

Summary

Alternative Compliance Plan for Water Right (A030657)

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INTRODUCTION

See [Information and Instruction Sheet](#) for assistance in completing this form. The form shall be completed by the water right owner, their agent, or for an Alternative Compliance Plan filed for a group, the designated contact. The vast majority of water right owners should be able to meet the measurement requirements. Participation in an Alternative Compliance Plan does not relieve the participant of the independent obligation to file an online annual Report of Water Diversion and Use.

All sections of the form below must be completed. An incomplete form does not excuse non-compliance with the regulation or release you from the obligation to measure. The Alternative Compliance Plan may not be used to avoid measurement and monitoring, but should be used to describe an alternative method of measurement and monitoring which will provide the information required by the Regulation. Estimated diversion records may not meet the Regulation's accuracy requirements without supporting documentation.

Note: The large text boxes in the form have a character limit of 2,000 characters. Responses requiring more than 2,000 characters for a particular text box should be submitted as an attachment in Section I of this form. Additional information should be attached in Section I.

SECTION A - WATER RIGHT OWNER INFORMATION

This section of the form describes the information that is required for each water right or claimed right covered under the Alternative Compliance Plan.

In Section I, attach a table (in Microsoft Excel .xlsx, comma-separated .csv, or tab-separated .txt format) containing the Application or Statement Number for each water right covered under the Alternative Compliance Plan. For your water right, answer the questions below.

(1) Owner Name(s) *	<input type="text" value="Lake Madrone Water Di"/>
(2) Email Address *	<input type="text" value="REDACTED"/>
(3) Phone Number *	<input type="text" value="REDACTED"/>
(4) Mailing Address Line 1 *	<input type="text" value="REDACTED"/>
(5) Mailing Address Line 2:	<input type="text" value="REDACTED"/>
(6) City *	<input type="text" value="Oroville"/>
(7) State *	<input type="text" value="CA"/>
(8) Zip Code *	<input type="text" value="95965"/>



(9) Is the Water Right Owner also the Primary Contact? *

Yes

No



On questions 10 through 13, please tell us what you understand the requirements of the regulation to be for this water right to be.

(9) Installation Deadline *

January 1, 2017

- July 1, 2017
- January 1, 2018

(10) Measurement Accuracy *

- 10%
- 15%
- Other, as specified in the Alternative Compliance Plan (if submitted)

(11) Required Monitoring Frequency *

- Hourly
- Daily
- Weekly
- Monthly

(12) Qualifications of the Individual Installing/Certifying *

- A California Licensed Professional Engineer (PE), a person working under the supervision of a California PE, a California-licensed contractor authorized by the State License Board for C- 57 well drilling or C- 61 Limited Specialty/D-21 Machinery and Pumps, or a Hydrologist or Engineer employed by a Federal Agency
- A person trained and experienced in water measurement (for diversions of less than 100 acre-feet per year - no specific training is required; the person using any equipment and reporting the information must know how to use the equipment and submit correct information)

SECTION B - INFORMATION ON PRIMARY CONTACT

This section of the form includes the contact information for the primary contact associated with the Alternative Compliance Plan.

(1) Name(s): *

Paul R. Minasian

(2) Phone Number: *

[REDACTED]

(3) Email Address: *

[REDACTED]

(4) Mailing Address Line 1: *

[REDACTED]

(5) Mailing Address Line 2:

[REDACTED]

(6) City: *

Oroville

(7) State: *

CA

(8) Zip Code: *

95965

(8) The Alternative Compliance Plan Primary Contact is a(n): *

- Water Right Owner
- Agent

SECTION C - INFORMATION ON QUALIFIED INDIVIDUAL

This section of the form includes the contact information for the Qualified Individual certifying the Alternative Compliance Plan.

(1) Name(s): *

(2) Phone Number: *

(3) Email Address: *

(4) Mailing Address Line 1: * Civil Engineers

(5) Mailing Address Line 2: . 100

(6) City: *

(7) State: *

(8) Zip Code: *

(9) The qualifications of the individual certifying the Alternative Compliance Plan are: *

- California Licensed Professional Engineer (PE)
- Person working under the supervision of a California Professional Engineer
- California-licensed contractor authorized by the State License Board for C- 57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps
- Hydrologist or Engineer employed by a Federal Agency
- Person trained and experienced in water measurement (for diversions of less than 100 acre-feet per year - no specific training is required; the person using any equipment and reporting the information must know how to use the equipment and submit correct information)

(10) Qualifying Individual's PE or Contractor license number, if applicable:

SECTION D - REQUEST FOR ALTERNATIVE COMPLIANCE

Water right holders who divert more than 10 acre-feet of water per year are required to measure the water they divert. A diverter may choose any measuring device, or combination of devices, that meet the measurement and monitoring requirements of the regulation. The measurement requirements are summarized on the [Reporting and Measurement Webpage](#) .

