

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

MEETING OF JUNE 10 AND 11, 2009  
Victorville

- ITEM:** 7
- SUBJECT:** MASTER WATER RECYCLING REQUIREMENTS AND WASTE DISCHARGE REQUIREMENTS, MAMMOTH COMMUNITY WATER DISTRICT, DISINFECTED TERTIARY RECYCLED WATER, MONO COUNTY
- CHRONOLOGY:** This is a new item.
- ISSUE:** Should the Water Board adopt a Master Water Recycling Permit allowing the Mammoth Community Water District (District) to produce and distribute disinfected, tertiary recycled water within the Mammoth Lakes Community?
- DISCUSSION:** The District collects, treats, and disposes of domestic wastewater generated in the Mammoth Lakes community, which is located in the Eastern Sierras in southern Mono County. The District currently provides secondary treatment with partial nitrogen removal, and is permitted under a separate Board Order to discharge treated wastewater to Laurel Pond, a wildlife habitat area 5 miles east-south east of Mammoth Lakes.
- The District has requested the Lahontan Water Board issue Master Water Recycling Requirements to the District for its proposed recycled water uses. The District is proposing to upgrade their facility to produce disinfected tertiary recycled water at a maximum rate of 2.9 MGD. The District plans to distribute recycled water for landscape irrigation at two golf courses, Sierra Star and Snow Creek; and one park, Shady Rest Park. The District will also provide recycled water for landscape irrigation at sites such as parks, cemeteries and schools, and for dust control and soil compaction. The sites re-use are located within an eight square-mile area in and adjacent to Mammoth Lakes. The uses must satisfy the Water Recycling Criteria specified by the California Code of Regulations, title 22, division 4, chapter 3 (Title 22).

07-0001

This Order authorizes the District to produce and distribute disinfected tertiary recycled water to users that operate facilities/systems complying with water recycling requirements contained in State of California laws and regulations. This Order also requires the District to regulate the users of the recycled water to ensure compliance with water recycling requirements contained in State of California laws and regulations.

Regional Board staff has solicited comments from interested parties. Written comments were received from the District and the City of Los Angeles Department of Water Power (LADWP). Board staff has addressed the District's and LADWP's comments in the proposed Order.

**RECOMMENDATION:** Adoption of the Master Water Recycling Permit and Waste Discharge Requirements as Proposed.

Enclosure: 1. Proposed Board Order

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# **ENCLOSURE 1**

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**BOARD ORDER NO. R6V-2009-(PROPOSED)**  
WDID No. 6B260903003

**MASTER WATER RECYCLING REQUIREMENTS AND  
WASTE DISCHARGE REQUIREMENTS  
MAMMOTH COMMUNITY WATER DISTRICT  
DISINFECTED TERTIARY RECYCLED WATER**

\_\_\_\_ Mono County \_\_\_\_\_

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) finds:

1. Definitions

The following terms, which are used within this Order, are defined by their respective code citations or policy references:

a. **Disinfected Tertiary Recycled Water:** "...filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

(1) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

(2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaqueforming [sic]-units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposed of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters." [California Code of Regulations, title 22, section 60301.230]

b. **Incidental Runoff:** "...unintended small amounts (volume) of runoff from recycled water use areas, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area." [Paragraph 7(a),

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Recycled Water Policy, State Water Resources Control Board Resolution No. 2009-0011]

- c. **Master Recycling Permit:** "...a permit issued to a supplier or a distributor, or both, of recycled water, that includes waste discharge requirements prescribed pursuant to Water Code section 13263 and water recycling requirements prescribed pursuant to Water Code section 13523.1." [Water Code section 13050(r)]
- d. **Reclaimed Water.** "...wastewater which as a result of treatment is suitable for uses other than potable use." [California Code of Regulations, title 17, section 7583(i)]
- e. **Recycled Water:** "...water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource." [Water Code section 13050(n)]

## 2. Recycled Water Report

The Mammoth Community Water District (District) has filed an application with the Lahontan Water Board under California Water Code (Water Code) Section 13522.5. For the purposes of this Order, the District is referred to as the "Discharger". Pursuant to Water Code Section 13523.1, the District's application requests the Water Board issue Master Water Recycling Requirements to the District for the District's recycled water project. The District proposes supplying an average flow of 2.9 million gallons per day (MGD) of disinfected, tertiary recycled water as defined in California Code of Regulations, title 22, section 60301.230, that is suitable for unrestrictive landscape irrigation. On behalf of the District, HDR Engineering Inc. and Bauer Planning and Environmental Services submitted information in August 2008 and February 2009, to complete the application.

## 3. Facilities and Treatment Process

The District collects, treats and disposes of domestic wastewater generated in the District's service area, which is generally the Town of Mammoth Lakes located in the southwestern part of Mono County (Attachment A). Boundaries of the District's service area encompass an area of approximately 3,640 acres or 5.7 square miles.

The District owns and operates the Mammoth Lakes Wastewater Treatment Plant (Treatment Plant), which is located 1.5 miles east of the Town of Mammoth Lakes.

The design capacity of the Treatment Plant is a maximum average 30-day flow of 4.1 MGD and a maximum daily flow of 5.48 MGD. The Treatment Plant is an activated sludge plant with the following unit processes: raw sewage grinding, primary sedimentation, conventional activated sludge operated for nitrification and

partial denitrification removal, secondary sedimentation, tertiary media filtration, and chlorine contact basins. Treated effluent is conveyed by gravity outfall to the Laurel Pond disposal site, which is located 3.5 miles southeast of the Treatment Plant.

4. Current Board Orders

Board Order No. 6-91-22 adopted on March 14, 1991 includes effluent limits, receiving water limitations for ground water, provisions, and monitoring requirements for the District's existing wastewater collection, treatment, and disposal facilities. Board Order No. 6-88-143 adopted on September 8, 1988 authorizes the District to reuse water along both sides of Main Street (Hwy. 203) between Mono St. and Mammoth Road. Recycled water is delivered from the Treatment Plant by tank truck, and water is applied during periods of minimal public contact.

5. Reason for Action

The District is proposing to supply an average flow of 1.55 MGD and a peak flow of 2.9 MGD of title 22-quality, disinfected, tertiary recycled water (hereinafter, recycled water) for irrigation use at Sierra Star, Snowcreek, and Shady Rest. The project includes storage of recycled water in lined surface impoundments at Sierra Star and Snowcreek golf courses. The purpose of the District's recycled water project is to provide treated wastewater for landscape irrigation, which would otherwise create a demand on potable water supplies during the summer. In May 2007, the Town of Mammoth Lakes completed a comprehensive update to their General Plan. The Town reported that land development under the approved General Plan would result in a water deficiency of 1,488 acre-feet in a dry year.

The master water recycling requirements authorize the District under Water Code Section 13523.1 to regulate the users of the recycled water to ensure compliance with water recycling requirements contained in the uniform statewide criteria ("title 22 requirements") pursuant to Water Code Section 13521.

6. Source of Recycled Water

The District will produce recycled water at the tertiary treatment plant. The District proposes to improve the existing filtration and disinfection facilities to meet Title 22 requirements and to reliably meet user needs. The improvements include pumping secondary effluent to a filtration process that includes: coagulant and flocculant addition and mixing; flocculation tanks, a tertiary cloth disc filter and associated backwash system that replaces the existing media filters; new in-line chlorine gas injectors; and new chlorine contact basin; yard piping, a recycled water storage basin; and a recycled water pumping station. Motor control centers, instrumentation, and controls associated with the new facilities are also part of the improvements. A site map illustrating the improvements at the Treatment Plant is included in Attachment C of this Order.

The tertiary treatment facilities will receive wastewater that has undergone secondary treatment. The resulting recycled water will be distributed to recycled water users. Two by-pass pumps will provide secondary treated wastewater to the existing secondary disinfection unit and then to the Laurel Pond disposal site. A flow diagram of the District's Treatment Plant that incorporates the improvements is included in Attachment D of this Order.

The maximum instantaneous flow the filter can handle is 2,014 gpm which is equivalent to 2.9 MGD. The new chlorine contact basin has a maximum capacity of 3.1 MGD meeting the Title 22-required ninety-minute minimum modal contact time for chlorine disinfection. As the maximum filter capacity controls, the capacity of the tertiary filtration and disinfection plant is 2.9 MGD.

The expected quality of the recycled water supply is presented in Table 1.

