California Water Boards

Edmund G. Brown Jr. Governor

Matthew Rodriguez Secretary for Environmental Protection

Central Valley Regional Water Quality Control Board

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BY:

21 November 2014

Edwin Pattison, City Manager
City of Ione
P.O. Box 398
Ione, CA 95640

John C. Telischak
Greenrock Ranch Lands, LLC
45 Koch Road, Suite A
Corte Madera, CA 94925

CENTRAL VALLEY WATER BOARD AGENDA AVAILABILITY

ITEM NO.27: AMENDED WASTE DISCHARGE REQUIREMENTS AND REVISED CEASE AND DESIST ORDER, CITY OF IONE, AMADOR COUNTY

The Central Valley Water Board will consider adopting Amended Waste Discharge Requirements and Revised Cease and Desist Order for City of Ione at its meeting on 5 December 2014. A copy of the Summary Agenda is enclosed. As noted on the Summary Agenda, this item has been placed on the Board's consent calendar.

In order to conserve paper and reduce mailing costs, a paper copy of the agenda package for the item above is being sent only to the Discharger. The full text of the agenda and the agenda item is available on the Central Valley Water Board's web site at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/1412/index.shtml

under the heading of "Uncontested Enforcement" for the 4/5 December 2014 meeting.

Anyone without access to the Internet who needs a paper copy of the agenda item should contact Lixin Fu at (916) 464-4689 or lfu@waterboards.ca.gov.

Anne Olson

ANNE L. OLSON, P.E., Chief
Waste Discharge to Land Unit

Enclosure: Summary agenda and agenda package

cc w/o enc: Michael Israel, Amador County Environmental Health Department, Jackson
Sean Rabé, Amador Regional Sanitation Agency, Sutter Creek
Robert Sleppy, California Department of Corrections and Rehabilitation, Rancho Cordova
Gene Mancebo, Amador Water Agency, Sutter Creek
James Maynard, Maynard Law, Sacramento
John Wanger, Coastland Civil Engineering, Santa Rosa
Steve Deverel, HydroFocus, Inc., Davis
Dexter Wilson, Dexter Wilson Engineering, Inc., Carlsbad
Jim Scully, Ione (via email only)
Jim Nevin, Ione (via email only)

AGENDA

Public Meeting

Central Valley Regional Water Quality Control Board

Thursday, December 4, 2014–8:30 a.m.
Friday, December 5, 2014–8:30 a.m.
Central Valley Water Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670

WEBCAST OF BOARD MEETING
Live video broadcast of this meeting will be available at: http://www.calepa.ca.gov/Broadcast/

The Central Valley Board strives to conduct accessible, orderly, and fair meetings. The Board abides by the following rules when conducting its meetings:

- No person is required to register their name or provide other information to the Board in order to attend a Board meeting. Completing an attendance card is voluntary, unless you wish to testify before the Board.
- Anyone speaking to the Board will be requested to complete an attendance card.
- Anyone testifying in permit and enforcement actions will be required to complete an attendance card and affirm that any testimony that they provide is the truth by taking an oath.
- Items on this Agenda are numbered for identification purposes only; the Board may consider these items out of their listed order.
- Any item scheduled for the first day of a multi-day Board meeting may be delayed or continued to the next day, and items may also be moved from the second day to the first day. The Board may remove items from this Agenda without prior notice.
- If the Board lacks a quorum, the Board may conduct a hearing as a Panel Hearing. However, the Board will not take final action on such an item until a quorum of the Board is present.

Copies of the items to be considered by the Central Valley Water Board are posted on the Board's website at: http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/

Board agendas and the minutes of prior meetings are posted on the Board's website at: http://www.waterboards.ca.gov/centralvalley/board_info/meetings/

Questions regarding individual items should be directed to the Board staff person whose name and phone number are indicated with the agenda item. If no staff person is listed, or for general questions, please contact Ms. Kiran Lanfranchi-Rizzardi at: (916) 464-4839 or klanfranchi@waterboards.ca.gov

The Board meeting will be conducted at a facility that is accessible to people with disabilities. Individuals requiring special accommodations are asked to contact Ms. Lanfranchi-Rizzardi at (916) 464-4839 at least 5 working days prior to the meeting. TTY users may contact the California Relay Service at 1-800-735-2929 or voice line at 1-800-735-2922.

A list of applications for Water Quality Certifications, which the Board issues pursuant to Section 401 of the Clean Water Act, can be found at: http://www.waterboards.ca.gov/centralvalley/public_notices/ or can be obtained by calling the Board at: (916) 464-3291.

ELECTRONIC PRESENTATIONS

PowerPoint and other electronic presentations are frequently presented at the Board Meetings. Please e-mail presentations to the Board's Webmaster at webmaster5@waterboards.ca.gov at least 24 hours in advance, or bring your files either on a USB Flash Drive or CD-ROM and give them to Board Staff prior to the start of the meeting.

THURSDAY, DECEMBER 4, 2014 – 8:30 A.M.

1. Introductions, Pledge of Allegiance, and approval of minutes of the October 9/10, 2014 meeting
2. Meeting Rules and Procedures.
3. Board Member Communications – Board Members and the State Board Liaison Member may discuss meetings, communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction. There will be no voting or formal action taken.
4. Public Forum – *Any member of the public may address the Board on any matter within the Board's jurisdiction and not scheduled for consideration at this meeting, or pending before the Board*
5. Executive Officer's Report (http://www.waterboards.ca.gov/centralvalley/board_info/exec_officer_reports/)
   a. State of the Region Report [Pamela Creedon (916) 464-4839]

OTHER BUSINESS

6. Appointment of Representative for Pacific Forest and Lands Stewardship Council
7. Status of Nitrogen Management Plan Template Development – *Informational Item Only* [Terry Bechtel, (916) 464-4720]

WASTE DISCHARGE REQUIREMENTS

8. Revisions to Waste Discharge Requirements for Growers within the Tulare Lake Basin Area that are Members of the Third-Party Group – *Consideration of Adoption of Revised Order* [Nicholas Smaira (559) 488-4393]
9. Conditional Waiver of Waste Discharge Requirements Related to Timber Harvest Activities – *Consideration of Proposed Renewal of Order R5-2010-0022* [Debra Hallis (530) 224-4801]

NPDES PERMITS

10. Malaga County Water District, Malaga Wastewater Treatment Facility, Fresno County – *Consideration of NPDES Permit Renewal (NPDES CA0084239) and Cease and Desist Order* [Aide Ortiz (559) 445-6083]

WASTE DISCHARGE REQUIREMENTS AND ENFORCEMENT RESCISSION

11. City of Livingston, Domestic Wastewater Treatment Facility, Merced County – *Consideration of Revised Waste Discharge Requirements (Order 89-066) and an Order Rescinding Cease and Desist Order 98-057 and Amending Orders* [Denise Soria (559) 444-2488]

WASTE DISCHARGE REQUIREMENTS

12. Rancho Murieta Community Services District, Rancho Murieta Wastewater Treatment Facility, Sacramento County – *Consideration of Revised Waste Discharge Requirements and Master Recycling Permit (Order 5-01-124)* [Lani Andam (916) 464-4723]

OTHER BUSINESS

13. Control Program for Salt and Boron Discharges into the Lower San Joaquin River – *Consideration of Resolution Entering into a Revised Management Agency Agreement (MAA) with the U.S. Bureau of Reclamation (USBR) for meeting salinity water quality objectives in the Lower San Joaquin River (LSJR) at Vernalis* [Jim Brownell (916) 464-4675]

14. Control Program for Salt and Boron Discharges into the Lower San Joaquin River – *Consideration of Resolution Approving a Real Time Management Program for meeting salinity water quality objectives in the Lower San Joaquin River (LSJR) at Vernalis* [Jim Brownell (916) 464-4675]

FRIDAY, DECEMBER 5, 2014 – 8:30 A.M.

15. Introductions, Pledge of Allegiance.

16. Meeting Rules and Procedures.

17. Board Member Communications – Board Members and the State Board Liaison Member may discuss meetings, communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction. There will be no voting or formal action taken.

18. Public Forum – *Any member of the public may address the Board on any matter within the Board's jurisdiction and not scheduled for consideration at this meeting, or pending before the Board* (3 minute time limit per subject)

19. Executive Officer's Report (http://www.waterboards.ca.gov/centralvalley/board_info/exec_officer_reports/)

20. The Board will be asked to approve items 26 through 35 with no discussion if no one is here to testify about them.

NPDES PERMITS

21. University of California, Davis, Main Wastewater Treatment Plant, Yolo County – *Consideration of NPDES Permit Renewal (NPDES Permit CA0077895)* [David Kirn (916) 464-4761]

OTHER BUSINESS

22. Status Report on the Dairy Program with emphasis on Representative Monitoring Program Activities – *Informational Item Only* [Doug Patteson (559) 445-5577]

ENFORCEMENT

23. David L. & Linda M. Davis Trust of Madera County – *Consideration of Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order* [Brett Stevens, (916) 464-4642]

24. Larry W. & Shireen I. Slate of Merced County – *Consideration of Administrative Civil Liability* [Brett Stevens, (916) 464-4642]

25. California Sprouts, LLC, Sacramento Facility, Sacramento County – *Consideration of Administrative Civil Liability Order* [Lucio Orellana (916) 464-4660]

UNCONTESTED CALENDAR

(Cal. Code Regs., tit. 23, § 647.2, subd. (f).)

Uncontested items are those items that are not being contested at the Board Meeting and will be acted on without discussion. If any person or Board Member requests discussion, the item may be removed from the Uncontested Calendar and taken up in the regular agenda in an order determined by the Board Chair.

ENFORCEMENT

26. City of Escalon Wastewater Treatment Facility, San Joaquin County – *Consideration of Cease and Desist Order* [Brendan Kenny (916) 464-4635]

27. City of Ione, Ione Wastewater Treatment Facility, Amador County – *Consideration of Revised Cease and Desist Order (Order R5-2012-0023) and Amended WDRs (Order R5-2013-0022)* [Lixin Fu (916) 464-4689]

28. United Auburn Indian Community, Thunder Valley Casino Wastewater Treatment Plant, Placer County – *Consideration of Time Schedule Order To Comply with Waste Discharge Requirements Prescribed in Order R5-2010-0005 (NPDES Permit No. CA0084697)* [Elizabeth Thayer (916) 464-4671]

29. City of Davis, Davis Wastewater Treatment Plant, Yolo County – *Consideration of Time Schedule Order To Comply with Waste Discharge Requirements Prescribed in Order R5-2013-0127 (NPDES Permit CA0079049)* [David Kirn (916) 464-4761]

30. Modoc Joint Unified School District, Geothermal Project, Modoc County – *Consideration of Proposed Amendment to Time Schedule Order No. R5-2011-0045* [Zack Chandler (530) 224-4206]

31. Collins Pine Company, Chester Sawmill, Plumas County – *Consideration of Proposed Adoption of Time Schedule Order* [Zack Chandler (530) 224-4206]

NPDES PERMIT

32. General Waste Discharge Requirements for Cold Water Concentrated Aquatic Animal Production Facility Discharges to Surface Waters – *Consideration of Renewal of General NPDES Permit No. CAG135001* [Dania Jimmerson (916) 464-4742]

33. **WASTE DISCHARGE REQUIREMENTS**

    a. City of Fresno and Consolidated Land Company and Consolidated Industries, Inc., North Fresno Wastewater Reclamation Facility, Fresno County, *Order R5-2006-0090-01 (revised)*
    b. City of Huron, Wastewater Treatment Facility, Fresno County, *Order 87-012 (revised)*
    c. Kings Waste and Recycling Authority, Corcoran Landfill, Class III Landfill, Post-Closure Maintenance and Corrective Action, Kings County, Order 5-00-159 (revised)
    d. Root Creek Water District, Riverstone Wastewater Treatment Facility, Madera County *(new)*
    e. SierraPine Limited, SierraPine–Ampine Division, Amador County – *Waste Discharge Requirements (WDRs) Order R5-2008-0167 (Amendment) and Rescinding NPDES CA0004219 and Updating WDRs*

34. **WDR/NPDES RESCISSIONS**

    a. Adin Community Services District Wastewater Treatment System, Adin, Modoc County, Order 98-092
    b. Bieber Sewage Treatment Facility, Bieber, Lassen County, Order No. 93-071
    c. California Pines Community Services District Wastewater Treatment System, Alturas, Modoc County, Order 94-047
    d. Fall River Mills Community Services District Wastewater Treatment System, Fall River, Shasta County, Order 94-048
    e. Fresno County Waterworks District No. 38, Sky Harbour Wastewater Treatment Facility, Fresno County, Order 90-088
    f. Intermountain Conservation Camp, Wastewater Treatment System, Bieber, Lassen County, Order 94-226
    g. Kramer Quarry and Asphalt, Lassen County, Order 96-073
    h. Lehigh Southwest Cement Company, Lake Britton Diatomaceous Earth Pit, Shasta County, Order 93-172
    i. Sugar Pine Conservation Camp Wastewater Treatment System, Bella Vista, Shasta County, Order 5-00-261

35. **CHANGE OF NAME/OWNERSHIP**

    a. Erickson Processing, Inc., Gibbs California Wild Rice, Sutter County, Order R5-2004-0105
    b. Fee A and Fee B Leases Devils Den Oil Field, Kern County, Order 58-487
    c. Golden Hills MH & RV Park, Kern County, Order 86-230
    d. Harris Moran Seed Company, Harris Moran Seed Research and Development Facility, Yolo County, Order R5-2003-0036
    e. Jones Lease, Mount Poso Oil Field, Kern County, Order R5-2006-0050
    f. Kathy Lease, Deer Creek Oil Field, Tulare County, Order 5-00-16303
    g. Lake Isabella Wastewater Treatment Facility, Erskine Creek Road and Lake Isabella Boulevard Lake Isabella, Kern County, Order 84-149
    h. RJM Enterprises, Rivercrest Vineyards, Inc., San Joaquin County, Order 5-00-021
    i. Vedder Lease, Mount Poso Oil Field, Kern County, Order R5-2006-0051

CLOSED SESSION

The Board may meet in closed session to consider personnel matters (Gov. Code, § 11126 subd. (a).), to deliberate on a decision to be reached based upon evidence introduced in a hearing (Gov. Code §, 11126, subd. (c)(3).), or to discuss matters in litigation, including discussion of initiated litigation, significant exposure to litigation, or decisions to initiate litigation (Gov. Code, § 11126, subd. (e).). Current litigation involving the Board:

Litigation filed against the Central Valley Water Board and/or the State Water Board:

a. California Sportfishing Protection Alliance v. California Regional Water Quality Control Board, Central Valley Region, et al. (Sacramento County Superior Court, Case No. 34-2013-80001358-CU-WM-GDS Case No. 60668)
b. City of Manteca v. State Water Board et al. (Sacramento County Sup. Ct., Case No. 34-2011-80000-831)
c. Dairy General Waste Discharge Requirements – Association de Gente Unida por el Agua et al. v. Central Valley Water Board (Ca. Ct. of Appeal. 3rd DCA. Case No. C066410)(Sacramento County Sup. Ct., No. 2008-00003604)
d. ConAgra Foods and Monfort, Inc. v. Central Valley Water Board (Solano County Sup. Ct., Case No. FCS027420)
e. Greener Globe Landfill WDRs – Central Valley Water Board v. A Greener Globe Corp. et al. (Placer County Sup. Ct., Case No. SCV11383)
f. Irrigated Lands Coalition Waiver and Program EIR - San Joaquin County Resource Conservation District California Farm Bureau Federation et al. v. Central Valley Water Board; California Sportfishing Protection Alliance et al. v. Central Valley Water Board (Sacramento County Sup. Ct., Case No. 34-2012-80001186) (Consolidated Case No. RG 12632180)
g. Preston Avery, an Individual, and Lois Avery, an Individual, and as Trustees of the Avery Family Revocable Trust of July 14, 2000 v. State Water Board et al. (Sacramento County Sup. Ct., Case No. 06CS00399)
h. State Water Contractors, Inc. v. State Water Board and Central Valley Water Board (Sacramento County Sup. Ct., Case No. 34-2011-00107299)
i. Toxic Hot Spots – San Francisco Baykeeper, Inc. et al. v. State Water Board et al. (Sacramento County Sup. Ct., Case No. 99CS02722)
j. Atlantic Richfield Company v. Central Valley Water Board (Sacramento County Sup. Ct., Case No. 34-2014-80001875)

Litigation filed by the Central Valley Water Board against other parties:

a. Aerojet Cleanup – Central Valley Water Board et al. v. Aerojet-General Corp. et al. (Sacramento County Sup. Ct., Case No. 286073, consolidated with Case Nos. 288302 and 291981); Central Valley Water Board et al. v. Aerojet-General Corp. et al. (EDCal, Case No. CIV-S-86-0064-EJG) consolidated with U.S. v. Aerojet-General Corp. et al., (EDCal, Case No. CIV-S-86-0063-EJG)
b. Bonzi Landfill – Central Valley Water Board v. Ma-Ru Holding Company et al. (Stanislaus County Sup. Ct., Case No. 643740)
c. Iron Mountain Mine Cleanup – Central Valley Water Board et al. v. Iron Mountain Mines, Inc. et al. (EDCal, Case No. CIV-S-91-1167-DFL-PAN) and U.S. v. Iron Mountain Mines, Inc. et al., (EDCal, Case No. S-91-0768 DFL/JFM)
d. Central Valley Water Board et al. v. Original Sixteen-to-One Mine, Inc. et al. (Sierra County. Sup.Ct., Case No. 7019)

Petitions for Review of Central Valley Water Board Actions filed with State Water Board:

a. Nevada County Sanitation District No. 1, Lake of the Pines WWTP, WDRs Order R5-2009-0031 [NPDES Permit No. CA0081612] (State Water Board File No. A-2019)
b. James G. Sweeney and Amelia M. Sweeney, Administrative Civil Liability Order R5-2011-0068 (State Water Board File No. A-2190)
c. James. G. Sweeney and Amelia M. Sweeney, Groundwater Monitoring Directive (State Water Board File No. A-2213)
d. James G. Sweeney and Amelia M. Sweeney, Administrative Civil Liability Order R5-2012-0070 (State Water Board File No. A-2225)
e. Eastern San Joaquin Irrigated Lands General Waste Discharge Requirements, Order R5-2012-0116 – Petitions filed by California Sportfishing Alliance et al.; San Joaquin County Resource Conservation District et al.; and Asociacion de Gente Unida por el Agua (AGUA) et al. (State Water Board File Nos. A-2239(a) through (c))
f. Irrigated Lands General Waste Discharge Requirements for Individual Growers, Order R5-2013-0100 – Petition filed by Kern River Watershed Coalition Authority and Paramount Farming Company, LLC (State Water Board File No. A-2269)
g. Tulare Lake Basin Area Irrigated Lands General Waste Discharge Requirements, Order R5-2013-0120 – Petitions filed by Southern San Joaquin Valley Water Quality Coalition et al., Michael and Yvonne LaSalle, and Asociacion de Gente Unida por el Agua (AGUA) et al. (State Water Board File Nos. A-2278(a) through (c))
h. West San Joaquin River Watershed Irrigated Lands General Waste Discharge Requirements, Order R5-2014-0002 – Petition filed by California Sportfishing Alliance et al. (State Water Board File number is unavailable)
i. San Joaquin County and Delta Area Irrigated Lands General Waste Discharge Requirements, Order R5-2014-0029 – Petition filed by California Sportfishing Alliance et al. (State Water Board File number is unavailable)
j. Sacramento River Watershed Irrigated Lands General Waste Discharge Requirements, Order R5-2014-0030 – Petition filed by California Sportfishing Alliance et al. (State Water Board File number is unavailable)
k. Discovery Bay Wastewater Treatment Plant, WDRs Order R5-2008-0179 [NPDES Permit No. CA007859] – Petitions filed by San Luis & Delta-Mendota Water Authority et al. and California Sportfishing Protection Alliance (State Water Board File Nos. A-1982 and A-1982(a))
l. Vacaville Easterly WWTP WDRs Order R5-2008-0055 and TSO R5-2008-0056 [NPDES Permit No. CA0077691] – Petition filed by the City of Vacaville (State Water Board File No. A-1932)
m. City of Live Oak, NPDES Permit R5-2011-0034 and TSO R5-2009-0012-01 [NPDES Permit No. CA0079022] (State Water Board File Nos. A-2172(a) and 2172(b))
n. City of Auburn Wastewater Treatment Plant, WDRs Order R5-2011-003 (Amending WDRs Order R5-2010-0090) [NPDES Permit No. CA0077712] – Petition filed by California Sportfishing Protection Alliance
o. City of Tracy, WDRs Order R5-2012-0115 [NPDES Permit No. CA0079154] (State Water Board File No. A-2238.)
p. Tosta Dairy, Administrative Civil Liability Order R5-2013-0095 – Petition filed by Henry J. Tosta, Henry J. Tosta Jr. Family Limited Partnership, and Henry J. Tosta Trust (State Water Board File No. A-2268).
q. Walker Mine, Cleanup and Abatement Order R5-2014-0039 – Petition and Request for Stay filed by Atlantic Richfield Company (State Water Board File number is unavailable)
r. City of Stockton, WDRs Order No. R5-2014-0070 [NPDES No. CA0079138] and Time Schedule Order No. R5-2014-0071, (State Water Board File No. A-2315)

MEETING PROCEDURES

The Central Valley Water Board circulates item-specific Notices and/or Hearing Procedures along with drafts of its Orders and Amendments. If there is a conflict between an item-specific Notice or Hearing Procedure and the Meeting Procedures in this Agenda, the item-specific Notice or Hearing Procedure will control. Please contact Board staff if you do not know whether there is a Notice or Hearing Procedure for a specific item.

