to the permanent protection and management of an additional 13.2 acres of tidal habitat and subject to an amendment, as specified in Section 6 of this ITP, if the 13.2 acres of tidal habitat does not support both LFS and DS.

Winter-Run and Spring-Run Chinook Salmon Dual or Stacked Compensatory Habitat:

Permittee shall purchase a total of 356 acres of off-channel rearing habitat and a total of 9.2 acres of wetland bench habitat identified in Table 5 of Covered Species credits from a CDFW-approved mitigation or conservation bank AND/OR provide for both the permanent protection and management of 356 acres of off-channel rearing habitat and a total of 9.2 acres of wetland bench habitat of HM Lands for CHNWR and CHNSR. Alternatively, upon written approval from CDFW, Permittee may purchase a total of 178 acres of dual or stacked CHNWR and CHNSR off-channel rearing habitat and 4.6 acres of dual or stacked CHNWR and CHNSR wetland bench habitat from a CDFW- approved mitigation or conservation bank; AND/OR may provide for the permanent protection and management of 178 acres of dual or stacked CHNWR and CHNSR off-channel rearing habitat and 4.6 acres of dual or stacked CHNWR and CHNSR wetland bench habitat for HM Lands. Permittee shall provide supporting documentation to confirm the compensatory habitat (credits or HM Lands) supports both CHNWR and CHNSR as specified below (*Winter-Run and Spring Run Chinook Salmon Compensatory Habitat*) and as specified in Condition of Approval 11.1.1 (Reduced Security for Dual or Stacked Salmonid Species Habitat Types).

Winter-Run and Spring-Run Chinook Salmon Compensatory Habitat:

Permittee, in consultation with CDFW, will develop a biological report for any proposed compensatory habitat as part of the HMLA Stage 1 – Property Eligibility[45] process and provide details regarding baseline conditions of the habitat, target resources (e.g., off-channel rearing and wetland bench habitat, etc.) and how the Covered Species would benefit from conservation of the proposed property. Permittee shall incorporate into the biological report, a rearing habitat value index to demonstrate how the proposed compensatory habitat, or associated restoration projects proposed for compensatory mitigation meet the full mitigation standard of CESA. Permittee shall include the following as part of the rearing habitat value index for a proposed property:

- Area of habitat (acres)
- Suitability of habitat for rearing juvenile salmonids
- Location and accessibility to juvenile salmonids (CHNWR and CHNSR)
- Timing of habitat inundation in relation to presence of juvenile CHNWR and juvenile CHNSR
- Frequency of habitat inundation
- Habitat complexity

Permittee shall develop and submit a Chinook Salmon Habitat Restoration Plan (CHSHRP) as part of the HMLA Stage 1 – Property Eligibility process. CDFW shall respond for comment and approval

[45] Permittee Checklist of Documents for Habitat Management Land Property Review and Protection - https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=207700&inline

within one year of submission. Permittee shall demonstrate the following information for proposed property as part of the CHSHRP for the HMLA Stage 1 – Property Eligibility process:

- Location of the proposed property shall occur within the Sacramento River between Hamilton City and the confluence with the Feather River.
- Juvenile salmonids have the potential to volitionally access the rearing habitat from the Sacramento River and volitionally return to the Sacramento River.
- A minimum of twenty-five percent of total habitat acreage provides suitable rearing habitat for juvenile Chinook Salmon at flows of 10,930 cfs at the Sacramento River at Wilkin's Slough. Corresponding minimum flow requirements in the Sacramento River reach encompassing the constructed rearing habitat shall be determined through routed flow modeling, in consultation with CDFW.
- The percentage of total habitat providing suitable rearing habitat should increase with increasing Wilkins Slough flow; one hundred percent of the habitat should provide suitable rearing habitat at Wilkins Slough flows greater than 30,000 cfs.

Table 5. Covered Species Impacts, Compensatory Mitigation, and Cost Estimates

Covered Species and Habitat Type	Impact (acres)	Ratio (Impact to Mitigation)	Mitigation (acres)	Mitigation Cost/Acre	Cumulative Cost
LFS/DS - Tidal habitat (Delta)	13.2	1	13.2	$300,000.00 per acre	$3,960,000.00
CHNWR - Riparian/off-channel rearing habitat	178	1	178	$181,094.00 per acre	$32,234,732.00
CHNWR - Riparian/wetland bench	4.6	1	4.6	$181,094.00 per acre	$833,032.00
CHNSR - Riparian/off-channel rearing habitat	178	1	178	$181,094.00 per acre	$32,234,732.00
CHNSR - Riparian/wetland bench	4.6	1	4.6	$181,094.00 per acre	$833,032.00
Sub-Total	-	-	-	-	**$70,095,528.00**
Startup, Management, and Transaction Costs (Condition 10.3 – Cost Estimate)	n/a	n/a	n/a	n/a	$39,355,270.00
Covered Species Monitoring	n/a	n/a	n/a	Annual Cost = $1,000,000.00	$15,000,000.00 (15 years)
Sub-Total	-	-	-	-	**$124,450,798.00**
White Sturgeon Spawning Area Supplementation	n/a	n/a	n/a	$469,556.00 per acre	$5,634,672.00
Total	-	-	-	-	**$130,085,470.00**