Table 1. Expected recycled water supply quality

Constituent	Units	Value
pH	pH units	6.0 to 7.7
Turbidity	NTU	1.5
BOD	mg/L	5
TDS	mg/L	288
Chloride	mg/L	43
Ammonia-N	mg/L	0.1
Nitrite-N	mg/L	0.02
Nitrate-N	mg/L	15
Phosphorus	mg/L	4
THM	mg/L	3.1
HAA	mg/L	40
Total Coliform	MPN/100 mL	<2

7. Producer, Distributor and Users

Under this Order, the District is the producer and the distributor of recycled water. Potential users of recycled water include Sierra Star Golf Course and the Snowcreek Golf Course. Other potential future users include Shady Rest Park and the Town of Mammoth Lakes and other public agencies for parks and roadway landscaping, private condominiums, public school landscape sites and athletic fields, construction projects, and other industrial and commercial uses.

8. Recycled Water Transmission and Distribution System

Delivery of recycled water from the Treatment Plant to Sierra Star and Snowcreek will be through separate pump stations and effluent pipelines. The District will install the Sierra Star and Snowcreek pipelines in a common trench for most of the alignment. Transmission and distribution systems for other potential users will be independent and designed and constructed in the future.

9. Permit Area

This Order authorizes use of recycled water at sites located within the District's boundary, which generally coincides with the Town of Mammoth Lakes. In addition, this Order authorizes recycled water uses outside its boundary, including U.S. Forest Service Land such as Shady Rest. The authorized use area consists of S½ Sec 25, S½ Sec 26, S½ Sec 27, SE¼ Sec 28, E½ SW¼ Sec 28, NW¼ Sec 33, NE¼ Sec 33, SE¼ Sec 33, Sec 34, Sec 35, Sec 36 of T3S, R27E; and W½ Sec 1, Sec 2, Sec 3, E½ Sec 4, N½ NE¼ Sec 9, N½ NW¼ Sec 10, N½ NE¼ Sec 10, N½ NW¼ Sec 11, N½ NE¼ Sec 11, N½ NW¼ Sec 12 of T4S, 27E, all within MDB&M. The permit area is illustrated in Attachment B of this Order.

10. Authorized Recycled Water Uses

This Order authorizes recycled water use for landscape irrigation at parks and golf courses and other landscaped areas and for watering at construction sites to minimize airborne dust.

11. Authorized Recycled Water Use Sites

The sites authorized for use of recycled water under this Order (Authorized Recycled Water Use Sites) are those:

- a. Located within the Permit Area described in Finding No. 9, above; and
- b. Where the use is limited to those described in Findings No. 5 and 10, above.

12. Topography

The permit areas are located in the Murphy Gulch, Mammoth Creek, and Basalt Canyon drainages. Murphy Gulch drains into Mammoth Creek near the intersection of Highways 203 and 395, about 2.5 miles east of Sierra Star. Basalt Canyon drains into Mammoth Creek about 1 mile east of the intersection of Hwy 203 and 395. These drainages are part of the Long Valley Hydrologic Area of the Owens Hydrologic Unit.

13. Hydrogeology

Two kinds of rock deposits exist beneath the Sierra Star and Snowcreek reuse sites. The upper layers are unconsolidated glacial till, and the lower layers are basalt.

At Sierra Star, unconsolidated glacial till deposits are at depths ranging from 125 to 190 feet below the ground surface (bgs). The glacial till consists of fine to course sand, gravel, boulders, silt, and clay. Underlying the glacial till is basalt. Groundwater occurrence is in the fractures and scoria zones of the basalt. Depth to

groundwater is 280 feet bgs or greater. Groundwater movement is to the north and northeast and has a gradient of 50 feet per mile.

At Snowcreek, unconsolidated glacial till deposits range from 95 to 105 feet bgs. Beneath the unconsolidated materials is basalt. Groundwater is encountered below 150 feet bgs in the fractured basalt and scoria layers. Groundwater movement is to the northeast and has a gradient of 400 feet per mile.

The District's production wells draw water from the basalt layer. However, shallow water is sometimes present during spring and early summer, mainly from snowmelt.

14. Groundwater Quality

The District has measured groundwater quality from supply wells that are located at or adjacent to Sierra Star and Snowcreek. The supply wells are screened in the basalt layer. Water quality results are presented in Table 2. Groundwater quality is generally good beneath the reuse areas. In some areas groundwater is treated to remove naturally occurring iron and manganese prior to using for domestic supply. The higher groundwater temperature that has been measured by the District in Well 16 indicates this well is influenced by geothermal water.

Table 2. Reuse Area Groundwater Quality, mg/L

Constituent	MCL <sup>1</sup>	Sierra Star Well No. 16		Snow Creek	
		Up- gradient	Well No. 21 Down- gradient	Well No. 10 Up-gradient	Well No. 6 Down-gradient
TDS	500 <sup>2</sup>	448	177	275	268
Chloride	250 <sup>3</sup>	1.2	1.6	5.3	0.02
Nitrate-N	10	< 0.05	0.1	< 0.05	0.06
Nitrite-N	1	< 0.05	< 0.05	< 0.05	< 0.05

<sup>1</sup>MCL = Drinking Water Standard - Maximum Contaminant Level

<sup>2</sup>Secondary MCL recommended level; upper level = 1000 mg/L; short-term level = 1500 mg/L.

<sup>3</sup>Secondary MCL recommended level; upper level = 500 mg/L; short-term level = 600 mg/L

15. Receiving Waters

The receiving waters are the ground waters located within the Long Valley Groundwater Basin (DWR Basin No. 6-11).

16. Lahontan Basin Plan

The Lahontan Water Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan), which became effective on March 31, 1995. This Order implements the Basin Plan as amended.

17. Beneficial Uses – Groundwater

The beneficial uses of the ground waters of the Long Valley ground water basin, as set forth and defined in the Basin Plan, are:

- a. Municipal and Domestic Supply (MUN);
- b. Agricultural Supply (AGR);
- c. Industrial Service Supply (IND); and
- d. Freshwater Replenishment (FRSH).

18. State Water Board Recycled Water Policy

State Water Board Resolution No. 2009-0011, "Adoption of a Policy for Water Quality Control for Recycled Water," references and adopts the "State Water Resources Control Board Recycled Water Policy" (Recycled Water Policy). The Recycled Water Policy provides direction to the State and Regional Water Boards regarding the appropriate criteria to be used in issuing permits for recycled water projects. The Recycled Water Policy describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. This Order implements the Recycled Water Policy.

Order No. III of this Master Recycling Permit requires the District to develop a salt/nutrient management plan and to control incidental runoff consistent with Paragraphs 6 and 7(a), respectively, of the Recycled Water Policy. Finding Nos. 21 and 22 of this Order describes Lahontan Water Board consistency with the streamlined permitting criteria outlined in Paragraphs 7(b) and 7(c) of the Recycled Water Policy. Finding No. 22 of this Order describes Lahontan Water Board consistency with the antidegradation criteria outlined in Paragraph 9 of the Recycled Water Policy. This permit allows for increased use of recycled water consistent with the mandate established in Paragraph 4 of the Recycled Water Policy to increase the use of recycled water in California.

19. Incidental Runoff of Recycled Water

Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence.

The State Recycled Water Policy defines incidental runoff as unintended small amounts (volume) of runoff from recycled water use areas, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence.

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The Discharger must develop and implement an operations and management plan that applies to all reuse areas. This plan must provide for detection of leaks (for example broken sprinkler heads) and correction within 72 hours or prior to a release of 1,000 gallons, which ever occurs first.

**20. Dischargers of Recycled Water from Surface Impoundments**

The State's Water Recycling Policy prohibits discharge to surface waters from a surface impoundment containing recycled water unless the discharge is a result of a 25-year, 24-hour storm event or greater. Surface water impoundments used for recycled water storage will retain a 25-year, 24-hour storm event.

**21. Regulation of Recycled Water**

**a. California Code of Regulations, Title 22, Department of Public Health**

The California Department of Public Health (CDPH), formerly the Department of Health Services, established criteria for using recycled water. These criteria are codified in title 22 and include such requirements as Sources of Recycled Water, Uses of Recycled Water, and Use Area Requirements. The CDPH adopted revised Water Recycling Criteria that became effective on March 20, 2001. Applicable criteria are prescribed in this Order.