For each box checked in questions 1a through 3 below, submit a detailed explanation and attach substantiating documentation.



(1a) Diverter is seeking alternative compliance from the requirement(s) checked below. *

- Measuring Device Location
- Required Accuracy
- Certification of Accuracy
- Installation and Maintenance
- Monitoring Frequency
- Telemetry
- Other (describe in Section 1b)

(1b) Provide additional information for each of the reasons selected in question 1a: *

Lake Madrone Water District's (LMWD) operates Lake Madrone Dam situated on Berry Creek tributary to Lake Oroville. LMWD's Permit 21207 (Application 30657) is a right to divert up to 200 acre-feet to storage in Madrone Lake during the period of March 1 to April 15. The Regulations require the measurement of diversions of water. The Permit provides terms and conditions for the method of measurement during the period of diversion, and Section 912 of the Regulations reconciles conflicts during diversion in metering requirements. Permit Term 14 requires a staff gage in the reservoir; a staff gage was installed in the reservoir prior to January 1, 2016. Permit Term 16 specifies minimum bypass flows during periods of diversion, and Permit Term 17 address the method for determining bypass flows. Permit 21207 does not allow for any consumptive use withdrawals from the lake. During much of the year the lake remains full and all inflow, except for evaporation and riparian vegetation uptake, passes through the siphon-spillway. When necessary, LMWD relies on the staff gage and a 24-inch diameter (nominal) low-level outlet conduit through the base of the dam to manage bypass flows (see attached photos). Lake Madrone Water District (LMWD) is seeking alternative compliance for "Required Accuracy" and "Certification of Accuracy", because such accuracy for this storage right would require an accurate topographic map of the reservoir and it is not practical to develop such a map. Lake Madrone is impounded by an embankment dam constructed immediately below the confluence of two perennial streams. The total drainage area tributary to the dam is about 14.9 square miles. Every year, storms during the wet season mobilize significant amounts of sediment in the two streams that settles in the reservoir. To maintain the recreational and aesthetics attributes of Madrone Lake, every year LMWD lowers the reservoir about 6 feet to remove sediment from the upper reaches of the reservoir to preclude or forestall migration of the sediment to deeper and less accessible portions of the lake. Notwithstanding these efforts, about every 10 years or so the lake must be significantly lowered to facilitate removal of sediment from deeper parts of the lake. Accordingly, the configuration of the lake bottom and volumetric capacity are in a constant state of change. The accuracy of a topographic survey of the lake prepared in the fall of the year would be in doubt within several months due to sedimentation caused by storm inflows. Under the regulations, the required frequency of measurement for Lake Madrone is daily. LMWD is seeking an alternative to the "Monitoring Frequency" because the lake is typically full throughout the year due to perennial inflow and the fact that LMWD makes no consumptive use withdrawals from the lake. After lowering the lake in the fall for sediment removal activities, the lake fills quickly with the first major storm of the season. This is supported mathematically. If the lake is empty going into the wet season (which it typically is not), the 200 acre-foot capacity will fill with about 0.25 inches of runoff from its 14.9 square mile drainage area. For perspective, the mean annual precipitation for the lake's tributary drainage area is about 63 inches. While such filling typically occurs prior to the permitted diversion season, early filling allows the suspended sediment to drop out in the upper reaches of lake, and minimizes the migration of sediment into the deeper portions of the lake. Removal of sediment from deeper parts of the lake is more difficult than the current sediment removal operation, as it requires additional lowering of the lake and complicates maintenance of water quality for inflows bypassed to downstream diverters. Given that the lake is full for much of the year, daily monitoring year-round is not necessary. Instead, this plan proposes daily monitoring only during periods when the lake is drawn down for maintenance and during the brief subsequent refill period. LMWD already manages the lake level daily during these periods to avoid impacting downstream senior rights. Monthly monitoring is proposed for the remainder of the year.

(5000 character max.)

?

(2a) Alternative compliance is being pursued because strict compliance with one or more of the requirements for measuring and monitoring (check all that apply): *

- Is not feasible.
- Would unreasonably affect public trust resources.*
- Is unreasonably expensive.**
- Would result in the waste or unreasonable use of water.

