

Summary Form for Electronic Document Submittal

Form F

Lead agencies may include 15 hardcopies of this document when submitting electronic copies of Environmental Impact Reports, Negative Declarations, Mitigated Negative Declarations, or Notices of Preparation to the State Clearinghouse (SCH). The SCH also accepts other summaries, such as EIR Executive Summaries prepared pursuant to CEQA Guidelines Section 15123. Please include one copy of the Notice of Completion Form (NOC) with your submission and attach the summary to each electronic copy of the document.

SCH #: 2025081335

Project Title: Temporary Water Transfers from 2026 to 2030 Project

Lead Agency: Butte Water District

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Project Location: Gridley, Butte County
City County

Project Description (Proposed actions, location, and/or consequences).

See attached Project Description

Identify the project's significant or potentially significant effects and briefly describe any proposed mitigation measures that would reduce or avoid that effect.

See attached Mitigation Measures

If applicable, describe any of the project's areas of controversy known to the Lead Agency, including issues raised by agencies and the public.

No known areas of controversy.

Provide a list of the responsible or trustee agencies for the project.

Department of Water Resources
Santa Clara Valley Water District
United States Bureau of Reclamation

Project Description

District Background

The Butte Water District (BWD) was formed in 1956 and may divert up to 133,200 acre-feet (AF) of water during the defined irrigation season under the terms of a 1969 Agreement on Diversion of Water from the Feather River with the State of California, acting by and through the Department of Water Resources (DWR) and allocated through a 1970 Joint Operating Agreement with Butte Water District, Richvale Irrigation District, Biggs-West Gridley Water District, and Sutter Extension Water District, known collectively as the Joint Water Districts. As a result of these agreements, BWD's water is diverted from the Thermalito Afterbay, part of the Oroville Complex. The 1969 Diversion of Water agreement requires written approval from DWR before any of the districts can transfer water outside the service areas of the Joint Board. An agreement between DWR and the proposed water purchasers to store or transport the water through the State Water Project (SWP) or Central Valley Project (CVP) facilities may also be required to implement a water transfer.

Water Transfers

The District is preparing for potential one-year water transfers over a five-year period from 2026 through 2030. The transfers may be for environmental enhancement or for one or more buyers with temporary unmet consumptive water demands. Santa Clara Valley Water District (Valley Water) would have the first right of refusal for the water transfers from BWD.

A water transfer temporarily moves water from a willing seller (BWD) to an environmental purpose or willing buyer. To make new water available, the seller must take an action to reduce consumptive use, use a substitute water supply such as groundwater, or use water in storage. Additionally, water transfers must comply with all applicable State and federal laws. Moreover, under the 1969 Diversion of Water Agreement with the State of California, BWD's water entitlement is subject to a drought reduction under certain circumstances related to dry hydrologic conditions. If BWD's entitlement is curtailed 50 percent for an irrigation season, pursuant to the 1969 Agreement, BWD has not historically participated in a land idling transfer. However, in the event of a lesser reduction, the District may still participate in a land idling transfer. BWD may participate in a groundwater substitution transfer for its lands located in Sutter County under any drought reduction scenario.

This EIR analyzes water transfers as if the full amount would be transferred every year during the five-year transfer period; however, transfers may be less frequent and smaller in volume over this period. Annual approval of transfers is required by BWD, the end user, and DWR, regardless of the EIR term or the duration of a water transfer contract.

Water Transfer Availability

The water transfers would include short-term transfers of up to 24,000 AF in any year. This includes up to 14,000 AF from crop idling transfers and up to 10,000 AF from groundwater substitution transfers. Water made available by crop idling and/or groundwater substitution within the boundaries of the District would be retained and stored by the DWR at Lake Oroville for delivery to Valley Water (or a different buyer if Valley Water refuses, as further discussed below), pending approval from DWR.