**b. Engineering Reports**

As required under California Code of Regulations, title 22, section 60323, the District has submitted engineering reports for the production of recycled water and use of recycled water at the Sierra Star Golf Course to the State of California Department of Public Health (CDPH). The content and status of each report is the following:

<b>Engineering report title</b>	<b>Scope</b>	<b>CDPH review status</b>	<b>Lahontan Water Board response to CDPH review and project status</b>
Recycled Water System Engineering Report, Draft, June 2008	Treatment and recycled water production	Report accepted with conditions on Aug 14, 2008	Lahontan Water Board accepted report. Adopted Board Order R6V-2009-PRO on June 11, 2009
Sierra Star Golf Course On-Site Recycled Water System, Final Draft, December 2008	Sierra Star distribution system	Report accepted with conditions on March 12, 2009	Lahontan Water Board accepted report. Adopted Board Order R6V-2009-PRO on June 11, 2009.

Prior to implementing a project for Snowcreek, or other yet-to-be identified uses, the District or other responsible agency will prepare the appropriate

engineering reports, obtain acceptance of the project from appropriate agencies, and will implement California Public Health conditions for project acceptance pursuant to waste discharge requirements and/or water recycling requirements issued by the Lahontan Water Board.

c. Regulation

Water Code Section 13523, subdivision (a) states:

*"Each regional board, after consulting with, and receiving the recommendations of, the State Department of Health Services and any party who has requested in writing to be consulted, with the consent of the proposed permittee, and after any necessary hearing, may, in lieu of issuing waste discharge requirements pursuant to Section 13263 or water reclamation requirements pursuant to Section 13523 for a user of reclaimed water, issue a master reclamation permit to a supplier or distributor, or both, of reclaimed water."*

This Order includes water recycling requirements that require the District to:

- i. comply with Waste Discharge Requirements (see Finding 4 and Water Recycling Specification No. I.B.1 of this Order);
- ii. comply with Uniform Statewide Reclamation Criteria (California Code of Regulations, title 22, sections 60301 through 60355) established pursuant to Water Code Section 13521; (see Water Recycling Specification No. I.B.1 of this Order);
- iii. establish and enforce Requirements for Recycled Water Users (Attachment F), which are made a part of this Order, and which govern the design and construction of recycled water use facilities and the use of recycled water (see Water Recycling Specifications No. I.B.2 and I.B.4 of this Order);
- iv. submit quarterly reports to the Lahontan Water Board summarizing recycled water use, including the total amount of recycled water supplied, the total number of recycled water use sites, the locations of the recycled water use sites, and the names of the hydrologic areas underlying the recycled water use sites (see Monitoring and Reporting Program No. R6V-2009-Proposed, Sections I.E and II.B); and
- v. conduct periodic inspections of recycled water use sites to monitor compliance by users with the Uniform Statewide Reclamation Criteria, the Requirements for Recycled Water Users; and the requirements of this Order; (Water Recycling Specifications No. I.B.3 and I.B.4 of this Order).

Regarding the requirement identified in Finding 21.c.i. above, the District is under current requirements to comply with the Waste Discharge Requirements listed in Finding No. 4 of this Order.

Regarding requirement Finding 21.c.ii., above, the District, through information contained in its CEQA documents and the District's application, established that the recycled water uses will comply with the Title 22 requirements.

Regarding requirements Finding 21.c.iii. and 21.c.v. above, the District has completed and submitted a report to the Water Board containing its proposed Requirements for Recycled Water Users and its Compliance Inspection and Enforcement Program (Appendix F of this Order). The report meets the "Requirements for Recycled Water Users".

This Order implements requirement identified in Finding No. 21.c.iv. through the attached Monitoring and Reporting Program.

22. Streamlined Permitting

a. Eligibility

The proposed water recycling project meets the criteria for streamlined permitting of Landscape Irrigation Projects under the State Recycled Water Policy, Section 7.c. for the following reasons:

- i. The project complies with Title 22 regulations.
- ii. The proposed use is at rates and amounts needed for the landscape. An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied including, but not limited to, developing water budgets for use areas, providing supervisor training, conducting periodic inspections, developing tiered rate structures, and installing smart controllers. An operations and management plan may be developed to cover multiple sites.
- iii. A Salt Management Plan has not been developed. This Order includes a requirement that the District must participate in the development of the salt and nutrient management plan.
- iv. The District will communicate to users the nutrient levels in the recycled water, so that the users may appropriately evaluate nutrient needs prior to application of fertilizers.

b. Streamlined Permit Requirements

According to the Recycled Water Policy 7.b.(4), landscape irrigation projects that qualify for streamline permitting are not required to conduct project specific receiving water and groundwater monitoring. During the interim when the salt management plan is under development, the District must either perform project specific monitoring or actively participate in the development and implementation of the salt/nutrient management plan. Permits must include monitoring of priority pollutants on a twice-annual basis. This Order includes a requirement that the District participates in developing the salt/nutrient management plan for Long Valley in lieu of performing project specific monitoring as allowed by the Recycled Water Policy.

Additionally, the Recycled Water Policy required streamlined permits to include monitoring of priority pollutants on a twice-annual basis and annual monitoring of Emerging Constituents/Constituents of Emerging Concern (e.g., endocrine disrupters, personal care products, or pharmaceuticals) (CECs). The Recycled Water Policy recognizes a lack of complete knowledge regarding CECs, and the implementation of CEC monitoring is deferred in order to incorporate the recommendations of a blue-ribbon advisory panel, to be convened by the State Water Board. This Order includes the monitoring for priority pollutants.

23. Maintenance of High Quality Waters in California

The proposed uses of recycled water could result in a degradation of the existing groundwater quality within the Long Valley groundwater basin with respect to nutrients such as nitrate-nitrogen. Although water will be applied at agronomic rates, a conservative estimate was used assuming 20% of the total nitrogen is not used by the crops and will reach groundwater. The Long Valley groundwater basin within the Mammoth Lakes area is estimated to have 138,500 acre-feet of usable storage. Nitrate-nitrogen concentrations average 0.065 mg/L in the receiving groundwater. According to California Code of Regulations, title 22, the maximum contaminant level (MCL) in the groundwater basin for nitrate-nitrogen is 10 mg/L. The average nitrate-nitrogen concentration in the recycled water is expected to be 15 mg/L after the Tertiary Treatment Plant is operational.

The District provided information to conservatively calculate the groundwater basin's assimilative capacity for nitrate-nitrogen and the proposed project's impact on the remaining assimilative capacity. Subtracting the average nitrate-nitrogen concentration of 0.065 mg/L in the groundwater basin from the MCL of 10 mg/L, the groundwater basin has an assimilative capacity of 9.935 mg/L. From a mass balance analysis, the multiple proposed uses of recycled water will use less than one percent of the available assimilative capacity for nitrate-nitrogen within the Long Valley groundwater basin over the next ten years. Extrapolating over a 30-year period where recycled water supply is at its

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maximum flow level, the Lahontan Water Board projects that the multiple proposed uses of recycled water will not use more than 3.7 percent of the available assimilative capacity for nitrate-nitrogen within the Long Valley groundwater basin. This level of degradation is consistent with established policies, as discussed below.

The proposed uses of recycled water could result in a degradation of the existing groundwater quality within the Long Valley groundwater basin with respect to salts (Total Dissolved Solids, or TDS). TDS concentrations average 224 mg/L in the receiving groundwater. According to California Code of Regulations Title 22, the recommended secondary maximum contaminant level (MCL) in the groundwater basin for TDS is 500 mg/L, and the secondary MCL upper limit is 1,000 mg/L. The average TDS concentration in the recycled water is 288 mg/L.

The Lahontan Water Board performed an analysis to conservatively calculate the groundwater basin's assimilative capacity for TDS and the proposed project's impact on the remaining assimilative capacity. Subtracting the average TDS concentration of 224 mg/L in the groundwater basin from the recommended MCL of 500 mg/L, the groundwater basin has an assimilative capacity of 276 mg/L. From a mass balance analysis, the multiple proposed uses of recycled water will not use more than one percent of the available assimilative capacity for TDS within the Long Valley groundwater basin over the next ten years. Extrapolating over a 30-year period where recycled water supply is at its maximum flow level, the Lahontan Water Board projects that the multiple proposed uses of recycled water will not use more than 10.9 percent of the available assimilative capacity for TDS within the Long Valley groundwater basin. This level of degradation is consistent with established policies, as discussed below.

