

MITIGATED NEGATIVE DECLARATION FOR 2015 TEHAMA-COLUSA CANAL AUTHORITY IN BASIN WATER TRANSFERS

LEAD AGENCY: Tehama-Colusa Canal Authority
PO Box 1025
Willows, CA 95988

AVAILABILITY OF DOCUMENTS: The initial study for this mitigated negative declaration is available for review at: Tehama-Colusa Canal Authority, 5513 State Highway 162, Willows, CA 95988 and online at http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=20761

Questions or comments regarding this mitigated negative declaration and initial study may be addressed to:

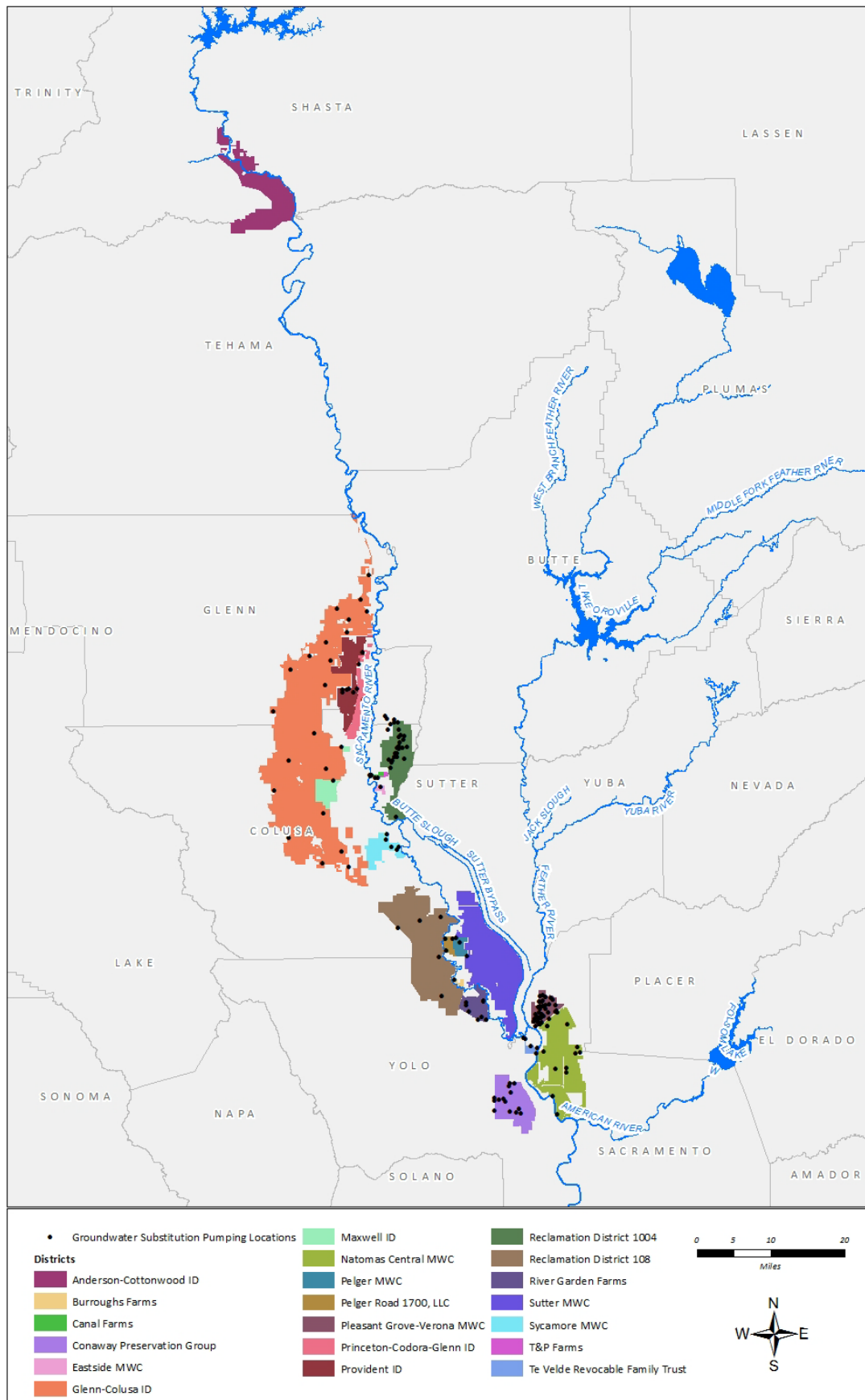
Tehama-Colusa Canal Authority
Attention: Mr. Jeff Sutton
PO Box 1025
Willows, CA 95988
Fax (530) 934-2355 or e-mail: jsutton@tccanal.com