The Project area, from which the water for the potential transfers would be made available, is defined by the District boundaries, which encompass approximately 32,505 acres in the northern Sacramento Valley in both Butte and Sutter Counties. Land idled for the purpose of the potential

transfers would primarily be drawn from the rice acreage within the District. However, those crops suitable for idling as laid out in Table 2-1 of DWR's *DRAFT Technical Information for Preparing Water Transfer Proposals in 2019* within the District would also have the potential to be idled for the sake of transfers. Crop idling acreages for transfers would be to the exclusion of habitat of the Giant Garter Snake. Adjoining areas, other irrigated lands, drains, wetlands, and waterfowl habitat would not be affected, as those areas would receive their normal entitlement, and canals and drains would operate at normal operating capacity. Water would be available on the same pattern during the growing season as it would have been consumed had a crop been planted.

Water Transfer Type

Cropland idling water transfers make water available by reducing the consumptive use of surface water applied for irrigation. In a groundwater substitution program, groundwater is pumped and used for agricultural purposes in lieu of surface water supplies. The equivalent surface water supplies are then not diverted and are made available for transfer. Groundwater pumping, if applicable, would only occur within that portion of the District boundaries that lie within Sutter County and in a manner consistent with the Groundwater Sustainability Plan (GSP) developed under the Sustainable Groundwater Management Act (SGMA) and would only utilize BWD wells. The District's proposed water transfers would fully comply with DWR's *DRAFT Technical Information for Preparing Water Transfer Proposals in 2019* where applicable regarding land idling and groundwater substitution transfers as well as monitoring and reporting for groundwater conditions before, during, and after the transfer period.

The quantity of transfer water made available through crop idling is currently calculated based on the pattern of Evapotranspiration Rate of Applied Water (ETAW). In the absence of technical information supporting an alternate method, the quantity of transfer water will continue to be calculated based on ETAW for any crop acreage idling. Consistent with the provisions contained in California Water Code Section 1018, potential participating landowners would be encouraged to cultivate or retain non-irrigated cover crops or natural vegetation into their cropland idling transfer to protect habitat value in the area to be idled. In addition, only 20 percent of irrigable acres may be idled under a crop idling water transfers according to DWR's *DRAFT Technical Information for Preparing Water Transfer Proposals in 2019*.

For the groundwater substitution transfers, the Project would extract up to 10,000 AF of groundwater from BWD production wells. Two existing wells have approximate production capacities of 3,500 gallons per minute (GPM) and 4,000 GPM, respectively. BWD is also in the process of purchasing land for the future installation of a third production well that would also be used if completed within the five-year project duration, which would bring the total water available for transfer from groundwater substitutions to up to 10,000 AF. BWD also owns three groundwater monitoring wells and uses these wells, among others that are not owned by the District (such as those defined in transfer agreements and DWR's Water Transfer Information Management System, among others), to monitor groundwater levels in the vicinity of the production wells to ensure that no substantial depletion of groundwater supplies occurs as a result of groundwater production. The District has operated these wells in the past at similar production rates and, consistent with extensive monitoring and reporting for such past usage, BWD has not observed any substantial impacts on groundwater levels, groundwater supplies, or to third parties or other environmental resources.

Water Transfer Operations

No new construction or improvements by BWD, Valley Water or other potential buyers, or DWR would be necessary for the production and transfer of water resulting from the Project. However, the

aforementioned third production well could be installed during the five-year Project duration and would likely be used for Project activities if completed. As mentioned above, BWD receives water from Oroville Reservoir under a Diversion Agreement with the State of California. Normal operations involve DWR releasing water from the Oroville Reservoir to the Thermalito Afterbay to be diverted by BWD. For water transfers, DWR reduces what it releases, and, as a result, BWD also reduces its water diversions. Water would be stored in the Oroville Reservoir if capacity is available and stored water follows DWR's applicable policies and regulations. Storing transfer water could not affect the ability of DWR to meet environmental commitments or water deliveries and would not be possible if flood releases were being made from the Oroville Reservoir as no capacity would be available. Water would become available for transfer on the same schedule that it would have been delivered to BWD. In most cases, this would involve water accruing in storage at the Oroville Reservoir in May and June before being conveyed downstream in July through September.