The statutes and regulations that govern the Central Valley Water Board's meetings can be found at: http://www.waterboards.ca.gov/laws_regulations/

All persons may speak at a Central Valley Water Board meeting, and are expected to orally summarize their written submittals. Oral presentations will be limited in time by the Board Chair, and a timer may be used. Where speakers can be grouped by affiliation or interest, such groups are expected to select a spokesperson and to not be repetitive. The Board will accommodate spokespersons by granting additional time if other group members will not also be speaking.

Written materials that are received after deadlines set by item-specific Notices and/or Hearing Procedures will not generally be admitted. Any person requesting to submit late materials must demonstrate good cause, and the Chair must find that the admission of the late materials would not prejudice the Central Valley Water Board or any designated party. The Chair may modify this rule to avoid severe hardship.

PROCEDURE FOR HEARINGS IN ADJUDICATIVE MATTERS

(Including the issuance of Waste Discharge Requirements, NPDES Permits, Conditional Waivers, and certain Enforcement Orders, including Cleanup and Abatement and Administrative Civil Liability Orders)

The regulations for adjudicative proceedings are found in California Code of Regulations, title 23, sections 648 et seq. An adjudicative proceeding is a hearing to receive evidence for the determination of facts pursuant to which the Board formulates and issues a decision.

Evidence: Adjudicative hearings are not conducted according to the technical rules of evidence; the Board will accept any evidence that is reasonably relevant. It is the policy of the Board to discourage the introduction of surprise testimony and exhibits. Hearsay evidence may be used to supplement or explain other evidence.

Designated Parties: Designated Parties are persons named in a proposed order, anyone who requests designated party status and is so designated by the Board, and, for prosecutorial matters, the Board's Prosecution Team. Designated Parties have the right to call and examine witnesses, receive witness lists from other Designated Parties, introduce exhibits, cross-examine opposing witnesses, rebut evidence, make or oppose evidentiary objections, and make opening and/or closing statements.

Interested Persons: All persons who wish to participate in the hearing but who are not Designated Parties are Interested Persons. Interested Persons may present non-evidentiary policy statements or comments, either orally or in writing, but will not be subject to cross-examination. Interested Parties may be asked to respond to clarifying questions from the Board, staff, or others.

Order of Proceeding: for adjudicative hearings, the proceeding will be generally be conducted in the following order, unless modified by the Board Chair or specified differently in an item-specific Notice or Hearing Procedure:

- Testimony and cross-examination of Board staff, then testimony and cross-examination of the Designated Parties named in the Order or Permit, followed by testimony and cross-examination of other Designated Parties
- Statements of Interested Persons
- Closing statement by Designated Parties other than those named in the Order or Permit, then closing statement by Designated Parties named in the Order or Permit, followed by closing statement by Board staff
- Recommendation by the Board's Executive Officer (as appropriate)
- Close of the Hearing, followed by deliberation and voting by the Board

Closing statements are not to be used to introduce new evidence or testimony. Persons wishing to introduce exhibits (i.e., maps, charts, photographs) must leave them with the Board.

PROCEDURE FOR RULEMAKING AND INFORMATIONAL PROCEEDINGS

(Including Basin Planning, Rulemaking, Setting of Policy, and Workshops)

The regulations for rulemaking and informational proceedings are found in California Code of Regulations, title 23, sections 649 et seq. Rulemaking proceedings include hearings designed for the adoption, amendment, or repeal of any rule, regulation, or standard of general application. Informational proceedings include any hearings designed to gather and assess facts, opinions, and other information relevant to any matters within the jurisdiction of the Boards and whose primary purposes are to assist the Boards in the formulation of policy or guidelines for future Board action, to inform the public of Board policies, reports, orders, plans, or findings, and to obtain public comment and opinion with respect to such policies, reports, orders, plans, or findings, or to adopt such policies, reports, orders plans, or findings.

For rulemaking and informational proceedings, the Board does not distinguish between Designated Parties and Interested Persons; the Board will accept any evidence that is reasonably relevant, provided that it is submitted in accordance with any item-specific Notice or Hearing Procedure.

Order of Proceeding: for rulemaking and informational proceedings, the proceeding will be generally be conducted in the following order, unless modified by the Board Chair or specified differently in an item-specific Notice or Hearing Procedure:

- Opening statement by the Board summarizing the subject matter and purpose of the proceeding
- Presentation by Board staff
- Presentations by all other persons
- Recommendation by the Board's Executive Officer (as appropriate)
- Close of the Hearing, followed by deliberation and voting by the Board (as appropriate)

PETITION PROCEDURE

Any person aggrieved by an action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of the issuance of the Order, except that if the thirtieth day following the issuance of the Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

The primary duty of the Central Valley Water Board is to protect the quality of the waters within the Central Valley Region for all beneficial uses. This duty is implemented by formulating and adopting water quality plans for specific ground or surface water basins and by prescribing and enforcing requirements on all agricultural, domestic, and industrial waste discharges. Specific responsibilities and procedures of the Boards and the State Water Resources Control Board are contained in the Porter-Cologne Water Quality Control Act.

BOARD MEMBERS	CITY OF RESIDENCE	TERM EXPIRES
Robert Schneider	Davis	9/30/2014
Sandra Meraz	Alpaugh	9/30/2014
Jon Costantino	Grass Valley	9/30/2015
Jennifer Lester Moffitt	Davis	9/30/2016
Carmen L. Ramirez*	Atwater	9/30/2017
Karl E. Longley	Fresno	9/30/2017

*Public member in accordance with Water Code section 13201(c)

Pamela C. Creedon, ***Executive Officer***
Kiran Lanfranchi-Rizzardi, ***Administrative Assistant***
David Coupe, ***Attorney III***
Patrick Pulupa, ***Attorney III***
Andrew Deeringer, ***Attorney I***

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Brian Newman
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Duncan Austin
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Joe Karkoski
Nichole Morgan
Robert Busby
Wendy Wyels

Seniors:
Anne Olson
Brett Stevens
Charlene Herbst
Cori Condon
Daniel McClure
Elizabeth Lee
Gayleen Perreira
Gerald Djuth
Howard Hold
Jim Marshall
Joe Mello
Marie McCrink
Marty Hartzell
Patrick Morris
Steve Rosenbaum
Steven Meeks
Sue McConnell
Susan Fregien

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Doug Patteson

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Shelton Gray
Warren Gross
Dale Harvey
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David Sholes
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Russell Walls

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Clint Snyder

Supervisor:
Bryan Smith

Seniors:
Angela Wilson
George Day
George Low

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-XXXX

AMENDING WASTE DISCHARGE REQUIREMENTS ORDER R5-2013-0022
FOR
CITY OF IONE AND
GREENROCK RANCH LANDS, LLC
IONE WASTEWATER TREATMENT FACILITY
AMADOR COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board), finds:

1. On 11 April 2013, the Central Valley Water Board adopted Waste Discharge Requirements (WDRs) Order R5-2013-0022, prescribing requirements for City of Ione Wastewater Treatment Facility (WWTF) in Amador County. The City owns and operates the WWTF and certain recycled water land application areas (LAAs). Greenrock Ranch Lands, LLC owns and will operate additional recycled water LAAs. The City and Greenrock Ranch Lands, LLC are hereafter jointly referred to as "Dischargers".

2. The wastewater treatment and disposal facilities consist of Ponds 1 through 7. The first four ponds provide secondary treatment via aeration and settling, and the remaining three ponds provide disposal of treated effluent via percolation and evaporation.

3. In order to correct a longstanding storage and disposal capacity issue and provide sufficient capacity for expected growth in the near future, WDRS Order R5-2013-0022 requires that the City complete specific improvements that the City proposed as follows:

   a. Phase I (to be completed by 30 October 2013) was to include constructing new water recycling land application areas (LAAs) on land owned by the City, including the 11-acre WWTF Field and the 67-acre Town Field; and installing an effluent disinfection system.

   b. Phase II (to be completed in 2015) was to include constructing a new effluent storage pond (Pond 8) on the location of the 11-acre WWTF Field and adding additional water recycling LAAs totaling 56 acres: the 40-acre Greenrock LAA and the 16-acre Castle Oaks Water Recycling Plant (COWRP) Field.

   Phases I and II also included other improvements intended specifically to resolve groundwater pollution caused by the unlined treatment storage and disposal ponds pursuant to a 2011 Cease and Desist Order (CDO R5-2011-0019). Those improvements are not relevant to this Order.

4. The City intended to produce secondary treated disinfected effluent for use as recycled water on the recycled water LAAs, so WDRs Order R5-2013-0022 includes effluent limitations and discharge requirements that implement the statewide criteria for the use of recycled water in Title 22 that are specific to the level of disinfection provided. Specifically:

   a. Effluent Limitation C.2 requires that effluent discharged to the LAAs meet the total coliform criteria for disinfected secondary-23 recycled water (i.e., a monthly median concentration of total coliform bacteria not to exceed 23 MPN/ 100 mL and a maximum of 240 MPN/ 100 mL in any 30-day period).

   b. Water Recycling Specification G.5 requires that the recycled water be at least disinfected secondary-23 recycled water as defined in Title 22, section 60301.225.

   c. Water Recycling Specification G.6 limits the uses of recycled water to those allowed for disinfected secondary-23 recycled water.

   d. Water Recycling Specification G.13 provides for recycled water LAA setbacks that are specific to disinfected secondary-23 recycled water. Land Application Area

   e. Specification F.4 allows off-site discharge of storm water runoff from the LAAs under certain circumstances.

5. The City completed most of the Phase I improvements described in Finding 3. a by 31 December 2013. However, due to construction bids higher than the engineer's estimate, the City was not able to finance all of the work and elected not to install the effluent disinfection system. Effluent disinfection is not necessary to protect groundwater quality, nor is it required by Title 22 if the recycled effluent is only used to irrigate fodder crops, as was proposed by the City in its Title 22 Engineering Report.

   On 4 June 2013, the California Department of Public Health Drinking Water Program (now the State Water Board Division of Drinking Water) approved the temporary use of undisinfected secondary effluent to irrigate fodder crops and pasture for animals not producing milk for human consumption. Because disinfection is not necessary to protect groundwater quality, it is appropriate to amend WDRs Order R5-2013-0022 to remove the disinfection requirement, remove the effluent coliform limit, and change the related discharge requirements cited in Finding 4 to reflect the change to undisinfected secondary effluent.

6. In accordance with the City's proposed scope of work for the Phase II capacity expansion work, Provision 1.c. of WDRs Order R5-2013-0022 requires that the City submit a Phase II Improvements Completion Report by 30 October 2015 that certifies construction and start-up testing of the new effluent storage pond and Phase II recycling sites have been completed.

7. On 10 September 2014, the City stated that the Phase II expansion project may not be needed to ensure sufficient treatment, storage and disposal capacity for projected flows through 2020. The City cleaned out two of its percolation ponds and deep ripped them to enhance percolation in 2013. The City reports that shallow groundwater levels have declined and percolation rates have increased significantly and those ponds have received little use since the two recycled water LAAs have been in use. Additionally, the City has renewed its efforts to work with the Amador Regional Sanitation Agency on a regional effluent storage and disposal system and filter backwash flows to the WWTF from the Amador Water Agency that may result in reduced influent flows to the WWTF.

   Although the City has not demonstrated that the facility has the required capacity, and some of the observed changes in the percolation rates may be at least partly due to the severe drought conditions of the last year, it is reasonable to remove the requirement to complete the specific improvements that were proposed as the Phase II expansion project while retaining the underlying capacity requirement and time schedule. This would allow the City to either demonstrate that compliance with the capacity requirement has already been achieved or achieve compliance through other means, whichever is appropriate. Therefore, it is appropriate to amend Flow Limitation B.2 and Provision 1.c to make these requirements completely performance based.

8. Discharge Specification E.16 states:

   "The City shall monitor sludge accumulation in Ponds 1 through 4 at least every five years beginning in 2016, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in any pond exceeds five percent of the permitted capacity specified in Finding 7, the City shall complete sludge cleanout for that pond within 12 months after the date of the estimate".

   The City requested that this requirement be amended to clarify that the volume of sludge that would trigger pond cleaning is to be measured as a percentage of the dry volume of the sludge; not as a wet volume.

9. Discharge Specification E.1 states:

   "No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order".

   It appropriate to amend this requirement to clarify that the City would not be responsible for the acts of others which are beyond its control.

10. Discharge Specification E.2 states:

    "The discharge shall not cause degradation of any water supply".

The Central Valley Water Board expressly allowed degradation of groundwater quality in WDRs Order R5-2013-0022. It is appropriate to delete this specification because it is contrary to the Board's intent.

Public Notice

11. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

12. The Central Valley Water Board, in a public meeting, heard, and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order R5-2013-0022 is amended solely to allow the use of the new LAAs at the WWTP site and to revise the groundwater limitations. Pursuant to Water Code sections 13263 and 13267, the Discharger, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with amended Order R5-2013-0022 as follows:

1. Flow Limitation B.2 shall be amended as follows:

   "Effective on the date of Executive Officer approval of the ~~Phase II~~ **2020 Capacity Expansion** Completion Report submitted pursuant to Provision I.1.c, influent flows to the WWTF and total effluent flows to the ~~percolation ponds and~~ storage/**disposal** pond**s** shall not exceed the following limits...
   ...

   Influent flows at the headworks shall include domestic wastewater generated from the City of Ione, tertiary filter backwash flows from the COWRP, and filter backwash flows from the AWA water treatment plant **as applicable**. Total effluent flows to the ~~percolation ponds and~~ storage/**disposal** pond**s** shall include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds **as applicable**".

2. Effluent Limitation C.2 shall be deleted and subsequent paragraphs shall be renumbered.

3. Discharge Specification E.2 shall be deleted and subsequent paragraphs shall be renumbered.

4. Discharge Specification E.16 shall be amended as follows:

   "...if the estimated volume of **dry** sludge in any pond exceeds five percent of the permitted capacity specified in Finding 7, the City shall complete sludge cleanout..."

5. Land Application Area Specification F.4 shall be amended as follows:

   "Any irrigation runoff (tailwater) shall be confined to the LAAs **or collected and recycled at the LAAs**, and shall not enter any surface water drainage course or storm water drainage system. ~~Storm water may be discharged off site provided that the Dischargers comply with Land Application Area Specification F.5 below."~~

6. Water Recycling Specification G.5 shall be amended as follows:

   "The recycled water shall be at least ~~disinfected~~ **undisinfected** secondary recycled water as defined in Title 22, section 60301.~~225~~**900**".

7. Water Recycling Specification G.6 shall be amended as follows:

   "Recycled water shall be used in compliance with Title 22, sections 60304 and 60307. Specifically, uses of recycled water shall be limited to those set forth in Title 22, sections 60304(~~c~~**d**) and 60307(~~b~~**c**)".

8. The following additional paragraphs shall be inserted after Water Recycling Specification G.11 and subsequent paragraphs shall be renumbered:

   "12. All storm water runoff from the LAAs shall be captured and recycled for irrigation or allowed to percolate within the use areas.

   13. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

   14. All drinking fountains located within the use areas shall be protected by location and/or structure from contact with recycled water spray, mist, or runoff.

   15. Grazing of milking animals within the LAAs is prohibited".

9. Water Recycling Specification G.13 shall be amended as follows:

   "The LAAs and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements:

Setback Definition	Minimum Irrigation Setback (feet)
...	..
Toe of recycled water impoundment berm to domestic water supply well	~~100~~ **150**
...	..."

10. Provision 1.c. shall be amended as follows:

"By 30 October 2015, the City shall submit a **2020 Capacity Expansion** ~~Phase II Improvements~~ Completion Report that certifies construction and startup testing ~~of the new effluent storage pond and Phase II recycling sites of~~ **all improvements needed to provide sufficient treatment, storage and disposal capacity for projected flows through 2020** have been completed, and that the WWTF can comply with the applicable effluent limitations. The report shall include as-built drawings of the WWTF and recycling site **and/or other** improvements...
...

The water balance shall include documentation of, and technical support for, all data inputs used and shall consider at least the following:

(1) The as-built geometry of all ponds and effluent recycling**/disposal** areas;...

(5) **Projected** ~~Proposed~~ wastewater generation rates based on historical flows and new development to be served by the expansion distributed monthly in accordance with expected seasonal variations;...

(8) Projected long-term percolation rates **based on documented percolation test results** (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _.

PAMELA C. CREEDON, Executive Officer

LF/ALO: 9/22/14

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-0022-001

WASTE DISCHARGE REQUIREMENTS

FOR
CITY OF IONE AND
GREENROCK RANCH LANDS, LLC
IONE WASTEWATER TREATMENT FACILITY
AMADOR COUNTY

The California Regional Water Quality Control Regional Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. On 28 September 2012, the City of Ione (the "City") submitted a Report of Waste Discharge (RWD) to update existing Waste Discharge Requirements (WDRs) for the City of Ione Wastewater Treatment Facility (WWTF). Additional information was submitted in November and December 2012. A RWD Addendum describing the proposed use of recycled water for construction purposes was submitted on 1 April 2013.

2. The City owns and operates the WWTF and land application areas (LAAs). Greenrock Ranch Lands, LLC owns and will operate additional LAAs at Greenrock Ranch. The City and Greenrock Ranch Lands, LLC are hereafter jointly referred to as "Dischargers" and are responsible for compliance with these WDRs.