10.1. White Sturgeon Spawning Area Supplementation Program. Permittee shall develop a White Sturgeon Spawning Area Supplementation Program (WSSASP) to provide spawning area supplementation of gravel to boulder sized substrate with the potential to improve egg survival in areas of known WS spawning for impacts from Project operations from increased

sediment load and sub-optimal substrate resulting in increased egg mortality. Permittee shall coordinate with CDFW and DWR within six months of issuance of this ITP, to be included as a potential partner for DWR's initial scoping process to identify and evaluate potential habitat restoration sites within the Sacramento and San Joaquin River for WSSASP Projects. Permittee shall within one year of publishing of DWR's final report on spawning area supplementation (as specified in Amendment No. 9 – ITP No. 2081-2019-066-00; Condition of Approval 9.6) identify restoration project(s) for implementation identified in DWR's final report. Permittee shall submit a draft WSSASP plan to CDFW for review within four years of issuance of this ITP that shall outline the scope, cost and timeline of the supplementation project(s) for the Permittee to participate in, as well as a monitoring and reporting program for the effectiveness of the proposed restoration project(s) once construction is complete. Reference Table 5 for cost estimates related to the WSSASP. Permittee shall incorporate comments from CDFW and submit the final WSSASP plan for CDFW's approval (in-writing) within five years of issuance of this ITP. Permittee shall initiate the project(s) within eight years of issuance of this ITP, or provide Security as specified in Condition of Approval 11.1 (Security Amount) and initiate the WSSASP by December 31 of the final term year, as specified in this ITP. Permittee will provide for the acquisition, protection, and management of HM Lands for the WSSASP as described in Condition of Approval 10.5, or other mechanism of protection, approved in advance by CDFW (in-writing, this may subject to amendment as specified in Section 6 of this ITP).

10.2. Permittee Responsible Mitigation. Permittee shall provide annual updates in the ASR Condition of Approval 8.3 (Annual Status Report) on the mechanism(s) of compensatory mitigation for Permittee responsible mitigation for the Covered Species (CDFW-approved mitigation or conservation banks; or HM Lands), projected timelines to finalize Permittee responsible mitigation requirements, potential land parcels for compensatory habitat, or status updates on applicable CDFW-approved mitigation or conservation banks, and subsequent status reports towards completion of Security requirements and applicable HM Lands documentation. Permittee shall also provide the information required in Condition of Approval 10 (*Longfin Smelt and Delta Smelt Compensatory Habitat; Winter-Run and Spring-Run Chinook Salmon Dual or Stacked Compensatory Habitat; Winter-Run and Spring-Run Chinook Salmon Compensatory Habitat*). Permittee shall also include the status on the overall progress of the elements identified in the Permittee responsible mitigation timeline described below.

10.2.1. Permittee Responsible Mitigation Timeline. Permittee shall complete the following requirements within the specified timeframes by December 31 for each requirement and include the updated status information in the subsequent ASR (Condition of Approval 8.3 – Annual Status Report):

- Within two years (by December 31) of the issuance of this ITP, Permittee shall provide a minimum Security in the amount of **$15,000,000.00** as specified in Condition 11 below.
- Within eight years (by December 31) of issuance of this ITP, Permittee shall submit a copy of the Bill of Sale(s) and Payment Receipt for credits from a CDFW-approved mitigation or conservation bank, Or Permittee shall provide Security for all outstanding obligations as described below, within the same year.
- Within eight years (by December 31) of issuance of this ITP, Permittee shall submit all requested HM Lands documentation described in Stage 2[46] of the Habitat Management Lands Acquisition (HMLA) process for Property Acceptance, or superseding CDFW process guidance, OR Permittee shall provide Security for all outstanding obligations for HM Lands as described below, within the same year.
- Permittee shall finalize all compensatory habitat obligations by December 31 of the final term year, as specified in this ITP.

Amendment to the requirements outlined above may be authorized in consultation with CDFW as specified in Section 6 of this ITP.

10.3. Cost Estimates. For the purposes of determining the Security amount, CDFW has estimated the cost sufficient for CDFW or its contractors to complete acquisition, protection, and perpetual management of the HM lands as follows:

10.3.1. Land acquisition costs for HM lands identified in Condition of Approval 10.5 below, estimated as specified in Table 5. Land acquisitions costs are estimated using local fair market current value per acre for lands with habitat values meeting mitigation requirements;

10.3.2. All other costs necessary to review and acquire the land in fee title and record a conservation easement as described in Condition of Approval 10.5.1 and 10.5.2 below: **$3,577,752.00.**

10.3.3. Start-up costs for HM lands, including initial site protection and enhancement costs as described in Condition of Approval 10.5.7 below, estimated at **$30,360,924.00**; including.

10.3.4. Interim management period funding as described in Condition of Approval 10.5.8 below, estimated at **$161,320.00**;

10.3.5. Long-term management funding as described in Condition of Approval 10.6 below, estimated at $9,356.68/acre for 378.4 acres: **$3,540,571.00** Long-term

[46] Permittee Checklist of Documents for Habitat Management Land Property Review and Protection - https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=207700&inline

management funding is estimated initially for the purpose of providing Security to ensure implementation of HM lands management.

10.3.6. Related transaction fees including but not limited to account set-up fees, administrative fees, title and documentation review and related title transactions, expenses incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW as described in Condition of Approval 10.7, estimated at **$6,000.00**. Related transaction fees are applicable to **$3,000.00** of the initial $15,000,000.00 security specified in Condition 11 and **$3,000.00** for the subsequent account setup for the remainder of the Permittee compensatory habitat and Security as it relates to transaction and administrative fees incurred from other state agency reviews.

10.3.7. Covered Species monitoring, estimated by the Permittee at **$1,000,000.00** per year over a period of fifteen years; estimated at **$15,000,000.00.**

10.3.8. All costs associated with CDFW engaging an outside contractor to complete the mitigation tasks, including but not limited to acquisition, protection, and perpetual funding and management of the HM lands and restoration of temporarily disturbed habitat. These costs include but are not limited to the cost of issuing a request for proposals, transaction costs, contract administration costs, and costs associated with monitoring the contractor's work **$1,708,703.00**.

