

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

ORDER WR 2016-0019-EXEC

In the Matter of Permit 10478 (Application 13156)

Regarding Diversion by

EAST BAY MUNICIPAL UTILITY DISTRICT

SOURCE: Mokelumne River

COUNTIES: Amador, Calaveras, San Joaquin

**ORDER APPROVING A PETITION FOR EXTENSION OF TIME UNTIL 2040 AND APPROVING
PETITIONS FOR CHANGES IN PLACE OF USE, PURPOSE OF USE, AND PERMIT TERMS AND
ISSUING AN AMENDED PERMIT**

BY THE EXECUTIVE DIRECTOR:

1.0 INTRODUCTION

The East Bay Municipal Utility District (EBMUD), which holds water right Permit 10478 (Application 13156), has petitioned the State Water Resources Control Board (State Water Board), Division of Water Rights (Division) for an extension of time to complete beneficial use of water by December 31, 2040. EBMUD also seeks permission to change the place of use, purpose of use, and include a new term regarding accounting for diversions of water from Pardee and Camanche Reservoirs in the permit.

This order will address the following requests to change Permit 10478 filed by EBMUD:

- November 27, 2000 petition for extension of time
- December 10, 2010 petition for change in place of use
- March 2, 2012 petition to add a new term regarding accounting for diversions from Pardee and Camanche Reservoirs
- December 19, 2012 petition for change of place and purpose of use, and subsequent May 21, 2015 request to add additional place of use to petition
- November 7, 2013 request by EBMUD to modify existing permit terms

Petition for Extension of Time:

This order approves an extension of time until December 31, 2040. The approval for this extension considered the recent resolution of protests to EBMUD's petitions¹. The protests were mainly based on longstanding disputes regarding diversions on the Mokelumne River.

¹ In November 2014, East Bay Municipal Utility District (EBMUD), North San Joaquin Water Conservation District (NSJWCD), San Joaquin County, San Joaquin County Flood Control and Water Conservation District, Mokelumne River Water and Power Authority, Central Delta Water Agency, South Delta Water Agency, and Stockton East Water District entered into a Protest Dismissal Settlement Agreement that provides a framework for necessary funding and water to improve the health of the Eastern San Joaquin Groundwater Basin via water from the Mokelumne River.

Petitions for Changes in Place of Use, Purpose of Use, and New Diversion Accounting Term:

This order additionally approves the following items requested in the petitions for change and the subsequent amendments thereto: 1) expands the place of use to include lands annexed to EBMUD's current and ultimate service area boundaries by the Local Agency Formation Commissions (LAFCOs) of Alameda and Contra Costa Counties; 2) adds recreation and fish and wildlife preservation and enhancement as authorized purposes of use at Pardee and Camanche Reservoirs, and adds industrial use within EBMUD's service areas; 3) adds a new accounting term regarding diversions from Pardee and Camanche Reservoirs under Permit 10478; and 4) adds the Mokelumne River Fish Hatchery to the place of use for fish and wildlife enhancement.

2.0 BACKGROUND

2.1 Issuance of Water Right Permit 10478

On June 16, 1949, EBMUD filed water right Application 13156 to appropriate water from the Mokelumne River in San Joaquin, Amador, and Calaveras Counties. On July 3, 1956, after a hearing on competing water right applications², the State Engineer (the State Water Board's predecessor) issued Decision 858 (D-858) approving EBMUD's Permit 10478. Permit 10478 authorizes direct diversion of 194 cubic feet per second (cfs), and storage of 353,000 acre-feet annually (afa) from the Mokelumne River from about December 1 of each year to about July 1 of the succeeding year for municipal use. The water can be stored in Pardee and Camanche Reservoirs. Pursuant to Permit 10478, EBMUD was required to complete construction by December 1, 1980, and to put water to beneficial use by December 1, 2000.

2.2 Previous Modifications to Permit 10478

2.2.1 Release from Priority

On March 5, 1959, the Department of Water Resources (DWR), acting through the Director of Water Resources, approved a release from priority to EBMUD of State-filed Applications 5647 and 5648 in favor of Applications 13156 and 15201³. The release from priority limited EBMUD's diversions under Application 13156 to an average flow of 194 cfs or 140,000 afa whether by direct diversion or diversion from storage.

2.2.2 1960 Change Order

On July 13, 1960, EBMUD filed a petition with the State Water Rights Board (also the State Water Board's predecessor) for permission to make certain changes in the points of diversion (Plan of Development) as originally described in Application 13156. The petition included an appendix of the changes that was in the form of an amended Application 13156. On July 29, 1960, the petition to change the points of diversion was approved by the State Water Rights Board.

2.2.3 1983 Change Order

On January 26, 1983, the State Water Board approved a change in Permit 10478 to cover an amended place of use as follows:

Within EBMUD's service area covering 360 square miles and comprising the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Oakland, Piedmont, Richmond, San Leandro, San Pablo,

² The competing applicants included NSJWCD and Calaveras County Water District.