State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," states,

*"1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that a change will be consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.*

*2. Any activity which produces or may produce a waste...and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) pollution or nuisance will not occur, and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*

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This Order is consistent with Resolution No. 68-16 for the following reasons.

- a. State Water Board, through Resolution No. 77-1, has identified the beneficial use of recycled water for the people for the State, and directs regional water boards to encourage the use of recycled water in water-short areas of the State. The Mammoth area is located in a water-short area of the State. The current demand for potable water in the Mammoth CWD service area exceeds supply in the region. The people of the State will benefit from the use of recycled water in the Mammoth area, where recycled water will supplement and/or replace existing water supplies (e.g., imported surface waters and overdraft of groundwaters).
- b. This Order prohibits the use of recycled water that causes a pollution or nuisance.
- c. This Order requires the District to administer *(1) Requirements for Recycled Water Users*, (see Attachment E). The requirements and the compliance inspection and enforcement programs are the mechanisms for ensuring that appropriate control measures are identified, implemented, and maintained. The control measures generally identified include *(1)* applying irrigation within agronomic rates to reduce the potential for runoff and increased nutrients into the groundwater; and *(2)* developing and implementing a salt/nutrient management plan to reduce the potential for salt and nutrient loading, thereby minimizing the impacts to groundwater quality within the Mammoth area. The control measures will ensure that the discharge will result in the best practicable control for the maximum benefit of the people of the State to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The waste discharge requirements adopted as part of this Order will ensure that the discharge will result in the best practicable control for the maximum benefit of the people of the State to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained. The control measures will prevent the groundwater quality within the Mammoth area from exceeding the standards established in existing applicable policies.

- d. The use of recycled water as authorized by this Order will not result in water quality less than that prescribed in applicable policies.

24. Consideration of Water Code Section 13241 Factors

Section 13523.1(b)(1) of the Water Code requires master reclamation requirements to include Waste Discharge Requirements adopted pursuant to

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Article 4 (commencing with Section 13260) of Chapter 4. Section 13263(a) of the Water Code requires that such Waste Discharge Requirements take into consideration factors listed in Section 13241 of the Water Code. The Board has considered these factors as follows:

a. Past, present, and probable future beneficial uses of water.

This Order identifies existing groundwater quality as described in Finding No. 14. This Order also identifies past, present, and probable future beneficial uses of the Antelope Valley groundwater as described in Finding No. 17. The proposed uses of recycled water will not adversely affect present or probable future beneficial uses of water, including municipal and domestic supply, agricultural supply, and industrial service supply.

b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

Finding Nos. 13 and 14 describe the environmental characteristics and quality of available groundwater. Finding No. 14 details groundwater issues related to TDS and nitrate concentrations.

TDS concentrations range from 175 to 450 mg/L, with higher concentrations in groundwater influenced by geothermal water. These levels are below the secondary MCL recommended level of 500 mg/L.

Nitrate concentrations in groundwater are typically measured at or near detection levels.

c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors, which affect water quality in the area.

The requirements of the Order, including application of recycled water at agronomic rates, will result in the protection of existing and probable future beneficial uses to the maximum benefit to the people of the State of California. The requirements of this Order will also result in the protection of water quality to continue to meet the standards prescribed in applicable existing policies.

d. Economic considerations.

The Mammoth Lakes area, which includes the ski area, is faced with challenges in the management of water and wastewater resources. In 2004, the permanent residential and peak seasonal population were 7,569 and 34,265, respectively. Currently, potable water supply is from groundwater. Groundwater occurrence is in the fractures and scoria zones of basalt (Finding 13). Extraction of groundwater in dry years causes significant reductions in groundwater levels at supply wells, and may result in an overdraft condition.

07-0016

These overdraft conditions will become more severe with future population growth. Therefore, the production and reuse of recycled water for uses that are otherwise served by supply wells will preserve high quality groundwater for the potable water uses. Preserving high quality groundwater for future direct use may result in economic saving from less treatment needed for potable supply water.

e. The need for developing housing within the region.

The District is not directly responsible for developing housing within the Mammoth area. The proposed project is limited to the provision of recycled water, as opposed to housing and commercial development that would directly affect the number of residents, employees, and seasonal visitors within the area. Therefore, the proposed recycled water uses would not directly contribute to the creation of additional housing or jobs within the Mammoth area and thus would not result in direct growth inducement.

The proposed recycled water uses in the Mammoth Lakes area would reduce the area's existing and future demand for groundwater through recycling. The groundwater conserved through implementation of the proposed project would be available to serve potable water demands of planned growth. In the Town of Mammoth Lakes' (Town) revised EIR, Town of Mammoth Lakes 2005 General Plan Update, the Town recommended Mitigation Measure 4.11-1 encouraging the use of recycled water to replace existing potable supply uses. As part of this measure, the Town will not approve new development that would result in water demand in excess of available supplies. This order permits the use of recycled water to supplement and improve the reliability to existing water supplies.

f. The need to develop and use recycled water.

This Order authorizes the District to expand its current Permit Area for recycled water use to include the area identified in Finding No. 9 and to expand the list of authorized recycled water uses to include the uses identified by Finding No. 5.

25. California Environmental Quality Act Compliance (CEQA)

The District has completed CEQA for the project as follows:

Environmental document	Scope	Notice of Determination Date	Adopted mitigation measures
EIR/EA (Final)	Treatment upgrades	October 1998	(1) Protect Laurel Pond disposal site as wetlands habitat by maintaining 18 acres or larger in size; (2) monitor mitigation banking site adjacent to Laurel pond, and (3) implement storm water best management practices (BMPs) to prevent erosion and sedimentation during treatment plant construction.
Subsequent EIR (Final)	Pipeline delivery system	March 2007	(1) comply with monitoring and reporting requirements set by the Water Board, (2) implement storm water BMPs during construction, and (3) use automatic irrigation controllers to optimize irrigation efficiency and apply at agronomic rates.

The Lahontan Water Board, acting as a CEQA Responsible Agency in compliance with California Code of Regulations, title 14, section 15096, evaluated the impacts to water quality addressed in the environmental documents. As a result of the analysis, the Lahontan Water Board finds the mitigation measures in final environmental documents, combined with compliance with the requirements specified by this Order, to be adequate to reduce water quality impacts to less than significant levels.

26. Notification of Interested Parties

The Lahontan Water Board has notified the District and interested persons of its intent to prescribe master water recycling requirements.

27. Consideration of Public Comments

The Lahontan Water Board, in a public meeting, heard and considered all comments pertaining to the use of recycled water.

IT IS HEREBY ORDERED that the District must comply with the following:

I. WATER RECYCLING SPECIFICATIONS

A. Effluent Limitations

1. Recycled water production at the Tertiary Treatment Plant must not exceed 2.9 mgd (maximum average 24-hour flow).
2. All disinfected tertiary recycled water supplied to the recycled water distribution system must meet the requirements specified in California Code of Regulations, title 22.

B. Regulation and Enforcement

1. Pursuant to Water code section 13523.1, subdivision (b)(1), the District must comply with all waste discharge requirements adopted by the Lahontan Water Board for regulating the production of the disinfected tertiary recycled water.
2. Pursuant to Water code section 13523.1, subdivision (b)(2), the District must comply with the Uniform Statewide Reclamation Criteria, which are contained in California Code of Regulations, title 22, sections 60301 through 60355 and are established pursuant to Water Code section 13521.
3. Pursuant to Water Code section 13523.1, subdivision (b)(3), the District must implement and enforce *Requirements for Recycled Water Users, Recycled Water Users Site Inspection Program, and Enforcement Response Plan* (Attachment D, which is made a part of this Order) governing the design and construction of recycled water use facilities and the use of recycled water.
4. Pursuant to Water Code section 13523.1, subdivision (b)(5), the District must conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with the Uniform Statewide Reclamation Criteria and the District's *Requirements for Recycled Water Users, Recycled Water Users Site Inspection Program, and Enforcement Response Plan* (Attachment D, which is made a part of this Order). During the inspections, the District shall also monitor compliance with Water Recycling Specifications No. I.C.1 through I.C.15 of this Order. At a minimum, the District must inspect each recycled water use facility at least once every three years if there are no reported violations, and at least annually if there are prior violations at the facility.
5. The District must inspect recycled water use facilities and ensure users' compliance with these master water recycling requirements.