10.4. Covered Species Credits. If the Permittee elects to purchase Covered Species credits to complete compensatory mitigation obligations, then Permittee shall purchase 378.4 acres (All Covered Species – See Table 5) (or 195.8 acres – All Covered Species, if dual or stacked CHNWR and CHNSR credit are approved by CDFW – See Table 5) of Covered Species credits from a CDFW-approved mitigation or conservation bank, as specified in Table 5 and Section 10 above, within eight years (by December 31) of issuance of this ITP and submit to CDFW a copy of the Bill of Sale(s) and Payment Receipt. Permittee shall within eight years of issuance of this ITP provide Security pursuant to Condition 11 below for Covered Species credits, if a copy of the Bill of Sale(s) and Payment Receipt for credits from a CDFW-approved mitigation or conservation bank are not provided. Prior to purchase of Covered Species credits, Permittee shall obtain CDFW approval to ensure the mitigation or conservation bank is appropriate to compensate for the impacts of the Project. Permittee shall submit to CDFW a copy of the Bill of Sale(s) and Payment Receipt by December 31 of the final term year, as specified in this ITP, if Security is provided.

10.5. Habitat Management Lands Acquisition and Protection. If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall:

10.5.1. Fee Title. Transfer fee title of the HM lands to CDFW pursuant to terms approved in writing by CDFW. Alternatively, CDFW, in its sole discretion, may authorize a governmental entity, special district, non-profit organization, for-profit entity, person, or another entity to hold title to and manage the property provided that the district, organization, entity, or person meets the requirements of Government Code sections 65965-65968, as amended.

10.5.2. Conservation Easement. If CDFW does not hold fee title to the HM lands, CDFW shall act as grantee for a conservation easement over the HM lands or shall, in its sole discretion, approve a non-profit entity, public agency, or Native American tribe to act as grantee for a conservation easement over the HM lands provided that the entity, agency, or tribe meets the requirements of Civil Code section 815.3. If CDFW elects not to be named as the grantee for the conservation easement, CDFW shall be expressly named in the conservation easement as a third-party beneficiary. The Permittee shall obtain CDFW written approval of any conservation easement before its execution or recordation. No conservation easement shall be approved by CDFW unless it complies with Civil Code sections 815-816, as amended, and Government Code sections 65965-65968, as amended and includes provisions expressly addressing Government Code sections 65966(j) and 65967(e). Because the "doctrine of merger" could invalidate the conservation interest, under no circumstances can the fee title owner of the HM lands serve as grantee for the conservation easement.

10.5.3. HM Lands Property Eligibility Review. Permittee shall obtain CDFW written approval of the proposed HM lands before acquisition and/or transfer of the land by submitting to CDFW for approval the documents included in HMLA Stage 1 – Property Eligibility, identifying the proposed land to be purchased or property interest conveyed to an approved entity as mitigation for the Project's impacts on Covered Species;

10.5.4. Land Manager. Permittee shall propose an interim land manager and long-term land manager for approval by CDFW. The interim fand long-term land managers may, but need not, be the same entity. The interim and/or long-term land managers may be the landowner or another party. Permittee shall ensure documents related to land management shall identify both the interim and long-term land managers. Permittee shall notify CDFW of any subsequent changes in the land manager at least thirty days prior to the proposed change. The grantee for the conservation easement cannot serve as the interim or long-term manager without the express written authorization of CDFW.

10.5.5. HM Lands CDFW Property Acceptance. After CDFW has determined the proposed property is eligible to meet the mitigation requirements for the Project's impacts on Covered Species (see HM Lands Property Eligibility Review), Permittee shall

provide any updates and additional documents requested by CDFW as part of HMLA Stage 2 – Property Acceptance.

10.5.6. Digital Closing Package. After CDFW has accepted the proposed property as mitigation for the project's impacts on Covered Species (see HM Lands CDFW Property Acceptance), Permittee shall provide CDFW with a digital closing package. The digital closing package shall include a copy of the title insurance policy, settlement/closing statement, recorded grant deed or conservation easement deed, and all other documents recorded at closing as described in HMLA Stage 3 – Property Protection and Closing Documentation.

10.5.7. Start-up Activities. Permittee shall provide for the implementation of start-up activities, including the initial site protection and enhancement of HM lands, once the HM lands have been accepted by CDFW. Start-up activities include, at a minimum: (1) submitting a final management plan for CDFW approval (2) conducting a baseline biological assessment and land survey report within four months of recording or transfer; (3) developing and transferring Geographic Information Systems (GIS) data if applicable; (4) establishing initial fencing; (5) conducting litter removal; (6) conducting initial habitat restoration or enhancement, if applicable; and (7) installing signage;

10.5.8. Interim Management (Initial and Capital). Permittee shall provide for the interim management of the HM lands. The Permittee shall ensure that the interim land manager implements the interim management of the HM lands as described in the final management plan and conservation easement approved by CDFW. The interim management period shall be a minimum of three years from the date of HM land acquisition and protection and full funding of the Endowment and includes expected management following start-up activities. Interim management period activities described in the final management plan shall include fence repair, continuing trash removal, site monitoring, and vegetation and invasive species management.

Permittee shall either (1) provide Security to CDFW for the minimum of three years of interim management that the land owner, Permittee, or land manager agrees to manage and pay for at their own expense, (2) establish an escrow account with written instructions approved in advance in writing by CDFW to pay the land manager annually in advance, or (3) establish a short-term enhancement account with CDFW or a CDFW-approved entity for payment to the land manager.

