

Appendix B: Agreement Between the Department of Water Resources of the State of California and Westlands Water District for Introduction of Local Groundwater into the San Luis Canal (SWPAO #21013)

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

AGREEMENT BETWEEN
THE DEPARTMENT OF WATER RESOURCES OF THE STATE OF CALIFORNIA
AND
WESTLANDS WATER DISTRICT
FOR
INTRODUCTION OF LOCAL GROUNDWATER
INTO THE SAN LUIS CANAL
(SWPAO #21013)

THIS AGREEMENT is made pursuant to the provisions of the California Water Resources Development Bond Act and other applicable laws of the State of California, between the Department of Water Resources of the State of California (Department) and Westlands Water District (Westlands), a water district, duly organized, existing and acting pursuant to the laws of the State of California. The Department and Westlands may be referred to individually as "Party" or collectively as "Parties." This Agreement may be referred to as SWPAO #21013.

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RECITALS

- A. The Department operates and maintains the State Water Resources Development System pursuant to the laws of the State of California, involving the development and conveyance of water supplies to public agencies and water districts throughout the State of California.
- B. The Department operates and maintains, under Federal contract #14-06-200-9755 (hereafter referred to as "Joint Use Agreement") with the United States Department of the Interior Bureau of Reclamation (hereafter referred to as "Reclamation"), a portion of the California Aqueduct, Reaches 4 through 7, part of the San Luis Canal, as a Joint Use Facility for conveyance of State Water Project (SWP) water and Central Valley Project (CVP) water.
- C. California Water Code Section 1810 provides bona fide transferors of water with the right to utilize unused capacity of the SWP water conveyance facilities subject to certain statutory conditions.
- D. Westlands acts as a public agency intermediary for coordinated operation of a Groundwater Pumping and Conveyance Project (GPC Project), whereby participating farmers and landowners operate groundwater wells to produce groundwater for introduction into the San Luis Canal for conveyance and/or temporary storage in Reclamation's share of the San Luis Reservoir. Westlands obligates itself to the provisions herein, along with the Department, for the express purpose of implementing the GPC Project through May 2022 (2022-2023 GPC Project), or when the Governor declares the Drought Emergency has ended, whichever comes first, pursuant to paragraph 1 below.
- E. In 2008, 2014, 2015 and 2016, Westlands entered into agreements with the Department for coordinating pumping and introduction of local groundwater from wells in Westlands' service area near the San Luis Canal and around the Mendota Pool (Westlands' Local Groundwater) into the San Luis Canal under the authority of Warren Act contracts of varying durations with Reclamation, and under the authority of individual annual agreements with the Department. Westlands' Local Groundwater has not been introduced into the San Luis Canal since 2016.
- F. Westlands is currently preparing an Environmental Impact Report for a groundwater pumping and conveyance project through 2025.
- G. On April 21, 2021, May 10, 2021, July 8, 2021, and October 19, 2021, Governor Gavin Newsom issued State of Emergency Proclamations (Governor's Proclamations) in response to severe drought conditions across California and including the Central Valley (Drought Emergency). The Governor's Proclamations require the Department to expeditiously consider requests to move water to areas of need where hydrology and other conditions allow.

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- H. Due to the current emergency drought conditions, Westlands has an urgent and compelling need to facilitate the transfer of its Local Groundwater for use by farmers within its service area.
- I. Westlands has requested that the Department allow introduction of up to 30,000 acre-feet of Westlands' Local Groundwater into the San Luis Canal in 2022, through existing and temporary turn-in structures.
- J. In compliance with the California Environmental Quality Act (CEQA), Westlands, as the lead agency, filed a Notice of Exemption (NOE) for the 2022-2023 GPC Project with the State Clearinghouse (SCH) on February 24, 2022 (SCH # 2022020570). The Department, as the responsible agency, has considered this document prior to entering into this Agreement and will file an NOE with the SCH upon execution of this Agreement.
- K. Reclamation and the Department must authorize the conveyance of Westlands' Local Groundwater through the San Luis Canal. Upon execution of this Agreement, Westlands will enter into a Warren Act Contract #22-WC-20-5956 (Warren Act Contract) with Reclamation to facilitate the 2022-2023 GPC Project. Pursuant to that Warrant Act Contract, Reclamation will provide the conveyance, temporary storage and delivery of Westlands' Local Groundwater to Westlands' turnouts along the San Luis Canal, for use by farmers on agricultural lands only within Westlands' service area.
- L. As the Department noted in the 2017 California Aqueduct Subsidence Study and its 2019 Supplement, areas within the San Joaquin Valley experienced subsidence, primarily due to excessive groundwater extraction. This subsidence has impacted the San Luis Canal resulting in reduced conveyance capacity. Although it is recognized that the pumping activity pursuant to this Agreement is not responsible for subsidence experienced to date, concerns exist with the potential for subsidence. In recognition of these concerns, the Parties agree to the terms contained herein.

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AGREEMENT

The Department agrees to accept up to 30,000 acre-feet of Westlands' Local Groundwater into the San Luis Canal, subject to the following terms and conditions:

TERM

1. This Agreement shall become effective upon the occurrence of both: (i) execution of this Agreement by all Parties, and (ii) execution by Reclamation and Westlands of the Warren Act Contract. This Agreement shall expire on March 31, 2023 or when the Governor declares the Drought Emergency has ended, whichever comes first; except that any portion of Westlands' Local Groundwater that may still be stored by Reclamation under the Warren Act Contract can be delivered under this Agreement, but no further introduction of Westlands' Local Groundwater will be allowed after March 31, 2023 or the end of the Drought Emergency, whichever comes first.
2. The charges, liability, hold harmless, indemnification, and dispute resolution provisions in this Agreement, including but not limited to, Paragraphs 34 and 36 through 42, shall survive expiration or termination.
3. Either Party may terminate the Agreement, as set forth below, for good cause. In addition, the Department may terminate this Agreement if Westlands fails to follow the provisions of the most recent version approved by the Department of the "San Luis Canal Non-Project Water Pump-in Program 2021 Water Quality Monitoring Plan" (Water Quality Monitoring Plan), provided here as Attachment 1. In the event the Department is considering whether to terminate this Agreement, it may terminate only after convening the Facilitation Group identified under Paragraph 13, thereby allowing Westlands an opportunity to i) cure as provided in Paragraph 4 below; and/or ii) pursue the dispute resolution provided in Paragraph 42 below.
4. Before terminating this Agreement, either Party shall provide the other with the specific ground(s) on which it wishes to terminate the Agreement. The Party wishing to terminate this Agreement shall provide the other Party at least 14 days to adjust or correct any problems that may have arisen in the implementation of this Agreement. If defective performance has been corrected, the Party wishing to terminate shall withdraw its termination request.

EMERGENCY CONDITIONS

5. This Agreement is a response to an emergency situation pertaining to the drought status currently existing in the State of California.

APPROVALS

6. The pump-in of Westlands' Local Groundwater under this Agreement shall be contingent upon, and subject to, any necessary approvals, including approval by

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Reclamation and the Department, and shall be governed by the terms and conditions of such approvals and any other applicable legal requirements. Westlands shall be responsible for complying with all applicable laws and legal requirements and for securing any required consent, approvals, permits, or orders. Westlands shall furnish to the Department copies of all approvals and agreements required for the pump-in of Westlands' Local Groundwater under this Agreement prior to initiating the pump-ins.

7. It is understood that Reclamation, Westlands, and the Department cooperated in the development of the Water Quality Monitoring Plan, attached hereto as Attachment 1. Any approval by the Department does not constitute any warranty or guarantee regarding the ultimate success or viability of the Water Quality Monitoring Plan. Nor does such approval exempt Westlands from any liability regarding the Plan, or Westlands' performance thereunder.

PUMPIN OF WESTLANDS' LOCAL GROUNDWATER INTO THE SAN LUIS CANAL

8. The Department will allow the introduction of up to 30,000 acre-feet of Westlands' Local Groundwater into the San Luis Canal, upon execution of this Agreement and the Warren Act Contract, through March 31, 2023 or the end of the Drought Emergency, whichever comes first.
9. Westlands' Local Groundwater shall not be introduced into the San Luis Canal under this Agreement when Westlands' allocation of CVP water supplies from Reclamation is greater than 20 percent.
10. Westlands' Local Groundwater shall not be introduced from any well or through any turn-in structure that has not been approved by the Department.
11. Westlands agrees to provide the Department 10 percent of the total amount of its Local Groundwater pumped into the San Luis Canal under this Agreement as mitigation to compensate the SWP for additional water needed by SWP Contractors to dilute local water supplies with higher concentrations of total dissolved solids (TDS). Westlands will use or store its Local Groundwater pumped into the San Luis Canal under this Agreement by March 31, 2023 or the end of the Drought Emergency, whichever comes first.
 - a. If Westlands demonstrates that the TDS concentration (from weekly sampling) of its Local Groundwater from a specific Program well (wells which are identified as part of the 2022-2023 GPC Project, pursuant to this Agreement) is equal to or less than the weekly average TDS concentration (determined from real-time conversion of EC monitoring) at Check 13, the volume of water introduced from that well for that week shall be excluded from the calculation of mitigation water due to the Department.