C. General Requirements and Prohibitions

1. The discharge of recycled water to surface waters, including excessive application, intentional overflow or application, or negligence, is prohibited. However, incidental runoff of recycled water, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area is not a violation of this Order.
2. Discharge of untreated or partially treated recycled water to the recycled water distribution system is prohibited.
3. The use of recycled water must not cause a pollution or threaten to cause a pollution as defined in Water Code Section 13050.
4. The treatment of wastewater or the use of recycled water must not cause a nuisance as defined in Water Code Section 13050.
5. The use of recycled water under this Order must be limited to the Authorized Recycled Water Use Sites defined in Finding No. 11 of this Order.
6. The uses of recycled water authorized under this Order are limited to those described in Finding No. 10 of this Order.
7. The source of recycled water must be limited to that described in Finding No. 6 of this Order.
8. Recycled water used to irrigate landscape areas must not be applied at a rate or amount that exceeds the irrigation and nutrient needs of the vegetation. The District must communicate to recycled water users the nutrient levels in the recycled water at least monthly so that the recycled water users can appropriately evaluate nutrient needs prior to application of fertilizers.
9. Recycled water must not be applied at a rate and amount that causes ponding or runoff that is other than incidental runoff.
10. Pipelines must be maintained so as to prevent leakage.
11. The use of recycled water that causes violation of any narrative water quality objective contained in the Basin Plan, is prohibited.
12. The use of recycled water that causes violation of any numeric water quality objective contained in the Basin Plan, is prohibited.

13. Where any numeric or narrative water quality objective contained in the Basin Plan is already being exceeded, the use of recycled water that causes further degradation or pollution, is prohibited.
14. The District must ensure the implementation of an operation and maintenance plan for all recycled water use sites that includes the following practices:
  - a. detection of leaks and implementation of corrective action within 72 hours of learning of the leak, or prior to the release of 1,000 gallons, whichever occurs first;
  - b. proper design and aim of sprinkler heads;
  - c. refraining from recycled water application during precipitation events; and
  - d. adequate protection of all facilities used to transport and store recycled water against overflow, structural damage, or a significant reduction in efficiency resulting from a 25-year, 24-hour storm or flood.
15. The District must not supply recycled water to parties who distribute, store, or use recycled water in a manner that is in violation of the Uniform Statewide Reclamation Criteria (as identified within California Code of Regulations, title 22) and the requirements of the Master Recycling Requirements.

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## II. PROVISIONS

- A. Before supplying recycled water under this Order, the District must have received, reviewed and approved a completed Application of Proposed Recycled Water Use, which contains information demonstrating the user will comply with the Uniform Statewide Reclamation Criteria and the District's Requirements for Recycled Water Users. Copies of all applications and approval letters shall be maintained on file by the District.
- B. Pursuant to California Code of Regulations, title 22, section 60316, subdivision (b) the District must notify the Water Board, State Department of Health Services and County of Mono Department of Health Services of any incidence of backflow from a recycled water system into the potable water system within 24 hours of discovery of the incident.
- C. Pursuant to Water Code Section 13267, subdivision (b), the District must comply with Monitoring and Reporting Program R6V-2009-(PROPOSED) as specified by the Executive Officer.

- D. The Discharger shall comply with the "Standard Provisions for WDRs," dated September 1, 1994, in Attachment "E," which is made part of this Order, with the exception that recycled water storage facilities shall be designed for protection against overflow during a 25 year, 24 hour storm.

III. RECYCLED WATER POLICY IMPLEMENTATION

- A. The District must develop and/or participate in the development of a salt/nutrient management plan for the Antelope Valley that is consistent with Paragraph 6 of the Recycled Water Policy. The salt/nutrient management plan must be submitted to the Lahontan Water Board by **February 2, 2014**.
- B. Before supplying recycled water under this Order, the District must develop and implement an operations and management plan to control incidental runoff that is consistent with Paragraph 7(a) of the Recycled Water Policy.

IV. RESCISSION

Board Order No. 6-88-143, which establishes reclamation requirements for reuse of wastewater along both sides of Main Street (Hwy. 203) between Mono St. and Mammoth Road, is hereby rescinded.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on June 10, 2009.

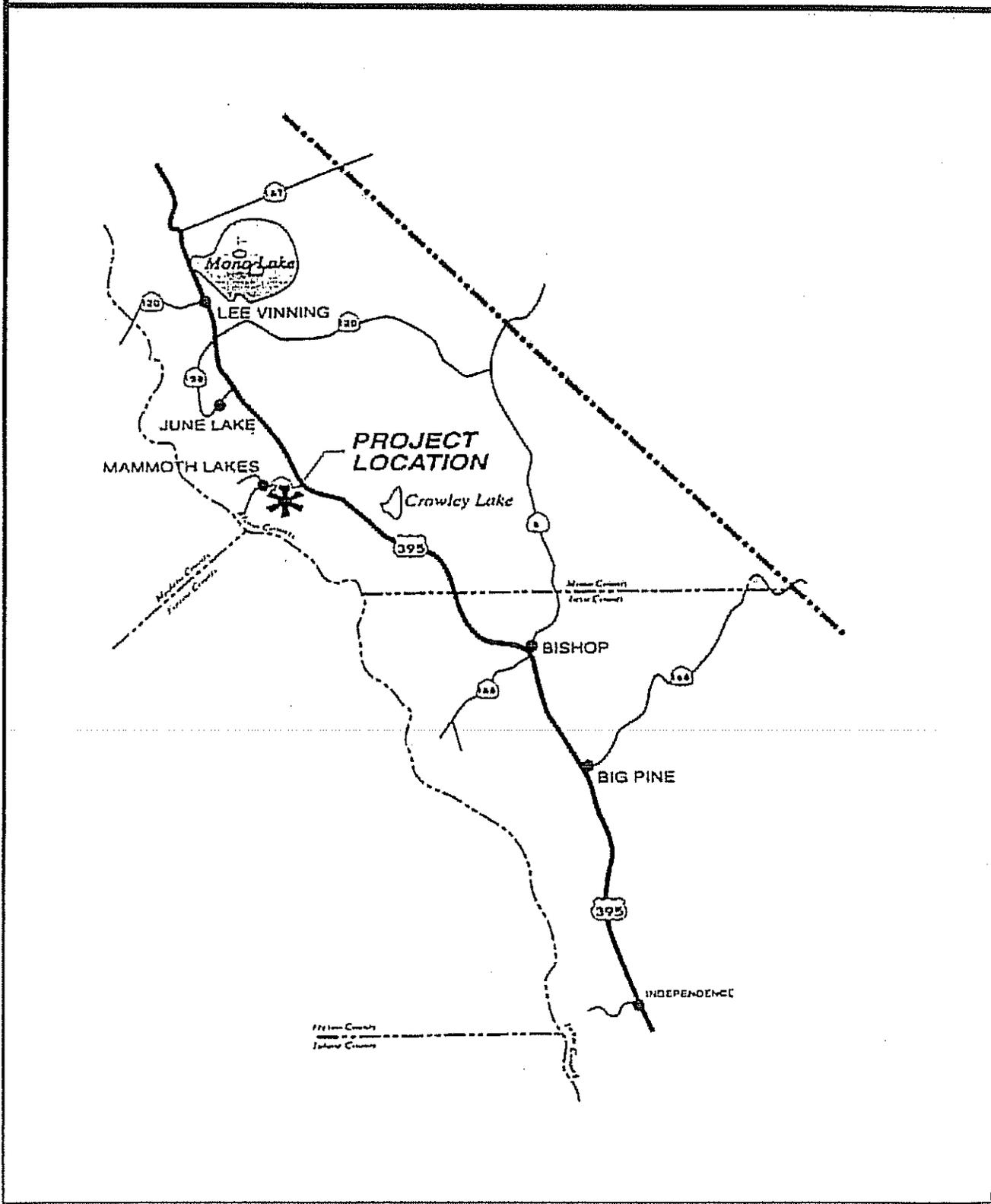
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HAROLD J. SINGER  
EXECUTIVE OFFICER

- Attachments:
- A. General Location Map
  - B. Permit Area Map
  - C. Tertiary Treatment Plant Site Plan
  - D. Recycled Water Program
  - E. Standard Provisions for Waste Discharge Requirements