³ EBMUD's Application 15201 involves diversion of water solely for hydropower purposes.

and the City of Brentwood and unincorporated areas in Alameda and Contra Costa Counties, and generally located within Township 1, 2, 3, 4, South and 1 and 2 North Ranges 1, 2, 3, 4, and 5 West and 2 East, MDB&M, as shown on maps on file at the office of the State Water Resources Control Board.

2.2.4 State Water Board Decision 1641

On December 29, 1999, the State Water Board adopted Decision 1641 (D-1641)⁴ which required contributions by water right holders to assist in meeting the flow objectives in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (1995 Bay-Delta Plan); EBMUD was a party to the D-1641 proceedings relative to Mokelumne River flow objectives. In D-1641 the State Water Board recognized the 1996 Memorandum of Understanding between EBMUD and the California Urban Water Agencies/Agricultural Exporters with Respect to Bay-Delta Obligations from the Lower Mokelumne River (1996 MOU). The State Water Board approved the schedule of flows⁵ attached to the 1996 MOU as the limit of the responsibility of EBMUD, Woodbridge Irrigation District (WID), and North San Joaquin Water Conservation District (NSJWCD) to meet the objectives in the 1995 Bay-Delta Plan. Subsequently, in D-1641 the State Water Board added conditions to EBMUD's License 11109 (Application 4228) and Permit 10478 to implement the flow schedule and other non-flow measures pursuant to the 1996 MOU.

3.0 SUBSTANCE OF PETITIONS

3.1 Petition for Extension of Time

By letter dated November 27, 2000, EBMUD filed a petition for extension of time for construction and full beneficial use until December 31, 2040 for Permit 10478.

The Division issued public notice of the petition for an extension of time on January 10, 2007.

3.2 Petitions for Change

3.2.1 December 10, 2010 Petition for Change in Place of Use

By letter dated December 10, 2010, EBMUD filed a petition for change in the place of use of Permit 10478. EBMUD filed the petition to reflect previous annexations ordered by Contra Costa County and Alameda County LAFCOs. The changes to EBMUD service boundaries were also detailed on a map submitted to the Division dated December 6, 2010.

The Division issued public notice of the petition to change the place of use on December 31, 2013.

3.2.2 March 2, 2012 Petition Requesting New Term Regarding Accounting for Diversions from Pardee and Camanche Reservoirs

By letter dated March 2, 2012, EBMUD filed a petition requesting to add a new term to Permit 10478 that would describe the manner in which EBMUD operates and accounts for water diversions from Pardee and Camanche Reservoirs. Specifically, the new term would allow EBMUD to divert water at Pardee Reservoir at certain times of the year and account for that amount of water (pursuant to the diversion

⁴ D-1641 was subsequently revised on March 15, 2000, in accordance with Order WR 2000-02.

⁵ The schedule of flows was based on the 1996 Joint Settlement Agreement between EBMUD, California Department of Fish and Game, U.S. Fish and Wildlife Service (USFWS), and the Federal Energy Regulatory Commission, and included both flow and non-flow measures to protect fish and wildlife resources in the Mokelumne River system.

limitations in Permit 10478) as withdrawal from the combined storage in Pardee and Camanche Reservoirs.

The Division issued public notice of the petition to add the proposed new permit term on December 31, 2013.

3.2.3 December 19, 2012 Petition for Change in Purpose of Use and Place of Use

By letter dated December 19, 2012, EBMUD filed a petition to add changes to the purpose of use of Permit 10478. With the petition, EBMUD requested to add recreation and fish and wildlife preservation and enhancement as purposes of use at both Pardee and Camanche Reservoirs. EBMUD also requested to add industrial use as an authorized use within its service area. On May 21, 2015, EBMUD requested to modify their petition to add the Mokelumne River Fish Hatchery as a place of use and fish and wildlife preservation and enhancement as a purpose of use at the hatchery.

On December 31, 2013, the Division issued public notice of the petition to add the changes in purpose of use. Pursuant to California Code of Regulations section 795, the Division did not issue notice of the May 21, 2015 amendment requesting the addition of the Mokelumne River Fish Hatchery as a place of use and fish and wildlife preservation and enhancement as a purpose of use at the hatchery. Section 795 indicates that notice may not be required when the proposed change does not have the potential to impair the water supply of other legal users of water or instream beneficial uses. However in all cases California Department of Fish and Wildlife (CDFW)⁶ must be notified of the proposed change; EBMUD notified CDFW of the proposed additional changes by copy of the May 21, 2015 petition modification request.