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- b. The total volume of mitigation water provided each month will be calculated at the beginning of the following month. This volume will equal 10 percent of the total volume pumped into the San Luis Canal during the prior month minus the volume stipulated in Paragraph 11.a. for the prior month, and minus mitigation water provided during the prior month.
12. The combined inflows of Westlands' Local Groundwater pumped into the San Luis Canal shall not exceed the inflows of all other water pumped through the Dos Amigos Pumping Plant (Dos Amigos) into Pool 14 at any given time. If the scheduled flow for Dos Amigos into Pool 14 is less than the planned pump-in under this Agreement, Westlands shall reduce or cease pumping until the pump-in is no greater than the flows of all other water pumped through Dos Amigos. Westlands shall report the daily percent of flow through the San Luis Canal that is attributed to Westlands' Local Groundwater, based on flow at Dos Amigos and provide this percentage on a daily basis to the Facilitation Group and the Department.
13. The Facilitation Group, comprised of Westlands, the Department and participating SWP Contractors who review and evaluate requests to introduce water into the California Aqueduct, will be convened by the Department if any standards set forth in the attached Water Quality Monitoring Plan, (as they may be periodically updated), are exceeded.

WATER QUALITY

14. Westlands shall adhere to the water quality monitoring and standards provided in the most recent version approved by the Department of the Water Quality Monitoring Plan. The September 2021 version of the Water Quality Monitoring Plan is provided here as Attachment 1.
15. For samples required by the Water Quality Monitoring Plan to be collected prior to a well pumping into the San Luis Canal (i.e., Table 5 and Table 6 of the Water Quality Monitoring Plan), results shall be provided to the Department and others at the Department's request, for approval prior to that well or turn-in pumping water into the San Luis Canal.
16. For other samples (e.g., on-going sampling for Table 5 of the Water Quality Monitoring Plan, Lateral 7 sampling, etc.), results shall be submitted to the lab with a one-week turn-around time, but no greater than 14-day turn-around time, and data shall be provided to the Department and others at the Department's request once received from the lab. If results have not been released by the laboratory within that time, Westlands will notify the Department and others at the Department's request that the samples were collected but analysis has not finished. This notice should include an anticipated completion date for analysis and will include an electrical conductivity measurement for each affected well while the laboratory is completing analysis. If a sample is not collected in the scheduled timeframe, that input source

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will cease operation until a sample has been collected and results are provided to the Department and others at the Department's request

17. The Department, in consultation with Reclamation and the Facilitation Group, may identify additional Constituents of Concern and update the Water Quality Monitoring Plan monitoring requirements, in which case Attachment 1 to this Agreement shall be updated accordingly.
18. Westlands shall identify anticipated water quality changes within the San Luis Canal by using a daily model and provide results to the Department, Reclamation, and the Facilitation Group on a daily basis. Westlands shall download the most current water quality data from the Department's website at Check 13 and Check 21, and shall update the model daily to reflect changes in the upstream water quality of the San Luis Canal, changes in demands, and pump-ins under this Agreement.
19. If the limits or thresholds in Table 4 of the Water Quality Monitoring Plan are exceeded, Westlands shall immediately notify the Department and cease or restrict operations from those wells with the highest concentrations until the wells can operate without exceeding the limits or thresholds in Table 4. Westlands shall run model simulations to quantify anticipated improvements in the San Luis Canal water quality resulting from these shutdowns until the blended concentration is below the corresponding limit or threshold; this modeling shall be done in consultation with the Department. When modeled concentrations are below the limits or thresholds of Table 4, wells will be brought on-line to recommence pumping only after approval of the startup by the Department, which approval shall be provided within 48 hours.
20. Westlands shall direct all water quality test results, model results, or questions regarding water quality issues related to this Agreement to:
 - a. Daniel Wisheropp
Senior Environmental Scientist (Specialist)
Water Quality and Special Projects Section
Division of Operations & Maintenance
CA Department of Water Resources
(916) 902-6892 office
E-Mail: Daniel.Wisheropp@water.ca.gov
 - b. Water Quality and Special Project Section Staff
OMHQ_WaterQuality@water.ca.gov
21. Below, Westlands provides the name, title, and phone number of Westlands' contact persons who are available 24 hours a day for emergency purposes and also an after-hours answering service. Westlands shall respond within eight hours of receiving a call from the Department. The contacts' information are:

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- a. Russ Freeman, Deputy General Manager – Resources
(559) 241-6241 (mobile)
- b. Kiti Campbell, Supervisor of Resources
(559) 241-6226 (mobile)
- c. Westlands' after-hours answering service
(559) 224-1523

WATER OPERATIONS

22. Westlands shall request and must receive approval from the Department and Reclamation prior to the introduction of any of Westlands' Local Groundwater into the San Luis Canal under this Agreement.
23. Westlands shall provide Reclamation and the Department with daily and weekly schedules which shall identify the flow rates, locations of pump-in by San Luis Canal Mile Post, and delivery of Westlands' Local Groundwater by Reach.
24. Prior to curtailment of pumping, re-initiation of pumping, or any substantial change in pumping using Dos Amigos, the Department will provide email notification to Westlands contacts three days in advance of such action.

WATER DELIVERY SCHEDULES

25. Westlands' Local Groundwater shall be introduced into the San Luis Canal in accordance with a schedule which has been reviewed and approved by Reclamation and the Department. The Department and Reclamation will coordinate schedule review and approval.
26. Westlands shall submit monthly water delivery schedules, and revised water delivery schedules, if any, to the Department's Project Water Management Office, Water Deliveries Section, indicating timing and point of delivery requested under this Agreement with reference to SWPAO #21013. Monthly schedules shall be sent by electronic mail to SWPDeliveries@water.ca.gov.
27. Westlands shall submit weekly schedules for the pump-in of Westlands' Local Groundwater under this Agreement to the Department's San Luis Field Division, Water Operations Section, indicating timing and point of delivery requested with reference to SWPAO #21013. Schedules shall be sent by electronic mail to slwtrops@water.ca.gov.
28. Westlands shall submit all weekly water schedules described above by 10:00 a.m. Wednesday, for the following week, Monday through Sunday, to San Luis Field Division's Water Operations Section.

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29. Westlands shall also concurrently send weekly water schedules by electronic mail to the State Water Project Operations Control Office:
- a. Water Management Branch
Water_deliv_sched@water.ca.gov
Attention: Manager, Water Management Branch
 - b. Power Management and Optimization Branch
POCOptimization@water.ca.gov
Attention: Manager, Power Management and Optimization Branch
 - c. Pre-Scheduling Section
Presched@water.ca.gov
Attention: Manager, Pre-Scheduling Section

WATER DELIVERY RECORDS

30. The Department will maintain monthly records for the pump-in of Westlands' Local Groundwater under this Agreement. Westlands shall certify to the Department's Project Water Management Office the total amount of Westlands' Local Groundwater pumped into the San Luis Canal under this Agreement within 30 days of when water is actually pumped in. Such records shall be sent via electronic mail to the following Department Project Water Management Office branches:
- a. Water Delivery Analysis and Turnouts Branch
Email: SWPDeliveries@water.ca.gov
 - b. Water Contracts Branch
Email: SWPAOSWPContracts@water.ca.gov
31. Westlands shall also submit water accounting related to this Agreement to the following staff at the Department's San Luis Field Division:
- a. Mr. Rob Dunlop
Supervising HEP Utility Engineer
Department of Water Resources
San Luis Field Division
31770 Gonzaga Road
Gustine, California 95322
Office Phone: (209) 827-5106
Fax: (209) 827- 0846
E-Mail: Rob.Dunlop@water.ca.gov

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SUBSIDENCE

32. The Parties acknowledge that a goal of this 2022-2023 GPC Project is to avoid or minimize groundwater overdraft, and in turn, avoid the 2022-2023 GPC Project from causing subsidence. In an effort to meet this goal, Westlands agrees to refrain from pumping groundwater from Program wells located within 2 miles of either side of the San Luis Canal (alternatively referred to as the “4-mile envelope”). Nonetheless, nothing contained in this Agreement shall be deemed a waiver of any Parties rights, duties, obligations, remedies or defenses, if any, related to past, present or future harm from subsidence, if any, encountered as a result of pump-in activities.
33. Monitoring and Reporting
- a. Given that no Program wells will be operational within the 4-mile envelope, Westlands shall perform groundwater level monitoring and reporting on well extractions involving both Program wells, as well as Non-Program wells within the Westlands Sustainable Groundwater Management Act (SGMA) monitoring network, as follows:
 - i. For all extracting Program wells, reporting is required no less frequently than monthly.
 - ii. For all SGMA monitoring wells within the 4-mile envelope, reporting is required no less frequently than quarterly a year.
 - iii. For all SGMA monitoring wells within 5 miles of either side of the San Luis Canal (also referred to as the 10-mile envelope), reporting is required no less frequently than twice a year.
 - b. Reporting shall include, but not be limited to:
 - i. initial groundwater elevations prior to pumping
 - ii. groundwater elevations during the course of pumping
 - iii. groundwater elevations at the cessation of pumping
 - iv. groundwater elevations for the next year at the applicable intervals, after expiration of this Agreement
 - v. volume of water pumped, individually by Program well, to establish the pumping-response relationship;
 - vi. Westlands’ Annual Groundwater Conditions Update Memorandum shall be submitted to the Department.