3. The WWTF is located at 1600 West Marlette Street in the City of Ione (Section 26, T6N, R9E, MDB&M), as shown on Attachment A, which is attached hereto and made part of this Order by reference. The Greenrock Ranch LAAs are near the WWTF, as shown on Attachments B and C, which are attached hereto and made part of this Order by reference. Assessor's Parcel Numbers for the WWTF and LAAs are tabulated below.

Name	Owner	Parcel Number(s)
Ponds 1 through 8	City of Ione	0051 3002 3000, 0051 3004 2000, 0051 3004 3000, 0051 3004 5000, 0051 3004 8000
WWTF Field	City of Ione	0051 3004 5000
Town Field	Greenrock Ranch Lands, LLC	0051 3005 2000
COWRP Field	City of Ione	0053 2000 3501
Greenrock LAA	Greenrock Ranch Lands, LLC	0051 0001 0000

4. WDRs Order 95-125, adopted by the Central Valley Water Board on 26 May 1995, prescribes requirements for the WWTF. Order 95-125 allows an average dry weather flow (ADWF) of up to 1.2 million gallons per day (MGD). The Central Valley Water Board issued Cease and Desist Orders (CDOs) to the City in 2003 and 2011 to address violations of Order 95-125. The Executive Officer also issued an Administrative Civil Liability Complaint (ACLC) in 2012 after the City failed to comply with the 2011 CDO. The City proposes to modify the WWTF in order to comply with the 2011 CDO and to meet demands for future development.

Existing Facility and Discharge

5. The City has an estimated population of 3,815 with a total of 1,525 Equivalent Dwelling Units (EDUs). The WWTF treats domestic wastewater from the City. The WWTF also receives filter backwash water from a water treatment plant operated by Amador Water Agency (AWA) and tertiary filter backwash water from Castle Oaks Water Reclamation Plant (COWRP)[1]. In addition, the WWTF accepts Amador Regional Sanitation Agency's (ARSA) secondary effluent from Preston Reservoir [2] for disposal in the WWTF's percolation/evaporation ponds.

6. The WWTF consists of seven ponds covering approximately 28 acres, as shown on Attachment B. Ponds 1 through 4 provide secondary treatment via aeration and settling, and Ponds 5 through 7 provide disposal of un-disinfected effluent via percolation and evaporation. The ponds are constructed in alluvial deposits overlaying a clay formation. There are no engineered liners in Ponds 1 through 4. The WWTF is adjacent to Sutter Creek, with the closest pond approximately 100 feet from the creek.

7. The RWD provided the following design data for the existing ponds:

Pond	Depth (feet) [1]	Surface Area (acres)	Volume (MG) [1]	Pond Bottom Elevation (feet, msl) [2]
1	6.1	1.62	3.1	269.9
2	5.9	1.39	2.5	270.1
3	5.7	1.14	2.0	270.3
4	5.5	2.15	3.7	270.5
5	12	4.9	17	264.7

[1] COWRP is also owned and operated by the City of Ione. The COWRP and associated golf course water recycling are regulated under WDRs Order 93-240.

[2] Preston Reservoir is an effluent storage reservoir owned and operated by the Amador Regional Sanitation Agency (ARSA). Whenever possible, this effluent receives tertiary treatment at the COWRP, and the effluent is recycled to irrigate the Castle Oaks Golf Course. Secondary effluent from the Preston Reservoir is only discharged to the Ione WWTF percolation/evaporation ponds to the extent that the golf course cannot accept more recycled water.

Pond	Depth (feet) [1]	Surface Area (acres)	Volume (MG) [1]	Pond Bottom Elevation (feet, msl) [2]
6	8.0	3.7	9	268.7
7	7.0	4.5	10	265.7

1. Based on two feet of freeboard.
2. Based on a recent survey. The RWD states that the pond bottom elevations are somewhat higher than those that were previously reported based on elevations illustrated in a March 2007 drawing.

8. The following table summarizes recent influent flow rates, including domestic wastewater from the City, filter backwash flows from COWRP and the AWA water treatment plant. The ARSA disposal flows to the percolation ponds are metered separately and are not included in the influent flows.

	Influent Flow Rate
Year	Average Dry Weather Flow (ADWF) [1] (MGD)
2007	0.349
2008	0.339
2009	0.317
2010	0.388
2011	0.447

1. As determined by the total flow for the months of July through September, inclusive, divided by 92 days.

9. The following table summarizes recent flow rates from all sources.

Flow Component	Average Flow (MGD)
City of Ione [1]	0.203
AWA backwash flows	0.071
COWRP backwash flows [2]	0.141
ARSA secondary effluent	0.116

1. During months of May through October, from 2009 through 2011.
2. During months of May through October, from 2007 through 2011.

10. Recent influent and effluent analytical results are summarized below.

	Influent (average)		Effluent (average)						
Year	BOD (mg/L)	TSS (mg/L)	BOD (mg/L)	TDS (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Nitrate-N (mg/L)	TKN (mg/L)	EC (umhos/cm)
2010	263	243	35	241	38.6	35.6	0.5	21.4	438
2011	221	229	31	229	34.6	31.1	5.2	11.8	398
2012 [1]	292	267	35	232	35.3	32.0	1.1	27.0	481
Average	259	246	33.7	234	36.2	32.9	2.3	20.1	439

BOD=Biochemical Oxygen Demand; TSS=Total Suspended Solid; TDS=Total Dissolved Solid; TKN=Total Kjeldahl Nitrogen; EC=Electrical Conductivity
1. The data for 2012 were collected from January through March.

Enforcement History

11. In 2003, the Central Valley Water Board issued CDO R5-2003-0108 (the "2003 CDO"), which was intended to bring the facility into compliance with the WDRs. The 2003 CDO addressed three underlying compliance issues: groundwater pollution due to the disposal of wastewater, seepage of wastewater into Sutter Creek, and the construction and use of an unpermitted effluent disposal pond. The 2003 CDO required that the City comply with a schedule to submit: a) a *Facility Guidance Document* designed to address the seepage; b) a *Final Wastewater Master Plan;* and c) a RWD.

12. The City submitted its first RWD in November 2005, and submitted revisions in June 2006, March 2010, and September 2010. However, the RWD submittals did not address the underlying compliance issues, and therefore, these submittals did not comply with the 2003 CDO.

13. Because the City did not comply with the 2003 CDO, the Central Valley Water Board issued CDO R5-2011-0019 (the "2011 CDO") on 8 April 2011. The 2011 CDO addressed the following compliance issues: groundwater pollution with iron and manganese; seepage of polluted groundwater into Sutter Creek; inadequate capacity for the permitted flow limits; and the construction and use of two unpermitted effluent disposal ponds (Ponds 6 and 7). The Central Valley Water Board found that although iron and manganese are not present in the WWTF effluent at high concentrations, the presence of degradable organic matter in the wastewater depletes oxygen and creates reducing conditions in the groundwater mound beneath the WWTF ponds. Reducing conditions promote dissolution of iron and manganese which are naturally present in the soil beneath the ponds, causing degradation of groundwater, and the degraded groundwater seeps into Sutter Creek.

14. Although WDRs Order 95-125 allows an average dry weather flow of up to 1.2 MGD, the 2011 CDO restricts flows into the treatment facility and disposal ponds based on a June 2009 Master Plan and March 2010 RWD. The 2011 CDO contains the following interim flow limits:

    a. Influent flows to the wastewater treatment plant shall not exceed 0.55 MGD as a monthly average dry weather flow; and

    b. Total effluent flows to the percolation/evaporation ponds shall not exceed 0.75 MGD as a monthly average flow for any calendar month.

15. The 2011 CDO also requires that the City construct facility improvements that will effectively stop the mobilization and discharge of iron and manganese and either:

    a. Stop any indirect discharge (seepage) of degraded groundwater to Sutter Creek that is in violation of the Clean Water Act; or

    b. Obtain an NPDES Permit that regulates the indirect discharge of degraded groundwater to Sutter Creek.

16. The 2011 CDO states that, if the selected seepage discharge compliance option does not require an NPDES permit, the City shall comply with the following requirements:

    a. By 30 May 2012, the City shall submit a RWD or apply for revised WDRs.

    b. If requested by the Executive Officer, the City shall submit a revised RWD that addresses staff's comments within 45 days of the request.

    c. By 30 October 2013, the City shall submit a technical report certifying that (1) the improvements/expansion project has been completed, (2) the facility does not discharge to Sutter Creek in violation of the Clean Water Act, and (3) any groundwater degradation that occurs due to treatment and disposal of wastewater is consistent with State Water Board Resolution 68-16.

    The City elected to modify the WWTF in a manner that would not require an NPDES permit. However, the City did not submit a RWD until 30 July 2012, and the RWD did not meet the criteria set forth in the CDO.

17. On 10 September 2012, the Executive Office of the Central Valley Water Board issued Administrative Civil Liability Complaint R5-2012-0558 for $143,552 to the City for failure to submit a complete Report of Waste Discharge as required by the 2011 CDO. On 10 January 2012, the matter was settled when the Assistant Executive Officer signed a final Settlement Agreement and Stipulation. The City agreed to the imposition of an administrative civil liability totaling $123,818, with $61,909 paid into the Cleanup and Abatement Account and the remaining liability of $61,909 permanently suspended because the City completed an Enhanced Compliance Action (the Preston Avenue Sewer Slip Lining Project).

Planned Changes in the Facility and Discharge

18. The City has approved several development projects, which will increase the total EDU from current 1,525 to 1,900 EDUs by the year 2020. In order to comply with the 2011 CDO and to increase WWTF capacity for future development, the City proposed two phases of WWTF modifications:

    Phase I (to be completed by 30 October 2013) will consist of:

    a. Constructing new water recycling land application areas (LAAs) on land owned by the Dischargers, including the 11-acre WWTF Field and the 67-acre Town Field (shown on Attachment B);

    b. Installing a specific number of additional aerators with specific horsepower in treatment Ponds 1 through 4 to consistently maintain high dissolved oxygen throughout the treatment process;

    c. Installing a mixing unit in Pond 5 to reduce the anoxic conditions in the pond (which has already been installed);

    d. Installing a new disinfection system utilizing sodium hypochlorite injection and a contact chamber; and

    e. Sludge removal from Ponds 5 and 6.

    Phase II (to be completed in 2015) will consist of:

    a. Constructing Pond 8 on the location of the 11-acre WWTF Field. Pond 8 will be clay lined with a capacity of 17 million gallons. It will be used to store un-disinfected effluent during the non-irrigation season; and

    b. Adding additional water recycling LAAs totaling 56 acres: the 40-acre Greenrock LAA and the 16-acre COWRP Field.

    The Phase II site plan is shown on Attachment C.

19. After completion of Phase I construction, the wastewater treatment and disposal facilities will consist of Ponds 1 through 7, a disinfection system, and the WWTF Field and Town Field LAAs with a total area of 78 acres. In Phase II, storage Pond 8 will be installed and the LAAs will consist of Town Field, COWRP Field, and Greenrock LAA with a total area of 123 acres. The LAAs are listed in the following table:

Improvements Phase	LAA Name	Total Area (acres)	Net Area* (acres)
Phase I	WWTF Field	11	9
	Town Field	67	56
Phase II	Town Field	67	56
	COWRP Field	16	15.5

Improvements Phase	LAA Name	Total Area (acres)	Net Area* (acres)
	Greenrock LAA	40	30.5

* Usable area considering setbacks required by Title 22.

20. The effluent applied to the LAAs will be disinfected secondary-23 recycled water (as the term is defined in California Code of Regulations, Title 22, section 60301.225). The land application will occur mainly during the summer months. Recycled water may also be used during the winter months in dry years to meet crop demands. The use of the proposed LAAs will reduce the use of the percolation ponds during the summer months, which minimizes potential for seepage of degraded groundwater and reduces the potential for groundwater surfacing in areas adjacent to the WWTF because of the reduced hydraulic load on the groundwater. In addition, the land application will empty the percolation ponds during some summer months, allowing for sludge removal, drying, and aeration of the soils beneath all the percolation ponds.

21. During the non-irrigation season, the treated un-disinfected wastewater will be discharged into percolation Ponds 5 through 7 and the clay lined storage Pond 8. During the irrigation season, secondary effluent will be disinfected in an 84,000-gallon chlorine contact basin before land application. The hydraulic residence time in the chlorine contact basin will be 60 minutes at a pumping rate of 1,400 gallons per minute. Sludge removed from the ponds will be hauled off site for disposal at an appropriately permitted facility. The wastewater treatment process schematic is shown on Attachment D, which is attached hereto and made part of this Order by reference.

22. The Dischargers propose to grow and harvest fodder crops such as alfalfa hay on the LAAs. The LAAs will have wheel-line irrigation systems controlled by a Supervisory Control and Data Acquisition (SCADA) system. The LAAs will be graded to drain tailwater to collection ditches. In general, irrigation tailwater will be collected and pumped back to the irrigation system for disposal. However, in the case of the WWTF field, irrigation tailwater will be returned to the WWTF headworks. The LAAs will not be irrigated during rainfall or when the soil is saturated to prevent commingling of storm water with tailwater. Storm water runoff from the LAAs will be allowed to drain to existing drainage features which eventually discharge to Sutter Creek. The LAAs may be used for cattle grazing.

23. The City also proposes to use disinfected secondary-23 recycled water during construction of the improvements at the WWTF, including backfill consolidation around nonpotable water piping, soil compaction, mixing concrete, and dust control. This Order allows that use.

24. As part of LAA design activities, the City has performed a preliminary geotechnical investigation and analyzed nine test pits at the WWTF and COWRP Fields to assess their suitability. In general, soil conditions were observed to be relatively consistent

and predominately characterized as clay and silty clay. There was evidence of likely restrictive layers and seasonal saturation (clay with mottles) in two of the pits on the WWTP field at depths of 3 to 4 feet. Evidence of restrictive layers or seasonal saturation was not found in the other test pits.

25. The RWD states that, according to the US Bureau of Reclamation's AgriMet website, the average root depth for alfalfa is 4 feet, which is above seasonal high groundwater and well above groundwater levels in summer and fall.

26. The proposed storage Pond 8 in Phase II will be a 17 million gallon pond with a berm height of approximate 10 feet above the surrounding grade. Because of the shallow groundwater, the pond bottom will be approximately two feet below grade to provide some separation. The pond will be constructed with a 24-inch thick clay liner along the base and sidewalls placed and compacted to achieve a maximum permeability of 1×10^{-6} cm/sec. The RWD states that local Ione clays can achieve this permeability with appropriate placement and compaction.

27. The RWD projected that the effluent will have both BOD and total suspended solid concentrations of 30 mg/L. The RWD did not project the TDS and chloride concentrations for the disinfected wastewater. It is expected that the salinity levels of the disinfected effluent will be slightly higher than the current un-disinfected effluent levels.

28. The water balances in the RWD demonstrate the facility will have the following storage and disposal capacities for Phases I and II:

Flow Component	Phase I	Phase II
Influent ADWF [1] (MGD)	0.50	0.52
Total effluent flow to the percolation ponds as a maximum flow for any calendar month (MGD)	0.75	0.78
Total annual effluent flow to the percolation ponds (MG)	237	246

[1] Influent flows at headworks in the months of July through September, inclusive.

The influent flows used in the capacity analysis include: domestic wastewater generated from the City, tertiary filter backwash flows from the COWRP, and filter backwash flows from the AWA water treatment plant. The total effluent flows to the percolation ponds include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds. The water balances are based on the assumption of year-round cropping of all available LAAs. Therefore, this Order requires year round cropping of all LAAs and allows year-round irrigation with recycled effluent to meet crop water needs.

29. The 2011 CDO flow limits are 0.55 MGD as an average dry weather influent flow and 0.75 MGD as a monthly average effluent flow for any calendar month. The City states that the current treatment capacity is 0.55 MGD. However, the storage and disposal capacity is less than 0.55 MGD. Therefore, this Order sets initial flow limits equal to the WWTF's capacity after the Phase I upgrades are completed. This Order grants the Executive Officer the authority to increase the flow limits to the Phase II capacity after the City demonstrates that it has satisfactorily completed the proposed Phase II modifications.

Site-Specific Conditions

30. Potable water supply for the City is provided by AWA. The raw water comes from Tanner Reservoir and is treated in the City of Ione Water Treatment Plant by AWA. Based on the AWA's March 2011 sampling result, the chemical character of the potable water is summarized below.

Water Supply Analytical Results

Parameter	Unit	Concentration
Total Dissolved Solids	mg/L	37 mg/L
Calcium	mg/L	4.7 mg/L
Chloride	mg/L	1.8 mg/L
Fluoride	mg/L	< 0.10 mg/L
Magnesium	mg/L	1.0 mg/L
Phosphate	mg/L	1.0 mg/L
Potassium	mg/L	Non Detect
Sodium	mg/L	2.5 mg/L
Sulfate	mg/L	1.5 mg/L
Total Alkalinity	mg/L	18 mg/L
Hardness	mg/L	24 mg/L
Aluminum	mg/L	Not Detected
Arsenic	mg/L	Not Detected
Cadmium	mg/L	Not Detected
Copper	mg/L	Not Detected
Lead	mg/L	Not Detected
Iron	mg/L	Not Detected
Manganese	mg/L	Not Detected
Nickel	mg/L	Not Detected
Zinc	mg/L	Not Detected

31. The ground surface elevations at the WWTF site range from approximately 258 to 280 feet above mean sea level (MSL), and the area around the site is relatively flat. Sutter Creek flows from east to west approximately 100 feet north of the northernmost WWTF ponds.

32. The WWTF, WWFT Field, and COWRP Field are outside of the 100-year flood zone based on the FEMA 2000 Insurance Maps. The Greenrock LAA and the southern portion of the Town Field are within 100-year flood plain of Sutter Creek.

33. Surrounding land uses are primarily residential and agricultural. Annual precipitation in the vicinity averages approximately 23 inches, the 100-year total annual precipitation is approximately 40 inches, and the reference evapotranspiration rate is approximately 54 inches per year.

Groundwater Considerations

34. Soils at the existing WWTF and the LAAs are quaternary alluvium of the Modesto-Riverbank formation, which are mapped as Honcut very fine sandy loam on Honcut loam over clay. The soil permeability is low to moderate.

35. The City has been monitoring shallow groundwater at the WWTF since 2002. The current groundwater monitoring network consists of eight monitoring wells (MW-1, MW-1A, MW-2, MW-3, MW-3A, MW-4, MW-4A and MW-5A) and four piezometers (P1, P2, P3, and P5A). MW-1 and MW-1A are up-gradient of the WWTF, and MW-3, MW-3A, MW-4, MW-4A and MW-5A are down-gradient of the WWTF ponds, as shown on Attachment B. MW-2 monitors groundwater between Pond 4 and Sutter Creek. The following table presents a summary of the monitoring well construction details.

Monitoring Well ID	Well Depth (feet)	Range of Depth to water (feet)	Min. Groundwater Elevation (feet, msl)	Max. Groundwater Elevation (feet, msl)
MW-1 [1]	25	7.61 to 15.31	258.86	266.56
MW-1A [1]	41.5	8.11 to 14.42	259.67	265.98
MW-2 [1]	26	11.4 to 15.37	257.00	260.97
MW-3 [1]	26	11.05 to 16.59	253.26	258.80
MW-3A [1]	31.5	18.76 to 22.22	256.05	259.51
MW-4 [2]	27	8.57 to 14.51	254.26	260.20
MW-4A [2]	26.5	6.18 to 10.49	255.23	259.54
MW-5A [2]	26.5	5.08 to 9.82	256.31	261.05
P1 [2]	25	3.68 to 9.86	259.02	265.20
P2 [2]	26.5	12.82 to 17.47	259.86	264.51
P3 [2]	31.5	11.38 to 18.35	257.36	264.33
P5B [2]	17	4.46 to 9.19	256.32	261.05

[1] Data collected during July 2002 through September 2012.
[2] Data collected during August 2007 through September 2012.