3.2.4 November 7, 2013 Request by EBMUD to Modify Existing Permit Terms

By letter dated November 7, 2013, EBMUD requested the State Water Board update the following Permit 10478 terms and conditions to reflect changes in regulatory conditions since issuance of the permit in 1956:

- a) Remove existing pre-construction Permit Term 8 regarding the provision for flood control which was met in 1962.
- b) Remove existing Permit Term 9 regarding fishery flows and replace it with the fishery flow conditions added to Permit 10478 by D-1641.
- c) Remove existing Permit Term 10 regarding releases from Camanche Dam for WID, and replace it with a new permit term that reflects the current agreements between WID and EBMUD.
- d) Remove existing Permit Term 11 regarding minimum bypass flows below proposed Railroad Flat Dam, since EBMUD determined it will not build the dam.
- e) Add a new permit term to reflect the Permit 10478 total use limitation of 140,000 af imposed by DWR in 1959 in its release from priority.
- f) Add new permit terms that incorporate the mitigation measures in the Permit 10478 Time Extension Project Environmental Impact Report (EIR⁷).

The Division issued public notice of the proposed modified permit terms on December 31, 2013.

⁶ CDFW was previously referred to as California Department of Fish and Game

⁷ References specifically to "EIR" in this Order encompass both the Draft EIR and the Final EIR which represent the complete record of the EIR for EBMUD's time extension project.

4.0 PROTESTS

4.1 Protests Received

Based on the January 10, 2007 public notice of the time extension petition, the Division received protests from the following: the Anglers Committee; Ms. Marian Zimmerman; City of Lodi (Lodi); a joint protest by San Joaquin County (SJC), San Joaquin County Flood Control and Water Conservation District (SJCFCFD), and Mokelumne River Water and Power Authority (MRWPA); NSJWCD; Stockton East Water District (SEWD); and a joint protest by Central Delta Water Agency (CDWA) and South Delta Water Agency (SDWA).

Based on the December 31, 2013 public notice of all subsequent change petitions and other requested modifications to Permit 10478, the Division received protests from the following parties: Mr. Richard Morat; a joint protest by SJC, SJCFCFD and MRWPA; NSJWCD; and SEWD.

All of the protests received have been resolved.

4.2 Protest Resolutions

4.2.1 Protest Based on Potential Injury to Prior Rights

Ms. Zimmerman filed the only protest against EBMUD's petition for time extension which was based on potential injury to vested water rights. At the time the protest was filed, Ms. Zimmerman held both riparian water rights and water right License 2999 (Application 10531)⁸ which has a priority of September 2, 1942, and allows diversion of up to 1.85 cfs of water from the Mokelumne River from about April 15 to about November 15 of each year. Ms. Zimmerman indicated that her protest could be dismissed if EBMUD stipulated that the extension and eventual water diversion under Permit 10478 will not result in any interference or injury to Ms. Zimmerman's prior vested appropriative or riparian rights on the Mokelumne River.

By letter dated April 13, 2007, Ms. Zimmerman's representative notified the Division that EBMUD had provided Ms. Zimmerman with information ensuring that diversions under Permit 10478 will not impair, injure, or interfere in any way with Ms. Zimmerman's appropriative water right License 2999 or any of her riparian water rights on the Mokelumne River. By letter dated April 27, 2007, the Division confirmed with Ms. Zimmerman and EBMUD that the protest was dismissed.

4.2.2 Protests Based on Environmental or Public Interest Considerations

All other protests of EBMUD's petitions for time extension and change were based on environmental or public interest considerations. All of the protests have been resolved and addressed, as described below.

By letter dated December 31, 2013, the State Water Board informed the Anglers Committee that its protest issues were addressed by EBMUD's Draft Environmental Impact Report (DEIR) prepared for the Permit 10478 Time Extension Project⁹ and the protest would be cancelled, pursuant to Water Code section 1703.6, unless the protestant submitted further information to support its protest assertions. The Angler's Committee did not submit additional information to support its protest assertions and, therefore, the protest is considered cancelled.¹⁰

⁸ As of June 28, 2013, the ownership of Water Right License 2999 as well as Ms. Zimmerman's land to which riparian water rights are claimed have been transferred to the Kurt and Sandra Kautz Family Trust.

⁹ On October 1, 2013, EBMUD issued a DEIR for the Permit 10478 Time Extension Project (SCH No. 2008112043).