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- c. In the event the Department determines that the monitoring data gathered is insufficient to assess whether pumping has caused a subsidence impact, the Department reserves the right to request more frequent monitoring and reporting of data for an additional 6 months following the expiration of this Agreement. If such a request is made, Westlands will grant the request, or meet and confer on a reasonable alternative, in the event that Westlands finds that the additional monitoring and reporting would not be unduly burdensome.
- d. Westlands serving as the Groundwater Sustainability Agency is committed to implementing the Program consistent with the Westside Subbasin Groundwater Sustainability Plan.
- e. All data collected during the monitoring shall be recorded and tabulated, by qualified Westlands staff, to generate groundwater elevation to pumping-response relationships, using publicly available data systems for verification purposes. All groundwater level results and pumping-response relationships shall be reported annually to the Department.
- f. All groundwater level monitoring, measurement and reporting data and records shall be sent via electronic mail to the following Department Office:
 - i. San Luis Field Division
San Luis Field Division Manager Rob Dunlop
Email: Rob.Dunlop@water.ca.gov

CHARGES

- 34. Westlands shall be responsible to pay to the Department any identified demonstrable increases in costs that would otherwise be borne by the Department or the SWP Contractors as a result of services being provided under this Agreement. Said payments include, but are not limited to:
 - a. Fees
 - i. Westlands shall pay to the Department an agreement preparation fee of \$20,000.
 - ii. Westlands shall pay to the Department a monthly administration fee of \$2,000 to cover the Department's cost to administer this Agreement, maintain records, and prepare pump-in schedules and invoices. This fee will be charged each month until the introduction of Westlands' Local Groundwater is completed or the Agreement expires or is terminated.
 - b. Costs

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- i. Westlands agrees to pay to the Department costs incurred by the Department and the SWP Contractors, which otherwise would not have been incurred in absence of this Agreement, provided that the conditions which give rise to those costs occur within 30 days of the expiration of this Agreement, and provided said costs are supported by appropriate documentation. These costs may include but are not limited to testing of water quality for those constituents listed in the Water Quality Monitoring Plan, meter calibration, water measurements at those locations where Westlands' Local Groundwater is introduced to the San Luis Canal, costs associated with remediating water quality degradation (e.g., treatment, dilution/blending, purging, system shut-downs), and staff time/costs associated with such remediation activities and/or travel.

35. Billings and Payments

- a. Upon execution of this Agreement, the Department shall bill Westlands the Agreement Preparation Fee under Paragraph 34(a)(i),
- b. On a monthly basis, the Department shall bill Westlands for the monthly administrative fee as applicable under Paragraph 34(a)(ii), and the costs to provide services under Paragraph 34(b)(i).
- c. All payments shall be due within 30 days after the date of the Department's invoice.
- i. Interest shall be charged for all delinquent payments. Westlands shall pay to the Department accrued interest on all overdue payments at the rate of one (1) percent per month from the due date to the date of payment.
- d. All invoices billed under this Agreement should be mailed to:

Board of Directors, Westlands Water District
3130 N. Fresno Street
P.O. Box 6056, Fresno, CA 93703-6056
Phone: 559-224-1523

NO IMPACT

36. Except as stated herein, this Agreement shall not be administered or interpreted in any way that would cause adverse impacts to SWP approved Table A water or to any other SWP approved water deliveries, or to the operations or facilities of the SWP, SWP Contractors, and the San Luis Canal. Westlands shall be responsible, for any adverse impacts that results from actions taken by Westlands pursuant to this Agreement. Any dispute by Westlands shall be addressed pursuant to the

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dispute resolution process under Paragraph 42 herein. Westlands agrees that, after consultation with Reclamation, the Department may, upon notice by phone or electronic email, direct the cessation of pumping of Westlands' Local Groundwater into the San Luis Canal, if, in the sole judgment of the Department, the continuance of such pump-in will result in adverse impacts to SWP water deliveries, or San Luis Canal operations or facilities, or its long-term water supply contractors.

LIABILITY

37. The Department is not responsible for the use, effects, or disposal of Westlands' Local Groundwater from source wells prior to introduction into the San Luis Canal, as well as the delivery of such water by Reclamation to Westlands' turnout(s) after it is pumped into the San Luis Canal.
38. In the event of any claim of liability against the Department, its Director, officers, employees, or agents (collectively "Department") arises in connection with this Agreement or activities carried out under this Agreement, Westlands agrees to defend and hold the Department harmless from any direct or indirect loss, liability, lawsuit, cause of action, judgment and/or claim, and shall indemnify the Department from all lawsuits, costs, damages, judgments, attorneys' fees, and liabilities that the Department incurs as a result of: (i) any roles and obligations of Westlands under this Agreement; (ii) the Department approving this Agreement or providing services under this Agreement, except to the extent resulting from the sole negligence or willful misconduct of the Department.
39. If uncontrollable forces preclude the Department from calibrating and reading meters of turn-in facilities or providing other services related to the operation and maintenance of the San Luis Canal under the Joint Use Agreement, either partially or completely, then the Department is relieved from the obligation to perform those services. Uncontrollable forces shall include, but are not limited to, earthquakes, fires, tornadoes, floods, and other natural or human caused disasters. Westlands shall not be entitled to recover any administrative costs or other costs incurred under this Agreement if uncontrollable forces preclude the Department from performing.
40. The performance of the Parties to this Agreement is contingent upon approval of all governmental agencies with jurisdiction over approval of this Agreement, including without limitation any necessary compliance with applicable environmental laws. If unforeseen conditions prohibit either the completion of deliveries or partial deliveries, this Agreement will be treated as though rescinded except for responsibilities for liabilities and water already delivered. Unforeseen conditions include, but are not limited to, failure of approvals or withdrawal of approval by any governmental agency with jurisdiction over this Agreement or administrative order with respect thereto.

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41. Westlands shall not be entitled to recover any costs, including, but not limited to any charges billed under Paragraph 34 of this Agreement, if this Agreement is rescinded under Paragraph 40, or terminated for good cause under Paragraph 3.

DISPUTE RESOLUTION

42. In the event of dispute regarding interpretation or implementation of this Agreement, the Director of the Department and General Manager of Westlands, or their respective designees, shall endeavor to resolve the dispute by meeting within 30 days after the request of a Party. If the dispute is unresolved, the Parties shall use the services of a mutually acceptable consultant/mediator in an effort to resolve the dispute. Parties involved in the dispute shall share the fees and expenses of the consultant/mediator equally. If a consultant/mediator cannot be agreed upon, or if the consultant/mediator's recommendations are not acceptable to the Parties, and unless the Parties otherwise agree, the matter may be resolved by litigation and any Party may at its option pursue any available legal remedy, including, but not limited to, injunctive and other equitable relief.

ENTIRE INTEGRATED AGREEMENT

43. This Agreement memorializes any earlier oral agreements and incorporates and supersedes any prior written or oral agreements between the Parties. It constitutes the complete and intended agreement of the Parties. It is fully integrated, and there are no provisions of any nature whatsoever relating to the subject matter of this agreement which are not contained herein. No representations or statements of any kind, other than as contained herein, have been made by the Parties hereto or any of their agents or representatives. Each Party or beneficiary of this Agreement specifically states that in entering this Agreement, the Party's reliance is placed solely upon the objective meaning to be derived from the Agreement itself, and not upon any supposed intention of any other person or Party.

NO ASSIGNMENT OF AGREEMENT

44. Without the prior written consent of the Department, this Agreement shall not be assignable by Westlands in whole or in part.

PARAGRAPH HEADINGS

45. The paragraph headings of this Agreement are for the convenience of the Parties and shall not be considered to limit, expand, or define the contents of the respective paragraphs.

OPINIONS AND DETERMINATION

46. Where the terms of this Agreement provide for actions to be based upon the opinion, judgment, approval, review, or determination of any Party, such terms are

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to be construed as providing that such opinion, judgment, approval, review, or determination be reasonable.

CONFLICTS WITH RELATED AGREEMENTS

47. If a conflict arises between any term in this Agreement and any term in any related agreement(s), the Department and Westlands, in coordination with Reclamation, will meet and confer in good faith to resolve any inconsistencies. If an impasse occurs, the Parties shall use the dispute resolution process in Paragraph 42, above.

NO MODIFICATION OF AGREEMENT

48. No modification of the terms and conditions of this Agreement shall be valid unless made in writing and signed by the Parties to this Agreement.

SEVERABILITY

49. If any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, in whole or in part, such determination shall not affect the validity of any other provision of this Agreement and the Parties shall negotiate in good faith to modify this Agreement so as to affect the original intent of the Parties as closely as possible.

CHOICE OF LAW

50. This Agreement shall be interpreted under the substantive laws of the State of California.

NO WAIVER

51. Nothing in this Agreement shall be construed to waive any rights, claims, or privileges that any Party shall have against the other Party or any other person or entity.

SIGNATURE CLAUSE

52. The signatories represent that they have been appropriately authorized to enter into this Agreement on behalf of the Party for whom they sign. A copy of any resolution or other documentation authorizing Westlands to enter into this Agreement, if such resolution or authorization is required, shall be provided to the Department before the execution of this Agreement.

EXECUTION

53. The Parties agree that this Agreement will be executed using DocuSign by electronic signature, which shall be considered an original signature for all purposes

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and shall have the same force and effect as an original signature. This Agreement shall take effect as soon as all Parties have signed.