Project Description: The Tehama-Colusa Canal Authority (TCCA) and its Member Units will experience severe water shortages in 2015 and are soliciting willing sellers to transfer water. A number of entities have expressed interest in transferring water to the Member Units of the TCCA. The TCCA would negotiate with these sellers, on behalf of the Member Units, to identify potential transfers and the specifics of each transfer arrangement, which, collectively, constitute the "proposed project" addressed in the Initial Study. Transfers would be from willing sellers within the Sacramento Valley to buyers within the Sacramento Valley. This Mitigated Negative Declaration is based on the Environmental Assessment/Initial Study (EA/IS) that analyzes these water transfers. The water would be made available for transfer through a combination of cropland idling and groundwater substitution.

Project Location: The proposed transfers could originate in Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, or Yolo Counties from sellers shown on the map on the next page. The transfer buyers could be in Colusa, Glenn, Tehama, or Yolo Counties.

Findings: An initial study was prepared to assess the proposed transfers' potential effects on the environment and the significance of those impacts. Based on the initial study, the TCCA has determined that the proposed project will not have a significant impact on the environment. This conclusion is supported by the following findings:

- The project will not result in impacts to agriculture and forestry resources, cultural resources, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, recreation, transportation/traffic, and utilities and service systems
- The project will result in less than significant impacts to aesthetics, air quality, biological resources, geology and soils, greenhouse gas emissions, hydrology and water quality, and noise.



Potential Selling Entities

Mitigation Measures: The initial study incorporated the following mitigation measures:

- AQ-1 – Selling agency would reduce pumping at diesel wells to reduce emissions to below the thresholds. If an agency is transferring water through cropland idling and groundwater substitution in the same year, the reduction in vehicle emissions can partially offset groundwater substitution pumping at a rate of 4.25 acre-feet (AF) of water produced by idling to one acre-foot of groundwater pumped. Agencies may also decide to replace old diesel wells to reduce emission below the thresholds.

If a selling agency, through the actions above, can reduce daily emissions below thresholds while operating wells 24 hours per day, then that agency must provide an analysis to Reclamation. This analysis should identify that all wells proposed for participation in a 2015 Water Transfer may be operated on a 24-hour per day basis without exceeding emission thresholds.

Alternately, if a selling agency with potentially significant emissions, as determined by this EA/IS, intends to operate wells less than 24 hours per day to reduce emissions below the thresholds, then that agency will be required to maintain recordkeeping logs that document the specific engine to be used for groundwater substitution transfers, the power rating (hp), and applicable emission factors. Emission calculations for daily emissions will be completed for comparison to the significance thresholds determined for each selling agency. The recordkeeping logs will be sent to Reclamation monthly for verification that emissions are within the allowable limits.

Reclamation will also work with the water agencies to inform individual growers of incentive funding available through the Natural Resources Conservation Service's Environmental Quality Incentives Program. Funded conservation practices include the replacement of internal combustion engines in irrigation pumps; therefore, the program may be used by growers to further reduce criteria pollutant emissions.

- GW-1: Monitoring Program and Mitigation Plan
The objective of Mitigation Measure GW-1 is to avoid significant adverse environmental effects and ensure prompt corrective action in the event unanticipated effects occur. The measure accomplishes this by monitoring groundwater and/or surface water levels during transfers to avoid potential effects. 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 to non-transferring parties; (3) assure that a local mitigation strategy is in place prior to the groundwater transfer; and (4) mitigate significant adverse environmental effects. Reclamation will verify that sellers adopt and implement these mitigation measures to avoid potentially significant adverse effects of transfer-related groundwater extraction. In addition, each entity participating in a groundwater substitution transfer must confirm that the proposed groundwater pumping will be compatible with state and local regulations and Groundwater Management Plans (GMPs). As Groundwater Sustainability Plans (GSPs) are developed by Groundwater Sustainability Agencies, potential sellers must confirm that the proposed pumping is compatible with applicable GSPs.

Well Review Process

Potential sellers will be required to submit well data for Reclamation and, where appropriate, DWR review, as part of the transfer approval process. Required information will be detailed in the most current version of the *DRAFT Technical Information for Preparing Water Transfer Proposals*.

Monitoring Program

Potential sellers will be required to complete and implement a monitoring program subject to Reclamation's approval 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 Reclamation and 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.* Sellers 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. The seller 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.