¹⁰ The Anglers Committee protest was originally submitted by Mr. Robert Baiocchi, President and Consultant of the Anglers Committee, who passed away on September 8, 2013. It is not clear whether or not the Anglers Committee continues to exist as an

In November 2014, EBMUD entered into a Protest Dismissal Agreement (Agreement) with SJC, SJCFCFCD, MRWPA, NSJWCD, SEWD, CDWA and SDWA for the dismissal of all protests related to the Permit 10478 time extension and change petitions. The Agreement also resolved issues regarding some of the protestants' concerns regarding EBMUD's DEIR for the Time Extension Project. As a result of the Agreement, and earlier negotiations between EBMUD and the protestants, the following protest dismissals have been submitted to the State Water Board:

- By letter dated June 19, 2009, Lodi withdrew its protest.
- By email dated April 18, 2014, Mr. Morat withdrew his protest.
- By letter dated November 26, 2014, NSJWCD withdrew its protests.
- By letter dated November 26, 2014, SJC, SJCFCFCD, and MRWPA withdrew their protests.
- By letter dated December 2, 2014, SEWD withdrew its protests.
- By letter dated December 9, 2014, SDWA and CDWA withdrew their protest.

5.0 ANALYSIS/DISCUSSION

5.1 Petition for Extension of Time

5.1.1 Applicable Law

Water Code section 1396 requires a right holder to prosecute project construction and beneficial use of water with due diligence, in accordance with the Water Code, the State Water Board's regulations, and the terms specified in the permit. The State Water Board may approve a request for an extension of time if the Board finds that there is good cause for the extension. (Wat. Code, § 1398, subd. (a).) The State Water Board's regulations allow an extension of time to be granted only on such conditions as the Board determines to be in the public interest, and on a showing to the Board's satisfaction that (1) due diligence has been exercised, (2) failure to comply with previous time requirements has been occasioned by obstacles which could not reasonably be avoided, and (3) satisfactory progress will be made if an extension of time is granted. (Cal. Code Regs., tit. 23, § 844.) The State Water Board generally will not accept conditions incident to the person and not to the enterprise as good cause for delay. (Ibid.) In the case of diversions for municipal use, municipalities are afforded some latitude in putting water to beneficial use, because they must be able to plan for, and meet, the needs of their existing and future citizens. (see Wat. Code § 106.5.) To avoid the waste or "cold storage" of water, other water users may apply for permits to use water in the interim period during the time of extended municipal development. (Wat. Code, §§ 1203, 1460-1464.) These rules apply to EBMUD, because it supplies municipal water. (State Water Board Decision D-858 (1956), at pp. 63-68.)¹¹

5.1.1.1 Due Diligence

In determining whether to approve a petition for extension of time, the State Water Board must consider whether there is information supporting a finding that EBMUD has exercised diligence in putting water to beneficial use. Due diligence requires a demonstrable effort to put the water to beneficial use in accordance with the rules and regulations of the State Water Board, the terms of the permit, and within the time period specified in the permit. The question of diligence ultimately must be determined on the facts of each case.

organization.

¹¹ These statutes grant preferences to municipalities using water for municipal, but not other, purposes. In this instance, the applicability of these provisions remains unchanged in light of EBMUD's petition to add recreation, fish and wildlife enhancement, and industrial use to its permits. The first two additional uses are for incidental reservoir purposes and will have no effect on the amount of water counted towards developing consumptive use under the water right. The third use, industrial, is already included as permissible as a municipal use within the municipal service area.

a) Project Construction

After Permit 10478 was issued in 1956, EBMUD commenced construction of the project as described in the permit and has filed permittee progress reports with the State Water Board since 1957. These reports provide documentation of the progress of construction under Permit 10478, including construction of Camanche Dam, Camanche Reservoir, Walnut Creek Pumping Plant, and the third Mokelumne Aqueduct. These facilities, together with EBMUD's pre-existing Mokelumne River facilities¹², can convey up to the full authorized maximum rate of 504 cfs of Mokelumne River water to the East Bay service area (310 cfs under EBMUD's water right License 11109, and 194 cfs under Permit 10478). EBMUD has not constructed a direct connection from Camanche Reservoir to the Mokelumne Aqueducts as described in Application 13156. However, based on the information documented in the Permit 10478 Time Extension Project DEIR¹³, in the future, as demands continue to grow, EBMUD may need to build the direct connection to provide greater operational flexibility.

After completing construction of Camanche Dam and Reservoir in 1964 and subsequently filling the reservoir, in 1968 EBMUD began documenting its beneficial use of water under Permit 10478. The permittee progress reports demonstrated that EBMUD exercised diligence in making beneficial use of water under Permit 10478.