54. All Parties will receive an executed copy of the Agreement via DocuSign after all Parties have signed.

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IN WITNESS WHEREOF, the Parties hereto have entered into this Agreement

Approved as to Legal Form and
Sufficiency

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

Tom Gibson DP
General Counsel
Department of Water Resources

Ted Craddock
Ted Craddock
Deputy Director

4/18/2022
Date

4/18/2022
Date

WESTLANDS WATER DISTRICT

Thomas W. Birmingham
Name

General Manager
Title

4/18/2022
Date

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ATTACHMENT 1

Reclamation
San Luis Canal
Non-Project Water Pump-in Program
2021 Water Quality Monitoring Plan

Certificate Of Completion

Envelope Id: ADF6B44748DE44CFA9EAF082D59E1EF5

Status: Completed

Subject: Please DocuSign: 21013.Final.pdf

FormID:

Source Envelope:

Document Pages: 18

Signatures: 3

Envelope Originator:

Certificate Pages: 7

Initials: 1

DWR WOEM Support Staff

AutoNav: Enabled

1416 9th Street

Envelopeld Stamping: Enabled

Sacramento, CA 95814

Time Zone: (UTC-08:00) Pacific Time (US & Canada)

woemadmin@water.ca.gov

IP Address: 136.200.53.20

Record Tracking

Status: Original

Holder: DWR WOEM Support Staff

Location: DocuSign

4/18/2022 8:59:51 AM

woemadmin@water.ca.gov

Security Appliance Status: Connected

Pool: StateLocal

Storage Appliance Status: Connected

Pool: Department of Water Resources

Location: DocuSign

Signer Events**Signature****Timestamp**

Thomas W. Birmingham

Thomas W. Birmingham

Sent: 4/18/2022 9:19:18 AM

tbirmingham@wwd.ca.gov

Viewed: 4/18/2022 9:33:52 AM

General Manager

Signed: 4/18/2022 9:34:20 AM

Westlands Water District

Signature Adoption: Pre-selected Style

Security Level: Email, Account Authentication
(None)

Signed by link sent to tbirmingham@wwd.ca.gov

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Browsers (for SENDERS):	Internet Explorer 6.0? or above
Browsers (for SIGNERS):	Internet Explorer 6.0?, Mozilla FireFox 1.0, NetScape 7.2 (or above)
Email:	Access to a valid email account

Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	<ul style="list-style-type: none"> • Allow per session cookies • Users accessing the internet behind a Proxy Server must enable HTTP 1.1 settings via proxy connection

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RECLAMATION

Managing Water in the West

San Luis Canal Non-Project Water Pump-in Program Water Quality Monitoring Plan



U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
South-Central California Area Office

Revised: August 2021

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Abbreviations and Acronyms

Check 13	San Luis Canal Milepost 66.74, O'Neill Forebay
Check 21	San Luis Canal Milepost 172.44, near Kettleman City
CVP	Central Valley Project
DWR	California Department of Water Resources
EC	Electrical conductivity, $\mu\text{S}/\text{cm}$
Lateral 7	Westlands Water District facility connected to the San Luis Canal at Milepost 115.43L
mg/L	milligrams per liter, equivalent to parts per million
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
San Luis Canal	The federal portion of the California Aqueduct
TDS	Total dissolved solids, mg/L
Title 22	California Drinking Water Standards
$\mu\text{g}/\text{L}$	micrograms per liter, equivalent to parts per billion
$\mu\text{S}/\text{cm}$	microSiemens per cm, salinity in water
Westlands/District	Westlands Water District

Definitions

Non-Project Water means surface or ground water:

- 1) Pumped, diverted, and/or stored based upon the exercise of water rights which have not been appropriated or acquired by, or apportioned to, the United States or others, or which have not been decreed, permitted, certificated, licensed, or otherwise granted to the United States or others, for a Reclamation project, or
- 2) Water not reserved or withdrawn from appropriation by the United States for, nor allocated by the United States to, a Reclamation project.

Excess Capacity means diversion, storage, conveyance, or pumping capacity in project facilities which is excess to that needed to achieve a Reclamation project's authorized purposes.

Max Depth to Groundwater (Max DTGW) represents the maximum depth to groundwater measurement collected from an individual well.

Fall/Winter Median Groundwater Level represents the average historical recovery level for each well. Determined by using groundwater level data recorded in the Fall/Winter after the well has had time to recover from irrigation season. The timeframe for median groundwater levels may vary depending on individual farm usage. Reclamation reserves the right to re-evaluate these data, if needed, as new data becomes available.

Introduction

This document has been prepared by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), in cooperation with the California Department of Water Resources (DWR) and the State Water Contractors.

Under the Warren Act of 1911, Reclamation may execute temporary contracts to convey non-project water in excess capacity in federal irrigation canals.

Reclamation proposes to enter into a 5-year Warren Act contract with Westlands. Under the terms of the contract, Westlands would introduce up to 30,000 acre-feet per year of non-Central Valley Project (CVP) water into the San Luis Canal (SLC) in years in which Westlands' CVP allocation is 20 percent or less. The period of introduction would be between April 1 and August 31 of a given year. However, as it was not possible to begin conveyance by April 1, 2020, the conveyance period for this year would be shifted by six months, to between October 5 and December 31. All subsequent years would use the April 1 to August 31 window.

The source of the non-CVP water would be pumped from groundwater wells within Westlands' district boundaries as well as other sources of non-CVP water by way of the Mendota Pool Inlet Canal. The amount of water from each source would vary, but the

total quantity introduced under the Proposed Action would not exceed a combined volume of 30,000 acre-feet in a given year.

This document describes the plan for measuring the changes in the quality of water in the SLC caused by the conveyance of this non-project water, in addition to changes in groundwater elevation to estimate subsidence.

San Luis Canal Non-Project Water Monitoring Program fundamental assumptions:

- 1) All sources of non-project water discharged into the SLC must comply with California Drinking Water standards (Title 22)¹. No in-canal dilution is allowed.
- 2) Each source of non-project water must be tested regularly to confirm that it is consistent, predictable, and acceptable in quality.
- 3) Staff from DWR will use real-time monitoring of salinity and turbidity in water in the SLC to identify any problems caused by the addition of the non-project water.

There are two main sources of non-project water:

- 1) Groundwater pumped from wells adjacent to the SLC (Canal Integration Program);
- 2) Groundwater from wells that pump into the Lateral 7 inlet canal.

Monitoring Mission and Goals

The mission of this monitoring program is to produce physical measurements that will determine the changes in the quality of water in SLC caused by the conveyance of non-project water. Data will be used to administer the terms of Warren Act Contracts and other exchange agreements, and to ensure that the quality of CVP water is suitable for downstream water users. The monitoring program will also measure changes to groundwater resources to prevent subsidence problems to local facilities.

The general goals of this monitoring plan are:

- 1) Evaluate the quality of water in each source of non-project water;

¹ California Code of Regulations, Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010 4037), and Administrative Code (Sections 64401 et seq.), as amended.
http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/dwregulations-2017-04-10.pdf

- 2) Confirm that non-project water entering the SLC is suitable for all downstream users;
- 3) Provide reliable data for administration of the contracts and agreements; and
- 4) Provide measurements of depth to groundwater to prevent subsidence.

Study Area

The Study Area (**Figure 1**) encompasses the SLC from the O'Neill Forebay (Check 13) to Kettleman City (Check 21), which is the federal portion of the California Aqueduct. **Figure 2** depicts the wells in Westlands along the SLC.

The study area also includes Westlands Lateral 7. For this program, Lateral 7 will be treated as one point of discharge. Water quality in Lateral 7 will be measured at the Adams Avenue pumping plant.