* Including fish, wildlife, recreation, navigation, and aesthetic values.

** Plans claiming that strict compliance is unreasonably expensive shall be accompanied by an attached supporting cost analysis. The

cost analysis should compare the cost of the proposed alternate measuring devices to the cost of the measurement devices required by the Regulation. All Plans shall include a budget and shall identify sources of financing. The budget should provide sufficient detail to show the cost of the proposed alternate measuring devices, the cost of obtaining any necessary permits, and the cost of installation.

(2b) Provide additional information for each justification selected in question 2a: *

Strict compliance is "not feasible" for the reasons stated in Item 1b herein. Permit 21207 specifies that a staff gage and outflow measuring device will be utilized to determine required bypass flows. A staff gage exists in the reservoir, but an outflow measuring device is impractical and is not necessary. As noted in Item 1b, except for periods in the fall when the lake is lowered for sediment removal, the lake stays full due to perennial inflow. All inflow passes over the siphon-spillway, except for water lost to evaporation and riparian vegetation uptake. During periods when the lake is lowered for sediment removal and during the subsequent refill period, LMMD manages the lake level daily to avoid impacts to downstream senior right-holders. Such management is facilitated by staff gage observations and operation of the control gate on the low-level outlet through the base of the dam; an outflow measuring device has not been needed for these operations.

(5000 character max.)



(3a) Alternative compliance is requested under the following categories (check all that apply): *

- Highly variable flow rate at point of diversion.
- Point of diversion is inaccessible a portion of the year due to weather or other on-site conditions.
- Point of diversion is under tidal influence
- There is an existing measuring device or measurement method in use.
- Water is corrosive to measurement equipment.
- The diversion is measured by another entity (identify entity and method of measurement used).
- Other (provide complete description in section 3b)

(3b) Provide additional information for each of the categories selected in question 3a: *

See responses to Items 1b and 2b herein.

(5000 character max.)



(4) Alternative Compliance Plans shall include alternative, objective measurement and performance standards that achieve the closest attainable compliance. Describe the measurement or alternative to measurement that will be used at each point of diversion in the plan to achieve closest attainable compliance. *

A staff gage is mounted on concrete headwall of the siphon-spillway structure (see attached photo). The staff gage is 20 feet tall, but the reservoir is full at a staff gage reading of 12.9 feet. LMMD reports that due to perennial inflow from the tributary streams, the lake stays full year-round. When the lake is full all subsequent inflow, excepting that lost to lake evaporation and riparian vegetation uptake, passes through the lake and over the siphon-spillway. As noted in Item 1b herein, LMMD typically lowers the lake about 6 feet in the early fall of each year to facilitate sediment removal. While the lake is drawn down, the siphon-spillway does not operate, and bypass of inflow needed to satisfy downstream prior rights is facilitated by the low-level outlet conduit through the base of the dam. During sediment removal activities, and until the lake refills thereafter, LMMD monitors the staff gage daily and operates a control gate on the outlet as needed to maintain bypass flows and avoid accruing water to storage in the reservoir. The lake will usually fill and spill with the first major storm of the season. As noted in Item 1b, while such filling typically occurs prior to the permitted diversion season, early filling minimizes the migration of sediment into the deeper portions of the lake. Removal of sediment from deeper parts of the lake is more difficult than the current sediment removal operation, as it requires additional lowering of the lake and complicates maintenance of water quality for inflows bypassed to downstream diverters. The existing staff gage allows for monitoring reservoir levels to the nearest 0.01 foot. However, volumetric accuracy depends on having an accurate topography map of the reservoir, and per Item 1b it is impractical to develop such a map. The most recent topographic map of the reservoir was prepared in 1997, prior to a major sediment removal project that required lowering the lake significantly. The pre-project capacity of the reservoir was determined to be about 147 acre-feet; the reservoir was not remapped after that project, but Permit 21207 was subsequently issued in 2000 for 200 acre-feet. Based on the fluctuating capacity of the reservoir due to ongoing sedimentation and sediment removal activities, an accurate map and accounting of water diverted cannot be determined, but it can be confidently stated that less than the permitted face value amount of 200 acre-feet is diverted in almost all years.

(5000 character max.)

SECTION E - AREA COVERED BY THE ALTERNATIVE COMPLIANCE PLAN

Summarize the following for each water right covered by the Alternative Compliance Plan. In Section I, attach maps, aerial photographs, or other renderings showing the area covered by the Alternative Compliance Plan and delineating the acreage of each place of use served. For the area covered by the Alternative Compliance Plan, include a list of assessor's parcel numbers and the current owner of each parcel.