Santa Clara Valley Water District

It is anticipated that a key recipient of BWD's transfer supplies will be Valley Water, who has the first right of refusal of water transfers as a part of the Project. In the event that Valley Water does not elect to receive the transferred water, the District may pursue transfers to the environment or other buyers where BWD can utilize existing water infrastructure to convey transfer water. If both Valley Water and direct conveyance route for the transfer water are not available, BWD may pursue a simultaneous water exchange to convey water to the environment or other buyers. BWD may also transfer water for environmental enhancement, such as for purposes like the Healthy Rivers and Landscapes program if it were to be adopted during the five-year period.

Valley Water has contracts for 100,000 AF per year (AFY) of SWP water and 152,500 AFY of CVP water. However, water availability and environmental conditions impact the actual amount of water delivered. As a result, Valley Water receives an average of approximately 170,000 AFY from the two sources combined. During periods of water shortage when contract allocations are low, Valley Water has historically participated in water transfers to secure supplemental water supplies. In addition, Valley Water's Anderson Reservoir is currently restricted to deadpool due to seismic concerns, which, in turn, takes away substantial drinking water resources for Santa Clara County. The Anderson Dam is presently undergoing a seismic retrofit, but the project is not anticipated to be completed until 2033. As such, Valley Water's dependence on water transfers is expected to be higher until project completion.

Since 1996, Valley Water has participated in a water banking and exchange program with the Semitropic Water Storage District located in Kern County. In wet years, Valley Water stores excess Delta-conveyed water in the Semitropic Groundwater Bank for later use, such as during dry years.

To meet current and future demands, Valley Water has also implemented a long-term water conservation program. With a target of saving 100,000 AFY by 2030, the long-term program offers a variety of incentives and rebates that achieve sustainable water savings. The program saved approximately 85,000 AF in 2024.

Biological Mitigation Measures

Well Site Mitigation

General Project-Related Impacts

BIO-1 (WEAP Training): Prior to initiating construction activities (including staging and mobilization), all personnel associated with construction relating to the new well site will attend a mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist (someone familiar with the identification and habitats of these species), to aid workers in identifying special status resources that may occur in the site. The specifics of this program will include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will discuss special status species, describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and include a list of required protective measures to avoid “take.” A fact sheet summarizing this information, along with photographs or illustrations of sensitive species with potential to occur on the site, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All trainees will sign a form documenting that they have attended WEAP training and understand the information presented to them.

BIO-2 (BMPs): The Project proponent will require that all workers employ the following Best Management Practices (BMPs) in order to avoid and minimize potential impacts to special status species:

- Vehicles will observe a 15-mph speed limit while on unpaved access routes.
- Workers will inspect areas beneath parked vehicles, equipment, and materials prior to mobilization. If federal special status species are detected, the individual will either be allowed to leave of its own volition or will be captured by a qualified biologist (must possess appropriate collecting/handling permits or relevant experience) and relocated out of harm’s way to the nearest suitable habitat beyond the influence of the Action Area. “Take” of a state or federal special status (threatened, endangered, candidate, or proposed) species will be avoided and minimized to the greatest extent possible.
- Workers will initiate a trash abatement program before starting project activities and will continue the program for the duration of the project. All trash and food items will be contained in animal-proof containers and removed, ideally at daily intervals but at least once a week, to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.
- All open trenches, holes, sumps, and other excavations more than six inches deep will be provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each workday. If escape ramps cannot be provided, then holes or trenches will be covered with plywood or similar materials. If at any time a trapped giant garter snake or other species are discovered, the Designated Biologist(s) will be notified to move the individual outside of the Action Area.
- The presence of any federal special status species will be reported to a qualified biologist, who will submit the occurrence to the CNDDDB. If necessary, the biologist will report the occurrence to CDFW and/or the Service.