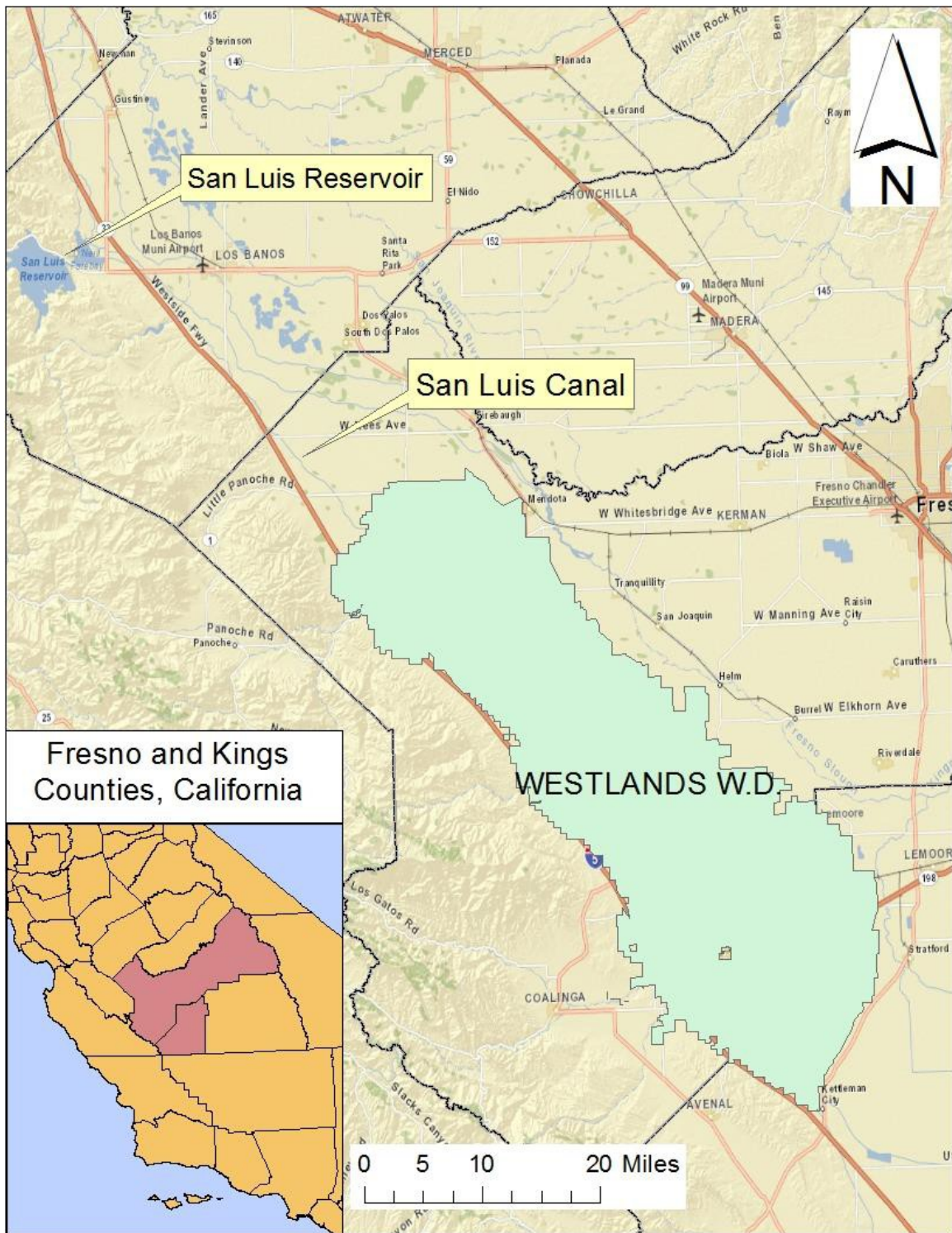


Figure 1. Project vicinity map

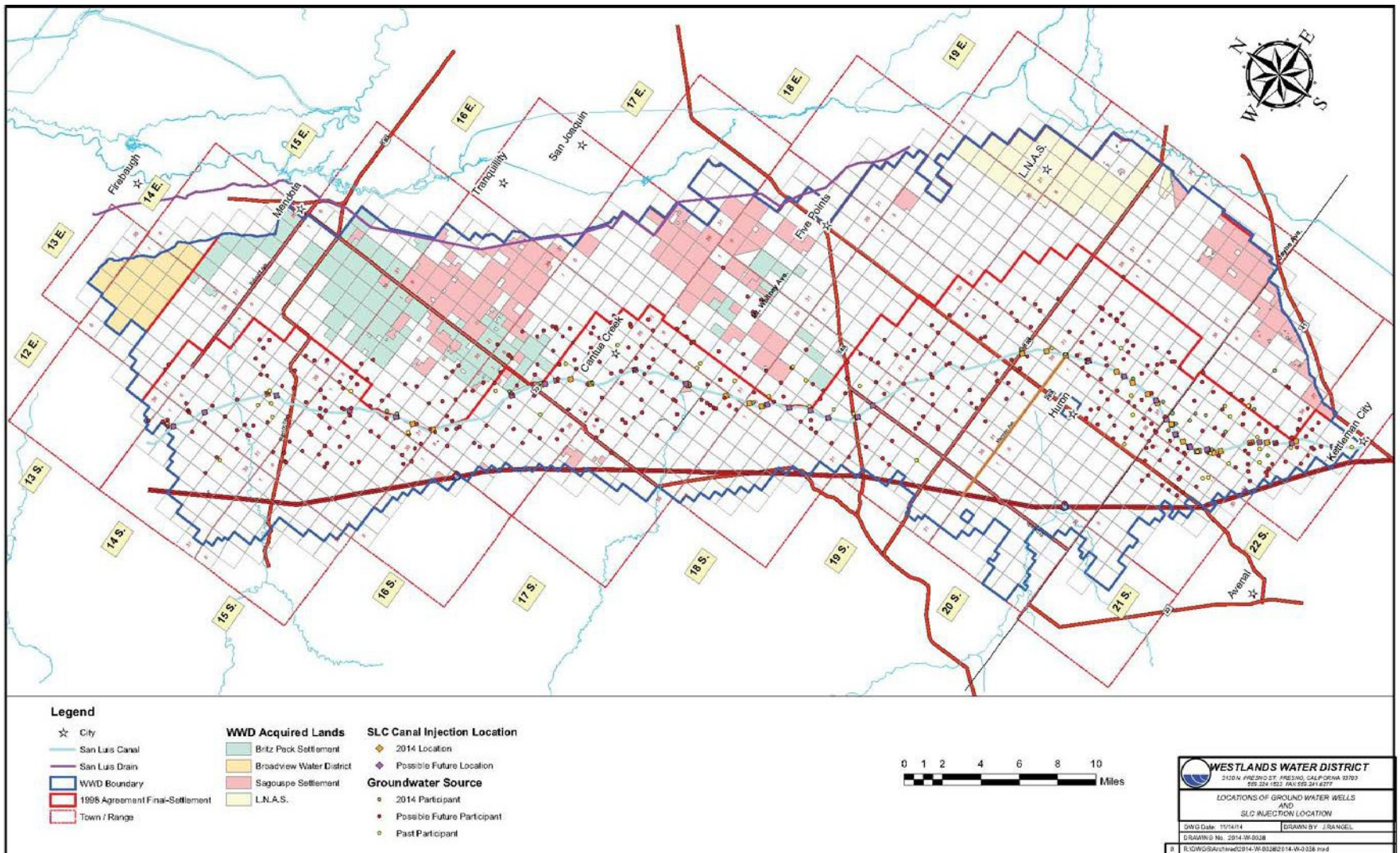


Figure 2. Location of Groundwater Wells within Westlands

Water Quality Monitoring Plan

All non-project water must meet the standards listed in **Tables 5 and 6** prior to entering the SLC. No dilution in the SLC will be allowed. Manifolded wells may discharge if the blend meets the standards listed in **Tables 5 and 6**.

All water quality analyses must be conducted by a laboratory listed in **Table 7**. All water samples must be sampled and preserved according to established protocols in correct containers. The costs of sampling and analysis of all non-project water will be borne by the well operators.

Sampling

Baseline Sampling of Individual Wells

Table 5 is a short list of constituents of concern to be measured in each well each year before pumping into the SLC to screen out non-compliant wells². There will be a one-time screening for the presence of Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) and if detected, Reclamation and DWR will work with Westlands on conducting additional sampling. Reference **Table 5** for new PFOA and PFOS sampling. Wells that do not meet this short list may not participate in the program.

Each well must be tested every three years for all constituents listed in **Table 6** before pumping in the SLC. Each report must clearly identify the location of each source of non-project water.

Reclamation, in coordination with DWR and the State Water Contractors, may allow minor exceedances of certain secondary Title 22 constituents if all primary standards are met.

All new wells proposed to participate in the program must be approved by Reclamation prior to discharging any groundwater into the SLC or Lateral 7.

Routine Sampling of Individual Wells

Each well must be tested weekly during the first four weeks of pumping for the short list of constituents (**Table 5**), then monthly while actively pumping into the SLC to confirm that the water quality is consistent, predictable, and reliable.

The short list may be modified, in consultation with DWR, to add constituents of concern or drop non-detected constituents.

² Reclamation will provide instructions for sampling groundwater.

Reclamation will allow the introduction of water from two or more wells through one discharge point if the blended water meets the Title 22 standards. Special monitoring may be required for these situations.

The following information must be submitted to Reclamation prior to pumping groundwater into the SLC:

- the location of each well, pumping rate, and point of discharge into the SLC;
- complete Title 22 water quality analyses for each well
- the depth to groundwater in each well before pumping into the SLC commences

When the Project is operating, Westlands will provide DWR and Reclamation with weekly schedules which identify the flow from the active wells.

Westlands will provide weekly updates identifying the current and anticipated water quality changes within the SLC by using the daily model. The goal is to provide Reclamation and the State Water Project Facilitation Group with a day-to-day prediction of downstream water quality using real-time pump-ins, real-time upstream background flows, and current background water quality data.

Lateral 7 Sampling

Non-project water will only enter Lateral 7 when water is being pumped into the SLC, not when flow is entering the Mendota Pool.

In addition to non-project well sampling, Westlands must collect samples from Lateral 7 at the Adams Avenue pump station. Lateral 7 water must be tested for the full suite of Title 22 (**Table 6**) every year. **Table 5** constituents will be sampled weekly for the first four weeks, then monthly for the duration of pumping at the locations listed in **Table 3**. There will be a one-time screening for the presence of Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) from Lateral 7 at Adams Avenue pump station and if detected, Reclamation and DWR will work with Westlands on conducting additional sampling. Reference **Table 5** for new PFOA and PFOS sampling.

Westlands must take weekly field measures for EC and turbidity at locations listed in **Table 3**.

Depth to Groundwater

Well owners will measure the initial depth to groundwater in each well before pumping into the SLC, and monthly from October through December and every other month outside of that range while the Pump-in Program is in effect. Measurements must be made using industry approved methods.