10.6. Endowment Fund. If the Permittee elects to provide for the acquisition, permanent protection, and perpetual management of HM lands to complete compensatory mitigation obligations, then the Permittee shall ensure that the HM lands are perpetually managed, maintained, and monitored by the long-term land manager as described in this ITP, the conservation easement, and the final management plan approved by CDFW. After obtaining

CDFW approval of the HM lands, Permittee shall provide long-term management funding for the perpetual management of the HM lands by establishing a long-term management fund (Endowment). The Endowment is a sum of money, held in a CDFW-approved fund that is permanently restricted to paying the costs of long-term management and stewardship of the mitigation property for which the funds were set aside, which costs include the perpetual management, maintenance, monitoring, and other activities on the HM lands consistent with this ITP, the conservation easement, and the management plan required by Condition of Approval 10.6.5. Endowment as used in this ITP shall refer to the endowment deposit and all interest, dividends, other earnings, additions and appreciation thereon. The Endowment shall be governed by this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

After the interim management period, Permittee shall ensure that the designated long-term land manager implements the management and monitoring of the HM lands according to the final management plan. The long-term land manager shall be obligated to manage and monitor the HM lands in perpetuity to preserve their conservation values in accordance with this ITP, the conservation easement, and the final management plan. Such activities shall be funded through the Endowment.

10.6.1. Identify an Endowment Manager. The Endowment shall be held by the Endowment Manager, which shall be either CDFW or another entity qualified pursuant to Government Code sections 65965-65968, as amended.

Permittee shall submit to CDFW a written proposal that includes: (i) the name of the proposed Endowment Manager; (ii) whether the proposed Endowment Manager is a governmental entity, special district, nonprofit organization, community foundation, or congressionally chartered foundation; (iii) whether the proposed Endowment Manager holds the property or an interest in the property for conservation purposes as required by Government Code section 65968(b)(1) or, in the alternative, the basis for finding that the Project qualifies for an exception pursuant to Government Code section 65968(b)(2); and (iv) a copy of the proposed Endowment Manager's certification pursuant to Government Code section 65968(e).

Within thirty days of CDFW's receipt of Permittee's written proposal, CDFW shall inform Permittee in writing if it determines the proposal does not satisfy the requirements of Fish and Game Code section 2081(b)(3) and, if so, shall provide Permittee with a written explanation of the reasons for its determination. If CDFW does not provide Permittee with a written determination within the thirty-day period, the proposal shall be deemed consistent with Section 2081(b)(3).

10.6.2. Calculate the Endowment Funds Deposit. After obtaining CDFW written approval of the HM lands, long-term management plan, and Endowment Manager,

Permittee shall submit to CDFW an endowment assessment (equivalent to a Property Analysis Record (PAR)) to calculate the amount of funding necessary to ensure the long-term management of the HM lands (Endowment Deposit Amount). Note that the endowment for the easement holder should not be included in this calculation. The Permittee shall submit to CDFW for review and approval the results of the endowment assessment before transferring funds to the Endowment Manager.

10.6.2.1. Capitalization Rate and Fees. Permittee shall obtain the capitalization rate from the selected Endowment Manager for use in calculating the endowment assessment and adjust for any additional administrative, periodic, or annual fees.

10.6.2.2. Endowment Buffers/Assumptions. Permittee shall include in the endowment assessment assumptions the following buffers for endowment establishment and use that will substantially ensure long-term viability and security of the Endowment:

10.6.2.2.1. 10 Percent Contingency. A ten percent contingency shall be added to each endowment calculation to hedge against underestimation of the fund, unanticipated expenditures, inflation, or catastrophic events.

10.6.2.2.2. Three Years Delayed Spending. The endowment shall be established assuming spending will not occur for the first three years after full funding.

10.6.2.2.3. Non-annualized Expenses. For all large capital expenses to occur periodically but not annually such as fence replacement or well replacement, payments shall be withheld from the annual disbursement until the year of anticipated need or upon request to Endowment Manager and CDFW.

10.6.3. Transfer Long-term Endowment Funds. Permittee shall transfer the long-term endowment funds to the Endowment Manager upon CDFW approval of the Endowment Deposit Amount identified above.

10.6.4. Management of the Endowment. The approved Endowment Manager may pool the Endowment with other endowments for the operation, management, and protection of HM lands for local populations of the Covered Species but shall maintain separate accounting for each Endowment. The Endowment Manager shall, at all times, hold and manage the Endowment in compliance with this ITP, Government Code sections 65965-65968, as amended, and Probate Code sections 18501-18510, as amended.

Notwithstanding Probate Code sections 18501-18510, the Endowment Manager shall not make any disbursement from the Endowment that will result in expenditure of any portion of the principal of the endowment without the prior written approval of CDFW

in its sole discretion. Permittee shall ensure that this requirement is included in any agreement of any kind governing the holding, investment, management, and/or disbursement of the Endowment funds.

Notwithstanding Probate Code sections 18501-18510, if CDFW determines in its sole discretion that an expenditure needs to be made from the Endowment to preserve the conservation values of the HM lands, the Endowment Manager shall process that expenditure in accordance with directions from CDFW. The Endowment Manager shall not be liable for any shortfall in the Endowment resulting from CDFW's decision to make such an expenditure.

10.7. Reimburse CDFW. Permittee shall reimburse CDFW for all reasonable costs incurred by CDFW related to issuance and monitoring of this ITP, including, but not limited to transaction fees, account set-up fees, administrative fees, title and documentation review and related title transactions, costs incurred from other state agency reviews, and overhead related to transfer of HM lands to CDFW.

11. Security: Permittee shall provide Security as follows:

11.1. Security Amount. Permittee shall provide an initial Security within two years (by December 31) of the effective date of this ITP in the amount of **$15,000,000.00** in the Security form specified below, related to Covered Species monitoring. This amount is determined based on the estimate provided by the Permittee for Covered Species monitoring.