MC/rp BO2009/MammothCWD/R6V-2009-PRO MammothCWD WDR.doc

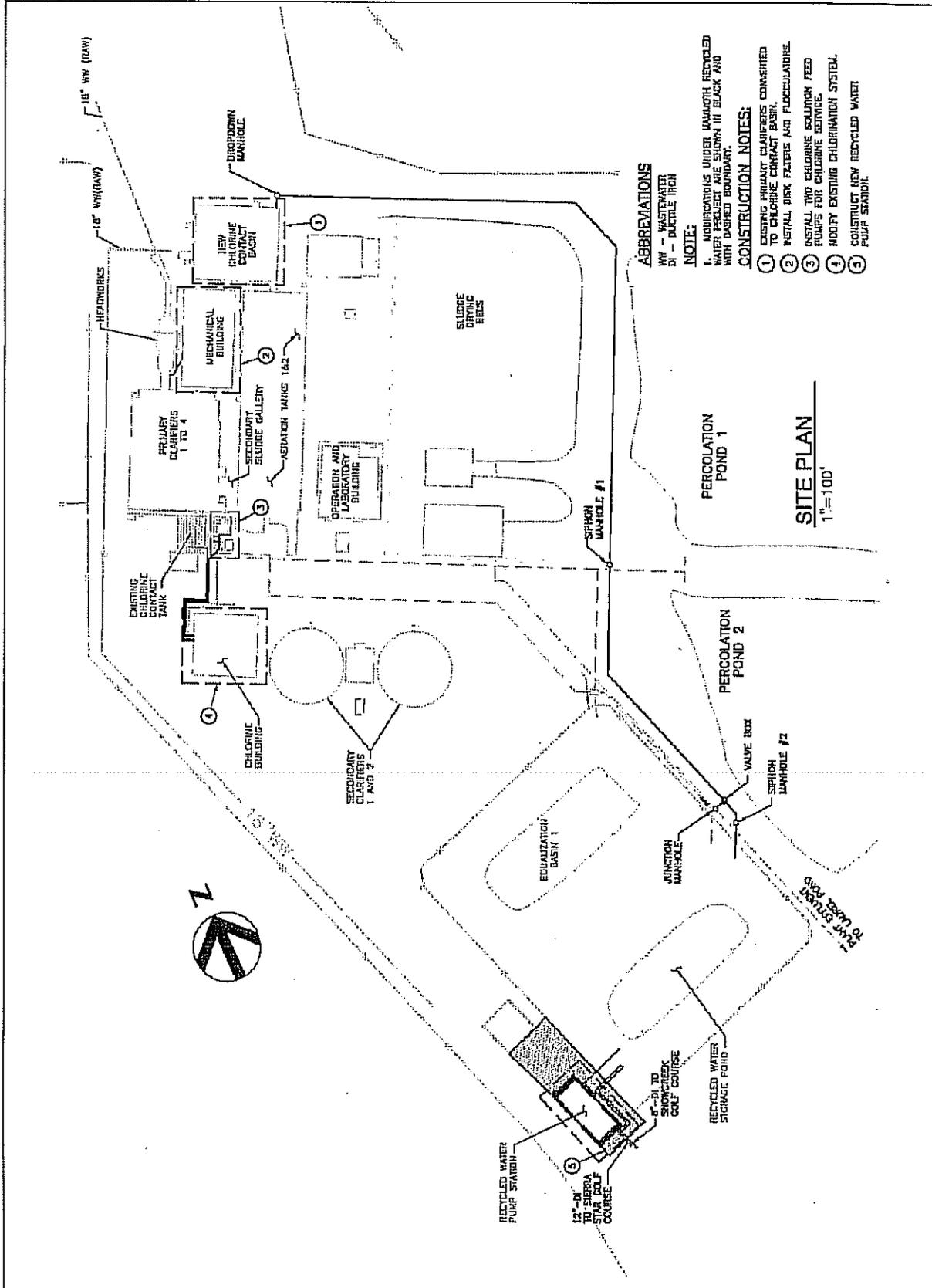
07-0022

Attachment A: Location Map of Mammoth Community Water District





# Attachment C: Tertiary Treatment Plant Site Plan



**ABBREVIATIONS**  
 WY - WASTEWATER  
 DI - DUCTILE IRON

**NOTE:**  
 1. MODIFICATIONS UNDER UMBROTH RECYCLED WATER PROJECT ARE SHOWN IN BLACK AND WITH DASHED BOUNDARY.

**CONSTRUCTION NOTES:**  
 ① EXISTING PRIMARY CLARIFIERS CONVERTED TO CHLORINE CONTACT BASIN.  
 ② METALL DISK FILTERS AND FLOCCULATORS.  
 ③ INSTALL TWO CHLORINE SOLUTION FEED PUMPS FOR CHLORINE SERVICE.  
 ④ MODIFY EXISTING CHLORINATION SYSTEM.  
 ⑤ CONSTRUCT NEW RECYCLED WATER PUMP STATION.

**SITE PLAN**  
 1"=100'

07-0025

## ATTACHMENT D

### I. Recycled Water Program

- A. Board Order No. R6V-2009-(PROPOSED) requires the Mammoth Community Water District (District) to establish and enforce *Requirements for Recycled Water Users*. The *Requirements for Recycled Water Users* must include but not be limited to a description of the:
1. Process the Users must follow to obtain District authorization to use recycled water, including the agencies involved in the process, documents that must be completed (design plans, User Agreements, etc.), the routing of documents to the parties, agencies that must approve documents, agencies responsible for construction inspections, etc.
  2. Requirements for the operational phase, including the designation of the Site Supervisor, and requirements for personnel training, operation and maintenance, type and frequency of cross-connection tests, etc.
- B. The *Requirements for Recycled Water Users* must comply with the following laws and regulations:
1. Applicable portions of the Water Code, including Water Code section 13523.1;
  2. Applicable portions of the Health and Safety Code;
  3. California Code of Regulations, title 22, division 4, chapter 3, Uniform Statewide Reclamation Criteria; and
  4. California Code of Regulations, title 17, division 1, chapter 5, group 4, article 1 & 2.
- C. The *Requirements for Recycled Water Users* must be consistent with the following documents:
1. The document titled: *Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water*, State Department of Health Services;
  2. Any measures that are deemed necessary for protection of public health, such as the American Water Works Association (AWWA) California/Nevada section, *Guidelines for the Distribution of Non-Potable Water and Guidelines for Retrofitting To Recycled Water* or alternate measures that are acceptable to the State Department of Health Services.
  3. Relevant user manuals such as the Los Angeles County Recycled Water Advisory Committee's, 2005, *Recycled Water User Manual* (Manual).

- D. At a minimum, the District's *Requirements for Recycled Water Users* must include the following requirements:
1. Before use of recycled water can begin at a proposed Authorized Recycled Water Use Site (Site), a User must file an application with the District and a User Agreement must be completed. The User Agreement must include the District's terms and conditions for the use of recycled water by a User. The application must include:
    - a. A detailed description of the proposed recycled water use Site, including:
      - i. A map showing the specific boundaries of the proposed Site;
      - ii. The person or persons responsible for operation and maintenance of the Site (O&M Staff), including the person designated as the Site Supervisor as defined in Requirement No. I.D.3 of this attachment;
      - iii. Evidence that the O&M Staff and Site Supervisor have received sufficient training to comply with Requirement No. I.D.4 of this attachment; and
      - iv. The specific use to be made of the recycled water at each Site.
    - b. Design plans and a description of best management practices (BMPs) that show that the quality of waters of the State will be protected and there will be compliance with Requirement No. I.D.6 of this attachment.
    - c. Plans and specifications describing the following:
      - i. Proposed piping systems to be used;
      - ii. Pipe locations for both recycled and potable systems;
      - iii. Type and location of the outlets and plumbing fixtures that will be accessible to the public; and
      - iv. The methods and devices to be used to prevent backflow of recycled water into the public water system.
    - d. Recycled Water System Operations Manual, and
    - e. Emergency Cross-Connection Response Plan
  2. The Site Supervisor must immediately initiate corrective action to eliminate violation of any applicable law or regulation, or the District's *Requirements for Recycled Water Users*.
  3. Each User must designate a Site Supervisor who is responsible for the recycled water system at each Site under the User's control. Specific responsibilities of the Site Supervisor include the proper installation, operation, and maintenance of the recycled water system; compliance with the District's *Requirements for Recycled Water Users*, prevention of potential hazards and preservation of the recycled water system in "as built" condition.