The highest groundwater elevation in the piezometer P1 is 265.20 feet, which is slightly higher than the Pond 5 bottom elevation of 264.7 feet. Based on this information, the bottoms of some of the disposal ponds are likely in contact with

seasonal high groundwater, and these conditions may impact the ability of the soils beneath the disposal ponds to treat or remove certain waste constituents.

In addition, six MW-08 series wells (MW-08-1, MW-08-2A, MW-08-2B, MW-08-3, MW-08-4A, MW-08-4B) are located east and south of the WWTF, as shown on Attachment B. Since September 2009, the MW-08 series wells have only been used to measure the groundwater elevations semi-annually. The depths of water in the up-gradient wells MW-08-4A, MW-08-4B ranged from 10 to 20 feet; while the depths of water in MW-08-1 ranged from 1.64 to 5.76 feet.

36. As noted above, groundwater at the site and surrounding properties is very shallow (approximately 1.64 to 22 feet below ground surface). In general, the shallow groundwater flow direction is westward (parallel to Sutter Creek). Up-gradient of WWTF, the groundwater gradient is relative flat (approximately 0.001 feet/foot); Down-gradient of the WWTF ponds, the gradient steepens to approximately 0.02 to 0.03 feet/foot. Groundwater mounding occurs in the area around the WWTF ponds.

37. Groundwater quality has been characterized by quarterly sampling of monitoring wells from March 2009 through September 2012. A summary of average concentrations (except total coliform organisms) is presented in the table below for select constituents.

Well ID	TDS (mg/L)	Dissolved manganese (µg/L)	Dissolved iron (µg/L)	Nitrate nitrogen (mg/L)	Total Kjeldahl nitrogen (mg/L)	Total coliform organisms, median (MPN/100 ml)	Sodium (mg/L)	Chloride (mg/L)
Background Wells								
MW-1	178	6.9	13.9	1.1	0.2	<2	9.2	6.8
MW-1A	241	20	21	2.7	0.5	<2	16	18
Downgradient Wells								
MW-2	271	3,920	1,943	0.1	2.9	<2	42	41
MW-3	323	4,133	66	0.4	1.3	<2	40	39
MW-3A	283	5,513	3,818	0.2	6.0	<2	42	41
MW-4	259	373	31	0.1	0.1	<2	42	41
MW-4A	269	89	48	0.3	0.2	4	24	31
MW-5	257	221	12	0.4	0.1	<2	21	25

38. A discussion of groundwater conditions at the WWTF site is presented below based on the above data:

    a. The average TDS concentrations in the background wells MW-1 and MW-1A ranged from 178 to 241 mg/L. The average TDS concentrations in the down-gradient wells ranged from 257 to 323 mg/L. Therefore the discharge has degraded groundwater quality for TDS. However, the average TDS concentrations in the down-gradient wells were less than the recommended secondary maximum concentration limit (MCL) of 500 mg/L for TDS.

    b. The average nitrate nitrogen concentrations in the background wells MW-1 and MW-1A ranged from 1.1 to 2.7 mg/L. The nitrate nitrogen concentrations in the down-gradient wells ranged from 0.1 to 0.4 mg/L. These data indicate that the discharge has not degraded groundwater with nitrate. However, groundwater monitoring data indicate that groundwater has been degraded by total Kjeldahl nitrogen, which is a nitrate precursor.

    c. The secondary MCL for dissolved iron is 300 µg/L. The average dissolved iron concentrations in the background wells MW-1 and MW-1A ranged from 13.9 to 21 µg/L. The average dissolved iron concentrations in down-gradient wells MW-2, MW-3A ranged from 1,943 to 3,818 µg/L, which show that the discharge has caused dissolved iron in shallow groundwater to exceed the secondary MCL in violation of the water quality objective in the Basin Plan.

    d. The secondary MCL for dissolved manganese is 50 µg/L. The average dissolved manganese concentrations in the background wells MW-1 and MW-1A ranged from 6.9 to 20 µg/L. However, the average dissolved manganese concentrations in down-gradient wells MW-2, MW-3A ranged from 3,920 to 5,513 µg/L, which show that the discharge has caused dissolved manganese in shallow groundwater to exceed the secondary MCL in violation of the water quality objective in the Basin Plan.

    e. The median concentrations of total coliform organisms in the background wells MW-1 and MW-1A were less than 2.2 most probable number (MPN)/100 mL, which is the Basin Plan's numeric water quality objective for total coliform organisms. The median concentrations of total coliform organisms in all down-gradient wells except MW-4A were less than 2.2 MPN/100 mL. MW-2 has had sporadic detections up to 240 MPN/100 mL. MW-4A has had sporadic detections up to 900 MPN/100 mL with a median concentration of 4 MPN/100 mL for total coliform organisms. The reasons for the occasional total coliform exceedances are unknown. The groundwater coliform detections may be caused by cross-contamination of the monitoring wells during construction and/or subsequent sampling events, or the inadequate soil separations between the pond bottom and groundwater. The lack of consistent detections indicates that the discharge has not caused violation of the Basin Plan water quality objective.

Basin Plan, Beneficial Uses, and Regulatory Considerations

39. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins,* Fourth Edition (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

40. Local drainage is to Sutter Creek, a tributary of the Cosumnes River. The beneficial uses of the Cosumnes River, as stated in the Basin Plan, are municipal and domestic supply, irrigation, stock watering, contact recreation, canoeing and rafting, other noncontact recreation, warm and cold freshwater habitat, warm and cold migration, warm and cold spawning, and wildlife habitat.

41. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

42. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.

43. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MPN groundwater.

44. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (hereafter Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

45. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.

46. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.

47. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 µmhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 µmhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

Antidegradation Analysis

48. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:
    a. The degradation is consistent with the maximum benefit to the people of the state.
    b. The degradation will not unreasonably affect present and anticipated future beneficial uses.
    c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and
    d. The dischargers employ best practicable treatment or control (BPTC) to minimize degradation.

49. Degradation of groundwater by some of the typical waste constituents associated with discharges from a municipal wastewater utility, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing limited groundwater degradation.

50. The City has been monitoring groundwater quality at the site since 2002. Based on the data available, it is not possible to determine pre-1968 groundwater quality. To ensure compliance with Resolution 68-16, the Central Valley Water Board has evaluated the potential for the discharge to impact background groundwater quality, which has been defined by sampling groundwater monitoring wells in the vicinity of the WWTF that have not been affected by the City's discharges.

51. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS), iron, manganese, nutrients, and coliform organisms, as discussed:

Constituent	Unit	Concentration (mg/L)			
		Effluent[1]	Background Groundwater[2]	Downgradient Groundwater[3]	Protective Numeric Limit
TDS	mg/L	231	178 - 241	257 - 323	500 to 1,500[4]
Nitrate as N	mg/L	3.2	1.1 - 2.7	0.1 - 0.4	10[5]

Constituent	Unit	Concentration (mg/L)			
		Effluent[1]	Background Groundwater[2]	Downgradient Groundwater[3]	Protective Numeric Limit
TKN	mg/L	19.4	0.2 - 0.5	0.1 – 6.0	--
Iron	µg/L	--	13.9 - 21	12 - 3,818	300[6]
Manganese	µg/L	--	6.9 - 20	89 - 5,513	50[6]

[1] Effluent averages from January 2010 through March 2012.
[2] Compiled from MW-1, and MW-1A; data collected from March 2009 through September 2012.
[3] Compiled from MW-2, MW-3, MW-3A, MW-4, MW-4A and MW-5A; data collected from March 2009 through September 2012.
[4] Secondary Maximum Contaminant Level range.
[5] Primary Maximum Contaminant Level.
[6] Secondary Maximum Contaminant Level.

a. The Secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The average TDS concentrations in the background wells MW-1 and MW-1A ranged from 178 to 241mg/L. The average TDS concentrations in the down-gradient wells ranged from 257 to 323 mg/L. Therefore the discharge has degraded groundwater quality for TDS. However, the average TDS concentrations in down-gradient wells were less than both the lowest potentially-applicable water quality goal for agricultural use (450 mg/l) and the recommended secondary MCL of 500 mg/L for TDS. Because the City proposes to disinfect effluent to the LAAs by using sodium hypochlorite, the disinfected effluent TDS concentrations will be slightly higher than the current effluent TDS average concentration of 232 mg/L. However, it is expected that the future effluent TDS concentrations will continue to be less than the recommended Secondary MCL of 500 mg/L and that the discharge will not cause exceedance of a water quality objective. Therefore, this Order does not contain an effluent TDS limit.

b. The Secondary MCL for iron is 300 µg/L, and background groundwater quality is below this level. However, the average dissolved iron concentrations in the down-gradient wells MW-2 and MW-3A ranged from 1,943 to 3,818 µg/L, showing that the discharge has caused dissolved iron in shallow groundwater to exceed the secondary MCL in violation of the Basin Plan. The current monitoring program does not require analysis of iron in the effluent. However, based on the potable water character (iron is typically not detected), domestic water use, and the WWTF operation, the effluent is not expected to contain high iron concentrations. Iron impacts to groundwater are attributable to the presence of degradable organic matter in the wastewater, which depletes oxygen and creates reducing conditions that favor dissolution of iron from the native soil minerals. In order to comply with the 2011 CDO, the City proposes to: a) increase aeration in the treatment ponds, b) increase mixing in Pond 5, and c) remove sludge from the percolation ponds to decrease anoxic conditions that result in iron mobilization to the shallow groundwater. If these measures do not result in reduction of iron in the groundwater below the secondary MCL, the City plans to remove anoxic soils from the bottom of Pond 5 and add two feet of imported clean soil fill to increase the separation from groundwater.

Based on the planned modifications to the WWTF and proposed LAAs, groundwater quality with respect to iron is expected to improve over time. However, it is not possible to predict whether iron concentrations will be reduced to below the Secondary MCL or exactly when significant improvement in groundwater quality will occur. A companion Cease and Desist Order will include a time schedule that will require the City to complete the proposed facility modifications on a timeline specified by the Central Valley Water Board.

c. The Secondary MCL for manganese is 50 µg/L, and background groundwater quality is below this level. However, the average dissolved manganese concentrations in down-gradient wells MW-2 and MW-3A ranged from 3,920 to 5,513 µg/L, which are much greater than the secondary MCL for manganese. The groundwater monitoring results show that the discharge has caused dissolved manganese in shallow groundwater to exceed the secondary MCL in violation of the Basin Plan. Although manganese may not be present in the WWTF effluent at high concentrations, the reducing conditions in the groundwater mound beneath the WWTF ponds promote the dissolution of manganese that is naturally present in the soil beneath the ponds.

Based on the planned modifications to the WWTF and proposed LAAs, groundwater quality with respect to manganese is expected to improve over time. However, it is not possible to predict whether manganese concentrations will be reduced to below the Secondary MCL or exactly when significant improvement in groundwater quality will occur. A companion Cease and Desist Order will include a time schedule that will require the City to complete the proposed facility modifications on a timeline specified by the Central Valley Water Board.

d. For nutrients such as nitrate, the potential for degradation depends not only on the quality of the treated effluent, but the ability of the vadose zone below the effluent disposal ponds to provide an environment conducive to nitrification and denitrification to convert the effluent nitrogen to nitrate and the nitrate to nitrogen gas before it reaches the water table.

The nitrate nitrogen concentrations in the background wells MW-1 and MW-1A ranged from 1.1 to 2.7 mg/L, which are higher than the nitrate nitrogen concentrations in the down-gradient wells (nitrate nitrogen 0.1 to 0.4 mg/L). The groundwater nitrate nitrogen concentrations in all wells were less than the primary MCL of 10 mg/L for nitrate nitrogen. However, groundwater monitoring data indicate that groundwater has been degraded by total Kjeldahl nitrogen, which is a nitrate precursor. Currently, the effluent has average nitrate nitrogen and total nitrogen concentrations of 3.2 mg/L and 22.6 mg/L, respectively. The effluent quality of the modified WWTF is expected to remain the same. It is appropriate to set an effluent limit of 25 mg/L for total nitrogen as an annual average to prevent further groundwater degradation due to pond percolation at the

WWTF. The City is able to comply with this limit. Groundwater is shallow at the site. It is appropriate to set a groundwater limit of 10 mg/L for nitrate to protect groundwater.

Based on the effluent total nitrogen concentration of 22.6 mg/L, the projected total nitrogen loading rate for the LAAs is 261 pounds per acre per year (lbs/ac/yr), which is less than the crop demand for alfalfa of up 480 lbs/ac/yr. Therefore, the wastewater land application is not likely to degrade groundwater quality for nitrogen at the LAAs in the future.

e. For coliform organisms, the potential for exceedance of the Basin Plan's numeric water quality objective depends on the ability of vadose zone soils below the effluent storage/disposal ponds and saturated soils within the shallow water bearing zone to provide adequate filtration. The median concentrations of total coliform organisms in the background wells MW-1 and MW-1A are less than 2.2 MPN/100 mL. However, the down-gradient wells have shown occasional exceedances. Therefore, this Order sets a groundwater limitation for coliform organisms at the Basin Plan numeric water quality objective.

52. This Order, in concert with the companion CDO, establishes both effluent and groundwater limitations for the WWTF and a progressive sequence of improvements that will ultimately ensure that the discharge will not affect beneficial uses and will not result in water quality less than that prescribed in state and regional policies, including water quality objectives set forth in the Basin Plan.

After the facility and operational improvements described in Finding 18 a-e are completed, the City will provide treatment and control of the discharge that incorporates:

a. Improved secondary treatment through additional aeration;

b. Direct mixing in Pond 5 to promote aerobic conditions;

c. Water recycling to reduce waste constituent loading to the creek and groundwater;

d. Sludge removal; and

e. Chlorine disinfection.

The Central Valley Water Board considers these measures to go beyond treatment and control measures currently implemented by similarly-situated municipalities of the same approximate size that face similar environmental conditions, and therefore the Board considers these measures to constitute "best practicable" treatment and control of the waste discharge constituents. Because the City is implementing what the Board considers to be best practicable treatment or control of the discharges, the Board has the discretion to allow degradation of high-quality water up to the water quality objectives set forth in the Board's Basin Plan, provided that such degradation is consistent with the maximum benefit to the people of the state. However, the Board recognizes that the City may still need to implement measures that go beyond

those required herein, because even the City's implementation of "best practicable" measures do not allow the Board to authorize degradation that results in water quality worse than that which is protective of beneficial uses. Even after implementing the improvements described above, if iron and manganese concentrations in shallow groundwater remain elevated beyond their respective secondary MCLs, the Board will require the City to take additional measures. It is therefore appropriate for the Board to issue a companion Cease and Desist Order that will set forth a scope and schedule for work that will ensure that the City's discharge will not allow iron and manganese concentrations to impact beneficial uses in the shallow groundwater. However, the Board has the obligation to ensure that this compliance period will be as short as practicable.

53. The limited degradation that may occur as a result of this discharge is consistent with the maximum benefit to the people of the state as described in Finding 47, and the City is implementing treatment or control measures that the Board considers to be best practicable treatment and control. The Board is also setting a time schedule that will ensure that the City will achieve compliance with all state and regional policies, and that the discharge will not unreasonably affect present and anticipated beneficial uses. Therefore, this Order is consistent with Resolution 68-16. Should groundwater monitoring data reveal degradation beyond that anticipated in this Order, the City may be required to evaluate and implement additional treatment or control measures.

Water Recycling Regulatory Considerations

54. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms. The California Department of Public Health (CDPH), which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, section 60301 et seq. for the use of recycled water.

55. A 1988 Memorandum of Agreement (MOA) between CDPH and the State Water Board on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California. This Order implements the applicable portions of the Title 22 water recycling regulation in accordance with the MOA.

56. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, *Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gases.

57. On 23 April 2009, the Central Valley Water Board adopted Resolution R5-2009-0028, *In Support of Regionalization, Reclamation, Recycling and Conservation for*

Wastewater Treatment Plant. Resolution R5-2009-0028 encourages water recycling, water conservation, and regionalization of wastewater treatment facilities. It requires the municipal wastewater treatment agencies to document:

a. Efforts to promote new or expanded wastewater recycling opportunities and programs;

b. Water conservation measures; and

c. Regional wastewater management opportunities and solutions (e.g., regionalization).

The distribution of disinfected secondary recycled water by the City is consistent with the intent of State Board Resolution 2009-0011 and Central Valley Water Board Resolution R5-2009-0028.

58. The City submitted a *Title 22 Engineering Report* in October 2012 to the Central Valley Water Board and the CDPH pursuant to Title 22 for water recycling of disinfected secondary-23 recycled water as defined by Title 22, section 60301.225. On 1 November 2012, the CDPH commented on the *Title 22 Engineering Report* and directed the City to revise the report to address specific deficiencies. In addition, the CDPH recommended some specific requirements to be included in the revised WDRs. The CDPH has not approved the *Title 22 Engineering Report.* This Order incorporates the requirements requested by the CDPH. This Order prohibits the discharge of recycled water to the LAAs unless and until the CDPH has approved the *Title 22 Engineering Report.*

Other Regulatory Considerations

59. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B as defined below:

a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."

b. Category B complexity, defined as: "Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units."

60. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:

(a) Sewage - Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

(b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

(1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;

(2) the discharge is in compliance with the applicable water quality control plan; and

(3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

(h) Reuse - Recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division.

61. The discharge authorized herein and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:

a. The Ponds 1 through 4 and Pond 8 are exempt pursuant to Title 27, section 20090(a) because they are treatment and storage facilities associated with a municipal domestic wastewater treatment plant.

b. Percolation Ponds 5, 6, 7 and the LAAs are exempt pursuant to Title 27, section 20090(b) because:

i. The Central Valley Water Board is issuing WDRs.

ii. Following completion of the improvements required by this Order and a companion Cease and Desist Order, the discharge will be in compliance with the Basin Plan, and;

iii. The treated effluent discharged to the ponds and LAAs does not need to be managed as hazardous waste.

62. Although the WWTF and the LAAs are exempt from Title 27, the statistical data analysis methods of Title 27, section 20415(e) are appropriate for determining whether the discharge complies with Groundwater Limitations specified in this Order.

63. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The wastewater treatment facility has a design capacity of less than 1.0 MGD. The City is therefore not required to obtain coverage under NPDES General Permit CAS000001.

64. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order 2006-0003-DWQ (the General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the Order. The WWTF includes more than one mile of sewer lines and is regulated under General Order 2006-0003-DWQ.

65. Water Code section 13267(b) states:

> In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2013-0022 are necessary to ensure compliance with these waste discharge requirements. The Dischargers own and operate the facilities that discharge the waste subject to this Order.

66. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.

67. The action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with the California Code of Regulations, title 14, section 15301.

68. On 26 February 2013, the City certified a Mitigated Negative Declaration for the proposed Phase I/II project in accordance with the California Environmental Quality Act (CEQA). The Initial Study/Mitigated Negative Declaration evaluated the potential impacts to water quality and found that the project will have less than significant impacts to water quality with mitigation incorporated. The Central Valley Water Board participated in the development of the CEQA document as a responsible agency. Compliance with these waste discharge requirements will mitigate or avoid significant impacts to water quality.

69. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 CFR 503, *Standard for the Use or Disposal of Sewage Sludge,* which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria.

70. The Central Valley Water Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Central Valley Water Board is not the implementing agency for 40 CFR 503 regulations. The Dischargers may have separate and/or additional compliance, reporting, and permitting responsibilities to the EPA.

71. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

72. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

73. The Dischargers and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.

74. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Order 95-125 is rescinded except for purposes of enforcement and, pursuant to Water Code sections 13263 and 13267, the City and Greenrock Ranch Lands, LLC, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of recycled water is prohibited unless and until the CDPH has approved the *Title 22 Engineering Report.*
3. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.
4. Discharge of waste classified as 'designated', as defined in Water Code section 13173, is prohibited.
5. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements.*
6. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
7. Discharge of toxic substances into the wastewater treatment system or land application areas such that biological treatment mechanisms are disrupted is prohibited.

B. Flow Limitations

1. **Effectively immediately**, the influent flows to the WWTF and the effluent to the percolation ponds shall not exceed the following limits:

Flow Measurement	Limit
Influent Average Dry Weather Flow [1]	0.50 MGD
Total effluent flow as a maximum flow for any calendar month [2]	0.75 MGD
Total annual effluent flow [3]	237 MG

[1] As determined by the total flow for the months of July through September, inclusive, divided by 92 days.
[2] As determined by the total flow during the calendar month divided by the number of days in that month.
[3] As determined by the total flow for the calendar year.

Influent flows at the headworks shall include domestic wastewater generated from the City of Ione, tertiary filter backwash flows from the COWRP, and filter backwash flows

from the AWA water treatment plant. Total effluent flows to the percolation ponds shall include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds.

2. **Effective on the date of Executive Officer approval** of the ~~*Phase II*~~ *2020 Capacity Expansion Completion Report* submitted pursuant to Provision I.1.ca, influent flows to the WWTF and total effluent flows to the ~~percolation ponds and~~ storage/disposal ponds shall not exceed the following limits. Approval of the report is dependent on submittal of a water balance capacity analysis demonstrating that the as-built hydraulic capacity of the WWTF is consistent with the flow limits.

Flow Measurement	Limit
Influent ADWF [1]	0.52 MGD
Total effluent flow as a maximum flow for any calendar month [2]	0.78 MGD
Total annual effluent flow [3]	246 MG

[1] As determined by the total flow for the months of July through September, inclusive, divided by 92 days.
[2] As determined by the total flow during the calendar month divided by the number of days in that month.
[3] As determined by the total flow for the calendar year.

Influent flows at the headworks shall include domestic wastewater generated from the City of Ione, tertiary filter backwash flows from the COWRP, and filter backwash flows from the AWA water treatment plant as applicable. Total effluent flows to the ~~percolation ponds and~~ storage/disposal ponds shall include the influent flows at the headworks and the ARSA secondary effluent flows to the percolation ponds as applicable.

C. Effluent Limitations

1. Effluent discharged to the percolation ponds shall not exceed the following limits:

Constituent	Units	Monthly Average	Monthly Maximum	Annual Average [2]
BOD_5 [1]	mg/L	40	60	--
Total Nitrogen as N	mg/L	--	--	25

[1] 5-day biochemical oxygen demand at 20°C.
[2] As determined by the sum of all effluent monthly results during the calendar year divided by the number of samples.

~~2. Prior to discharge to the LAAs, effluent shall not exceed the following limits for total coliform organisms:~~

~~a. The monthly median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 23 per 100 milliliters. Compliance with this requirement will be determined using weekly monitoring data for each calendar month.~~

~~b. The number of total coliform bacteria shall not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.~~

~~Compliance with this requirement shall be determined based on samples obtained at the sampling location shown on Attachment D.~~

~~3.~~2. The annual total nitrogen mass loading to each of the LAAs shall not exceed the agronomic rate for the crop grown. Compliance with this requirement shall be determined using published nitrogen uptake rates for the vegetation/crops grown and the following formula:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

M = mass of nitrogen applied in lbs/ac/yr
C_i = concentration of total nitrogen in month i in mg/L
V_i = volume of wastewater applied during calendar month i in million gallons
A = the area of the LAA in acres
i = the number of the month (e.g., January = 1, February = 2, etc.)
M_x = nitrogen mass from other sources (e.g., fertilizer, cattle and compost) in pounds
8.345 = unit conversion factor

D. Groundwater Limitations

Release of waste constituents from any portion of the WWTF shall not cause groundwater to:

1. Exceed a total coliform organism level of 2.2 MPN/100mL as a 7-day median.

2. For constituents identified in Title 22, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established therein.

3. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

Compliance with these limitations shall be determined annually based on intra-well comparison of compliance well concentrations to the specified limitation using approved statistical methods.

E. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.

~~2. The discharge shall not cause degradation of any water supply.~~

~~3.~~2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

~~4.~~3. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.

~~5.~~4. The City shall operate all systems and equipment to optimize the quality of the discharge.

~~6.~~5. Excluding the water recycling LAAs, all treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

~~7.~~6. Public contact with wastewater shall be prevented through such means as fences, signs, or acceptable alternatives.

~~8.~~7. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.

~~9.~~8. As a means of discerning compliance with Discharge Specification D.8, the dissolved oxygen (DO) content in the upper one foot of any pond that contains wastewater shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the City shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

~~10.~~9. The City shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the City shall install and maintain in each pond a permanent staff gauge with calibration marks

that clearly show the water level at design capacity and enable determination of available operational freeboard.

~~11.~~10. The treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

~~12.~~11. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.10 and D.11.

~~13.~~12. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.

b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

d. The Dischargers shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

~~14.~~13. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

~~15.~~14. Wastewater contained in any pond shall not have a pH less than 6.0 or greater than 9.0.

~~16.~~15. The City shall monitor sludge accumulation in Ponds 1 through 4 at least every five years beginning in 2016, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of dry sludge in any pond exceeds five percent of the permitted capacity specified in Finding 7, the City shall complete sludge cleanout for that pond within 12 months after the date of the estimate.

F. Land Application Area Specifications

1. Crops shall be grown and harvested year round in all LAAs.

2. Application of effluent to the LAAs shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the LAAs, including the nutritive value of organic and chemical fertilizers and of the wastewater shall not exceed the annual crop demand.

3. Wastewater shall not be discharged to the LAAs in a manner that causes wastewater to stand for greater than 48 hours.

4. Any irrigation runoff (tailwater) shall be confined to the LAAs or collected and recycled at the LAAs, and shall not enter any surface water drainage course or storm water drainage system. ~~Storm water runoff may be discharged off site provided that the Dischargers comply with Land Application Area Specification F.5 below.~~

5. Irrigation using recycled water shall not be performed during rainfall or when the ground is saturated.

6. Discharge of effluent to any LAA not having a fully functional tailwater/runoff control system is prohibited.

G. Water Recycling Specifications

1. For the purposes of this section, the term "LAAs" shall mean recycled water Use Areas used to grow crops and Use Areas where recycled water is used for construction purposes pursuant to Title 22, section 60307(b).

2. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to an Engineering Report prepared pursuant to Title 22, section 60323 and approved by the ~~California Department of Public Health.~~State Water Board Division of Drinking Water.

3. The use of recycled water shall not cause pollution or nuisance, as defined by Water Code section 13050.

4. Application of recycled water shall be confined to the LAAs.

5. The recycled water shall be at least ~~disinfected~~un-disinfected secondary ~~23~~ recycled water as defined in Title 22, section 60301.~~225~~900.

6. Recycled water shall be used in compliance with Title 22, sections 60304 and 60307. Specifically, uses of recycled water shall be limited to those set forth in Title 22, sections~~,~~ 60304(~~c~~d) and 60307 (~~b~~c).

7. No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops that may be eaten raw by humans.

8. Each water recycling LAA shall have a designated supervisor. The supervisor(s) and their staff shall be trained on the hazards of working with recycled water and shall be periodically retrained.

9. The LAAs shall be inspected as frequently as necessary to comply with Monitoring and Reporting Program R5-2013-0022 and to ensure continuous compliance with the requirements of this Order.

10. Hydraulic loading of recycled water and supplemental irrigation water shall be at reasonable agronomic rates designed to:
    a. Maximize crop nutrient uptake;
    b. Maximize breakdown of organic waste constituents in the root zone; and
    c. Minimize the percolation of waste constituents below the root zone.

11. The irrigation with recycled water shall be managed to minimize erosion within the LAAs.

12. All storm water runoff from the LAAs shall be captured and recycled for irrigation or allowed to percolate within the use areas.

13. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

14. All drinking fountains located within the use areas shall be protected by location and/or structure from contact with recycled water spray, mist, or runoff.

15. Grazing of milking animals within the LAAs is prohibited.

~~12.~~16. The LAAs shall be managed to prevent breeding of mosquitoes. In particular:
    a. There shall be no standing water 48 hours after irrigation ceases;
    b. Tailwater ditches shall be maintained essentially free of emergent, marginal, and floating vegetation; and
    c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

~~13.~~17. The LAAs and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements:

Setback Definition	Minimum Irrigation Setback (feet)
Edge of use area to property boundary	25
Edge of use area to public road right of way	30
Edge of use area to manmade or natural surface water drainage course	50
Edge of use area to domestic water supply well	150
Toe of recycled water impoundment berm to domestic water supply well	~~100~~150
Edge of use area to residence	100
Edge of use area using spray irrigation to public park, playground, school yard, or similar place of potential public exposure	100

~~14.~~18. The Dischargers shall cease spray irrigation of wastewater when wind the speed (including gusts) exceeds 30 mph.

~~15.~~19. Sprinkler heads shall be of the type approved for recycled water and shall create a minimum amount of mist.

~~16.~~20. Public contact with recycled water shall be controlled using fences, signs, and other appropriate means. Recycled water shall not be used when the public is present at any LAA.

~~17.~~21. The Dischargers shall ensure that any spray, mist or runoff does not contact any drinking water fountains, food handling facilities, places where the public may be present.

~~18.~~22. The LAAs that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all use areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol

similar to that shown in Attachment E, which is attached and forms part of this Order, and shall include the following wording:

"RECYCLED WATER – DO NOT DRINK"
"AGUA DE DESPERDICIO RECLAMADA – NO TOME"

~~19.~~23. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. All recycled water distribution system piping shall be purple pipe or adequately wrapped with purple tape.

~~20.~~24. Recycled water controllers, valves, similar appurtenances, and above-ground irrigation appurtenances shall be affixed with recycled water warning signs, and shall be equipped with removable handles or locking mechanisms to prevent public access or tampering.

~~21.~~25. Quick couplers, if used, shall be different than those used in potable water systems.

~~22.~~26. Hose bibs and unlocked valves, if used, shall not be used in areas accessible to the public.

~~23.~~27. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device.

~~24.~~28. There shall be at least a ten-foot horizontal and a one-foot vertical separation between all pipelines transporting recycled water and those transporting domestic supply, and the domestic supply pipeline shall located above the recycled water pipeline.

~~25.~~29. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water or auxiliary water source system.

~~26.~~30. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations, title 17, sections 7602(a) and 7603(a).

~~27.~~31. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with California Health and Safety Code section 4049.54.

~~28.~~32. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance Title 17, section 7605.

H. Solids Disposal Specifications

Sludge, as used in this document, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations .

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation.

2. Any handling and storage of residual sludge, solid waste, and biosolids at the WWTF shall be temporary (i.e., no longer than six months) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.

4. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water board or the State Water Board except in cases where a local (e.g., county) program has been authorized by a regional water board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality Order 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be covered by Order 2004-12-DWQ, the City must file a complete Notice of Intent and receive a Notice of Applicability for each project.

5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 Code of Federal Regulations part 503, which are subject to enforcement by the U.S. EPA, not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.

6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

I. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision I5:

   a. **By 31 December 2013**, the City shall submit a *Phase I Improvements Completion Report* that certifies construction and start-up testing of the new wastewater treatment system and recycling sites have been completed, and certifies that the WWTF can comply with the applicable effluent limitations. The report certify that the improvements were constructed as described in the RWD and this Order, and shall include as-built drawings of the WWTF and recycling site improvements.

   b. **With 60 days** of the rescission of CDO R5-2013-0023 (or subsequent revision thereto), the City shall submit a *Groundwater Limitations Compliance Assessment Plan*. The plan shall describe and justify the statistical methods proposed to determine compliance with the Groundwater Limitations of this Order. Compliance shall be determined annually based on statistical analysis that uses methods prescribed in Title 27, section 20415(e)(10) to compare monitoring data collected from each compliance well to the groundwater limitations of this Order. The plan shall propose specific compliance wells.

   c. **By 30 October 2015**, the City shall submit a *2020 Capacity Expansion ~~Phase II Improvements~~ Completion Report* that certifies construction and start-up testing ~~of the new effluent storage pond and Phase II recycling sites~~ of all improvements needed to provide sufficient treatment, storage and disposal capacity for projected flows through 2020 have been completed, and that the WWTF can comply with the applicable effluent limitations. The report shall include as-built drawings of the WWTF and recycling site and/or other improvements and a detailed water balance model that provides the following hydraulic capacity information:

      (1) Average daily dry weather flow for the months of July through September, inclusive;

      (2) Maximum monthly average flow based on a reasonable allowance for sewer system I/I during the 100-year, 365-day precipitation event; and

      (3) Total annual flow volume.

      The water balance shall include documentation of, and technical support for, all data inputs used and shall consider at least the following.

      (1) The as-built geometry of all ponds and effluent recycling/disposal areas;

      (2) A minimum of two feet of freeboard in each pond at all times;

      (3) Historical local pan evaporation data (monthly average values) used to estimate pond evaporation rates;

      (4) Local precipitation data (for the 100-year 365-day event distributed in accordance with mean monthly precipitation patterns) applied as direct precipitation onto all ponds and effluent recycling areas;

      (5) Projected ~~Proposed~~ wastewater generation rates based on historical flows and new development to be served by the expansion distributed monthly in accordance with expected seasonal variations;

      (6) Estimated I/I flows for the 100-year 365-day event based on historical flows, new development, and age and type of sewer pipes;

      (7) Recycling area crop evapotranspiration rates, including consideration of the required setbacks; and

      (8) Projected long-term percolation rates based on documented percolation test results (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).

2. Except as allowed under a Cease and Desist Order, if groundwater monitoring results show that the discharge of waste is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order, within **120 days** of the request of the Executive Officer, the City shall submit a *BPTC Evaluation Workplan* that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent that exceeds a Groundwater Limitation. The workplan shall contain a preliminary evaluation of each component of the WWTF and effluent disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.

3. At least **180 days** prior to any sludge removal and disposal not required by the companion Cease and Desist Order or subsequent enforcement order, the City shall submit a *Sludge Cleanout Plan*. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows how all dried biosolids will be removed from the site prior to the onset of the rainy season **(1 October)**. If the City proposes to land apply biosolids at the effluent recycling site, the report shall include a Report of Waste Discharge and filing fee to apply for separate waste discharge requirements.

4. Dischargers whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Dischargers shall notify the Central Valley Water Board by **31 January**.

5. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Dischargers shall bear the professional's signature and stamp.

6. The Dischargers shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Dischargers shall proceed with all work required by the foregoing provisions by the due dates specified.

7. The Dischargers shall comply with Monitoring and Reporting Program R5-2013-0022, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Dischargers self-monitoring reports shall be no later than the submittal date specified in the MRP.

8. The Dischargers shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."

9. The Dischargers shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Dischargers shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Dischargers shall state the reasons for such noncompliance and provide an estimate of the date when the Dischargers will be in compliance. The Dischargers shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including

Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

10. The Dischargers shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Dischargers to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Dischargers when the operation is necessary to achieve compliance with the conditions of this Order.

11. The Dischargers shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

12. The Dischargers shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.

13. As described in the Standard Provisions, the Dischargers shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.

14. The Dischargers shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."

15. The Dischargers shall comply with the requirements of the Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems (Water Quality Order 2006-0003), the Revised General WDRs Monitoring and Reporting Program (Water Quality Order 2008-0002-EXEC), and any subsequent revisions thereto. Water Quality Order 2006-0003 and Order 2008-0002-EXEC require the Dischargers to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.

16. The Dischargers shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

17. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the

Dischargers shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.

18. In the event of any change in control or ownership of the WWTF, the Dischargers must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

19. To assume operation as Dischargers under this Order, the succeeding owners or operators must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. The Executive Officer will submit transfer requests to the Central Valley Water Board so that the Board may consider transferring the ownership of this Order at one of its regularly scheduled meetings.

20. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

21. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next

business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on ~~11 April 2013.~~_

PAMELA C. CREEDON, Executive Officer

LF/ALO: 9/25/2014

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-XXXX

CEASE AND DESIST ORDER
FOR
CITY OF IONE WASTEWATER TREATMENT FACILITY
AMADOR COUNTY

TO CEASE AND DESIST
FROM DISCHARGING CONTRARY TO REQUIREMENTS

The California Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board or Board) finds that:

1. On 26 May 1995, the Central Valley Water Board adopted Waste Discharge Requirements (WDRs) Order 95-125 (the 1995 WDRs) for a wastewater treatment and disposal facility owned and operated by the City of Ione (hereafter referred to as Discharger, City of Ione, or City). On 11 April 2013, the Board adopted WDRs Order R5-2013-0022 (the 2013 WDRs) and rescinded WDRs Order 95-125 except for purposes of enforcement.

2. On 11 July 2003, the Board issued Cease and Desist Order (CDO) R5-2003-0108 (the 2003 CDO) for the City of Ione. On 8 April 2011, the Board rescinded the 2003 CDO except for purposes of enforcement, and issued CDO R5-2011-0019 (the 2011 CDO). On 11 April 2013, the Board rescinded the 2011 CDO except for purposes of enforcement, and issued CDO R5-2013-0023 (the 2013 CDO).

3. The Discharger's wastewater treatment facility (the Facility) is in Amador County in Section 26, T6N, R9E, MDB&M. The Facility accepts and treats domestic wastewater from the City of Ione, filter backwash water from a water treatment plant operated by Amador Water Agency, domestic wastewater from Preston Youth Authority's administration buildings, and filter backwash water from Castle Oaks Water Reclamation Plant. In addition, the Discharger accepts secondary effluent from Preston Reservoir for disposal in the Facility's percolation/evaporation ponds.

4. The Facility consists of seven ponds covering approximately 28 acres. The first four ponds provide secondary treatment via aeration and settling, and the remaining three ponds provide disposal of treated effluent via percolation and evaporation. Neither the sixth nor the seventh pond was permitted under the 1995 WDRs. The Facility is adjacent to Sutter Creek, with the closest pond approximately 100 feet from the Creek.

5. The unlined ponds are constructed in alluvial deposits overlaying a clay formation. Groundwater at the site and surrounding properties is very shallow (approximately 5 to 25 feet below ground surface). The Discharger has been monitoring shallow groundwater since 2002.

6. A January 2003 report submitted by the Discharger states that seepage was observed in Sutter Creek, at an estimated rate of 173 gallons/day. The report concludes that at times of very low flow, or no flow, there is the potential for groundwater to flow from the

area underlying the wastewater treatment facility into the creek[1]. It is likely that this seepage contains constituents which are present as a consequence of the treatment and discharge of waste in unlined ponds[2]. The indirect discharge (seepage) of polluted groundwater is in violation of Prohibition A.1 of both the 1995 WDRs and the 2013 WDRs.