An individual well will be shutoff when its Depth to Groundwater reaches 75% of the difference between the Fall/Winter Median Groundwater Level and the Max DTGW using the following equation:

$$\text{Shutoff Trigger} = 0.75 * (\text{Max DTGW} - \text{Fall/Winter Median}) + \text{Fall/Winter Median}$$

If an individual well is shutoff due to groundwater levels reaching the shutoff trigger, it will not be allowed to resume pumping until it reaches 70% of the difference between the Fall/Winter Median Groundwater Level and the Max DTGW using the following equation:

$$\text{Well Resumption} = 0.70 * (\text{Max DTGW} - \text{Fall/Winter Median}) + \text{Fall/Winter Median}$$

Groundwater level measurements will follow a strict schedule. If a well is shutoff it will not be measured again until the next scheduled measurement date. The participants must notify Reclamation in writing when a well is shutoff or resuming. See Definitions section for explanation for Max DTGW and Fall/Winter Median.

Monitoring and Reporting

San Luis Canal Monitoring

Mean daily salinity and turbidity will be measured with the DWR sensors that report real-time data to CDEC (**Table 1**). Westlands will download daily average data for SLC Checks 13 and 21 to measure changes in the canal between these checks that may be attributable to the addition of the non-project water.

Westlands will use a mass balance model to estimate the contribution of salinity to the SLC from the actively pumping wells and Lateral 7 and compare this with the real-time data.

If the addition of the non-project water is increasing the salinity of water in the SLC more than 100 uS/cm between Check 13 and Check 21 (**Table 4**), Reclamation will work with Westlands and the well operators to turn off high salinity wells.

The addition of non-project water must not raise the salinity in the SLC at Check 21 above 700 uS/cm, equivalent to 450 mg/L Total Dissolved Solids (**Table 4**).

The addition of non-project water must not raise the sodium in the SLC at Check 21 above 80 mg/L (**Table 4**). If the sodium concentration does exceed 80 mg/L, Westlands will shut off wells with the highest concentration of sodium until the concentration at Check 21 is less than 80 mg/L, based on Westlands' blending model.

If the salinity of water passing Check 13 is greater than 700 uS/cm, Reclamation and Westlands will coordinate with DWR to modify or restrict non-project pumping.

If the addition of the non-project water from Lateral 7 is increasing the turbidity of water in the SLC more than 10 NTU (**Table 4**), Reclamation will work with Westlands to reduce discharge from the lateral. Changes in turbidity are measured by collecting samples upstream of and downstream of Lateral 7 (**Table 3**).

Westlands will run model simulations, as needed, to quantify anticipated improvements in conductivity with the termination of pumping from specific wells. The participating wells with the highest salinity will be targeted first, continuing to the wells with the lowest concentrations until canal water quality stabilizes or improves. As salinity at Check 21 improves, wells will be brought on-line to commence pumping.

DWR collects monthly grab samples at Checks 13 (KA007089) and 21 (KA017226) to measure trace metals and other minerals in the canal water. The data will be posted here:

San Luis Canal Check 13:

http://wdl.water.ca.gov/waterdatalibrary/waterquality/station_county/select_station.cfm?URLStation=KA007089&source=map

San Luis Canal Check 21:

http://wdl.water.ca.gov/waterdatalibrary/waterquality/station_county/select_station.cfm?URLStation=KA017226&source=map

DWR and Westlands will review these results to identify water quality changes in the SLC and will determine if they are caused by the addition of the non-project water.

Data Compilation and Review

All flow and water quality data collected by Westlands will be presented each month to Reclamation and DWR via e-mail. Reclamation will review the data to identify changes in the quality of water in the SLC and in individual wells, and potential changes in the local aquifer that could lead to overdraft or subsidence. Reclamation, in consultation with DWR, will direct Westlands on the continuation of pumping of groundwater into the SLC.

Access

Participating well owners must allow Reclamation and DWR staff permission to access the wells, if requested.

DWR Monitoring of Wells

DWR may collect samples for water quality testing for any constituents of concern from any Westlands source well or at any point of water entry into the Aqueduct for testing. DWR will use Bryte Chemical Laboratory or TestAmerica Labs for all DWR well sample analyses and the data will be available to Westlands for review. If any well tested by DWR is found to exceed the identified MCL's, Reclamation will direct Westlands to stop pumping immediately. The discharge must not resume unless it is demonstrated that

adjustments have been made to the well or cluster of wells that allows it to discharge water that meets the required objectives. Westlands will coordinate with well operators to provide access for DWR personnel to conduct any of the following activities on private property within Westlands' service area during the term of this Proposal:

- Verification of metering calibration standards and requirements for flow meters located at the point of entry into the Aqueduct and at the point of delivery out of the Aqueduct,
- Collection of water samples from source wells and at the point of pump-in to the Aqueduct for testing of water quality,
- Any other activities deemed necessary by DWR to comply with the terms of this Proposal.

Revision

Reclamation reserves the right to modify this monitoring program at any time.

Revised: 26 August 2021

Table 1. Real-Time Monitoring Stations

Location	Operating Agency	Parameters	Frequency	Remarks
San Luis Canal Check 13 O'Neill Forebay	DWR	Electrical conductivity, turbidity	Real-time	CDEC Site: C13
San Luis Canal Check 21 Kettleman City				CDEC Site: C21

Key: CDEC: California Data Exchange Center
DWR: California Department of Water Resources

Table 2. Routine San Luis Canal Water Quality Monitoring Stations

Location	Agency	Parameters	Frequency	Remarks
San Luis Canal Check 13 O'Neill Forebay	DWR	Minerals, trace metals, nutrients, pesticides	Monthly	Grab sample
San Luis Canal Check 21 Kettleman City				Grab sample

Source: DWR Water Data Library

Table 3. Routine Monitoring of WWD Lateral 7

Location	Agency	Parameters	Frequency	Remarks
San Luis Canal Milepost 113.82 Lincoln Ave (upstream site)	Westlands	EC, turbidity short list	Weekly Weekly x 4, Monthly ³	Field measurements grab sample
Westlands Lateral 7 at Adams Avenue	Westlands	EC, turbidity short list	Weekly Weekly x 4, Monthly ³	Field measurements grab sample
San Luis Canal Milepost 117.47 Manning Ave (downstream site)	Westlands	EC, turbidity short list	Weekly Weekly x 4, Monthly ³	Field measurements grab sample

³ This water will also be tested for the short list of constituents weekly for the four weeks and monthly for the duration while water is being pumped into the canal.

Table 4. Maximum allowable changes in the San Luis Canal caused by the addition of non-project groundwater

Constituent	Monitoring Location	Maximum concentration in the San Luis Canal
Electrical conductivity	Between San Luis Canal Checks 13 and 21	Less than 100 uS/cm increase between the checks
Turbidity	Between the Lateral 7 upstream site and downstream site	Less than 10 NTU
Electrical conductivity	In the San Luis Canal at Check 21	Not to exceed 700 uS/cm
Total dissolved solids		Not to exceed 450 mg/L
Concentration of selenium		Not to exceed 2 ug/L
Concentration of sodium		Not to exceed 80 mg/L
Concentration of any Title 22 constituent		Less than half of a Title 22 MCL

If the maximum concentrations are exceeded in the canal, Reclamation will direct the District to reduce or terminate pumping of non-project water into the San Luis Canal. The District may provide a forecast from its water balance model to identify which wells to reduce or terminate, and whether to reduce or terminate pumping from Lateral 7.

**San Luis Canal
Non-Project Water Pump-in Program
Water Quality Monitoring Plan**

Table 5. Water Quality Standards, Short List

Constituent	Units	Maximum Contaminant Level	Detection Limit for Reporting	CAS Registry Number	Recommended Analytical Method
Arsenic	mg/L	0.010 (1)	0.002 (2)	7440-38-2	EPA 200.8
Boron	mg/L	2.0 (13)		7440-42-8	EPA 200.7
Bromide	mg/L	(14)			
Chloride	mg/L	250 (7)		16887-00-6	EPA 300.1
Chromium, total	mg/L	0.05 (1)	0.01 (2)	7440-47-3	EPA 200.7
Hexavalent chromium	mg/L	0.010 (1)	0.001 (2)	18540-29-9	EPA 200.8
Manganese	mg/L	0.05 (7)		7439-96-5	EPA 200.7
Nitrate (as NO ₃)	mg/L	45. (1)	2. (2)	7727-37-9	EPA 300.1
Selenium	mg/L	0.002 (10)	0.001	7782-49-2	EPA 200.8
Sodium	mg/L	200 (12)		7440-23-5	EPA 200.7
Specific Conductance	µS/cm	1,600 (7)			SM 2510B
Sulfate	mg/L	500 (7)		14808-79-8	EPA 300.1
Total Dissolved Solids	mg/L	1,000 (7)			SM 2540C
Total Organic Carbon	mg/L	(14)			EPA 415.3
Gross alpha*	pCi/L	15 (3)	3 (3)		SM 7110C
1,2,3-Trichloropropane	mg/L	0.000005 (4)	0.000005 (5)	96-18-4	SRL 524M

One-Time Screening

Perfluorooctanic acid (PFOA)**	ng/L	N/A	0.82 (15)	EPA 537.1
Perfluorooctanesulfonic acid (PFOS)**	ng/L	N/A	2.7 (15)	EPA 537.1

Short list to be measured before pumping occurs, then weekly for four consecutive weeks, and monthly for the duration of pumping into the San Luis Canal.