4. The O&M Staff and the Site Supervisor must be trained ensure the Site is operated and maintained in compliance with applicable laws and regulations, and the District's *Requirements for Recycled Water Users*.
5. Users must allow an authorized representative of any of the following agencies the right to enter and inspect the Site upon presentation of proper credentials: the District, Lahontan Water Board, State Department of Health Services, and Mono County Public Health Department.
6. Sites using recycled water must be designed and operated using BMPs to ensure:
  - a. Application of recycled water at agronomic rates so irrigation does not promote downward migration of pollutants, which could adversely impact the quality of groundwater;
  - b. Adequate erosion control so that soil is not released into stormwater runoff and surface waters; and
  - c. Fertilizer application does not adversely impact waters of the State.

To demonstrate whether irrigation is at agronomic rates, the User must provide information to the District including a tabular comparison of the volume of water required for plant growth in the landscape area to the volume of recycled water (and supplemental water) applied to the area.

To demonstrate whether fertilizer application is at agronomic rates, the User must provide information to the District including a tabular comparison of the amount of fertilizer needed for plant growth in the landscape area to the amount applied to the area. The Site Supervisor must only apply nitrogen fertilizer if levels of nitrogen in the recycled water are not sufficient for plant growth. If levels are not sufficient, the Site Supervisor must calculate how much fertilizer needs to be applied by subtracting the level in recycled water from the level needed for plant growth.

7. Sites using recycled water must be designed and operated using BMPs with the objectives of preventing recycled water spray, mist, or surface flow from either leaving the Site or reaching:
  - a. Any surface waters located on or adjacent to the Site<sup>1</sup>
  - b. Areas where the public has access (e.g., dwellings, designated outdoor eating areas, or food handling facilities.); or
  - c. Drinking fountains.
8. BMPs used to achieve the objectives described in Requirement No. I.D.7 of this attachment, must include:
  - a. Use of buffer zones;

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<sup>1</sup> Except for runoff that is "incidental in nature.

- b. Discontinuation of application of Recycled Water during precipitation events, which are of sufficient magnitude to generate surface flow within the Site; and
  - c. Use of devices that protect drinking water fountains against contact with recycled water spray, mist, or surface flow.
9. Sites must be designed and operated using BMPs with the objectives of preventing public contact with recycled Water. BMPs used to obtain these objectives must include: irrigation with recycled water during periods of minimal human use of the irrigated area and timing of irrigation to allow an adequate dry-out time before the irrigated area will be used by the public.
10. A copy of the *Requirements for Recycled Water Users*, design plans for the recycled water system and potable water system, and the Recycled Water System Operations Manual for the recycled water system be maintained at the use area. These documents must be available to operating personnel at all times.
11. The Site Supervisor must provide immediate verbal notification followed by written notification within 10 business days to the District, Lahontan Water Board, State Department of Health Services and Mono County Public Health Department if any of the following events occur:
  - a. There is a complaint (or other source of information) concerning recycled water use that may involve illness;
  - b. An unauthorized discharge of more than 50,000 gallons of tertiary treated recycled water (or 1,000 gallons for any lesser quality recycled water); or
  - c. Contamination of the potable water system due to a cross-connection.
12. The Site Supervisor must immediately invoke the Emergency Cross-Connection Response Plan in case of contamination of the potable water system due to a cross-connection.
13. Irrigation with disinfected tertiary recycled water must not take place within 50 feet of any domestic water supply well. (Cal Code Regs., title 22, section 60310, subd. (a).)
14. Impoundment of disinfected tertiary recycled water must not occur within 100 feet of any domestic water supply well. (Cal Code Regs., title 22, section 60310, subd. (b).)
15. A public water supply must not be used as a 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, section 7602, subdivision (a) and California Code of Regulations, title 17, section 7603, subdivision (a), and that such connection has been approved by the State Department of Health Services and/or its delegated local agency.

16. Any backflow prevention device installed to protect the public water system must be inspected and maintained in accordance with California Code of Regulations, title 17, section 7605 (Cal. Code Regs., title 22, section 60316, subd. (c).)
17. Except as allowed under California Code of Regulations, title 17, section 7604, no physical connection must be made or allowed to exist between any recycled water system and potable water system. (Cal. Code Regs., title 22, section 60310, subd. (h).)
18. The recycled water system must not include any hose bibs. Quick couplers that are different from those used on the potable water system may be used. (Cal Code of Regs., title 22, section 60310, subd. (i).)
19. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations must be colored purple or distinctively wrapped with purple tape in accordance with Health and Safety Code section 116815.
20. Sites must be designed and operated using BMPs to prevent: direct human consumption of recycled water, or use of recycled water for processing of food or drink intended for human consumption. There must be posting with conspicuous signs (in a size no less than 4 inches high by 8 inches wide) that include the following wording: "RECYCLED WATER - DO NOT DRINK" where recycled water could potentially be accessed for human consumption. Each sign must display an international symbol similar to that shown in Figure 60310-A of California Code of Regulations, title 22, section 60310, subdivision (g). The sign(s) must be of a size easily readable by the public. The prescribed wording should also be translated into Spanish and other appropriate languages and included in the required signs. (Cal Code Regs., title 22, section 60310, subd. (g).)

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## **II. Compliance Inspection and Enforcement Program**

- A. Board Order No. R6V-2009-(PROPOSED) requires the District to establish and implement a *Compliance Inspection and Enforcement Program*. The *Compliance Inspection and Enforcement Program* must include but not be limited to a description of the District's:
  1. Plan for conducting routine compliance inspections of the Authorized Recycled Water Use Sites, including the name(s) of any parties that will assist the District in conducting the inspections.
  2. Process for responding to violations, including ordering corrective action and initiating enforcement action.
- B. At a minimum, the *Compliance Inspection and Enforcement Program* must be consistent with Water Code section 13523.1.

07-0030

- C. At a minimum, the District's *Compliance Inspection and Enforcement Program* must include the following requirements:
1. Inspections include review of the Site Supervisor's maintenance records and visual inspection of all back-flow prevention devices, pump rooms, exposed piping, valves, pressure reducing stations, points of connection, sprinklers, controllers, surface waters, storage facilities, signs, labeling, tags, etc.;
  2. A Site compliance inspection report must be prepared for each inspection. The inspection report must be signed and dated by both the Site Supervisor and the inspector. At a minimum, copies of the reports must be maintained on file by the Site Supervisor, District, and inspecting entity if different from the District;
  3. The inspector must immediately notify the Site Supervisor of violation(s) identified during inspections and what corrective actions must be taken;
  4. Describe enforcement actions that will be employed for Users that fail to immediately initiate corrective action to eliminate violation(s). Such enforcement actions may include, but not be limited to:
    - a. Immediately stopping recycled water service to a use Site where a violation has been identified and the violation is believed to constitute a hazard to the public health or threat to water quality.
    - b. Termination of service to a User who uses, transports, or stores such water in violation of the District's *Requirements for Recycled Water Users*.

ATTACHMENT E

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**STANDARD PROVISIONS**  
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.
- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.

07-0032

- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger 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 Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

07-0033

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM NO. R6V-2009-(PROPOSED)  
WDID No. 6B260903003

MASTER WATER RECYCLING REQUIREMENTS AND  
WASTE DISCHARGE REQUIREMENTS  
MAMMOTH COMMUNITY WATER DISTRICT  
DISINFECTED TERTIARY RECYCLED WATER

\_\_\_\_\_  
Mono County \_\_\_\_\_

I. MONITORING

A. Flow Monitoring

Mammoth Community Water District (District) shall record the total volume, in million gallons, and the average flow rate, in million gallons per day (mgd), of recycled water provided by the District to each Authorized Water Use site. This information must be recorded and reported for each calendar month.

B. Agronomic Application Rate Monitoring for Fertilizers and Recycled Water

1. For each calendar month, the District shall record, and provide a tabular comparison of, the:

- a. volume of water required for plant growth in each irrigated area;
- b. volume of recycled water (and supplemental water) applied to each irrigated area; and
- c. number of acres for each irrigated area.

2. For each calendar month, the District shall record, and provide a tabular comparison of, the:

- a. amount of nitrogen (N) needed for plant growth in each landscape and agricultural area;
- b. total amount of N applied to each area, including the amount of N in the recycled water and the amount of N in any fertilizer applied; and
- c. number of acres for each area.