(1) Provide a general description of the area covered by the Alternative Compliance Plan. *

The Lake Madrone Reservoir does not have an assessor parcel number. There is no place of use because this is not consumptive use. See USGS quad map.

(5000 character max.)

(2) Describe all diversion and conveyance works covered by the Alternative Compliance Plan. *

The Lake Madrone Dam, siphon spillway through the dam, low level outlet pipe through the dam. Dam is subject to jurisdiction of Division of Safety of Dams.

(5000 character max.)

(3) Describe the type(s) of Beneficial Use(s). *

Recreation, fish and wildlife preservation and/or enhancement, and fire protection.

(5000 character max.)

(4) Have you attached a list of assessor's parcel numbers and the current owner of each parcel covered by the Alternative Compliance Plan? (Attachments may be made under Section I of this form.) *

Yes | No

SECTION F - MEASUREMENT AND MONITORING

(1) For each Point of Diversion listed in the Alternative Compliance Plan, describe how the water is measured. *

Staff gauge on reservoir level with area capacity curve for reservoir. Also see response to Section D, Item 4.

(5000 character max.)

(2) Identify the measurement accuracy associated with the measurement devices. *

See response to Section D, Item 4.

(5000 character max.)

(3) Describe how the accuracy of the Alternative Compliance Plan was calculated. *

Given that the staff gage measures reservoir level to the nearest 0.01 feet, it is considered to be better than 10 percent accurate for measuring reservoir levels. This Alternative Compliance Plan does not propose a particular volumetric accuracy percentage, other than the fact that less than the permitted face value amount is diverted in almost all years; see responses to Section D, Items 1b and 4.

(5000 character max.)

SECTION G - IMPLEMENTATION SCHEDULE (IF NECESSARY)

(1) If applicable, describe the implementation schedule for the Alternative Compliance Plan, including objective milestones from date of filing through final implementation. Milestones should include date of completion for construction and testing, expected dates of issuance of required permits, and expected date for compliance with the California Environmental Quality Act:

The staff gauge is in place and was installed prior to January 1, 2016.

(5000 character max.)

An Alternative Compliance Plan shall be submitted and implemented by the established regulatory deadlines (see form instructions for additional information) unless a Request for Additional Time has been granted.

SECTION H - OTHER PERMITS

(1) Describe any other permits required to implement the Alternative Compliance Plan. Include information on the agency that will issue the permit, and the expected date of issuance.

None

(5000 character max.)

SECTION I - ATTACHMENTS



(1) Attach documents that support the Alternative Compliance Plan.

Choose File No file selected

Upload

(Uploaded files:)

[Permit 21207.pdf](#)
[Photos to accompany Alternative Compliance Plan.pdf](#)

0%

(2) Provide a brief description of the attached documents.

Permit No. 21207, State Water Resources Control Board Lake Madrone Water District Photos

(5000 character max.)

SECTION J - IMPORTANT INFORMATION AND SIGNATURES

Each participant in an Alternative Compliance Plan (Plan) must sign this form or an "opt-in" form that must be retained by the Plan manager. Attach a listing of participants, as needed, in Microsoft Excel .xlsx, comma-separated .csv, or tab-separated .txt format. By signing this form or the Plan's "opt-in" form, each Plan participant acknowledges that the Plan will be timely implemented and that the measurement of diversions will substantially comply with the Measurement Regulation. Further, each Plan participant acknowledges that the water rights covered by the Plan will not be exercised outside the scope of the Plan. Each Plan participant is responsible for promptly informing the Division of Water Rights or Delta Watermaster, as appropriate, if the participant withdraws from the Plan. The Plan manager is responsible for promptly informing the Division of Water Rights or the Delta Watermaster, as appropriate, if the Plan is modified or abandoned or if the Implementation Schedule is adjusted.

I hereby certify that the information in this Alternative Compliance Plan is true to the best of my knowledge and belief and that the Alternative Compliance Plan is in compliance with the requirements of Title 23, Division 3, Chapter 2.8, Section 931 through 938 of the California Code of Regulations. *

Yes | No

Printed Name *

Nicholas F. Bonsignore

Division of Water Rights and Delta Watermaster staff may or may not evaluate the contents of an Alternative Compliance Plan at the

time of receipt. Staff will initially determine if all the information has been filled out, and accept the Alternative Compliance Plan as complete or return it as incomplete. An Alternative Compliance Plan may be reviewed for compliance purposes at any time or as part of a systematic audit.