Permittee shall provide additional Security within eight years (by December 31) of permit issuance, in the amount of **$115,085,470.00** (total security of $130,085,470.00; including initial $15,000,000.00) or in the amount specific to the obligation that has not been completed. This amount is determined by CDFW based on the cost estimates identified in Condition of Approval 10.3 above, and provided by the Permittee estimates identified in Table 5, sufficient for CDFW or its contractors to complete land acquisition, property enhancement, startup costs, initial management, long-term management, and monitoring. Permittee may upon CDFW review and approval (in writing) be authorized to reduce compensatory habitat and Security, as specified below.

11.1.1. Reduced Security for Dual or Stacked Salmonid Species Habitat Types. Permittee may be authorized by CDFW (in writing) to reduce Permittee responsible mitigation and associated Security identified in Condition 10 (*Winter-Run and Spring-Run Chinook Salmon Dual or Stacked Compensatory Habitat*) and Condition 11.1 to **$72,542,735.00**. Permittee shall within eight years (by December 31) of the effective date of this ITP, provide sufficient biological evidence, as determined by CDFW, employing the concepts described in Condition 10 of this ITP (*Winter-Run and Spring-Run Chinook Salmon Compensatory Habitat*) the proposed compensatory habitat supports both CHNWR and CHNSR. Permittee may only apply the dual or stacked habitat types to the CHNWR and

CHNSR riparian off channel rearing habitat and riparian wetland bench habitat types, as specified in Table 5.

11.2. Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 3), or another form of Security approved in advance in writing by CDFW.

11.3. Security Timeline. The initial Security shall be provided to CDFW within two years (by December 31) of the effective date of the ITP for the Security amount of **$15,000,000.00** in the Security form specified above, for Covered Species Monitoring. Permittee shall provide within eight years (by December 31) of the effective date of this ITP, Security in the total amount of **$130,085,470.00**, for all outstanding compensatory mitigation obligations, as specified in Condition of Approval 10 and 11.1.1, the total Security may be adjusted (may be subject to amendment) based on outstanding and completed compensatory mitigation obligations.

11.4. Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.

11.5. Security Transmittal. Permittee shall transmit the Security to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 4) or by way of an approved instrument such as an escrow agreement, irrevocable letter of credit, or other.

11.6. 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.

11.7. 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:

Credit Purchase

- Copy of Bill of Sale(s) and Payment Receipt(s) or Credit Transfer Agreement for the purchase of Covered Species credits; and
- Timely submission of all required reports.

Habitat Management Land Acquisition (HMLA)

- Written documentation of the acquisition of the HM lands;
- Copies of all executed and recorded conservation easements;
- Written confirmation from the approved Endowment Manager of its receipt of the full Endowment; and

- Timely submission of all required reports.

Even if Security is provided, the Permittee must complete the required acquisition, protection and transfer of all HM lands and record any required conservation easements as specified in Condition 10 and 11 of this ITP. CDFW may require the Permittee to provide additional HM lands and/or 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.

IX. 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.

X. Stop-Work Order:

If CDFW determines the Permittee has violated any term or condition of this ITP or has engaged in unlawful take, CDFW may issue Permittee a written stop-work order instructing the Permittee to suspend any Covered Activity for an initial period of up to thirty days or risk suspension or revocation of this ITP. CDFW can issue a stop-work order 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, regardless of whether that species is a Covered Species under this ITP. 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 thirty additional days.

If Permittee fails to remedy the violation or to comply with a stop-work order, CDFW may proceed with suspension and revocation of this ITP. 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 Fisheries Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

XI. Liability:

All terms and conditions of this ITP shall be binding upon each Permittee. Notwithstanding California Civil Code section 1431 or any other provision of law, each Permittee shall be jointly and severally liable for performance of all terms, conditions, and obligations of this ITP and shall be jointly and severally liable for any unauthorized take or other violations of this ITP, whether committed by Permittees or any person acting on behalf of one or more Permittees, including their officers, employees, representatives, agents or contractors and subcontractors. Any failure by one or more

Permittees to comply with any term, condition, or obligation herein shall be deemed a failure to comply by all Permittees.

XII. 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.

XIII. Notices:

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by email or 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 (2081-2023-051-00) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Brooke Jacobs, Water Branch Chief
Post Office Box 944209
Sacramento, CA 944209
[Telephone (916) 903-6426
Brooke.Jacobs@wildlife.ca.gov

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
E-Mail: CESA@wildlife.ca.gov

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

Kristal Davis-Fadtke, Environmental Program Manager
California Department of Fish and Wildlife
Ecosystem Conservation Division – Water Branch
Post Office Box 944209
Sacramento, CA 944209
Telephone (916) 701-3226
E-Mail: Kristal.Davis-Fadtke@wildlife.ca.gov

XIV. Compliance with the California Environmental Quality Act:

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, the Sites Project Authority (See generally Pub. Resources Code, §§ 21067, 21069.) The lead agency's prior environmental review of the Project is set forth in the Sites Reservoir Project Environmental Impact Report (SCH No.: 2001112009) dated November 1, 2023, that the Sites Project Authority certified for the Sites Reservoir Project on November 17, 2023. At the time the lead agency certified the EIR and approved the Project it also adopted various mitigation measures for the Covered Species as conditions of Project approval.

This ITP, along with CDFW's related CEQA findings and CDFW Effects Analysis, which are available as separate documents, provide evidence of CDFW's consideration of the lead agency's EIR 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.

XV. Findings Pursuant to CESA:

CESA and CDFW's related implementing regulations require CDFW to prepare and adopt specific findings under CESA prior to and in connection with the issuance of this ITP. (See, e.g. Fish & G. Code § 2081, subds. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds, (a)-(b), 783.5, subd. (c)(2).) CDFW's CESA findings for this ITP and the related CDFW Effects Analysis are set forth in separate documents as adopted by CDFW and specifically incorporated by reference into this ITP.