Project-Related Mortality and/or Nest Abandonment of Migratory Birds, Raptors, and Special Status Birds

BIO-3 (Avoidance): The Project's construction activities will occur, if feasible, between September 1 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.

BIO-4 (Pre-Construction Surveys): If activities must occur within the nesting bird season (February 1 to August 30), a qualified biologist (someone able to identify these species) will conduct a pre-construction take-avoidance survey for active nests within ten (10) calendar days prior to the start of construction. The survey will be completed within the new well site, and up to 100 feet outside of the new well site for nesting migratory birds and up to 500 feet outside of the new well site for nesting raptors. Raptor nests are considered "active" upon the nest-building stage. If construction is delayed or halted for more than ten (10) days, another pre-construction survey for nesting birds will be conducted.

BIO-5 (Avoidance Buffers): On discovery of any active nests or breeding colonies near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of project disturbance. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

Project-Related Mortality and/or Disturbance of Giant Garter Snake

BIO-6 (Pre-Construction Surveys): If work will occur during the active season for giant garter snake (between May 1 and September 30), a qualified biologist (someone familiar with garter snake species) will conduct two giant garter snake pre-construction surveys with the first occurring within 15 days and the second occurring within 24 hours prior to the onset of construction. The information collected from the first pre-construction survey will serve primarily to alert the biologist and construction crews of the general level of giant garter snake activity at the site and borrow area, and the second survey will serve to minimize potential for take of giant garter snake. If work will occur during the inactive season, a qualified biologist will conduct a giant garter snake pre-construction survey within seven (7) days prior to the start of construction within the new well site and all accessible areas up to 200 feet. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for giant garter snake will be conducted. If the surveys result in the identification of a giant garter snake, or an individual is found within the new well site during construction activities, it will be allowed to leave the site on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).

BIO-7 (Exclusion): A giant garter snake and other wildlife exclusion fence will be installed prior to project activities. If work will occur during the inactive season for giant garter snake (between October 1 and April 30), an exclusion fence will be installed around the work areas prior to the start of the inactive season. The design of the fence will be approved by the CDFW and USFWS prior to installation. Fence installation will be supervised by a qualified biologist.

BIO-8 (Monitor): A qualified biologist will conduct a pre-activity clearance survey each day of, and remain onsite during, initial vegetation clearing and ground disturbing activities and until the wildlife exclusion fence is in place. An inspection of the exclusion fence each day by the contractor will be completed to ensure it is functional for the intended purpose. The contractor will be instructed during the WEAP training on how to inspect the exclusion fence. If a garter snake is observed within the project site, the contractor will stop work and allow the species to leave the site of its own volition or will be captured by a qualified biologist (must possess appropriate collecting/handling permits or relevant experience) and relocated out

of harm's way to the nearest suitable habitat beyond the influence of the Project work area. "Take" of a State or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited without appropriate take permits from the USFWS and CDFW.

BIO-9 (Formal Consultation): If giant garter snakes are observed onsite, consultation with USFWS and CDFW is warranted to discuss how to implement the Project and avoid take of giant garter snake. If take cannot be avoided, take authorization through the acquisition of a Biological Opinion (BO) and an incidental take permit (ITP) pursuant to Fish and Game Code section 2081, subdivision (b) is recommended to comply with CESA and USFWS Section 7(a)(1) is recommended to comply with the ESA.

Project-Related Mortality and/or Disturbance to Northwestern Pond Turtle

BIO-10 (Pre-Construction Survey and Avoidance Buffers): Within seven (7) days prior to the start of construction within the new well site, a qualified biologist (someone who is able to identify this species) will conduct a pre-construction survey for Northwestern Pond Turtle (NPT) within the new well site, and all accessible areas up to 330 feet. Pre-construction surveys will be conducted in accordance with the draft *Western Pond Turtle (Emys marmorata) Visual Survey Protocol for the Southcoast Ecoregion* (United States Geological Survey 2006). If no NPTs are observed during the pre-construction survey, then construction activities may begin. If construction is delayed or halted for more than seven (7) days, another pre-construction survey for NPTs will be conducted. If the surveys result in the identification of a NPT, or an individual is found within the new well site during construction activities, it will be allowed to leave the site on its own and the qualified biologist will determine appropriate buffers to be implemented to avoid impacts to the individual(s).