*Monthly testing only

**One-time screening conducted prior to pumping individual wells and from Lateral 7 at the Adams Avenue pump station. Although there are no MCLs developed yet, there are notification levels and response levels. The notification levels are 5.1 PPT (PFOA) and 6.5 PPT (PFOS). The response levels are 10 PPT (PFOA) and 40 PPT (PFOS) based on a running four quarter average. The lowest concentration minimum reporting levels (LCMRL) are 0.82 ng/L (PFOA) and 2.7 ng/L (PFOS).

Revised: 26 August 2021

San Luis Canal
Non-Project Water Pump-in Program
Water Quality Monitoring Plan

Table 6. Title 22 Water Quality Standards

Constituent	Units	Maximum Contaminant Level	Detection Limit for Reporting	CAS Registry Number	Recommended Analytical Method
Primary					
Aluminum	mg/L	1. (1)	0.05 (2)	7429-90-5	EPA 200.7
Antimony	mg/L	0.006 (1)	0.006 (2)	7440-36-0	EPA 200.8
Arsenic	mg/L	0.010 (1)	0.002 (2)	7440-38-2	EPA 200.8
Asbestos	MFL	7 (1)	0.2 MFL>10µm (2)	1332-21-4	EPA 100.2
Barium	mg/L	1. (1)	0.1 (2)	7440-39-3	EPA 200.7
Beryllium	mg/L	0.004 (1)	0.001 (2)	7440-41-7	EPA 200.7
Cadmium	mg/L	0.005 (1)	0.001 (2)	7440-43-9	EPA 200.7
Chromium, total	mg/L	0.05 (1)	0.01 (2)	7440-47-3	EPA 200.7
Copper	mg/L	1.3	0.050 (8)	7440-50-8	EPA 200.7
Cyanide	mg/L	0.15 (1)	0.1 (2)	57-12-5	EPA 335.2
Fluoride	mg/L	2.0 (1)	0.1 (2)	16984-48-8	EPA 300.1
Hexavalent Chromium	mg/L	0.010 (1)	0.001 (2)	18540-29-9	EPA 218.7
Lead	mg/L	0.015 (9)	0.005 (8)	7439-92-1	EPA 200.8
Mercury	mg/L	0.002 (1)	0.001 (2)	7439-97-6	EPA 245.1
Nickel	mg/L	0.1 (1)	0.01 (2)	7440-02-0	EPA 200.7
Nitrate (as NO ₃)	mg/L	45. (1)	2. (2)	7727-37-9	EPA 300.1
Nitrate + Nitrite (sum as nitrogen)	mg/L	10. (1)		14797-55-8	EPA 353.2

Nitrite (as nitrogen)	mg/L	1. (1)	0.4 (2)	14797-65-0	EPA 300.1
Perchlorate	mg/L	0.006 (1)	0.004 (2)	14797-73-0	EPA 314/331/332
Selenium	mg/L	0.002 (10)	0.001	7782-49-2	EPA 200.8
Thallium	mg/L	0.002 (1)	0.001 (2)	7440-28-0	EPA 200.8
Thiobencarb	mg/L	0.07		28249-77-6	EPA 527

Secondary

Aluminum	mg/L	0.2 (6)		7429-90-5	EPA 200.7
Chloride	mg/L	500 (7)		16887-00-6	EPA 300.1
Color	units	15 (6)			EPA 110
Copper	mg/L	1.0 (6)	0.050 (8)	7440-50-8	EPA 200.7
Iron	mg/L	0.3 (6)		7439-89-6	EPA 200.7
Manganese	mg/L	0.05 (6)		7439-96-5	EPA 200.7
Methyl-tert-butyl ether (MTBE)	mg/L	0.005 (6)		1634-04-4	EPA 502.2/524.2
Odor -threshold	units	3 (6)			SM 2150B
Silver	mg/L	0.1 (6)		7440-22-4	EPA 200.7
Specific Conductance	µS/cm	1,600 (7)			SM 2510 B
Sulfate	mg/L	500 (7)		14808-79-8	EPA 300.1
Thiobencarb	mg/L	0.001 (6)		28249-77-6	EPA 527
Total Dissolved Solids	mg/L	1,000 (7)			SM 2540 C
Turbidity	units	5 (6)			EPA 190.1/SM2130B
Zinc	mg/L	5.0 (6)		7440-66-6	EPA 200.7

Other Required Analyses

Boron	mg/L	2.0 (13)		7440-42-8	EPA 200.7
Molybdenum	mg/L	0.01 (11)		7439-98-7	EPA 200.7
Sodium	mg/L	200 (12)		7440-23-5	EPA 200.7

Radioactivity							
Gross Alpha	pCi/L	15	(3)	3	(3)	SM 7110C	
Organic Chemicals							
(a) Volatile Organic Chemicals (VOCs)							
Benzene	mg/L	0.001	(4)	0.0005	(5)	71-43-2	EPA 502.2/524.2
Carbon Tetrachloride	mg/L	0.0005	(4)	0.0005	(5)	56-23-5	EPA 502.2/524.2
1,2-Dichlorobenzene	mg/L	0.6	(4)	0.0005	(5)	95-50-1	EPA 502.2/524.2
1,4-Dichlorobenzene	mg/L	0.005	(4)	0.0005	(5)	106-46-7	EPA 502.2/524.2
1,1-Dichloroethane	mg/L	0.005	(4)	0.0005	(5)	75-34-3	EPA 502.2/524.2
1,2-Dichloroethane	mg/L	0.0005	(4)	0.0005	(5)	107-06-2	EPA 502.2/524.2
1,1-Dichloroethylene	mg/L	0.006	(4)	0.0005	(5)	75-35-4	EPA 502.2/524.2
cis-1,2-Dichloroethylene	mg/L	0.006	(4)	0.0005	(5)	156-59-2	EPA 502.2/524.2
trans-1,2-Dichloroethylene	mg/L	0.01	(4)	0.0005	(5)	156-60-5	EPA 502.2/524.2
Dichloromethane	mg/L	0.005	(4)	0.0005	(5)	75-09-2	EPA 502.2/524.2
1,2-Dichloropropane	mg/L	0.005	(4)	0.0005	(5)	78-87-5	EPA 502.2/524.2
1,3-Dichloropropene	mg/L	0.0005	(4)	0.0005	(5)	542-75-6	EPA 502.2/524.2
Ethylbenzene	mg/L	0.3	(4)	0.0005	(5)	100-41-4	EPA 502.2/524.2
Methyl-tert-butyl ether	mg/L	0.013	(4)	0.003	(5)	1634-04-4	EPA 502.2/524.2
Monochlorobenzene	mg/L	0.07	(4)	0.0005	(5)	108-90-7	EPA 502.2/524.2
Styrene	mg/L	0.1	(4)	0.0005	(5)	100-42-5	EPA 502.2/524.2
1,1,2,2-Tetrachloroethane	mg/L	0.001	(4)	0.0005	(5)	79-34-5	EPA 502.2/524.2
Tetrachloroethylene (PCE)	mg/L	0.005	(4)	0.0005	(5)	127-18-4	EPA 502.2/524.2
Toluene	mg/L	0.15	(4)	0.0005	(5)	108-88-3	EPA 502.2/524.2
1,2,4-Trichlorobenzene	mg/L	0.005	(4)	0.0005	(5)	120-82-1	EPA 502.2/524.2
1,1,1-Trichloroethane	mg/L	0.200	(4)	0.0005	(5)	71-55-6	EPA 502.2/524.2
1,1,2-Trichloroethane	mg/L	0.005	(4)	0.0005	(5)	79-00-5	EPA 502.2/524.2
Trichloroethylene (TCE)	mg/L	0.005	(4)	0.0005	(5)	79-01-6	EPA 502.2/524.2
Trichlorofluoromethane	mg/L	0.15	(4)	0.005	(5)	75-69-4	EPA 502.2/524.2