7. Groundwater monitoring shows that the discharge of wastewater has polluted the groundwater underneath and downgradient of the facility. The main constituents of concern are iron and manganese. The background monitoring well[3] contains dissolved iron at an average concentration of 14 µg/l, while the downgradient well[4] has an average concentration of 3,800 µg/l. The secondary Maximum Contaminant Level for iron is 300 µg/l. A similar situation exists for manganese. The background well contains an average concentration of 7 µg/l of dissolved manganese, while the downgradient well[5] has an average concentration of 5,500 µg/l, which far exceeds the secondary maximum contaminant level of 50 µg/l. The groundwater monitoring data therefore indicates that the discharges from the Facility are causing a condition of pollution in the groundwater.

8. It is unknown when the Discharger constructed wastewater disposal Pond 6. However, wastewater disposal Pond 7 was constructed in the early 2000's. The City did not submit a Report of Waste Discharge (RWD) prior to the construction or use of these ponds, which is considered a violation of WDRs Order 95-125 and of the Water Code. The 2013 WDRs permit the use of these ponds.

9. At times of the year, the shallow groundwater is close to ground surface in the vicinity of the Facility. Board staff has received complaints of surfacing effluent in the vicinity of Pond 7. The City's 2010 models showed that the facility expansion proposed at that time would cause the local water table to rise as much as two feet, and would result in seasonal surfacing of wastewater at the southern end of the Facility. Surfacing wastewater would be a violation of both the 1995 WDRs and the 2013 WDRs.

2001-2003 Enforcement Actions

10. Sutter Creek flows from east to west approximately 100 feet north of the northernmost of the Facility's ponds. Beginning in September 2000, Board staff observed seepage entering the creek along the southern bank of Sutter Creek that might have been evidence of a discharge of effluent from the Facility's ponds to Sutter Creek. However, creek water analyses completed by both the Discharger and staff did not conclusively show evidence of wastewater in the seepage. During a 21 September 2001 inspection, staff observed that the Discharger had begun construction of the seventh percolation

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[1] Finding 9 of CDO R5-2011-0019.
[2] Finding 19 of CDO R5-2011-0019.
[3] Data obtained from MW-1 for the period of March 2009 through September 2012.
[4] Data obtained from MW-3A for the period of March 2009 through September 2012.

pond without submitting a RWD which must be submitted to the Board pursuant to Water Code section 13260 when there is any material change in the character, location, or volume of a discharge. Staff advised the Discharger that the WDRs would have to be revised before any wastewater was discharged into the pond. However, the Discharger began using the pond without obtaining regulatory coverage for the expanded facility.

11. On 9 October 2001, the Executive Officer issued an Order pursuant to Water Code section 13267 (the 13267 Order), requiring the Discharger to submit: a groundwater monitoring well installation work plan by 1 December 2001; a monitoring well installation report within 60 days of Board staff's approval of the work plan; and a complete RWD (to address the new pond) by 15 April 2002. The Discharger installed the monitoring wells but did not submit the RWD.

12. On 21 January 2003, the Discharger submitted a *Hydrogeologic and Geotechnical Report*. The report documented the installation of groundwater monitoring wells and provided an assessment of potential seepage to Sutter Creek. Based on the subsurface investigation, groundwater levels, and in situ hydrogeologic testing, the report stated that shallow groundwater immediately adjacent to and downgradient of the ponds exhibited increased mineral concentrations[5]. At the time of the investigation, seepage was observed in Sutter Creek[6]. The report estimated the seepage rate to be approximately 173 gallons per day[7] into the creek. The report concluded that, at times of very low flow or no flow, there is a potential for groundwater to flow from the area underlying the wastewater treatment facility to the creek[8]. The report did not include recommendations for further evaluation, nor did it propose facility improvements to stop the seepage discharge into the creek.

2003 CDO and Violations of the CDO

13. On 11 July 2003, the Central Valley Water Board issued the 2003 CDO due to concerns regarding the discharge of polluted groundwater to Sutter Creek, the unauthorized degradation of groundwater quality beneath the Facility, and failure to submit a RWD as required by the 13267 Order.

14. The 2003 CDO required that the Discharger come into compliance with Discharge Prohibition A.1 and the Groundwater Limitations of the 1995 WDRs no later than 30 December 2005. The 2003 CDO also required that the Discharger comply with a schedule for submittal of certain technical reports.

[5] Wallace Kuhl Associates, Hydrogeologic and Geotechnical Report, page 2.
[6] Wallace Kuhl Associates, Hydrogeologic and Geotechnical Report, Plate 6.
[7] Wallace Kuhl Associates, Hydrogeologic and Geotechnical Report, pages 3-7.
[8] Wallace Kuhl Associates, Hydrogeologic and Geotechnical Report, page 10

15. However, the Discharger did not come into compliance with Discharge Prohibition A.1 of the 1995 WDRs by 30 December 2005, and therefore violated the 2003 CDO.

16. The technical studies and monitoring completed since adoption of the 2003 CDO show that the unlined treatment and disposal ponds created a localized groundwater "mound" that causes shallow groundwater beneath the Facility's ponds to flow towards Sutter Creek, where it seeps into the creek channel during periods when natural flows in the creek are low.

17. The Discharger did not come into compliance with the Groundwater Limitations of the 1995 WDRs, in violation of the 2003 CDO.

18. The Discharger's groundwater monitoring data and technical reports show that the shallow groundwater contains elevated concentrations of iron and manganese downgradient of the Facility. Specifically, monitoring wells MW2 and MW3A are downgradient of the Facility's ponds, as well as directly adjacent to, and upgradient of, Sutter Creek. These wells consistently have dissolved iron and manganese concentrations greater than the background well. The following table summarizes dissolved iron and manganese concentrations between March 2009 and September 2012[9].

Dissolved Iron and Manganese Concentrations in Groundwater (µg/L)

Constituent	Monitoring Wells and Locations MW-1 (Background)	MW-2 (Downgradient)	MW-3A (Downgradient)	Secondary MCL
Dissolved Iron				
Range of Results	<5 to 31	25 to 2,100	<50 to 6,800	300
Mean Results	13.9	1,940	3 ,820	
Dissolved Manganese				
Range of Results	<5 to 28	3,100 to 4,600	3,000 to 6,500	50
Mean Result	6.9	3,920	5,510	

These results show that the discharge has caused dissolved iron and manganese in shallow groundwater to exceed the secondary MCLs, in violation of the groundwater limitations. Although iron and manganese are not present in the Facility's effluent at high concentrations, the presence of degradable organic matter in the wastewater depletes oxygen, which creates reducing conditions in the groundwater mound beneath the WWTF's ponds. Reducing conditions promote dissolution of iron and manganese. These minerals are naturally present in the soil beneath the ponds. This mechanism of groundwater degradation was acknowledged in the December 2009 Final EIR, which states:

[9] Prior to 2008, groundwater samples were not filtered before analysis for metals. Without filtration to remove clay and silt particles, analytical results for metals would include any metals contained within the minerals that form the soil.

> *Dissolved iron and manganese levels* [in shallow groundwater] *are likely a result of anaerobic decomposition of biological material. This decomposition occurs either in the anaerobic zone at the bottom of the existing treatment ponds or subsurface as effluent enters the groundwater at the percolation ponds.*[10]

Combined with the fact that MW-2 and MW-3A are approximately 100 feet upgradient of the portion of Sutter Creek where groundwater has been observed seeping into the creek, these data show that it is likely that the seepage contains constituents that are present as a consequence of the treatment and discharge of waste in unlined ponds. The Discharger's 1995 WDRs did not allow these impacts to occur, and the Discharger was required to eliminate the processes that resulted in the discharge of polluted groundwater to the creek. This could have been accomplished by eliminating the groundwater degradation or by eliminating the seepage.

19. The Discharger did not comply with Task 8 of the 2003 CDO. Task 8 required the submittal of a complete RWD with proposed improvements to bring the facility into compliance with the 1995 WDRs and the 2003 CDO. Board staff concurred that the proposed lined treatment ponds, tertiary treatment, and disinfection with ultraviolet light would greatly improve the effluent quality discharged to the percolation/evaporation ponds, which might reduce the level of groundwater degradation caused by the discharge. However, the Discharger did not show that the design would stop the seepage of degraded groundwater into Sutter Creek, and did not show that the proposed improvements would result in significantly lower concentrations of iron and manganese in the shallow groundwater.

20. The City had been in violation of its 1995 WDRs since 2001, had not complied with the 2003 CDO, and had not submitted a complete RWD. The Discharger had been unable to commit to a course of action to prevent groundwater pollution, wastewater seepage to Sutter Creek, and surfacing of wastewater. In addition, the Discharger continued to discharge wastewater to two unpermitted ponds in violation of the 1995 WDRs.

2011 CDO and Violations of the CDO

21. As described above, the City failed to comply with the 2003 CDO. Although the Board had the option of issuing an administrative civil liability complaint to Ione for its failure to comply, the Board instead chose to adopt a new CDO that provided the City with a new timeline for compliance. On 8 April 2011, the Board adopted CDO R5-2011-0019, which requires, in part, that the City:

    a. Address the three underlying compliance issues: groundwater pollution with iron and manganese; seepage of polluted groundwater into Sutter Creek; and the construction and use of a two unpermitted effluent disposal ponds;
    b. Submit a Seepage Discharge Compliance Plan by 30 January 2012; and

[10] City of Ione Wastewater Treatment Facility Final EIR, pages 2-36.

    c. Construct facility improvements that will effectively stop the mobilization and discharge of iron and manganese, and either:
        i. Stop any indirect discharge (seepage) of degraded groundwater to Sutter Creek that is in violation of the Clean Water Act; or
        ii. Obtain an NPDES Permit that regulates the indirect discharge of degraded groundwater to Sutter Creek.

22. The City chose option (i), above, and therefore the CDO required that the City submit a RWD by 30 May 2012 and then by 30 October 2013, certify that (a) the facility upgrades have been completed, (b) the facility does not discharge to Sutter Creek in violation of the Clean Water Act, and (c) any groundwater degradation that occurs due to treatment and disposal of wastewater is consistent with State Water Board Resolution 68-16.

23. The City of Ione did not submit the RWD until 30 July 2012. Staff's review found that the RWD did not meet the criteria of the 2011 CDO, and therefore the City had failed to meet its obligation to submit a complete RWD by 30 May 2012. The Discharger subsequently submitted a revised RWD on 28 September 2012, which staff determined to be satisfactory.

2012 Administrative Civil Liability

24. On 10 September 2012, the Executive Officer issued Administrative Civil Liability Complaint R5-2012-0558 for $143,552 to the City of Ione for failure to submit a complete RWD as required by the 2011 CDO. On 10 January 2013, the matter was settled when the Assistant Executive Officer signed the Final Settlement Agreement and Stipulation. The City of Ione was assessed a civil liability of $123,818. Of that amount, $61,909 was paid into the Cleanup and Abatement Account and the remaining $61,909 will be permanently suspended after the City completes an Enhanced Compliance Action (the Preston Avenue Sewer Slip Lining Project).

2013 CDO

25. During 2012, the City submitted multiple RWDs and participated in a number of meetings with Board staff to discuss proposed upgrades designed to bring the Facility into compliance with the 2011 CDO and the 1995 WDRs. Because none of the City's proposals meet the timeline set forth in the 2011 CDO, a new CDO was necessary to allow the City additional time to come into compliance. In order to provide adequate treatment, storage, and disposal capacity and bring the discharge into compliance with the Basin Plan water quality objectives, the City of Ione proposed to:

    a. Construct and operate two new water recycling land application areas (LAAs), which would include an 11-acre area referred to as the WWTF Field and a 67-acre parcel known as the Town Field;

b. Install and operate a sodium hypochlorite injection system and contact chamber for effluent disinfection prior to land application;

c. Install and operate additional aerators in treatment Ponds 1 through 3 to achieve the horsepower shown in the table below:

Aeration Capacity

	Pond 1	Pond 2	Pond 3	Pond 4
Existing Capacity	15 HP	7.5 HP	7.5 HP	7.5 HP
Upgraded Capacity	30 HP	27.5 HP	17.5 HP	No change

d. Install and operate a mixer unit in Pond 5 (this task was completed June 2012);

e. Remove anoxic soil and sludge from Pond 5 and sludge from Pond 6, and subsequently backfill and compact with clean fill to bring the bottom of these two ponds to an elevation above the seasonal high groundwater level;

f. Monitor, on a monthly basis for one year, at Ponds 5, 6, and 7 using field instruments to measure dissolved oxygen (DO), oxygen reduction potential (ORP), and sludge depths;

g. Install a new groundwater monitoring well (MW-2A) between Ponds 1 and 5 in July 2013;

h. Monitor, on a monthly basis for one year, at groundwater wells MW-2, MW-2A, MW-3, and MW-3A[11] for pH, electrical conductivity (EC), DO, ORP, total dissolved solids (TDS), stable isotopes, total and fecal coliform, nitrate as nitrogen, total Kjeldahl nitrogen (TKN), chloride, sodium, and dissolved boron, iron and manganese;

i. If improvements in groundwater quality were not seen within one year, then 2 to 4 feet of clean soil will be added to the bottom of Pond 5;

j. If groundwater quality was not improved after the placement of the soil, then the City would either backfill the percolation ponds or convert them to lined storage ponds; and

k. As part of Phase II capacity improvements, construct a 17-million-gallon clay-lined effluent storage pond at the WWTF Field, and construct and operate two new LAAs (56 acres total).

[11] The City initially proposed increased monitoring for all four wells, but recently revised its proposal to monitor only wells MW-2 and MW-2A. However, this Order requires the accelerated monitoring of all four wells in order to evaluate the effectiveness of the City's remedial activities.

27. On 11 April 2013, the Board adopted WDRs Order R5-2013-0022 to regulate the facility based on the improvements proposed by the City of Ione. The 2013 WDRs establish flow limits, groundwater quality limits, and effluent quality limits, permit the use of Ponds 6 and 7, and, after improvements are made, allow the City to discharge treated wastewater to recycled water land application areas. However, the City could not immediately comply with Prohibition A.1, Groundwater Limitation D.2, Discharge Specification E.1, or Discharge Specification E.3 of the 2013 WDRs as follows:.

    a. Prohibition A.1 states: *Discharge of wastes to surface waters or surface water drainage courses is prohibited.*

    b. Groundwater Limitation D.2 states, in part: *Release of waste constituents from any portion of the WWTF shall not cause groundwater to… contain constituents in concentrations that exceed either the Primary or Secondary MCLs established therein.*

    c. Discharge Specification E.1 states: *No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.*

    d. Discharge Specification E.3 states: *Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.*

28. The 2013 CDO included an enforceable schedule for the City to implement its proposed scope of work to ensure future compliance with the groundwater limitations in the 2013 WDRs. Specifically, the upgrades must ensure that discharges from the ponds do not result in exceedances of applicable secondary Maximum Contaminant Levels (MCLs) for dissolved iron (300 µg/L) and dissolved manganese (50 µg/L). The CDO included groundwater compliance concentrations for iron and manganese in the facility's compliance wells based on the City's estimates of the rate of change that could be expected following completion of the improvements described in Findings 25.a through 25.j. The limits would become increasingly stringent each year, and failure to meet those limits would trigger a requirement to install geosynthetic liners in Ponds 5, 6, and 7. The derivation of those limits is described further below.

29. On 12 March 2013, the Discharger submitted a report titled *Projected Statistically Significant Manganese and Iron Concentration Changes in Monitoring Wells, City of Ione, Wastewater Treatment Plant* (the *March 2013 Expected Concentration Change Report*). The *March 2013 Expected Concentration Change Report* provided an estimated range of travel times for groundwater moving from the western edge of Pond 5 in the downgradient direction, and predicted the estimated changes in manganese and iron concentrations in monitoring wells MW-2, MW-2A, MW-3, and MW-3A after sludge removal, installation of additional treatment pond aerators, and installation of a mixing unit in Pond 5. The Expected Concentration Change Report provided a range of projected concentrations expected to be found in the four monitoring wells in October 2014, October 2015, October 2016, and October 2017. The report did not consider the Discharger's proposal to add two feet of soil to the bottom of Pond 5. The 2013 CDO incorporated the least restrictive concentration in the estimated range as the manner of determining whether the Discharger's proposed improvements would

have the potential to result in compliance with the Groundwater Limitations of the WDRs.

30. Because the Discharger had not yet determined site-specific hydraulic conductivity or porosity values of the shallow zone groundwater, a range of published values were used in the March 2013 Expected Concentration Change Report to calculate expected groundwater travel times. This resulted in a wide range of estimated travel times to each well; for example, the estimated travel time from the edge of Pond 5 to well MW-3 ranged from 155 days to 2,322 days. The 2013 CDO required the Discharger to conduct a site-specific shallow zone aquifer test, or approved equivalent study, to refine the travel time estimates contained in the Expected Concentration Change Report. The 2013 CDO included a reopener to revise the future compliance concentrations as appropriate based on the outcome of that study.

Rationale for this Revised CDO

31. The City completed the improvements described in Findings 25 a, c, d, e, and g by 31 December 2013. Although it was not required, the City also placed approximately one foot of clean fill (crusher fines composed of gravel to fine sand) in Pond 5 in October 2013. Due to construction bids higher than the engineer's estimate, the City was not able to finance all of the work and elected not to install the effluent disinfection system described in Finding 25.b. Effluent disinfection is not necessary to protect groundwater quality, nor is it required by Title 22 if the recycled effluent is only used to irrigate fodder crops as proposed by the City in its Title 22 Engineering Report.

    However, Effluent Limitation C.2 of WDRs Order R5-2013-0022 requires that all recycled water contain no more than 23 MPN/100 mL of total coliform as a monthly median, and no more than 240 MPN/100 mL in more than one sample in any 30-day period. On 4 June 2013, the California Department of Public Health (CDPH) Drinking Water Program (now the State Water Board Division of Drinking Water) approved the use of undisinfected effluent to irrigate fodder crops and pasture for animals not producing milk for human consumption. Because disinfection is not necessary to protect groundwater quality, WDRs Order R5-2013-0022 will be amended to remove the disinfection requirement and the effluent coliform limit.

32. The Discharger has also complied with the supplemental monitoring requirements of the 2013 CDO. Since completion of the Phase I Improvements Project, groundwater monitoring data show that concentrations of iron have been declining in Wells MW-2, MW-3 and MW-3A, and concentrations of manganese have been declining in Wells MW-2 and MW-3A.

33. On 2 December 2013, the Discharger submitted the updated *Expected Concentration Change Report (*the *December 2013 Expected Concentration Change Report)* to comply with the 2013 CDO. As required, the report presented estimated future iron and manganese concentrations in downgradient wells MW-2, MW-2A, MW-3 and MW-3A based on additional aquifer testing and modeling. The table below summarizes the City's updated projections of groundwater iron and manganese concentrations for each year from

2014 to 2017.