BIO-11 (Monitor): If NPTs are observed within the site a qualified biologist will conduct a pre-activity clearance survey each day and remain onsite to oversee all vegetation clearing and ground disturbing activities until the exclusion fence is completely installed or the individual(s) has vacated the work area. If NPTs are detected, the biologist will stop work and allow the species to leave the site or borrow area of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits or relevant experience) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the project work area. "Take" of a State or federal special status (rare, California Species of Special Concern, threatened, or endangered) species is prohibited.

BIO-12 (Formal Consultation): Should northwestern pond turtles get listed in this area and the Project/qualified biologist needs to move an individual, consultation for protection plans and/or relocation plans with the appropriate agencies will be completed to avoid take.

Water Transfer and Crop Idling Mitigation

Project-Related Mortality and/or Disturbance of Giant Grater Snake

BIO-13 (Maintain Water): The District will keep adequate water in major irrigation and District owned and operated drainage canals. Water depths will be maintained at levels similar to years when transfers do not occur or, where information on existing water depths is limited, at least two feet of water will be considered adequate.¹

(GGS BMPs): The District will perform giant garter snake BMPs during irrigation canal maintenance activities, including educating maintenance personnel to recognize and avoid contact with giant garter

¹ (Sutter Extension Water District, 2025)

snake, cleaning only one side of a conveyance channel per year to retain foraging areas and cover habitat for giant garter snake within maintained canals and ditches, and avoid the stockpiling of vegetation and sediment debris adjacent to canals and ditches. The District will create and distribute a giant garter snake BMPs information pamphlet to maintenance personnel that includes photos of giant garter snake and their habitat, and descriptions of BMPs.

Hydrology Mitigation Measures

HYD-1 The objective of Mitigation Measure HYD-1 is to avoid potentially significant adverse environmental effects from groundwater level declines such as (1) impacts to other legal users of water; (2) land subsidence; or (3) migration of reduced quality groundwater. The measure accomplishes this by monitoring groundwater levels, within defined monitoring wells, when groundwater is being pumped, in-lieu of diverting surface water, and groundwater pumping ceases when the groundwater level reaches the established groundwater level trigger, as defined in the Mitigation Plan and Monitoring Plan. In previous transfers, BWD has used historic lows as groundwater level triggers, but this may be revised in future proposed transfers. As described in the Mitigation Plan section below, the mitigation measure also requires prompt intervention, including the cessation of groundwater pumping, if groundwater level triggers are reached during transfer-related pumping or if, in the unlikely event, that a potential impact is detected to ensure it will be reduced to less than significant. Additionally, the mitigation measure requires preventative actions if monitoring shows that identified groundwater level triggers are reached during transfer-related pumping. As part of a water transfer, Sellers are required to prepare a Monitoring Program and Mitigation Plan to address the required elements of the mitigation measure for review and approval by DWR prior to initiation of groundwater substitution pumping. BWD will confirm that the proposed groundwater pumping will be compatible with state and local regulations and GSPs under SGMA.

BWD would be required to submit monitoring reports to DWR during the period of the transfer program, and DWR will verify that BWD implements the Monitoring Program and Mitigation Plan to avoid potentially significant adverse effects of transfer-related groundwater extraction. In addition, BWD must confirm that the proposed groundwater pumping will be compatible with applicable state and local regulations as well as the subbasins' GSPs. The Butte Subbasin and Sutter Subbasin GSPs have been approved by DWR; all of the GSAs are required to meet the sustainability objectives identified under SGMA. Any BWD transfer would be operated within the parameters of the GSPs, thus providing a regulatory backstop to prevent substantial adverse effects.