XVI. Attachments:

FIGURE 1	Operations – Project Area Map; Feb. 21, 2022
FIGURE 2	Red Bluff Pumping Plant Map; June 24, 2021
FIGURE 3	Hamilton City Pump Station and Headgate Map; June 24, 2021
FIGURE 4	Sites Reservoir and Facilities Map; October 27, 2022
FIGURE 5	Dunnigan Pipeline and Outfall Map; Feb. 21, 2022
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Biologist Resume Form
ATTACHMENT 3A and 3B	Letter of Credit Form(s)
ATTACHMENT 4	Mitigation Payment Transmittal Form
ATTACHMENT 5	CDFW Covered Species Effects Analysis

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE ON 10/24/2024

DocuSigned by:
Josh Grover
703E59B6647A482...

Joshua Grover, Deputy Director
Ecosystem Conservation Division
California Department of Fish and Wildlife

Figure 1. Project Area Map

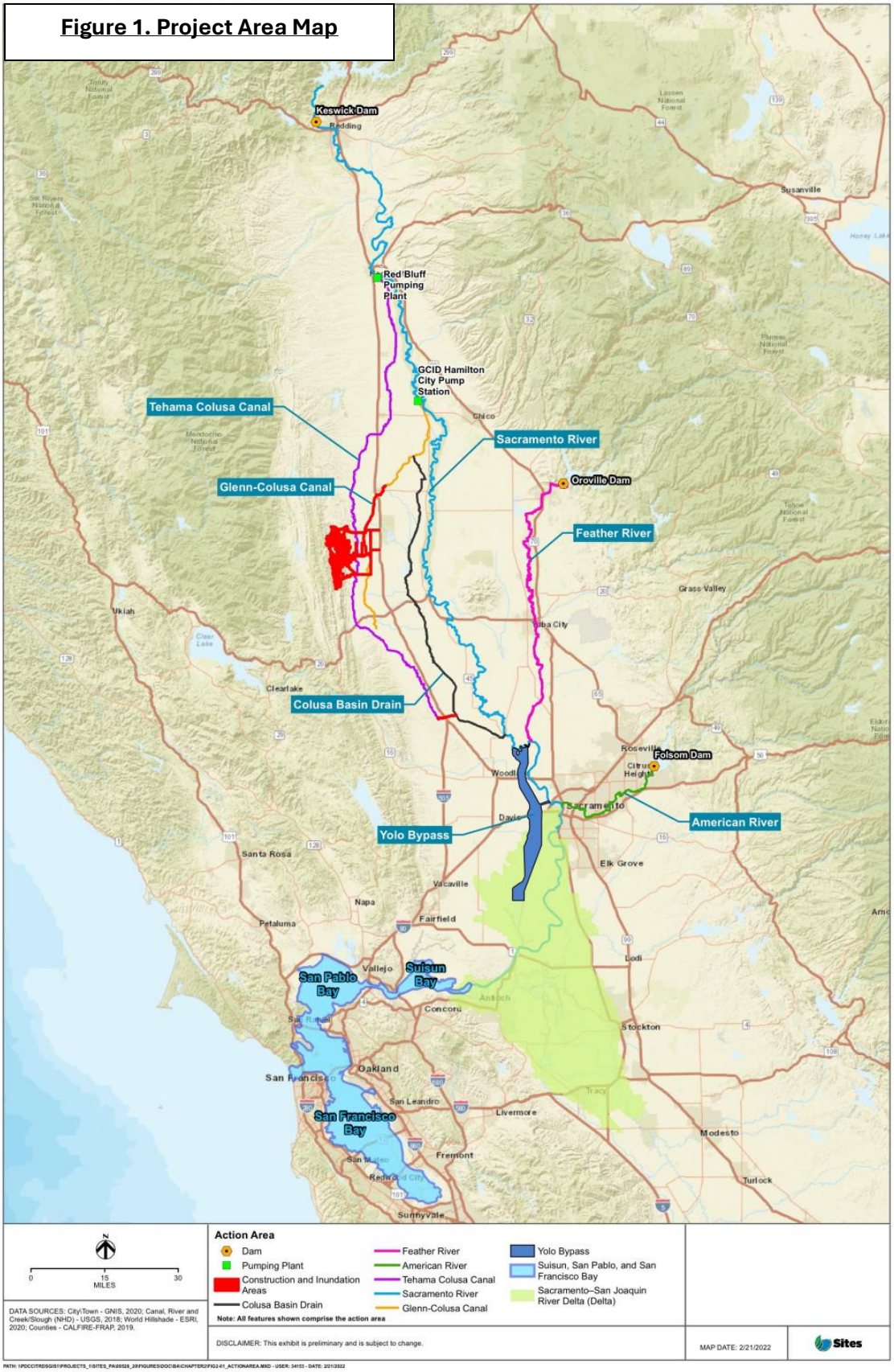

Figure 3-1. Action Area

Figure 2. Red Bluff Pumping Plant Map

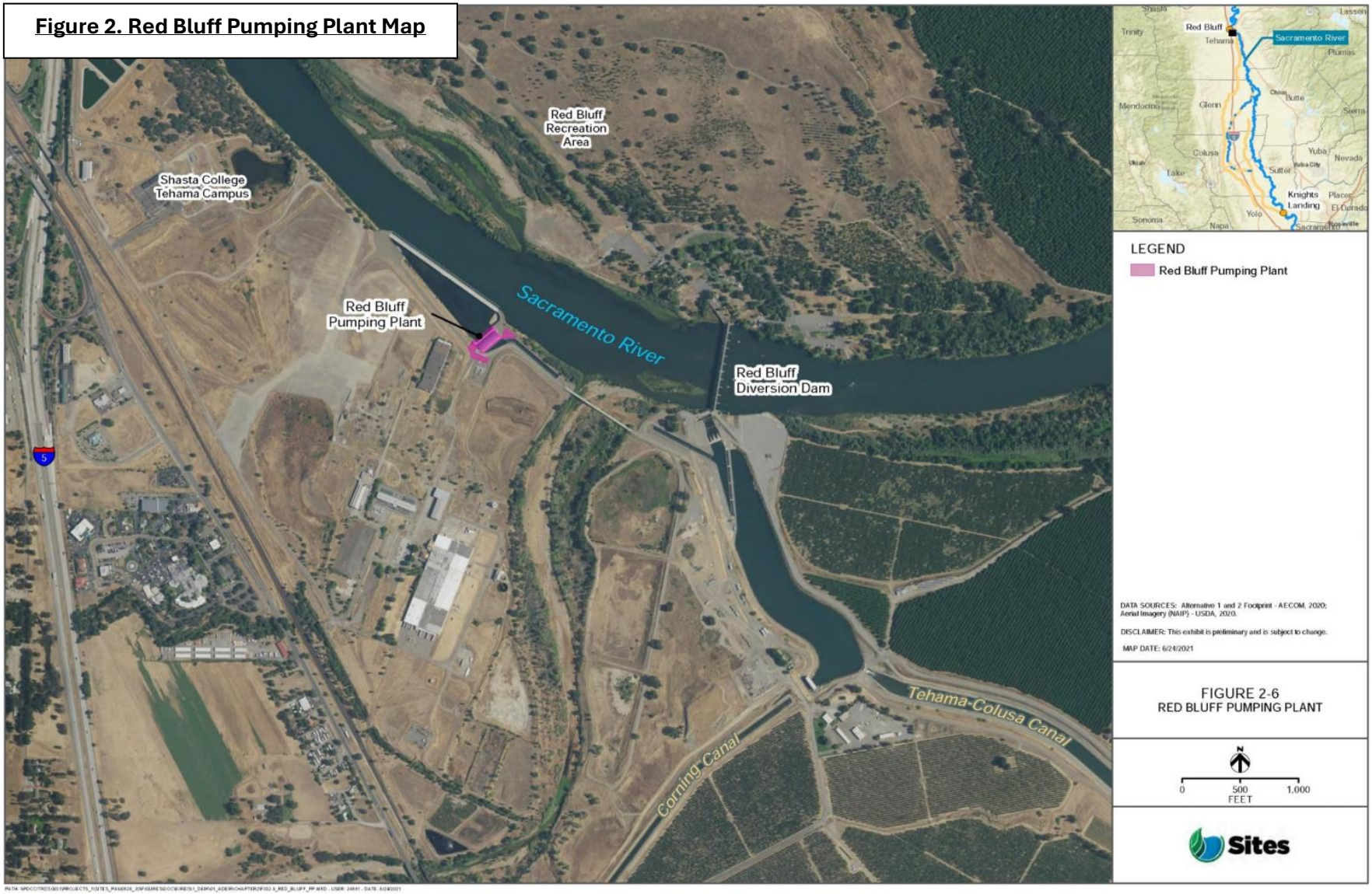

Figure 3. HCPS Diversion Facility and Headgate Map

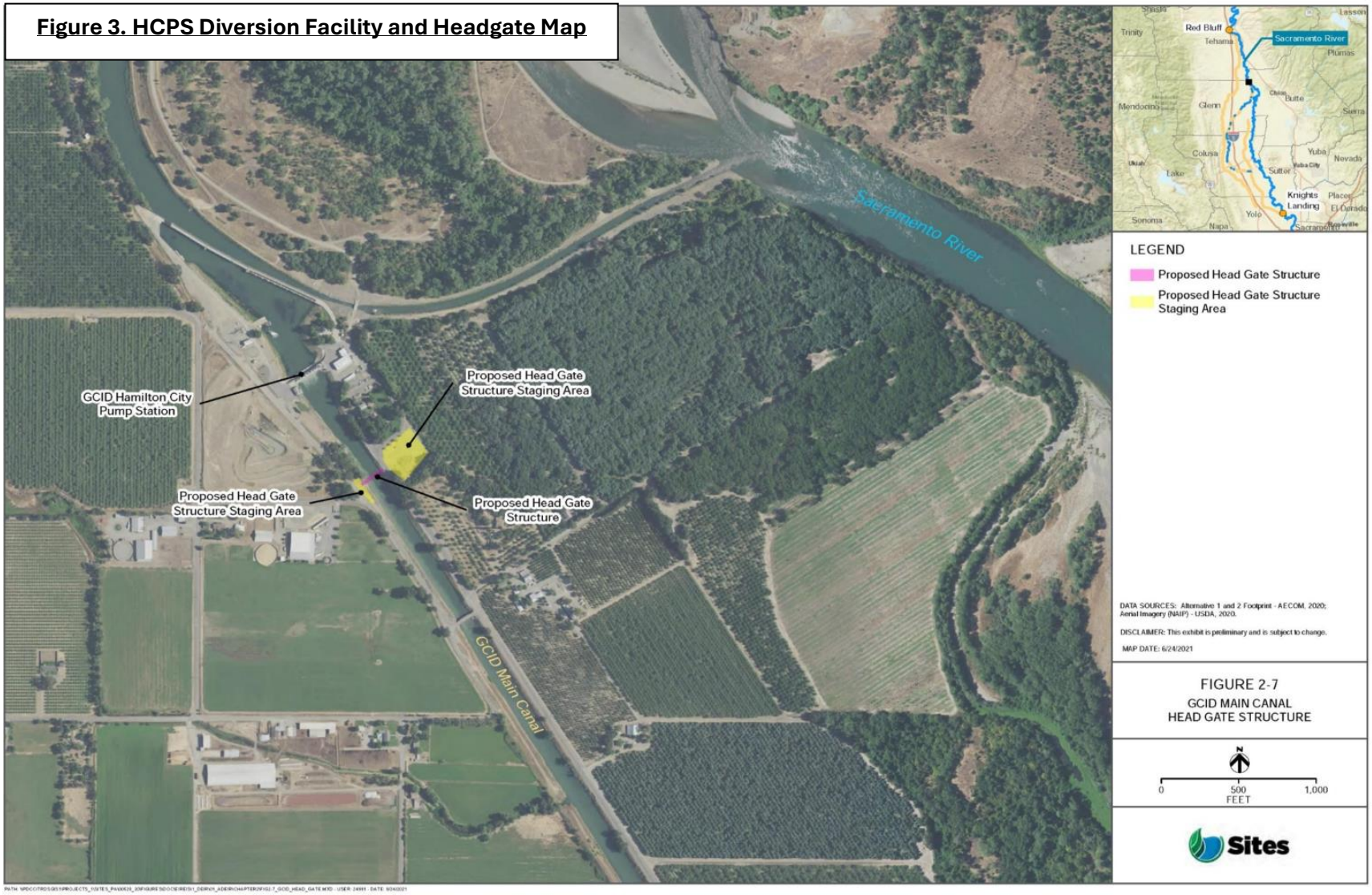

Figure 4. Sites Reservoir and Facilities Map

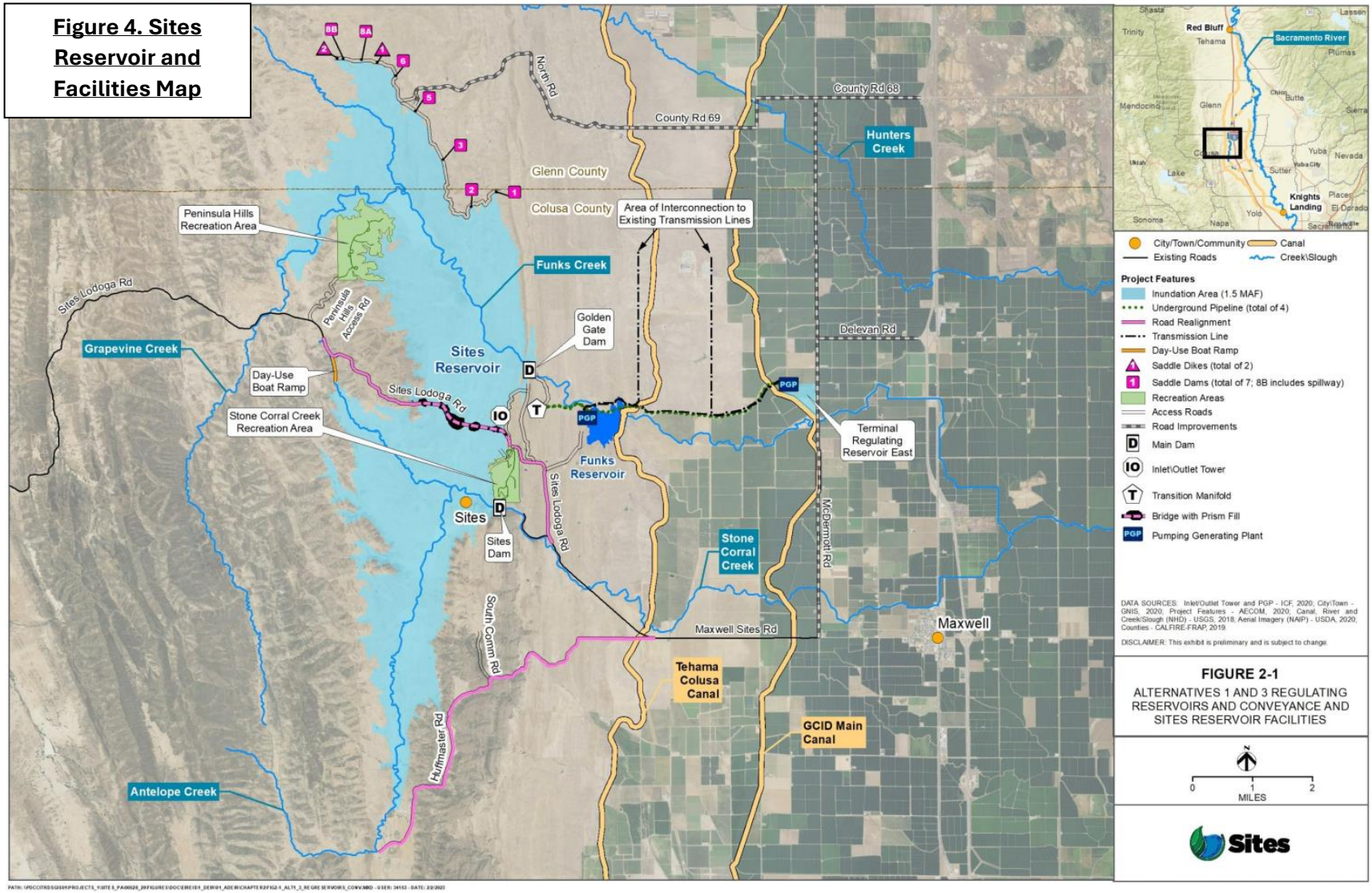

Figure 5. Dunnigan Pipeline and Outfall Map