As described in Application 13156 and in the DEIR¹⁴, EBMUD obtained Permit 10478 to ensure that it will have sufficient supplies to meet projected increases in demand for water in its service area and to ensure that its water supplies will be able to meet peak daily water demands, which EBMUD has indicated can reach 150 percent of average annual demand during peak summer months.

b) Historical Maximum Use under Permit 10478

As described in the DEIR¹⁵, EBMUD has diverted from the Mokelumne River at the following maximum rates and quantities under Permit 10478 (in addition to 310 cfs diversions under License 11109), during the time periods noted:

- Diversion rates exceeded 190 cfs during May 2000 to assist in meeting demand and to test Mokelumne Aqueducts after installation of pressure transient equipment on Mokelumne Aqueduct No. 1.
- Diversion rates averaged over 160 cfs from May through July 1997 to assist in meeting demand and to refill standby storage in the service area depleted by extended outage of the Mokelumne Aqueducts because of a high turbidity event that required shutting down the Mokelumne Aqueducts and relying on local storage to meet water demands.
- In a single year, the maximum quantity of water put to municipal beneficial use by EBMUD under Permit 10478 (in excess of the quantities allowed to be beneficially used under License 11109) was 36,992 af, which occurred in calendar year 1997. The maximum amount of water withdrawn from storage and put to municipal beneficial use under Permit 10478 was 17,826 af during calendar year 1976.

¹² EBMUD's existing facilities at the time Permit 10478 was issued included Pardee Dam and Reservoir, Pardee Tunnel and Outlet Tower, Mokelumne Aqueducts Nos. 1 and 2, Bixler Pumping Plant (on Aqueduct No. 1), and Walnut Creek Pumping Plant (on Aqueducts Nos. 1 and 2).

¹³ Section 6.2.2, Page 6-4

¹⁴ Page 1-4, and Pages 1-16 to 1-19

¹⁵ Section 1.3.4.1, Page 1-11

c) Compliance with Previous Permit Conditions

Since issuance of Permit 10478, EBMUD has shown diligence in complying with its permit conditions as detailed below.

1) Flood Control

Pursuant to D-858, a condition was included in Permit 10478 prohibiting EBMUD from commencing construction of Camanche Dam and Reservoir until local interests had an opportunity to financially participate in the construction of the dam and reservoir for flood control purposes, or to secure federal participation therein. EBMUD met this condition by reaching a flood control agreement in 1962 with the United States Army Corps of Engineers (USACE). The agreement provided that the then-proposed Camanche Reservoir, together with the then-existing Pardee Reservoir, must accommodate the reservation of flood control space for the protection of downstream areas in San Joaquin County.

The agreement requires EBMUD to maintain up to 200,000 af of empty flood control space in Pardee and Camanche Reservoirs during certain times of the year. EBMUD proposed constructing Camanche Reservoir with a capacity of 431,500 af to comply with the flood control requirement. Since completing construction of Camanche Dam and Reservoir in 1964, EBMUD has used Camanche Reservoir to help meet the flood control requirements set by the USACE in order to reduce downstream flooding from the level that had occurred prior to construction of Camanche Dam.

2) Instream Flow Requirements for Fish Protection – Joint Settlement Agreement

Pursuant to D-858, a condition was included in Permit 10478 that required EBMUD to reach an agreement with CDFW regarding flows to be bypassed for protecting fish in the lower Mokelumne River. Accordingly, in 1961 EBMUD entered into an agreement with CDFW (1961 Agreement) that required EBMUD to release 13,000 af annually from Camanche Reservoir to the lower Mokelumne River for the benefit of fishery production, in addition to the releases for the WID and other senior right holders.

The 1961 Agreement fishery flow requirements were modified in 1996 through a joint settlement (JSA) among EBMUD, CDFW, and U.S. Fish and Wildlife Service (USFWS).¹⁶ The JSA, included a suite of flow, non-flow, and other measures designed to protect and enhance the anadromous fishery and ecosystem of the lower Mokelumne River. The JSA schedule of fishery releases from Camanche Dam is significantly higher than the prior release requirement under the 1961 Agreement.

EBMUD began releasing the JSA flows voluntarily in 1996 prior to formal execution of the JSA in 1998. The Federal Energy Regulatory Commission (FERC) issued its Order Approving Settlement Agreement and Amending License on November 27, 1998, amending EBMUD's FERC License for the Lower Mokelumne Hydroelectric Project (FERC Project No. 2916) by requiring the JSA measures. As discussed in Section 2.2.4 of this Order, the State Water Board incorporated the flow provisions of the JSA into EBMUD's Mokelumne River water rights in 2000 through State Water Board D-1641. With that action, the State Water Board replaced the 1961 Agreement flows with the 1998 JSA flows and other JSA fishery protection measures in EBMUD's water rights, including Permit 10478.

The 1961 Agreement also required EBMUD, at CDFW's request, to construct a fish hatchery at Camanche Dam, with the hatchery to be operated by CDFW. The hatchery was proposed to raise Chinook salmon and steelhead for release to the Mokelumne River. Consistent with the 1961

¹⁶ One representative each from EBMUD, CDFW and USFWS serve as the Partnership Steering Committee for the JSA.

Agreement, EBMUD built the fish hatchery, known as the Mokelumne River Fish Hatchery. The 1998 JSA contained a provision under which EBMUD was to provide up to \$12.5 million to expand and upgrade the hatchery. The expansion and upgrade of the hatchery were completed in 2002. CDFW continues to operate the hatchery.