Sellers thus monitor effects to groundwater levels that may result from the proposed transfer and avoid significant impacts. The primary criteria used to identify potentially significant impacts to groundwater levels are the BMOs set by GMPs. In the Sacramento Valley, several counties have established GMPs to provide guidance in managing the resource.

In areas where quantitative BMOs do not exist, Reclamation, TCCA, and the potential seller(s) 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 Reclamation and the seller 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 GW-1.

Additionally, to avoid significant effects to vegetation and allow sellers to modify actions before significant effects occur, sellers will monitor groundwater depth data to verify that significant adverse effects to deep-rooted vegetation are avoided. If monitoring data indicate that water levels have dropped below root zones (i.e., more than 10 feet where groundwater was 10 to 25 feet below ground surface prior to starting the transfer of surface water made available from groundwater substitution actions), the seller must implement actions set forth in the mitigation plan. If historic data show that groundwater elevations in the area of transfer have typically varied by more than this amount annually during the proposed transfer period, then the transfer may be allowed to proceed. If there is no deep-rooted vegetation (i.e., oak trees and riparian trees that would have tap roots greater than 10 feet deep) within one-half mile of the transfer wells or the vegetation is located along waterways that will continue to have water during the transfer, the transfer may be allowed to proceed. If no existing monitoring points exist in the shallow aquifer, monitoring would be based on visual observations of the health of these areas of deep-rooted vegetation. If significant adverse impacts to deep-rooted vegetation (that is, loss of a substantial percentage of the deep-rooted vegetation as determined by Reclamation based on site-specific circumstances in consultation with a qualified biologist) occur as a result of the transfer despite the monitoring efforts and implementation of the mitigation plan, the seller will prepare a report documenting the result of the restoration activity to plant, maintain, and monitor restoration of vegetation for 5 years to replace the losses.

- *Groundwater Quality.* For municipal sellers, the comprehensive water quality testing requirements of Title 22 should be sufficient for the water transfer monitoring program. Agricultural sellers 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, each seller 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. This 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 Reclamation 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.

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 Reclamation 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 Reclamation, 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 Reclamation 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

Potential sellers must complete and implement a mitigation plan 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 non-reversible subsidence.
- Other actions as appropriate.

As summarized above, the purpose of Mitigation Measure GW-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 the 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

Irreversible 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, each seller 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. Sellers 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, sellers must immediately stop pumping from transfer wells in the area that is affected 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, the seller 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, which would trigger a shift to Stage 3.

Stage 3: Local Investigation

If the threshold of 0.2 foot of ground surface elevation change is exceeded, the seller shall cease groundwater substitution pumping for the transfer until one of the following occurs: (1) groundwater levels recover above historic low groundwater levels; (2) seller completes a more detailed local investigation identifying hydrogeologic conditions that could potentially allow continued transfer-related pumping from a subset of wells (if the seller can provide evidence that this pumping is not expected to cause additional subsidence); or (3) seller completes an investigation of local infrastructure that could be affected by subsidence (such as water delivery infrastructure, water supply facilities, flood protection facilities, highways, etc.) indicating the local threshold of subsidence that could be experienced before these facilities would be adversely affected. Any option should also consider the effect of non-transfer pumping that may be causing subsidence.

Stage 4: Mitigation

If subsidence effects to local infrastructure occur despite monitoring efforts, then the sellers must work with the lead agencies to determine whether the measured subsidence may be caused by transfer-related pumping. Any significant adverse subsidence effects caused by transfer pumping activities must be addressed. A contingency plan must be developed in the event that a need for further corrective action is necessary. This contingency plan must be approved by Reclamation before transfer-related pumping could continue after Stage 3.

Stage 5: Continued Monitoring

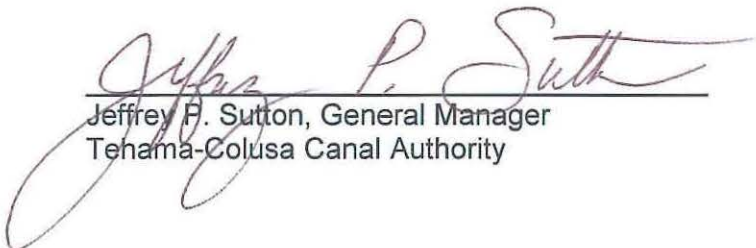
The sellers will continue to monitor for subsidence while groundwater levels remain below historic low levels. If the seller has ceased transfer-related pumping but groundwater levels remain below historic lows, subsidence monitoring will need to continue until the spring following the transfer. The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

MANDATORY FINDINGS OF SIGNIFICANCE

- No substantial evidence exists that the proposed project would have a negative or adverse effect on the environment.
- The project would not substantially degrade the quality of the environment, significantly reduce the habitat for fish and wildlife species, result in fish or wildlife populations below a self-sustaining level, reduce the number or restrict the range of a special-status species, or eliminate important examples of California history or prehistory.
- The project would not have environmental effects that would cause substantial direct or indirect adverse effects on humans.
- The project would not have environmental effects that are individually limited but cumulatively considerable.