BWD will prepare and submit a water transfer proposal prior to the initiation of groundwater substitution pumping transfers. DWR will review the transfer proposal, and the groundwater substitution pumping transfers cannot start prior to DWR's approval. Water transfer proposals must include well data collected by potential sellers consistent with the data requirements identified in the Water Transfers Information Checklist that is included in Reclamation and DWR's Water Transfer White Paper. BWD must demonstrate that substantial inelastic land subsidence is not occurring within the area of a transfer pumping well in accordance with minimum thresholds identified in their local DWR approved GSP(s), subject to DWR's verification; and if it is occurring, the participating transfer pumping well would not be allowed to participate in groundwater substitution transfers, ensuring adverse effects of the Project would not occur in areas vulnerable to land subsidence.

BWD has used two production wells that lie within the Sutter County portion of their district boundary for previous groundwater substitution transfers. BWD will continue to use the same two wells for groundwater substitution transfers. A third production well is anticipated to be constructed, also in the Sutter Subbasin,

and potential impacts are evaluated herein. BWD will prepare a report on its groundwater substitution transfers as detailed in the most current version of the DRAFT Technical Information for Preparing Water Transfer Proposals and will submit the report to DWR for review before the transfer period.

Monitoring Program

BWD will be required to complete and implement a monitoring program that must, at a minimum, include the following components:

Monitoring Well Network. The monitoring program shall incorporate a sufficient number of monitoring wells, as determined by the sellers in relation to local conditions, to accurately characterize groundwater levels and response in the area before, during, and after transfer pumping takes place. Depending on local conditions, additional groundwater level monitoring may be required near ecological resource areas.

Groundwater Pumping Measurements. All wells pumping to replace surface water designated for transfer shall be configured with a permanent instantaneous and totalizing flow meter capable of accurately measuring well discharge rates and volumes. Flow meter readings will be recorded just prior to initiation of pumping and at designated times, but no less than monthly and as close as practical to the last day of the month, throughout the duration of the transfer.

Groundwater Levels. BWD will collect measurements of groundwater levels in both participating transfer wells and monitoring wells. Groundwater level monitoring will include measurements before, during, and after transfer-related pumping. BWD will measure groundwater levels as follows:

- Prior to transfer: Groundwater levels will be measured monthly from March in the year of the proposed transfer-related pumping until the start of the transfer (where possible).
- Start of transfer: Groundwater levels will be measured on the same day that the transfer-related pumping begins, prior to the pump being turned on.
- During transfer-related pumping: Groundwater levels will be measured weekly throughout the transfer-related pumping period unless site-specific information indicates a different interval should be used.
- Post-transfer pumping: Groundwater levels will be measured weekly for one month after the end of transfer-related pumping, after which groundwater levels will be measured monthly through March of the year following the transfer.

BWD will monitor effects to groundwater levels that may result from the proposed transfer and avoid significant impacts. BWD will initiate the mitigation plan if groundwater levels fall below historic low groundwater levels, or another groundwater level trigger deemed appropriate by Reclamation and DWR as part of a future proposed transfer. As part of a seller's transfer proposal, BWD will need to identify appropriate monitoring wells and the specific groundwater trigger for each well (established through the historic low groundwater level for that well).

Additionally, BWD will coordinate closely with potentially impacted third parties to collect and monitor groundwater data. If a third party expects that it may be impacted by a proposed transfer, that party should contact BWD with its concern. The burden of collecting groundwater data will not be the responsibility of the third party. If warranted, groundwater level monitoring to address the third-party's concern may be incorporated in the monitoring and mitigation plans required by Mitigation Measure HYD-1.

- **Groundwater Quality.** BWD shall measure specific conductance in samples from each participating production well. Samples shall be collected when the seller first initiates pumping, monthly during the transfer period, and at the termination of transfer pumping.
- **Land Subsidence.** Subsidence monitoring will be required if groundwater levels could decline below historic low levels during the proposed water transfer. Before a transfer, BWD will examine local groundwater conditions and groundwater level changes based on past pumping events or groundwater substitution transfers. This existing information will be the basis to estimate if groundwater levels are likely to decline below historic low levels, which would trigger land surface elevation measurements (as described below).