Well	Constituent	Concentration (µg/L)				
		Average 2012-2013	Updated Projection for October 2014	Updated Projection for October 2015	Updated Projection for October 2016	Updated Projection for October 2017
MW-2	Manganese	4,700	3,070	1,030	<50	<50
MW-2A	Manganese	4,110	4,010	1,030	<50	<50
MW-3	Manganese	4,300	3,850	3,250	2,650	2,050
MW -3A	Manganese	6,400	5,440	4,120	2,800	1,480
MW-2	Iron	2,500	1,920	1,200	480	<300
MW-2A	Iron	13,400	12,620	10,820	9,020	7,220
MW-3	Iron	<300	<300	<300	<300	<300
MW-3A	Iron	4,900	4,200	3,240	2,280	1,320

Because the Discharger cannot comply with the previously projected groundwater concentration limits that became effective on 30 October 2014, it is appropriate to remove those requirements and update the groundwater concentration limits for future compliance dates. However, the model described in the *December 2013 Expected Concentration Change Report* used several assumptions that likely overestimate the rate of change that should be expected. In addition, a combination of drought conditions and use of effluent as recycled water have reduced the volume of effluent discharged to the percolation disposal ponds. Observed iron and manganese concentrations in shallow groundwater immediately downgradient of the percolation ponds have improved in some wells, but the most recent monitoring results from June 2014 do not support the projected future concentrations presented in the *December 2013 Expected Concentration Change Report*. Therefore, it is appropriate to continue using the projections used in the 2013 CDO (except for iron in MW-2A) to set future groundwater concentration limits which are higher than those proposed by the City.

The groundwater monitoring data for MW-2A show that iron concentrations were much greater than the pre-construction estimates used to set groundwater concentration limits in the 2013 CDO. Therefore, the projected iron concentrations for MW-2A in the *December 2013 Expected Concentration Change Report* represent the best available estimate of future water quality in this well.

Regarding the further downgradient wells MW-3 and MW-3A, it is appropriate to base revised concentration limits on the most current monitoring results and lower rates of concentration change than those projected in the *December 2013 Expected Concentration*

Change Report. No projection of future concentrations is needed for iron in well MW-3 because the current concentrations do not exceed the secondary MCL. It is neither necessary nor appropriate to set future limits that are less than the secondary MCLs.

The following table presents the projected concentrations that are used as future concentration limits in this CDO.

Well	Constituent	Average Result 2012-2013	June 2014 Result	Future Concentration Limit and Compliance Date (µg/L)		
				October 2015	October 2016	October 2017
MW-2	Manganese	4,700	3,100	2,930	1,850	770
MW-2A	Manganese	4,110	3,300	2,560	1,720	880
MW-3	Manganese	4,300	4,700	4,200	3,900	3,600
MW-3A	Manganese	6,400	6,700	5,500	4,500	3,500
MW-2	Iron	2,500	2,600	1,940	1,760	1,460
MW-2A	Iron	13,400	19,000	10,820	9,020	7,220
MW-3	Iron	<300	110	<300	<300	<300
MW-3A	Iron	4,900	4,800	4,000	3,500	3,000

34. Since adoption of the 2013 WDRs and CDO, the Discharger has been actively working with Amador Regional Sanitation Authority (ARSA)[12] to develop a plan for a consolidated regional treated wastewater conveyance and disposal system that could ultimately serve the needs of Ione, the nearby California Department of Corrections and Rehabilitation's Mule Creek State Prison, and ARSA's member agencies. Such a project would be beneficial to the communities and agencies involved and would provide superior protection of groundwater quality. Although the planning and implementation schedule of the regionalized system is not known, it is appropriate that this Order provide flexibility for the City of Ione to collaborate on this important effort. Therefore, if compliance with the groundwater concentration limits of this Order is not achieved by the any of the compliance dates, this revised Order establishes a time schedule for planning, design, and construction of unspecified improvements that would include either lining each pond or permanently closing it.

[12] ARSA is a Joint Powers Authority formed in 1978 by the City of Jackson, City of Sutter Creek, the City of Amador, and Amador County to provide wastewater conveyance and disposal services to its member agencies.

Regulatory and Policy Considerations

35. The Central Valley Water Board's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition, revised September 2009 (the Basin Plan), designates beneficial uses, includes water quality objectives to protect the beneficial uses, and includes implementation plans to implement the water quality objectives.

36. Surface water drainage from the facility is to Sutter Creek, a tributary of the Cosumnes River. The beneficial uses of the Cosumnes River, as stated in the Basin Plan, are municipal and domestic supply, irrigation, stock watering, contact recreation, canoeing and rafting, other noncontact recreation, warm and cold freshwater habitat, warm and cold migration, warm and cold spawning, and wildlife habitat.
The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

37. State Water Resources Control Board Resolution 68-16 (the Antidegradation Policy) prohibits the degradation of groundwater unless it has been shown that:

    a. The degradation is consistent with the maximum benefit to the people of the state.

    b. The degradation will not unreasonably affect present and anticipated future beneficial uses.

    c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and

    d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

    In issuing the 2013 WDRs, the Board found that any degradation authorized by the WDRs was consistent with the maximum benefit to the people of the State, and that the City was employing treatment or control of the wastes in its discharge that could be considered "best practicable treatment or control" of the wastes. However, because the City's discharges are causing groundwater beneath the Facility to exceed applicable secondary MCLs, the City's discharges are currently unreasonably affecting beneficial uses of the underlying groundwater, and are not in compliance with state and regional policies (secondary MCLs are applicable water quality objectives). This CDO sets forth a scope and schedule of work that will ensure that the City's discharges will not allow iron and manganese concentrations to impact beneficial uses in the shallow groundwater, and will ensure that the discharges will be in compliance with applicable state and regional policies.

38. The *Policy for Application of Water Quality Objectives*, in Chapter IV of the Basin Plan, states that the Board is under an obligation to require that actions undertaken by Dischargers to ensure compliance with applicable water quality objectives be conducted in a timeframe that is as short as practicable.

39. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. In the 2013 WDRs, the Board found, *inter alia*, that Ponds 5, 6, 7 could qualify for the "wastewater" exemption found in section 20090(b) of Title 27. However, the wastewater exemption only applies when discharges from these ponds are in compliance with the Basin Plan. Without the improvements mandated by this CDO, discharges from these ponds would not be in compliance with the Basin Plan, because the discharges are currently causing groundwater to exceed applicable secondary MCLs. This CDO is therefore needed to ensure that the Title 27 wastewater exemption will be applicable to Ponds 5, 6, 7 after the upgrades mandated by this CDO are completed.

40. Water Code section 13301 states, in relevant part:

> When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventive action. In the event of an existing or threatened violation of waste discharge requirements in the operation of a community sewer system, cease and desist orders may restrict or prohibit the volume, type, or concentration of waste that might be added to such system by discharges who did not discharge into the system prior to the issuance of the cease and desist order. Cease and desist orders may be issued directly by a board, after notice and hearing.

41. Water Code section 13267 (b) states:

> In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

42. The technical reports required by this Order are necessary to assure compliance with both this Order and the WDRs, and to ensure protection of public health and safety. The Discharger owns and operates the facility that discharges the waste subject to this Order.

43. Issuance of this Order is an enforcement action of a regulatory agency, and therefore, is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code § 21000 et seq.), in accordance with California Code of Regulations, title 14, section 15321(a)(2).

IT IS HEREBY ORDERED that Cease and Desist Order R5-2013-0023 is rescinded and, pursuant to Water Code sections 13301 and 13267, the City of Ione, its agents, successors, and assigns shall implement the following measures necessary to ensure long-term compliance with WDRs Order R5-2013-0022 and any amendments or revisions thereto.

Cease and Desist Order R5-2013-0023 rescinded and replaced Cease and Desist Order R5-2011-0019 except for the purpose of enforcing violations that occurred prior to the date of adoption, which was 11 April 2013. This Order continues that exception, and rescinds and replaces Cease and Desist Order R5-2013-0023 except for the purpose of enforcing violations that have occurred to date.

Any person signing a document submitted to comply with this Order shall make the following certification:

> *I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

1. **Effective immediately**, the Discharger shall comply with all requirements of WDRs Order R5-2013-0022, with the exception of Prohibition A.1 (as it relates to the discharge of degraded groundwater into Sutter Creek), Groundwater Limitation D.2, Discharge Specification E.1, and Discharge Specification E.3 as provided for in this Order below.

2. In accordance with the time schedule set forth in this Order and WDRs Order R5-2013-0022, the Discharger shall construct facility improvements that will effectively stop the mechanisms that result in the mobilization and discharge of iron and manganese in violation of the Groundwater Limitations of the 2013 WDRs; shall effectively stop any indirect discharge (seepage) of polluted groundwater to Sutter Creek; and shall bring the facility into compliance with the 2013 WDRs. In order to show that the Discharger's proposal is succeeding in a timely manner, the concentrations of iron and manganese in groundwater in monitoring wells MW-2, MW-2A, MW-3, and MW-3A shall not exceed certain numeric values by specific dates, as described in the paragraphs below.

Compliance Dates

3. If there is any perceived conflict between the compliance dates in the 2013 WDRs and this CDO, then the dates in this CDO take precedence.

Monitoring and Reporting

4. In addition to conducting the monitoring required by Monitoring and Reporting Program (MRP) R5-2013-0022, the Discharger shall:

   a. **Effective immediately**, monitor the wastewater in Ponds 5, 6, and 7 for dissolved oxygen (DO), temperature, and oxygen reduction potential (ORP) monthly. Samples shall be collected and analyzed in accordance with the requirements of MRP R5-2013-0022, and the results shall be presented in the monthly monitoring reports

   b. **Effective beginning with the first calendar quarter of 2015**, monitor the groundwater in wells MW-2, MW-2A, MW-3, and MW-3A quarterly for the following: pH, EC, DO, ORP, TDS, dissolved iron, and dissolved manganese. The sample collection, sample analysis, and information reported shall follow the procedures required by MRP R5-2013-0022 for quarterly groundwater monitoring, and the results shall be presented in the quarterly monitoring reports.

   c. The above monitoring and reporting shall continue until this CDO is rescinded.

Compliance Timeline and Tasks

5. If the Discharger decides to voluntarily line any pond with soil, clay, and/or a geosynthetic material, then **60 days prior** to the start of such lining work, the Discharger shall submit a *Pond Lining Work Plan*. This work plan shall include the specifications for the lining materials; the hydraulic conductivity of the proposed liner material; construction quality assurance tests and inspections, testing frequencies, and test pass/fail criteria; and procedures to ensure that the liner will be properly installed. If soil or clay is the selected lining material, then the Work Plan shall provide documentation of whether the proposed material is clean (based on analytical results). In addition, the Work Plan shall include a water balance containing the information listed in No. 17 of Attachment A to this Order. If the water balance shows that the storage and disposal capacity after liner installation will be less than that described in the 2013 WDRs, then the Discharger shall include an *Amended Report of Waste Discharge* including the information required in Attachment A and proposing additional facilities to maintain adequate storage and disposal capacity. If an amended Report of Waste Discharge is not necessary, then the Discharger shall submit a *Construction Completion Report* **60 days** after completion of the field work. The *Construction Completion Report* shall document whether the installation complied with the work plan, and shall provide the results of all construction quality assurance tests and inspections.

6. By **30 October 2015**, the Discharger shall submit a *2015 Groundwater Concentration Report* documenting the dissolved iron and dissolved manganese concentrations in

monitoring wells MW-2, MW-2A, MW-3, and MW-3A[13]. If the concentrations in MW-2, MW-2A, MW-3, and MW-3A are not the same as, or less than, the concentrations in the table below (as applicable), then by **30 December 2015** the Discharger shall submit a *Future Facilities Planning Update Report* that documents the following:

   a. Efforts to collaboratively develop plans for a regionalized effluent conveyance and recycling or disposal system that will include permanent closure or lining of all wastewater ponds at the WWTF to comply with this Order; and

   b. If the above efforts did not result in an executed interagency agreement [14] to proceed with planning, design, and construction of a regionalized system, acknowledgement that the Discharger will proceed with planning and design of any improvements needed to comply with this Order and the WDRs.

At a minimum, the *Future Facilities Planning Update Report* shall contain the information required to complete a *Planning/Design* application for a Clean Water State Revolving Fund loan to the State Water Resources Control Board's Division of Financial Assistance[15], and the improvements project shall include the following:

   c. Lining all wastewater ponds with a geosynthetic liner or equivalent containment structure designed to prevent movement of wastes from the ponds to waters of the state; and

   d. Improvements to increase storage and disposal capacity as needed to accommodate projected growth through 2020 based on the growth projection in the September 2012 Report of Waste Discharge (or a more current projection, if completed).

2015 Constituent Concentration Limits

Well	Constituent	Concentration Limit (µg/L) to be met by 30 October 2015
MW-2	Dissolved Manganese	2,930
MW-2A	Dissolved Manganese	2,560
MW-3	Dissolved Manganese	4,200
MW-3A	Dissolved Manganese	5,500
MW-2	Dissolved Iron	1,940

[13] The iron and manganese concentrations may either be calculated as the median of all values obtained between October 2014 and September 2015, or may be the value measured in September 2015.

[14] Such agreement may include, but may not be limited to, a revised Joint Powers Authority, a Memorandum of Agreement (MOA), a or contractual agreement between two or more public entities that binds the parties to a specific plan of action and schedule that will ensure compliance with this Order.

[15] The application process and information requirements are posted on the web at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml.

Well	Constituent	Concentration Limit (µg/L) to be met by 30 October 2015
MW-2A	Dissolved Iron	10,820
MW-3	Dissolved Iron	<300
MW-3A	Dissolved Iron	4,000

7. By **30 October 2016**, the Discharger shall submit a *2016 Groundwater Concentration Report* documenting the dissolved iron and dissolved manganese concentrations in monitoring wells MW-2, MW-2A, MW-3, and MW-3A[16]. If the concentrations in MW-2, MW-2A, MW-3, and MW-3A are not the same as, or less than, the concentrations in the table below (as applicable), then by **30 December 2016** the Discharger shall submit a complete *Project Report* that describes an evaluation of facilities improvements options to ensure future compliance with the Groundwater Limitations of the WDRs and provide sufficient treatment, storage, and disposal capacity of projected influent flows from all sources through 2020. Each option shall include eliminating all unlined ponds at the current WWTF site by either permanent closure or installation of geosynthetic liners. At a minimum, the *Project Report* shall contain the information required to complete the technical portion of a *Construction/Implementation* application for a Clean Water State Revolving Fund loan to the State Water Resources Control Board's Division of Financial Assistance[17].

2016 Constituent Concentration Limits

Well	Constituent	Concentration (µg/L) to be met by 30 October 2016
MW-2	Dissolved Manganese	1,850
MW-2A	Dissolved Manganese	1,720
MW-3	Dissolved Manganese	3,900
MW-3A	Dissolved Manganese	4,500
MW-2	Dissolved Iron	1,760
MW-2A	Dissolved Iron	9,020
MW-3	Dissolved Iron	<300
MW-3A	Dissolved Iron	3,500

[16] The iron and manganese concentrations may either be calculated as the median of all values obtained between October 2015 and September 2016, or may be the value measured in September 2016.

[17] The application process and information requirements are posted on the web at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml.

8. By **30 October 2017**, the Discharger shall submit a *2017 Groundwater Concentration Report* documenting the dissolved iron and dissolved manganese concentrations in monitoring wells MW-2, MW-2A, MW-3, and MW-3A[18]. If the concentrations in MW-2, MW-2A, MW-3, and MW-3A are not the same as, or less than, the concentrations in the table below (as applicable), then by **30 December 2017** the Discharger shall submit an *Facility Improvements Design Report* and a *Report of Waste Discharge* for the preferred improvements project proposed in the *Project Report* required pursuant to Item 7 above.

   The *Facility Improvements Design Report* shall include plans and specifications for the improvements project, and the *Report of Waste Discharge* shall include the information specified in Attachment A, which is attached and forms part of this Order by reference.

   The improvements project shall be completed by **30 October 2018.** Additionally, by **30 December 2018,** the Discharger shall submit a *Construction Completion Report,* documents the completion of the improvements project and certifies that the improvements are fully functional. The report shall include a *Pond Liner Construction Quality Assurance (CQA) Report* that documents all construction observation, testing, and test results for the pond lining system to verify that all seams and liner penetrations are leak-free at the time of acceptance, and the entire liner has been inspected for visible material defects and construction damage such as holes or tears prior to acceptance.

2017 Constituent Concentration Limits

Well	Constituent	Concentration (µg/L) to be met by 30 October 2017
MW-2	Dissolved Manganese	770
MW-2A	Dissolved Manganese	880
MW-3	Dissolved Manganese	3,600
MW-3A	Dissolved Manganese	3,500
MW-2	Dissolved Iron	1,460
MW-2A	Dissolved Iron	7,220
MW-3	Dissolved Iron	<300
MW-3A	Dissolved Iron	3,000

9. If the Discharger was not required by Items 6 through 8 to line or close unlined ponds used to contain wastewater, then **by 30 October 2018**, the Discharger shall submit a

[18] The iron and manganese concentrations may either be calculated as the median of all values obtained between October 2016 and September 2017, or may be the value measured in September 2017.

Groundwater Compliance Evaluation and Capacity Study Report. The Report shall include:

a. An evaluation of the concentration trends in monitoring wells MW-2, MW-2A, MW-3, and MW-3A between 2012 and 2018, and a discussion of whether the concentrations are decreasing, stable, or increasing.

b. Projected dates by which the dissolved iron and manganese concentrations in all four wells will comply with the Groundwater Limitations (i.e., Secondary MCLs) of the WDRs.

c. An evaluation of other options to accelerate compliance with the Groundwater Limitations of the WDRs, which shall include, but not be limited to, options that include relocation or other means of eliminating unlined ponds at the current WWTF site.

d. Documentation of actual influent flows for each year from 2013 through 2017 and projected influent flows for each subsequent year through 2030. If the projection shows that additional treatment, storage, or disposal capacity will be required to accommodate actual or projected growth, the report shall include a plan and schedule to submit a *Report of Waste Discharge* which contains a specific proposal for facility improvements to create adequate capacity at least two years before the current capacity would be exceeded.

In addition to the above, the Discharger shall comply with all applicable provisions of the Water Code that are not specifically referred to in this Order. As required by the Business and Professions Code sections 6735, 7835, and 7835.1, all technical reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed/stamped by the registered professional.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing

petitions may be found on the Internet at

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _ December 2014.

_____

PAMELA C. CREEDON, Executive Officer

LF/ALO: 11/6/2014

Attachment A: Technical Information for a Report of Waste Discharge

Attachment A to CDO R5-2014-XXXX

TECHNICAL INFORMATION FOR A REPORT OF WASTE DISCHARGE

For

Discharges to Land in the WDR (Non 15[1]) Program (Individual WDRs Only)

This document provides guidance for applying for individual waste discharge requirements only. If you believe that your discharge would be appropriately regulated under general waste discharge requirements or general waiver, please see the links below and contact Central Valley Water Board staff for guidance.

General WDRs: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/#General
Waivers: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/#Waivers

What is a Report of Waste Discharge?
A Report of Waste Discharge (ROWD) is an application for waste discharge requirements. A ROWD consists of the following:

1. A completed and signed Form 200, which can be down loaded from the internet at http://www.waterboards.ca.gov/publications_forms/forms/docs/form200.pdf.
2. A technical report prepared by a California registered Civil Engineer that presents the information listed in the table below.
3. For a new or previously unpermitted discharges, a check for the first annual fee made payable to the *State Water Resources Control Board*. Consult with staff to determine the required fee. There is no fee if you are applying for revised or updated WDRs because you are already subject to an annual permit fee. The current fee schedule can be viewed at the following link: http://www.waterboards.ca.gov/resources/fees/index.shtml#wdr

Compliance with the California Environmental Quality Act (CEQA)
Although not required as part of the ROWD, for new, previously unpermitted, or expanding/changing discharges, you must also submit a copy of any draft and final environmental review documents prepared to comply with the California Environmental Quality Act (CEQA).