Accordingly, as detailed above, the State Water Board finds EBMUD has exercised due diligence in taking actions to comply with permit terms and develop the use of water under Permit 10478.

5.1.1.2 Obstacles to Completion Not Reasonably Avoided

The State Water Board must also consider whether the right holder's failure to comply with the previous time requirement has been occasioned by obstacles that could not reasonably be avoided. Lack of finances and other conditions incident to the person and not the enterprise will not generally be accepted as good cause for delay. (Cal. Code Regs., tit. 23, § 844.)

EBMUD has indicated that delays in full use of water under Permit 10478 have been occasioned by a number of obstacles that could not reasonably be avoided.

As described in EBMUD's time extension petition, its annual permittee progress reports, and the DEIR¹⁷, EBMUD identifies the increase in water use efficiencies in the East Bay as the primary factor delaying full use of water under Permit 10478. EBMUD claims these efficiency increases are a result of their water conservation and recycling programs, demand management policies, and drought response measures. EBMUD indicates that these factors have collectively slowed the growth in water use as compared to what otherwise would have occurred absent these programs, and as a result, they have not yet used the full annual quantity allowed by the permit, even as the population in the place of use has grown significantly. While it does not substitute for the due diligence requirement, conservation is an important state goal.

a) Conservation Programs

As described in EBMUD's annual permittee progress reports and its 2010 Urban Water Management Plan (2010 UWMP), since the 1970s, EBMUD has developed customer-targeted conservation programs, including: (i) demand-side programs that increase water use efficiency and educate customers about the importance of conservation; (ii) supply-side programs that focus on repairing and replacing pipelines while minimizing water loss in the local distribution system; and (iii) regulatory programs, such as setting water efficiency standards, drought water rate pricing, and penalties for wasteful water use. EBMUD's estimate of water conservation savings by 2000, compared to customer water use in the 1970s, range from about 31,000 acre-feet to about 81,500 acre-feet annually¹⁸.

b) Recycled Water Programs

As described in EBMUD's annual permittee progress reports and its 2010 UWMP, EBMUD has utilized recycled water for 40 years. In 1988, EBMUD created an office dedicated to recycled water to reserve potable supply for drinking water and require, to the extent feasible, that industrial, commercial, and irrigation customers use recycled non-potable water for non-domestic purposes. Currently, EBMUD indicates that it provides approximately 13,000 acre-feet of recycled water to its customers, and reduces diversions from the Mokelumne River by a like amount. EBMUD has reported the amounts of both conserved and recycled water to the State Water Board in annual permittee progress reports. Water Code section 1010, subsection (a)(3) specifies that use of

¹⁷ Section 1.1.2, Page 1-3; Section 2.1, Page 2-2; and Appendix B, Pages B-3 to B-4

¹⁸ January 11, 2008 letter from Lena Tam, EBMUD, to Victoria Whitney, Division Chief.

recycled water constitutes good cause for an extension of the period of time to apply water to beneficial use to the extent and in the amount of recycled water use.

c) Drought Demand Management

EBMUD has indicated in its annual permittee progress reports and its 2010 UWMP that EBMUD's water demands have been affected by its response to major California drought events. EBMUD adopted a three-tier rate structure to encourage customers to conserve water by allowing them to track and better understand water use as part of ongoing efforts to increase water use efficiency. EBMUD has indicated that during droughts, it requires its customers to substantially reduce their water use so that it can continue to meet downstream obligations and flow release requirements on the Mokelumne River. EBMUD's level of drought response depends on the severity of the drought event and includes several of the following: (i) voluntary or mandatory rationing; (ii) increased water rates and drought surcharges; (iii) intensified education of and communication with elected officials, stakeholder groups, and the public at large about the need to conserve water; and (iv) intensified enforcement of rules that prohibit water waste. EBMUD indicates that service area demand was reduced dramatically when water use restrictions were in place during droughts. EBMUD further indicates that historically, these measures have achieved both significant short-term water conservation during droughts and longer-term reductions in per capita water use that outlived any particular drought, thereby slowing EBMUD's use of water pursuant to Permit 10478.

d) Other Factors Preventing Full Application of Water to Beneficial Use

EBMUD has provided information in both its annual permittee progress reports and its 2010 UWMP, which includes EBMUD's historical use information, claiming that changes in the character of the service area have occurred since the 1970s, particularly shifts in customer demographics and land use. EBMUD indicated that there has been a shift from water intensive manufacturing to industries with lower water use and changes in demographic growth rates in the service area, which was not anticipated when EBMUD applied for supplemental Mokelumne Project water under Permit 10478 in 1949. EBMUD claims that these issues have also decelerated its rate of growth in water use under Permit 10478. This type of shift in anticipated growth is typical as municipal areas continue to change, and forms the basis of the statutory recognition that municipal water rights be afforded sufficient time to develop, so long as the development does not revert to cold storage and so long as continued future growth can be anticipated.