If the measured groundwater level falls below the historic low level, the seller must confirm the measurement within seven days. If the water level has risen above the historic low level, the seller may continue transfer pumping. If the measured groundwater level remains below the historic low level, the seller will stop transfer-related pumping immediately or begin land surface elevation measurements in strategic locations within and/or near the transfer-related pumping area. Measurements may include (1) extensometer monitoring, (2) continuous GPS monitoring, or (3) extensive land-elevation benchmark surveys conducted by a licensed surveyor. These data could be collected by the seller or from other sources (such as public extensometer data). Measurements must be completed on a monthly basis during the transfer.

If the land surface elevation survey indicates an elevation decrease between 0.1 foot and 0.2 foot from the initial measurement, the seller could have significant impacts and would need to start the process identified below in the Mitigation Plan. The seller will also work with DWR to assess the accuracy of the survey measurements based on current limitations of technology, professional engineering/surveying judgment, and any other data available in or near the transferring area.

Measurement. The threshold of 0.1 foot was chosen as this value is typical of the elastic (i.e., recoverable) portion of subsidence; the threshold of 0.2 foot was selected considering limitations of current land survey technology.

Coordination Plan. The monitoring program will include a plan to coordinate the collection and organization of monitoring data. This plan will describe how input from third parties will be incorporated into the monitoring program and will include a plan for communication with DWR as well as other decision makers and third parties.

Evaluation and Reporting. The proposed monitoring program will describe the method of reporting monitoring data. At a minimum, sellers will provide data summary tables to DWR, both during and after transfer-related groundwater pumping. Post-program reporting will continue through March of the year following the transfer. Sellers will provide a final summary report to DWR evaluating the effects of the water transfer. The final report will identify transfer-related effects on groundwater and surface water (both during and after pumping), and the extent and significance, if any, of effects on local groundwater users. It shall include groundwater elevation contour maps for the area in which transfer operations are located, showing pre-transfer groundwater elevations, groundwater elevations at the end of the transfer, and recovered groundwater elevations in March of the year following the transfer. The summary report shall also identify the extent and significance, if any, of transfer-related effects to ecological resources such as fish, wildlife, and vegetation resources.

Mitigation Plan

The following mitigation plan must be completed and implemented to avoid potentially significant groundwater impacts and ensure prompt corrective action in the event unanticipated effects occur. Mitigation actions could include:

- Curtailment of pumping until natural recharge corrects the issue.
- Lowering of pumping bowls in non-transferring wells affected by transfer pumping.
- Reimbursement for significant increases in pumping costs due to the additional groundwater pumping to support the transfer.
- Curtailment of pumping until water levels rise above historic lows if non-reversible subsidence is detected (based on local data to identify elastic versus inelastic subsidence).
- Reimbursement for modifications to infrastructure that may be affected by inelastic subsidence.

As summarized above, the purpose of Mitigation Measure HYD-1 is to monitor groundwater levels during transfers to avoid potentially significant adverse effects. The mitigation plan will describe how to avoid significant effects and address any significant effects that occur despite monitoring efforts. The objectives of this process are to: (1) minimize potential effects to other legal users of water; (2) provide a process for review and response to reported effects; and (3) assure that a local mitigation strategy is in place prior to the groundwater transfer. Accordingly, to ensure that mitigation plans will be feasible, effective, and tailored to local conditions, the plan must include the following elements:

- A procedure for the seller to receive reports of purported environmental or effects to non-transferring parties;
- A procedure for investigating any reported effect;
- Development of mitigation options, in cooperation with the affected parties, for legitimate significant effects; and
- Assurances that adequate financial resources are available to cover reasonably anticipated mitigation needs.

Mitigation to avoid potentially significant subsidence impacts and ensure prompt corrective action in the event that unanticipated effects occur is described by the following stages.