In accordance with Section 21082.1 of the California Environmental Quality Act, the TCCA staff has independently reviewed and analyzed the initial study (attached) and proposed mitigated

negative declaration for the proposed project and finds that the initial study and proposed mitigated negative declaration reflect the independent judgment of the TCCA staff.



Jeffrey P. Sutton, General Manager
Tehama-Colusa Canal Authority

Date

4/14/15

INITIAL STUDY FOR 2015 TEHAMA-COLUSA CANAL AUTHORITY WATER TRANSFERS

1. Project title: 2015 Tehama-Colusa Canal Authority Water Transfers
2. Lead agency name and address: Tehama-Colusa Canal Authority
PO Box 1025
Willows, CA 95988
3. Contact person and phone number: Mr. Jeff Sutton, (530) 934-2125
4. Project location: The proposed transfers could originate in Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, or Yolo counties. The transfer buyers could be in Colusa, Glenn, Tehama, or Yolo counties.
5. Project sponsor's name and address: Same as Lead Agency.
6. General plan designation: Not Applicable – Interagency Agricultural Water Transfers
7. Zoning: All lands with potential to participate in the transfers are agricultural.
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)
Refer to Chapter 2 of the Initial Study.
9. Surrounding land uses and setting: Briefly describe the project's surroundings:
Refer to Chapter 2 of the Initial Study.
10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)
The Tehama-Colusa Canal Authority will coordinate with their Member Units and the sellers identified in this Initial Study. Transfer negotiations will occur between the Authority and interested sellers. Reclamation approval is required for transfer of water subject to Reclamation contract and use of Central Valley Project facilities. As a Federal agency, Reclamation does not complete CEQA compliance; however, Reclamation will verify that buyers and sellers have complied with CEQA in accordance with Central Valley Project Improvement Act requirements. Chapter 2 describes the involvement of State agencies, including the California Department of Water Resources and State Water Resources Control Board.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Signature

Date

Notice of Determination

Appendix D

To:

☒ Office of Planning and Research

U.S. Mail:

Street Address:

P.O. Box 3044

1400 Tenth St., Rm 113

Sacramento, CA 95812-3044 Sacramento, CA 95814

☒ County ClerkCounty of: See attached

Address: _____

From:

Public Agency: Tehama-Colusa Canal AuthorityAddress: P.O. Box 1025Willows, CA 95988Contact: Mr. Jeffrey P. SuttonPhone: (530) 934-2125

Lead Agency (if different from above): _____

Address: _____

Contact: _____

Phone: _____

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.State Clearinghouse Number (if submitted to State Clearinghouse): 2015032007Project Title: 2015 Tehama-Colusa Canal Authority Water TransfersProject Applicant: Tehama-Colusa Canal AuthorityProject Location (include county): See attached list of counties

Project Description:

The Tehama-Colusa Canal Authority (TCCA) and its Member Units will experience severe water shortages in 2015 and are soliciting willing sellers to transfer water. A number of entities have expressed interest in transferring water to the Member Units of the TCCA. The water would be made available for transfer through cropland idling, crop shifting, and groundwater substitution.

This is to advise that the Tehama-Colusa Canal Authority has approved the above
(☒ Lead Agency or ☐ Responsible Agency)

described project on April 14, 2015 and has made the following determinations regarding the above
(date)
described project.

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☐ were ☒ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

TCCA, 5513 Highway 162, Willows, CA 95988

Signature (Public Agency):

Title:

Date:

Date Received for filing at OPR:

County Clerks

Colusa County

546 Jay Street, Room 200

Colusa, CA 95932

Glenn County

526 West Sycamore Street

Willows, CA 95988

Sacramento County

600 8th Street

Sacramento, CA 95814

Shasta County

1643 Market Street

Redding, CA 96001

Sutter County

433 Second Street

Yuba City, CA 95991

Tehama County

633 Washington Street, Room 11

Red Bluff, CA 96080

Yolo County

625 Court Street, Room B01

Woodland, CA 95695