Based on the foregoing, the State Board finds that EBMUD's failure to comply with the previous time requirement under Permit 10478 has been occasioned by obstacles that could not reasonably be avoided.

5.1.1.3 Satisfactory Progress Anticipated

EBMUD has indicated that it will make satisfactory progress if the State Water Board grants an extension of time to complete construction and put water to full beneficial use. As described in EBMUD's annual permittee progress reports, its 2010 UWMP¹⁹, and the DEIR²⁰, EBMUD's projections of customer demand show that average annual water demand and peak summer demands will continue to increase in its service area despite water conservation, recycling and demand management efforts, and that EBMUD will continue to beneficially use the water authorized under Permit 10478.

EBMUD has projected that without water savings from existing and future conservation and recycling programs, the water demand in 2040 is expected to average 483 cfs (or 312 million gallons per day).

¹⁹ Chapter 4

²⁰ Section 1.4, beginning at Page 1-16

EBMUD can divert up to 310 cfs under License 11109 prior to diverting up to 194 cfs under Permit 10478. Therefore, to meet the projected overall average demand of 483 cfs, approximately 173 cfs of the demand will need to be diverted under Permit 10478. EBMUD has concluded that by implementing existing and planned future water conservation and recycling measures the average annual water demand in 2040 would be reduced from 483 cfs to 356 cfs. For planning purposes, 356 cfs (46 cfs under Permit 10478) represents the most likely level of projected average annual total demand in year 2040, including conservation measures. EBMUD's analysis also indicates that demand is expected to continue to grow beyond 2040 reaching an average annual total demand of approximately 425 cfs (115 cfs under Permit 10478) - with conservation measures - toward the end of the century. The extensive conservation efforts have slowed application of water to beneficial use.

While these average numbers fall significantly short of the 194 cfs limit described in Permit 10478, they are average numbers that do not account for the periodic need for a significantly larger diversion rate. For example, EBMUD has on occasion diverted at approximately 190 cfs, even under current lower use requirements. Estimates of municipal demand are inherently uncertain, as they are based on a wide range of future land use, population change, economic change, and technology assumptions, and assumptions regarding the rate of those changes. The estimates for future conservation and water recycling add an additional layer of uncertainty into the projections. Additionally, EBMUD has provided estimates that indicate significant projected growth in both population and water demand through 2040 and beyond. Thus, while it is a marginal question, EBMUD has provided sufficient evidence of putting the water to satisfactory use through the development period, particularly in light of the requirement of Water Code section 106.5 to protect current and future municipal needs to the fullest extent necessary.

5.1.1.4 Public Interest

As described in EBMUD's annual permittee progress reports and the DEIR²¹, EBMUD's service area encompasses parts of Alameda and Contra Costa Counties. According to the Association of Bay Area Governments' (ABAG) Projections 2009, Alameda County alone is projected to grow by 416,500 people, reaching a total population of nearly two million by 2035. It is forecasted that 327,000 jobs also will be added during this period. Almost all jurisdictions in Alameda County are expected to see significant increases in population and especially employment, although most growth is expected to occur in the communities closest to the San Francisco Bay. Some of the biggest population increases are expected to occur in Emeryville and Oakland. The City of Oakland is forecasted to continue to have over 25 percent of the county's residents and jobs. Nearly 70 percent of the population growth in western Alameda County is projected to occur in infill neighborhoods, where there is access to public transit.

According to the ABAG projections, by 2035, Contra Costa County's population is forecasted to be over 1.3 million, an increase of approximately 233,000 people. Nearly 180,000 jobs are anticipated to be added county-wide during this time period, reaching a total of over 555,000. Among the communities expected to see the most population growth are San Ramon and Hercules; each are anticipated to grow by more than 33 percent.

EBMUD had indicated that these increases in population and employment expansion in Alameda and Contra Costa Counties will result in increased water demands consequently increasing EBMUD's diversion and use of water pursuant to Permit 10478.

²¹ Section 1.4, Pages 1-16 to 1-17

The public has an interest in extending Permit 10478 to provide a water supply for the EBMUD service area to support future population and economic growth and to secure a reliable water supply to the East Bay to aid recovery from drought and emergency events. The State Water Board finds that EBMUD's continuing use of water pursuant to Permit 10478 to support future population and economic growth, coupled with extensive conservation efforts, is beneficial and in the interest of the public and provides good cause for granting EBMUD an extension of time through December 31, 2040.