Stage 1: Groundwater Levels

Inelastic land subsidence would not occur if groundwater levels stay above historic low levels for the entire transfer season. As groundwater is pumped from an aquifer, the pore water pressure in the aquifer is reduced. This reduction in pore water pressure increases the effective stress on the structure of the aquifer itself. This increase in effective stress can cause the aquifer structure to deform, or compress, resulting in the subsidence of the ground surface elevation. Subsidence can be irreversible if the reduced effective stress is lower than the historically low effective stress. Typically, this would be the result of groundwater levels reaching levels lower than the historical low level.

Before a transfer, BWD will examine local groundwater conditions and groundwater level changes based on past pumping events or groundwater substitution transfers. This existing information will be the basis to estimate if groundwater levels are likely to decline below historic low levels as a result of the proposed transfer. If the pre-transfer assessment indicates that groundwater levels will stay above historic low levels, and this finding is confirmed by monitoring during the transfer-related pumping period, then no additional actions for subsidence monitoring or mitigation are necessary. BWD would need to proceed to Stage 2 for land surface elevation monitoring if the pre-transfer estimates indicate that groundwater levels are

anticipated to decline below historic low levels. If monitoring during the transfer-related pumping period (confirmed by two measurements within seven days) indicates that groundwater levels have fallen below historic low levels, BWD will immediately stop pumping or proceed to Stage 2.

Stage 2: Ground Surface Elevations

Stage 2 includes monthly ground surface monitoring during transfer-related pumping if pumping could cause groundwater levels to fall below historic low levels, as described above in the Monitoring Plan. If ground surface elevations decrease between 0.1 and 0.2 foot, BWD will evaluate the accuracy of the information based on the current limitations of technology, professional engineering/surveying judgment, and other local data. If the elevations decline more than 0.2 foot, this change could indicate inelastic subsidence and BWD would cease transfer pumping. BWD would continue monitoring as discussed below even after discontinuing transfer pumping.

Stage 3: Continued Monitoring

BWD will continue to monitor for subsidence while groundwater levels remain below historic low levels. If transfer-related pumping has ceased but groundwater levels remain below historic lows, subsidence monitoring will need to continue until the spring following the transfer. The results of subsidence monitoring will be factored into monitoring and mitigation plans for future transfers.

HYD-2 The objective of Mitigation Measure HYD-2 is to address potential streamflow depletion effects to CVP and SWP water supply. DWR will apply a streamflow depletion factor to mitigate potential water supply impacts from the additional groundwater pumping due to groundwater substitution transfers. The streamflow depletion factor equates to a percentage of the total groundwater substitution transfer that will not be credited to the transferor and is intended to offset the streamflow effects of the added groundwater pumping due to transfer.

The magnitude of potential water supply impact depends on hydrologic conditions surrounding the transfer period. The exact percentage will be assessed and determined by DWR and Reclamation in consultation with buyers and sellers and based on the best technical information available at that time.

The Woodard & Curran Groundwater Modeling Report, included as **Appendix E**, found that the portion of the Feather River closest to BWD is predominantly a gaining reach under baseline conditions as indicated by model results and corroborated by the analyses conducted for four GSPs: Butte Subbasin, Wyandotte Creek Subbasin, Sutter Subbasin, and North Yuba Subbasin (Butte Subbasin, 2022; Sutter Subbasin, 2022; Wyandotte Creek Subbasin, 2021; Yuba Subbasins, 2024). As described in Section 4.1.2 of the Groundwater Modeling Report, the Feather River remains a gaining stream under GWST pumping conditions, but it is gaining at a lesser rate than it was in the No Project alternative. Mitigation Measure HYD-2 will institute an SDF that would offset the potential streamflow effects of the added groundwater pumping due to transfer.

The SDF is assumed to be within the historic range of 12% to 20% and will follow the *White Paper*. BWD, in coordination with DWR and Reclamation, may undertake additional site-specific technical analyses to more precisely estimate SDF for BWD, in which case the more specific SDF would apply.