If the local planning agency (city or county, as applicable) or another public agency has determined that the project (or expansion, changes, etc.) does not require any discretionary action by that agency, the Central Valley Water Board may be the lead agency for the purposes of CEQA, and you will be required to submit an Initial Study and pay all fees and other costs associated with the CEQA process unless the Board determines that the action falls within the scope of a categorical or statutory exemption. Fees associated with the filing of an Initial Study may include a California Department of Fish and Game fee, County Clerk recording fees, and costs for publishing the CEQA Notice of Intent in a local newspaper. Consult with your local planning agency and Central Valley Water Board

[1] The Non 15 Program regulates discharges to land that are exempt from Title 27 of the California Code of Regulations. See the following link for a brief explanation of Title 27 and exemptions that may be used: http://www.waterboards.ca.gov/water_issues/programs/land_disposal/waste_discharge_requirements.shtml

staff if you have any questions about CEQA. Additional information about CEQA is also available at the following link: http://opr.ca.gov/m_ceqa.php.

What is Required for the ROWD Technical Report?
Please note the following tips to expedite the ROWD review and waste discharge requirements development:

- Providing the information in the same order as the list below will help to expedite the ROWD review. Staff will use this as a checklist.
- If any of the information is missing or incomplete, the ROWD will be deemed incomplete and the process (and your project) will be delayed until all of the required information is submitted. You will be notified in writing of the ROWD status after it has been reviewed. If the ROWD is incomplete, we will specify the additional information that is required to complete the ROWD.
- All numerical data presented in tables and calculations performed using spreadsheets should be provided in digital form (MS Excel compatible spreadsheet) as well as hard copy.
- If some of the information listed below can be found in a previous technical report prepared by a registered professional, the ROWD can incorporate the report as an appendix, but the ROWD text must specify where in the report the required information can be found. However, if appended reports contain information that conflicts with the body of the ROWD, it may cause further delays.

	A. General Information
	1. Is this a new/proposed or existing facility?
	2. If this is an existing facility, is the discharge currently regulated under Waste Discharge Requirements (WDRs) issued by the Central Valley Water Board?
	a. If so, provide the WDRs order number.
	b. If not, provide the name of the local agency that issued the current permit.
	3. Provide a copy of any other permits that reference or relate to the wastewater disposal system. This includes Use Permits and Surface Mining and Reclamation Act (SMARA) reclamation plans, etc.
	4. Provide the following for the facility that generates the waste and the site where the waste is discharged:
	a. Street address (provide street name and distance from nearest cross street if there is no street number).
	b. The approximate latitude and longitude of the facility that generates the wastewater, wastewater treatment facilities, and wastewater land disposal areas.
	c. Township, Range, and Section.
	d. Assessor's parcel numbers.
	B. Wastewater Facility and Discharge Complete this section for both new/proposed facilities and existing facilities.
	1. A description of the sources and types of wastewater flowing into the system from:

a. residential (population served and number of connections or equivalent dwelling units).

b. commercial (number of connections by type).

c. industrial (number of connections by type).

2. Design influent flow rates (average daily, dry weather daily, peak hour, peak day, and peak month), and the design treatment capacity of the system with respect to each of these. For new/proposed facilities, provide the methods used to estimate these design parameters and copies of all calculations.

3. For existing facilities, a summary table of monthly influent flow totals and monthly precipitation totals for the last five years. Explain any data gaps, outliers, and/or unusual circumstances that might affect measured flow rates. If sewer inflow and infiltration (I/I) contributes significantly to influent flow, provide an I/I analysis to project I/I as a function of total annual precipitation and/or groundwater level as appropriate.

4. A detailed description of the facilities that generate wastewater, and all wastewater conveyance, treatment, and disposal systems. Use site plans and conceptual drawings as appropriate to illustrate locations and typical construction. Include all treatment processes. The following maps, plans, and illustrations are needed:

a. A facility location map showing local topography, the facility location and/or boundaries, streets, and surface waters (including storm water drainage ditches, irrigation canals, and irrigation/tailwater ditches).

b. A process flow schematic for the entire treatment and disposal system. Include existing and proposed flow monitoring devices and sampling locations proposed to determine compliance with the WDRs.

c. A scaled treatment plant site plan.

d. A scaled map showing the limits of all proposed wastewater treatment, storage and disposal areas.

5. Characterization of the source water (the community or process water supply), influent wastewater quality (prior to treatment or discharge), and treated effluent quality. See Table 1 for a minimum list of constituents to be analyzed.

6. For POTWs and domestic wastewater facilities, a description of the sewer system, sewer materials and age, and lift station details (type, location, capacity, backup systems, and alarm features). Discuss potential inflow and infiltration (I/I) rates in light of local groundwater conditions and sewer system materials/design.

   For industrial facilities, a description of the industrial wastewater collection and conveyance system.

7. A description of proposed alarm systems, emergency wastewater storage facilities, and other means of preventing treatment system bypass or failure during reasonably foreseeable overload conditions (e.g., peak flows, power failure, sewer blockage). Consider both potential problems at the treatment system and within the conveyance system.

8. Preventive and contingency measures for controlling spills and accidental discharges.

9. Flood and frost protection measures (structural and operational) employed at the facility.

10. For debris, grit and screenings, sludge, and biosolids the following:

a. A description of solids generation rates, on-site treatment and handling systems, and short-term storage procedures.

b. A description of solids disposal practices.

c. For facilities that do not have continuous sludge wasting systems (i.e., where sludge

accumulates in treatment and/or storage ponds), the frequency of assessing accumulated sludge volume, the date of the last sludge volume assessment, the date of the last sludge cleanout, and expected frequency of future sludge cleanout activities

11. For each wastewater treatment, storage, or disposal pond and containment structure, provide the following information:

a. Identification (name) and function of the pond.

b. Surface area, depth, and volumetric capacity at two feet of freeboard.

c. Height (relative to surrounding grade), crest width, interior slope, and exterior slope of each berm or levee.

d. Materials used to construct each berm or levee.

e. Description of engineered liner, if any. Include a copy of the Construction Quality Assurance (CQA) Report if one was prepared.

f. Estimated steady state percolation rate for each unlined pond.

g. Depth to shallow groundwater below the base and pond inverts.

h. Overfilling/overflow prevention features.

i. Operation and maintenance procedures.

12. For subsurface disposal systems, provide the design basis and documentation demonstrating that the system has been designed in accordance with applicable regulations, codes, ordinances, and guidelines. If the design deviates from these requirements, provide justification in terms of system longevity, maintainability, and groundwater protection.

13. If treated domestic effluent will be recycled for beneficial reuse or if wastewater will reused or land-applied[2], provide a complete description of the following:

a. Ownership and contact information for each landowner[3].

b. Effluent disinfection system.

c. Effluent conveyance systems.

d. Water recycling/Land application areas (LAA) areas.

e. Cropping plans.

f. Planned operations (planting and harvest, irrigation method, irrigation frequency, irrigation amounts).

g. Expected nutrient loadings (pounds per acre per year total nitrogen).

h. Expected salt loadings (pounds per acre per year total dissolved solids).

i. Tailwater management methods.

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[2] Uses of recycled water that are limited to landscape irrigation (including golf courses) can be regulated under General WDRs issued by the State Water Board. See this webpage for more information: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/landscape_irrigation_general_permit.shtml.

[3] Landowners are typically named in WDRs as co-dischargers, and the WDRs may include separate requirements with which co-dischargers must comply.

	j. Storm water runoff management methods.
	k. Setback distances from the edge of each recycling/land application area from the property boundary, public streets, occupied structures owned by others, and surface waters/surface water conveyances.
	l. Plans that illustrate items c, d, i, j, and k above
	14. If wastewater effluent will be recycled pursuant to Title 22 of the California Code of Regulations (e.g., if domestic wastewater is recycled to grow crops, irrigate landscaping, provide pasture for livestock, or for landscape or recreational impoundments, including reclamation sites owned by a POTWs, unless water is recycled solely for irrigation of landscaping at the POTW site) a Title 22 Engineering Report must be submitted to both the Central Valley Water board and California Department of Public Health[4].
	15. Projected monthly water balances demonstrating adequate containment capacity for both the average rainfall year and the 100-year return period total annual precipitation, including consideration of at least the following:
	a. For POTWs and private domestic wastewater facilities, initial baseline influent and I/I flows as well as baseline influent and I/I flows at full build out with an aging sewer system.
	b. A minimum of two feet of freeboard in each pond at all times (unless a registered civil engineer determines that a lower freeboard level will not cause overtopping or berm failure).
	c. Historical local evapotranspiration, pan evaporation, and lake evaporation data (monthly average values).
	d. Local precipitation data with the 100-year return period annual total distributed monthly in accordance with mean monthly precipitation patterns.
	e. Proposed recycling area/land application area/disposal system hydraulic loading rates distributed monthly in accordance with expected seasonal variations based on crop evapotranspiration rates.
	f. Projected long-term percolation rates (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).
	16. Proposed flow limits and basis for the limits. Consider dry weather flows vs. peak flows and seasonal variations. Include the technical basis for the proposed flow limit (e.g., design treatment capacity; hydraulic capacity of a main lift station, headworks, or other system element; and demonstrated effluent storage/disposal capacity).
	17. A narrative description of treatment system operation and maintenance procedures to be employed, including those associated with effluent storage and disposal.
	18. For POTWs, the level of operator certification and staffing; the names and grade levels of all certified operators, and the hours that the facility is manned.
	19. For privately owned domestic wastewater treatment facilities, the names and grade levels of all certified operators, and the hours that the facility is manned. If the facility does not have a certified operator, provide justification for not retaining one.

[4] To the extent this information is already presented in the Title 22 Engineering Report, the RWD may incorporate that report by reference. The Title 22 Engineering Report must also be submitted to the California Department of Public Health for review and approval.

	C. Planned Changes in the Facility and Discharge (for existing facilities only)
	1. Describe in detail any and all planned changes in the facility or discharge, addressing each of items listed in Section B above.
	D. Local and Site-Specific Conditions (Illustrate with maps as appropriate)
	1. Neighboring land uses.
	2. Typical crops grown (if agricultural area).
	3. Irrigation water source(s) and volume and quality data (if agricultural area).
	4. Terrain and site drainage features.
	5. Nearest surface water drainage course.
	6. FEMA floodplain designation(s).
	7. Average Annual precipitation (inches)
	8. 100-year 365-day precipitation (inches)
	9. Reference evapotranspiration (monthly and annual total)
	10. Pan evaporation (monthly and annual total)
	11. A description of the types and depths of soil underlying ponds and/or effluent disposal areas (include a copy of the geotechnical report and/or NRCS soil report). Include at least the following:
	a. Depth of unsaturated soil when groundwater is closest to the surface.
	b. Soil types based on site-specific information, sampling locations (accurately measured and recorded), description and results of percolation tests or other tests used to estimate soil long-term infiltration rates. Include depth, thickness, and soil horizons. Soils must be described at a minimum of five feet below the bottom of any disposal unit.
	c. Bedrock type and condition encountered in disposal area, if any.
	d. A scaled map depicting soil/rock types and test locations.
	12. Provide the following information about hydrogeology and groundwater:
	a. Stratigraphy, groundwater elevation and gradient, transmissivity, and influence of all recharge and pumping sources (site conceptual model).
	b. Elevation and gradient of first groundwater at the facility
	c. Depth to highest anticipated groundwater based upon onsite measurements taken during wet season.
	d. Shallow groundwater quality for typical waste constituents, up/down gradient. (See Table 1)
	e. Information on monitoring well locations, construction details, and locations of any geological features (e.g. aquitards, subterranean channels, faults) and aquifer characteristics.
	f. Summary of historical groundwater monitoring results (last 5 years for existing facilities, 2 years for new/planned facilities).
	E. Antidegradation Analysis
	The State Water Resources Control Board Resolution No. 68-16 (the Antidegradation Policy) requires that the Central Valley Water Board maintain the high quality of waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in exceedances of one or more water quality objectives. If a discharge will degrade groundwater quality but will not cause an exceedance of one or more water quality objectives, the discharger must demonstrate that all practicable treatment or control measures have been implemented or will be implemented such that the Board can consider these

measures to represent the "best practicable treatment or control" (BPTC) of the constituents of concern. Demonstrating that BPTC has been, or will be, implemented at the site can provide justification for the Board to allow the current level of degradation to continue or increase (as applicable), or for the Board to allow any degradation in the case of a new discharge. The Antidegradation Policy is incorporated into our Basin Plans, which also include implementation plans that we follow. See the following link for the Basin Plans and other important policy documents:

http://www.waterboards.ca.gov/centralvalley/plans_policies/

The Antidegradation Analysis must include the following:

1. For existing facilities, whether the discharge has caused degradation. If so, for which constituents, to what degree, and whether the discharge has caused exceedance of a water quality objective.
2. The potential for the discharge to degrade groundwater quality (for new discharges) or further degrade groundwater quality (for existing discharges, whether or not the discharge is expanding).

The assessment must be made based on site-specific data and shall include the following items for each constituent listed in the effluent category on Table 1:

a. Characterization of all waste constituents to be discharged that have the potential to degrade groundwater quality;

b. Characterization of shallow groundwater quality (i.e., the uppermost layer of the uppermost aquifer) for typical waste constituents[5] upgradient and downgradient of the site and comparison to established water quality objectives [6] (include tabulated historical groundwater monitoring data and groundwater elevation contour maps for the last eight monitoring events);

c. A description of the geology and hydrogeologic conditions of the site including groundwater elevation and gradient, transmissivity, influence of all known recharge and pumping sources, and subsurface conditions at the facility, including any proposed new disposal site or storage ponds;

d. Groundwater degradation , if any, that has resulted from existing operations, other nearby discharges, or natural occurrences;

e. The areal extent that the discharge has impacted or will impact the quality of the shallow groundwater, if any;

f. The concentration found and/or expected increase in concentration in shallow groundwater for each constituent.

g. If degradation has occurred or is expected to occur describe the following:

   i. Any facility design features and operational practices that reduce the potential for groundwater degradation (treatment or control). Such features might include salinity source control, other pollutant source control, advanced treatment, disinfection, concrete treatment structures, and pond lining systems, etc.

   ii. Additional treatment or control measures that could be implemented and a preliminary capital and annual operations and maintenance cost estimate for each.

[5] Include analyses for the following: total coliform organisms, total dissolved solids, fixed dissolved solids, electrical conductivity, nitrate nitrogen, total nitrogen, and major anions and cations.

[6] Compare to Basin Plan water quality objectives, including drinking water standards, agricultural water quality goals, etc.

   iii. How current treatment and control measures are justified as BPTC (i.e., what justifies not implementing additional measures);

   iv. How no water quality objectives will be exceeded; and

   v. Why allowing existing and/or anticipated degradation is in the best interest of the people of the state.

F. Industrial Storm Water Permit

The State Water Resources Control Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. Many industrial facilities and some domestic wastewater treatment facilities are required to obtain coverage under this permit. Provide evidence that the facility is exempt or has applied for coverage under the Industrial Storm Water Permit.

See the following link for more information:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/

G. General WDRs for Sanitary Sewer Systems.

The State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order 2006-0003-DWQ). The permit requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to obtain coverage. Provide evidence that the facility is exempt or has applied for coverage under the General WDRs for Sanitary Sewer Systems.

See the following link for more information:

http://www.waterboards.ca.gov/water_issues/programs/sso/index.shtml

H. Department of Water Resources Well Standards

The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the State or county pursuant to Water Code section 13801, apply to all monitoring wells. Discuss whether existing monitoring wells at the facility were constructed in accordance with the Department of Water Resources Well Standards.

See the following link for more information:

http://wwwdpla.water.ca.gov/sd/groundwater/california_well_standards/well_standards_content.html

Table 1

The Report of Waste Discharge must characterize the groundwater (G), source water (S), treatment system influent (I), and effluent discharge (E) for, at minimum, the constituents indicated in the list below. The characterization must be based on a statistically significant number of representative samples as determined by an appropriately registered and/or licensed professional. All media must also be characterized for all additional waste constituents that may be in the discharge based on the facility processes employed but not listed below.

Constituent [1]	Units	Minimum Recommended Characterization Data			
		POTW/ Domestic	Food Processor	Sand and Gravel	Other Industry
Biochemical Oxygen Demand	mg/L	I, E	I, E		E
Chemical Oxygen Demand	mg/L	G, E	I, E		E
Settleable Matter	ml/L	E	E		E
Total Suspended Solids	mg/L	I, E	I, E		E
Total Dissolved Solids	mg/L	G, S, I, E	G, S, E	G	G, S, E
Fixed Dissolved Solids	mg/L		E		G, S, E
Electrical Conductivity	umhos/cm	G, S, I, E	G, S, I, E	G, S, I, E	G, S, I, E
Total Kjeldahl Nitrogen as N	mg/L	G, S, E	G, S, E		G, S, E
Ammonia Nitrogen as N	mg/L	G, S, E	G, S, E		G, S, E
Nitrate Nitrogen as N	mg/L	G, S, E	G, S, E		G, S, E
pH	pH Units	G, S, I, E	G, S, E	G, S, I, E	G, S, I, E
General Minerals[2]					
Alkalinity	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Hardness	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Bicarbonate	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Carbonate	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Calcium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Magnesium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Chloride	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Potassium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Sodium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Sulfate	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Metals[3]					
Aluminum	ug/L	E			E
Antimony	ug/L			S, E	
Arsenic	ug/L	G, S, E	G, S, E	G, S, E	G, S, E

Constituent [1]	Units	Minimum Recommended Characterization Data			
		POTW/ Domestic	Food Processor	Sand and Gravel	Other Industry
Barium	ug/L			S, E	
Beryllium	ug/L			S, E	
Boron	ug/L	G	G	G, S, E	G
Cadmium	ug/L			S, E	
Chromium (IV)	ug/L			S, E	
Chromium (III)	ug/L			S, E	
Total Chromium	ug/L	G	G	G, S, E	G
Cobalt	ug/L			S, E	
Copper	ug/L	E	E	S, E	E
Fluoride	ug/L			S, E	
Iron	ug/L	G, S, E	G, S, E	G, S, E	G, S, E
Lead	ug/L	E		S, E	E
Mercury	ug/L	E		S, E	E
Manganese	ug/L	G, S, E	G, S, E	G, S, E	G, S, E
Molybdenum	ug/L			S, E	
Nickel	ug/L			S, E	
Selenium	ug/L			S, E	
Silver	ug/L			S, E	
Thallium	ug/L			S, E	
Vanadium	ug/L			S, E	
Zinc	ug/L	E		S, E	E
Disinfection By-Products[4]	ug/L	G, E	E		E
Formaldehyde[5]	ug/L	G, E	E		E
Phenols[5]	ug/L	G, E			E
Priority Pollutants[6]	Various	G, E			E

1 With the exception of wastewater samples, samples for metals analysis must first be filtered using a 0.45-micron filter. If filtering in the field is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody form) to immediately filter then preserve the sample.

2 General minerals analyses shall be accompanied by a cation/anion balance demonstrating complete analyses.

3 Where constituents are analyzed as part of other suites of constituents, the results may be substituted to avoid redundant analyses (i.e., arsenic results collected to fulfill the metals suite requirements may also be used to fill the Priority Pollutant suite requirements provided appropriate detection limits are used.).

4 If wastewater is disinfected using chlorination or chlorination is used in internal disinfection processes.

[5] If the facility accepts holding tank waste from RVs, boats, or portable toilets.

[6] The Discharger must determine which priority pollutants, if any, are likely to be present in the discharge at concentrations that might degrade groundwater quality, and must provide characterization data for those constituents.