1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	1.2	(4)	0.01	(5)	76-13-1	SM 6200B
Vinyl Chloride	mg/L	0.0005	(4)	0.0005	(5)	75-01-4	EPA 502.2/524.2
Xylenes	mg/L	1.750*	(4)	0.0005	(5)	1330-20-7	EPA 502.2/524.2
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)							
Alachlor	mg/L	0.002	(4)	0.001	(5)	15972-60-8	EPA 505/507/508
Atrazine	mg/L	0.001	(4)	0.0005	(5)	1912-24-9	EPA 505/507/508
Bentazon	mg/L	0.018	(4)	0.002	(5)	25057-89-0	EPA 515.1
Benzo(a)pyrene	mg/L	0.0002	(4)	0.0001	(5)	50-32-8	EPA 525.2
Carbofuran	mg/L	0.018	(4)	0.005	(5)	1563-66-2	EPA 531.1
Chlordane	mg/L	0.0001	(4)	0.0001	(5)	57-74-9	EPA 505/508
2,4-D	mg/L	0.07	(4)	0.01	(5)	94-75-7	EPA 515.1
Dalapon	mg/L	0.2	(4)	0.01	(5)	75-99-0	EPA 515.1
Dibromochloropropane	mg/L	0.0002	(4)	0.00001	(5)	96-12-8	EPA 502.2/504.1
Di(2-ethylhexyl)adipate	mg/L	0.4	(4)	0.005	(5)	103-23-1	EPA 506
Di(2-ethylhexyl)phthalate	mg/L	0.004	(4)	0.003	(5)	117-81-7	EPA 506
Dinoseb	mg/L	0.007	(4)	0.002	(5)	88-85-7	EPA 5151-4
Diquat	mg/L	0.02	(4)	0.004	(5)	85-00-7	EPA 549.2
Endothall	mg/L	0.1	(4)	0.045	(5)	145-73-3	EPA 548.1
Endrin	mg/L	0.002	(4)	0.0001	(5)	72-20-8	EPA 505/508
Ethylene Dibromide	mg/L	0.00005	(4)	0.00002	(5)	106-93-4	EPA 502.2/504.1
Glyphosate (Roundup)	mg/L	0.7	(4)	0.025	(5)	1071-83-6	EPA 547
Heptachlor	mg/L	0.00001	(4)	0.00001	(5)	76-44-8	EPA 508
Heptachlor Epoxide	mg/L	0.00001	(4)	0.00001	(5)	1024-57-3	EPA 508
Hexachlorobenzene	mg/L	0.001	(4)	0.0005	(5)	118-74-1	EPA 505/508
Hexachlorocyclopentadiene	mg/L	0.05	(4)	0.001	(5)	77-47-4	EPA 505/508
Lindane (gamma-BHC)	mg/L	0.0002	(4)	0.0002	(5)	58-89-9	EPA 505/508
Methoxychlor	mg/L	0.03	(4)	0.01	(5)	72-43-5	EPA 505/508
Molinate	mg/L	0.02	(4)	0.002	(5)	2212-67-1	EPA 525.1
Oxamyl	mg/L	0.05	(4)	0.02	(5)	23135-22-0	EPA 531.1
Pentachlorophenol	mg/L	0.001	(4)	0.0002	(5)	87-86-5	EPA 515.1-3

Picloram	mg/L	0.5	(4)	0.001	(5)	1918-02-1	EPA 515.1-3
Polychlorinated Biphenyls	mg/L	0.0005	(4)	0.0005	(5)	1336-36-3	EPA 130.1
Simazine	mg/L	0.004	(4)	0.001	(5)	122-34-9	EPA 505
Thiobencarb (Bolero)	mg/L	0.07	(4)	0.001	(5)	28249-77-6	EPA 527
Toxaphene	mg/L	0.003	(4)	0.001	(5)	8001-35-2	EPA 505
1,2,3-Trichloropropane	mg/L	0.000005	(4)	0.000005	(5)	96-18-4	SRL 524M
2,3,7,8-TCDD (Dioxin)	mg/L	3 x 10 ⁻⁸	(4)	5 x 10 ⁻⁹	(5)	1746-01-6	EPA 130.3
2,4,5-TP (Silvex)	mg/L	0.05	(4)	0.001	(5)	93-72-1	EPA 515.1
Other Organic Chemicals							
Chlorpyrifos	ug/L	0.015	(11)			2921-88-2	EPA 8141A
Diazinon	ug/L	0.10	(11)			333-41-5	EPA 8141A

Sources:

Recommended Analytical Methods: <https://www.nemi.gov/home/>

Maximum Contaminant Levels:

Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

- (1) Title 22. Table 64431-A Maximum Contaminant Levels, Inorganic Chemicals
- (2) Title 22. Table 64432-A Detection Limits for Reporting (DLRs) for Regulated Inorganic Chemicals
- (3) Title 22. Table 64442 Radionuclide Maximum Contaminant Levels (MCLs) and Detection Levels for Purposes of Reporting (DLRs)
- (4) Title 22. Table 64444-A Maximum Contaminate Levels, Organic Chemicals
- (5) Title 22. Table 64445.1-A Detection Limits for Purposes of Reporting (DLRs) for Regulated Organic Chemicals
- (6) Title 22. Table 64449-A Secondary Maximum Contaminant Levels "Consumer Acceptance Contaminant Levels"
- (7) Title 22. Table 64449-B Secondary Maximum Contaminant Levels "Consumer Acceptance Contaminant Level Ranges"
- (8) Title 22. Table 64678-A DLRs for Lead and Copper

(9) Title 22, Section 64678 (d) Lead Action level

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/dwregulations-2015-07-16.pdf

California Regional Water Quality Control Board, Central Valley Region, Fourth Edition of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. Revised June 2015

(10) Basin Plan, Table III-1 (ug/L) (selenium in Grasslands water supply channels)

(11) Basin Plan, Table III-2A. 4-day average (chronic) concentrations of chlorpyrifos & diazinon in San Joaquin River from Mendota to Vernalis

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr.pdf

Ayers, R. S. and D. W. Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985).

(12) Ayers, Table 1 (mg/L) (sodium)

(13) Ayers, Table 1 (mg/L) (boron)

<http://www.fao.org/3/T0234E/T0234E00.htm>

(14) Requested by State Water contractors, no MCL specified.

California Regional Water Quality Control Board. PFAS Per-and Polyfluoroalkyl Substances.

(15) Testing Methods in California Drinking Water

<https://www.waterboards.ca.gov/pfas/>

Revised: 26 August 2021

**Table 7. Approved Laboratory List for the Mid-Pacific Region
Quality Assurance and Data Management Branch (MP-156)
Environmental Monitoring and Hazardous Materials Branch
(MP-157)**

Alpha Analytical Laboratories, Inc.	Address	208 Mason Street, Ukiah, CA 95482
	Contact	Robbie Phillips
	P/F	916-686-5190
	Email	robbie@alpha-labs.com
	Methods	<i>Inorganics in Water, Organics in Water</i>

APPL Laboratory	Address	908 North Temperance Avenue, Clovis, CA 93611
	Contact	Chue Moua, Project Manager
	P/F	(559) 275-2175 /direct: (559) 862-2155
	Email	cmoua@applinc.com
	Methods	<i>Inorganics in Water/Soil, Organics in Water/Soil</i>

Basic Laboratory	Address	2218 Railroad Avenue Redding, CA 96001
	Contact	Josh Kirkpatrick, Nathan Hawley, Melissa Hawley
	P/F	(530) 243-7234 / (530) 243-7494
	Email	jkirkpatrick@basiclab.com (QAO and PM), nhawley@basiclab.com, mhawley@basiclab.com (invoices), poilar@basiclab.com (sample custody), khawley@basiclab.com (sample custody)
	Methods	<i>Inorganics in Water/Soil, Organics in Soil, Hazardous Waste in Water/Soil</i>

Brooks Applied Labs	Address	18804 North Creek Parkway, Bothell, WA 98011
	Contact	Jeremy Maute
	P/F	206-632-6206 / 206-632-6016
	Email	jeremy@brooksapplied.com
	Methods	<i>Selenium Speciation</i>

Calscience Environmental Laboratories (under Eurofins ownership)	Address	7440 Lincoln Way, Garden Grove, CA 92841
	Contact	Don Burley
	P/F	714-895-5494 (ext. 203)/714-894-7501
	Email	DBurley@calscience.com
	Methods	<i>Organics in Water</i>

Eurofins Eaton Analytical, Inc. (formerly MWH Laboratories)	Address	750 Royal Oaks Drive Ste. 100, Monrovia, CA 91016 180 Blue Ravine Rd., Folsom, CA 95630
	Contact	Rosalynn Dang
	P/F	(626) 386-1250, Linda - (626) 386-1163, Rita cell (916) 996-5929, Rick - (626) 386-1157
	Email	RosalynnDang@EurofinsET.com
	Methods	<i>Organics in Water</i>

Fruit Growers Laboratory	Address	853 Corporation Street, Santa Paula, CA 93060
	Contact	David Terz, QA Director
	P/F	(805) 392-2024 / (805) 525-4172
	Email	davidt@fglinc.com
	Methods	<i>Inorganics in Water (Gross Alpha)</i>

Oilfield Environmental & Compliance	Address	307 Roemer Way Ste 300, Santa Maria, CA 93454
	Contact	Will update when assigned a PM
	P/F	805-922-4772
	Email	info@oecusa.com
	Methods	<i>(Approval Pending) Hazardous Waste in Water/Soil</i>

Pacific EcoRisk	Address	2250 Codelia Road, Fairfield, CA 94534
	Contact	Stephen L. Clark
	P/F	(707) 207-7760 / (707) 207-7916
	Email	slclark@pacificcorisk.com
	Methods	<i>Toxicity in Water/Sediments</i>

Physis	Address	1904 East Wright Circle, Anaheim, CA 92806
	Contact	Will update when assigned a PM
	P/F	1-714-602-5320 ext 204
	Email	markbaker@physislabs.com
	Methods	<i>(Approval Pending) Inorganics in Soil</i>

South Dakota Agricultural Laboratories	Address	Brookings Biospace, 1006 32nd Avenue, Suites 103,105, Brookings, SD 57006-4728
	Contact	Regina Wixon, Annie Mouw (sample custodian)
	P/F	(605) 692-7325 / (605) 692-7326
	Email	regina.wixon@sdaglabs.com, annie.mouw@sdaglabs.com
	Methods	<i>Selenium in Water/Soil/Sediments/Tissue (Plant/Animal)</i>

Western Environmental Testing Laboratories	Address	475 East Greg Street # 119 Sparks, NV 89431
	Contact	Logan Greenwood (PM), Andy Smith (QA Manager)
	P/F	(775) 355-0202 / (775) 355-0817
	Email	logang@wetlaboratory.com, andy@wetlaboratory.com
	Methods	<i>Inorganics in Water</i>

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