C. Recycled Water Quality Monitoring

Samples of the recycled water following tertiary treatment and leaving the Treatment Plant for reuse by permitted users must be collected and analyzed to determine the magnitude of the following parameters:

07-0035

**MAMMOTH COMMUNITY WATER DISTRICT -2- MONITORING AND REPORTING  
Master Water Recycling Requirements  
and Waste Discharge Requirements  
Mono County**

**PROGRAM NO. R6V-2009-(PROPOSED)  
WDID NO. 6B260903003**

Parameter	Units	Type	Minimum Frequency
Turbidity <sup>1</sup>	NTU	Recorder	Continuous
Total chlorine residual	mg/L	Recorder	Continuous
Modal contact time <sup>2</sup>	minutes	Calculated	Daily
CT value <sup>3</sup>	mg-minutes/L	Calculated	Daily
Total Coliform	MPN/100mL	Grab	Daily
Kjeldahl Nitrogen	mg/L	Composite	Weekly
Ammonia Nitrogen	mg/L	Composite	Weekly
Nitrate Nitrogen	mg/L	Composite	Weekly
Total Dissolved Solids	mg/L	Composite	Monthly
Sulfate	mg/L	Composite	Monthly
Chloride	mg/L	Composite	Monthly
Total Trihalomethane	µg/L	Grab	Quarterly
n-nitrosodimethylamine	µg/L	Grab	Quarterly
Priority Pollutants (Appendix A to 40CFR part 423)	as specified	Grab	Semi Annually

<sup>1</sup>For each 24-hour period, record and report the following: average turbidity, amount of time (minutes) the turbidity exceeded five (5) NTUs (if any), and the maximum turbidity.

<sup>2</sup>The modal contact time at the highest and lowest flows must be recorded and reported for each 24-hour period where there is production of disinfected tertiary recycled water. The "modal contact time" is the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber. For the purpose of this determination, modal contact time shall be derived from a predetermined plot correlating modal contact times to varying flow conditions. (CCR, title 22, sec 60301.600)

<sup>3</sup>the lowest CT value must be calculated for each 24-hour period. CT (mg-minutes per liter) = chlorine residual (mg/L) x modal contact time (minutes). To calculate the lowest value, first record the following data for the 24-hour period:

- Modal contact time under highest flow and corresponding total chlorine residual at that time.
- Lowest total chlorine residual and corresponding modal contact time.
- Highest total chlorine residual and corresponding modal contact time.
- Modal contact time under lowest flow and corresponding total chlorine residual at that time. Next, calculate CT values for each of the four conditions, above. The lowest of the four calculated CT values is the lowest CT for the period.

**D. Drinking Water Supply Monitoring**

For each semi-annual period (January – June; July – December), a report must be submitted to the Lahontan Water Board providing the results of California Department of Public Health-specified drinking water supply monitoring for municipal supply wells located within a half-mile of any authorized recycled water use site having received recycled water within the previous six months. Groundwater elevations at the time of sampling must also be provided for each well. The reports must be included with the quarterly monitoring reports providing results from the second and fourth quarterly monitoring periods, as specified by Requirement No. II.B of this Monitoring and Reporting Program.

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E. Quarterly Recycled Water Use Monitoring

The District must record the following information each quarter (quarters defined in Requirement No. II.B, below) in accordance with Water Code section 13523.1(b)(4):

1. The total number of sites that received recycled water during the quarter.
2. A list of all recycled water use sites. For each site, the list must include:
  - a. site name
  - b. site location
  - c. name of underlying hydrologic area
  - d. user name
  - e. type of use
  - f. site area (acres)
  - g. date of District recycled water use approval
3. A map of suitable scale showing the boundary of the Permit Area (as defined by Finding No. 9 of Board Order R6V-2009-(PROPOSED) and showing the approved recycled water use site locations.

F. Inspections and Enforcement Monitoring

1. The District must provide in its annual report (see Requirement No. II.C, below) an inspection schedule for all recycled water use facilities. The inspection schedule shall document the date of each facility's prior inspection and its respective compliance status. Any facility with a reported incidence of noncompliance in its most recent inspection report must be re-inspected no later than one year from its prior inspection. Any facility that was in compliance during its most recent inspection must be scheduled for a re-inspection no later than three years from its prior inspection.
2. The District must record and report on a quarterly basis all recycled water use sites inspected pursuant to Requirement No. I.B.4 of Board Order No. R6V-2009-(PROPOSED) during each respective quarter (See Requirement No. II.B, below). The list of sites inspected must include the following information for each recycled water use site:
  - a. Date of inspection, name of recycled water use site, user name, and type of use.

- b. A description of all noted violations (including compliance with Requirement Nos. I.C.1 through I.C.14 of Board Order No. R6V-2009-(PROPOSED).
  - c. The date compliance was achieved and the respective corrective action taken, if applicable.
  - d. A description of enforcement action taken (if any), including any schedule for achieving compliance.
  - e. Date of prior compliance inspection.
3. The District must inspect every month all signage that informs the public that recycled water is currently being used for irrigation purposes at each irrigation recycled water use facility. Maintenance of this signage is required. The results of this inspection must be reported by the District in its quarterly report (see Requirement No. II.B, below).
  4. The District must inspect every month all Best Management Practices (BMPs) in place to prevent contamination of potable water supplies (including groundwater). The results of this inspection and measures taken to maintain and repair these BMPs must be reported by the District in its quarterly report (see Requirement No. II.B, below).
  5. The District must inspect the recycled water distribution system annually for cross connections with the potable water supply.
  6. The District must annually pressure test the recycled water distribution system for leaks or drops in pressure.

G. Operation and Maintenance Monitoring

The District must record any operational problems and maintenance activities with the recycled water treatment facilities, distribution system, and user sites. The District must submit a brief summary of its findings to the Lahontan Water Board with each quarterly monitoring report. This summary must discuss the elements listed below.

1. All modifications or additions to the recycled water treatment facilities, distribution systems, and user sites.
2. Test results of all backflow prevention devices at each recycled water use site.
3. The results of cross connection inspections at each authorized recycled water use site.
4. Test results of the District's recycled water distribution system pressure testing.

5. Any non-routine maintenance conducted on the recycled water treatment facilities, distribution system, and user systems.
6. Any major problems occurring to the recycled water treatment facilities, distribution system, and user systems.
7. Calibration results of any recycled water flow measuring devices.

## II. REPORTING

### A. General Provisions

1. The District must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this Monitoring and Reporting Program (Attachment I).
2. Pursuant to General Provision No. 1d of the General Provisions for Monitoring and Reporting, the District must submit to the Water Board by **September 8, 2009** a Sampling and Analysis Plan (SAP) for consideration of approval. The SAP must include a detailed description of procedures and techniques for:
  - a. Sample collection, including purging techniques, sampling equipment, and decontamination of sampling equipment;
  - b. Sample preservation and shipment;
  - c. Analytical procedures;
  - d. Chain of custody control; and
  - e. Quality assurance/quality control (QA/QC).

### B. Quarterly Reports

Beginning on **September 1, 2009**, quarterly monitoring reports including the preceding information must be submitted to Water Board by the first day of the third month following each quarterly monitoring period. (Water Code, Section 13523.1, subd. (b)(4).)

Quarterly monitoring periods are defined as follows:

First Quarter	January 1 - March 31
Second Quarter	April 1 - June 30
Third Quarter	July 1 - September 30
Fourth Quarter	October 1 - December 31

C. Annual Report

Beginning on **April 1, 2010** and continuing thereafter, the District must submit an annual report to the Lahontan Water Board with the following information:

1. Documentation of status of the District's compliance with the attached Master Water Recycling Requirements;
2. The compliance record and the corrective actions taken or planned, which are necessary to bring the District into full compliance with the Master Water Recycling Requirements; and
3. The District's time schedule for completing corrective actions needed to achieve compliance.

Ordered by: \_\_\_\_\_

HAROLD J. SINGER  
EXECUTIVE OFFICER

Dated: \_\_\_\_\_

Attachment: General Provisions for Monitoring and Reporting Program

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## ATTACHMENT

### CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION

#### GENERAL PROVISIONS FOR MONITORING AND REPORTING

##### 1. SAMPLING AND ANALYSIS

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
  - i. Standard Methods for the Examination of Water and Wastewater
  - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

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## 2. OPERATIONAL REQUIREMENTS

### a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

### b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

## 3. REPORTING

a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
  - i. Name and telephone number of individual who can answer questions about the report.
  - ii. The Monitoring and Reporting Program Number.
  - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

#### 4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.