5.2 Petitions for Change

5.2.1 Applicable Law

Water Code sections 1700 through 1705 govern changes in the place of use, purpose of use, or point of diversion of an appropriative water right. Permission to make such changes must be granted by the State Water Board and "[b]efore permission to make such a change is granted the petitioner shall establish, to the satisfaction of the [State Water Board], and it shall find, that the changes will not operate to the injury of any legal user of the water involved." (Wat. Code, §1702.) The petitioner also must establish that the proposed changes will not effectively initiate a new right. (Cal. Code Regs., tit. 23, § 791, subd. (a).) A change petition must also be in the public interest and not unreasonably harm fish, wildlife and other instream beneficial uses.

5.2.1.1 Place of Use

EBMUD petitioned to update the place of use under Permit 10478, as shown on the map submitted to the Division dated December 6, 2010, so that its place of use would correspond to areas that Alameda and Contra Costa County LAFCOs have already ordered be served by EBMUD, which EBMUD is currently serving, and for which the California Environmental Quality Act (CEQA) environmental review process was already completed.

As stated in the change petition²², on July 3, 1956, the State Water Board's predecessor approved EBMUD's water right Application 13156 and authorized EBMUD's place of use that included the 'Probable Ultimate EBMUD Service Area', which covered an area of approximately 514 square miles. That boundary has changed as a result of a number of events. In 1963, state legislation created LAFCOs, which were charged with establishing boundaries for local agencies, including special districts. In response to the new LAFCO mandates, EBMUD and other water agencies in the Bay Area engaged in an effort to reorganize their service area boundaries to eliminate unnecessary overlap. The Alameda and Contra Costa County LAFCOs eventually adopted a boundary and designated spheres of influence (SOI) for EBMUD. The changes undertaken to be consistent with LAFCO requirements reduced EBMUD's ultimate service area boundary by removing lands along the northern and southern borders that were outside of the area then served by EBMUD and beyond the area which it ultimately planned to serve. The effect of these actions was to reduce EBMUD's ultimate service area from approximately 514 square miles to approximately 480 square miles.

In 1983, the State Water Board amended EBMUD's place of use under Permit 10478 and added the City of Brentwood comprising an area of about 2.5 square miles. During this process the State Water Board also updated EBMUD's then-current service area and the probable ultimate service area boundary which comprised an area of about 480 square miles, and, as a result, also changed EBMUD's probable ultimate service area boundary.

²² Attachment to December 10, 2010 petition for change of place of use, Permit 10478, Page 1

EBMUD has indicated that generally, its policies preclude annexation of lands outside the ultimate service boundary or LAFCO's SOI. However, from time to time, LAFCO has required EBMUD to annex lands outside those boundaries. There were a total of 16 LAFCO annexations to EBMUD between 1985 and 2002 covering a total of 3,429 acres, or just over five square miles.²³

In summary, the proposed change in place of use updates the map on file with the State Water Board to conform the place of use to add areas LAFCO has already ordered to be served, which have been almost entirely developed to the extent of zoning regulations, and which EBMUD is currently serving. As a result, the State Water Board finds there would be no injury or harm in updating the place of use under Permit 10478 as requested by EBMUD.

On May 21, 2015, EBMUD requested an administrative change to add the Mokelumne River Fish Hatchery to the Permit 10478 place of use for the non-consumptive diversion and use of Mokelumne River water for fish and wildlife enhancement purposes. Because water used at the hatchery is used for non-consumptive purposes and is returned to the lower Mokelumne River immediately below the hatchery, the State Water Board finds there is no injury or harm from adding the hatchery to the place of use under Permit 10478 as requested by EBMUD.

5.2.1.2 Purpose of Use

On December 27, 2012, EBMUD petitioned to add industrial, recreation, and fish and wildlife preservation and enhancement at Pardee and Camanche Reservoirs as authorized purposes of use to Permit 10478. Pursuant to D-858, EBMUD's purpose of use under Permit 10478 was designated as municipal use. In D-858, the State Water Board's predecessor found that "municipal use includes all of those purposes for which water is customarily used by a municipality, including industrial use."²⁴ With its petition, EBMUD requests that industrial use be added as a specific purpose of use in Permit 10478. Because the State Water Board acknowledged in D-858 that municipal use included industrial use, the State Water Board finds there is no injury or harm in adding industrial use as a specific purpose of use under Permit 10478.

EBMUD petitioned to add recreation and fish and wildlife preservation and enhancement at Pardee and Camanche Reservoirs to Permit 10478 as water stored in both Pardee and Camanche Reservoirs has historically supported fish and wildlife resources and recreation. On May 21, 2015, EBMUD modified its petition to also add fish and wildlife preservation and enhancement at the Mokelumne River Fish Hatchery to Permit 10478. To address and resolve protest concerns over the reporting of EBMUD's future consumptive beneficial use in relation to adding recreation and fish and wildlife preservation as a purpose of use under Permit 10478, EBMUD agreed to the following permit term being included in Permit 10478:

Water solely used for recreation or fish and wildlife preservation and enhancement at Pardee and Camanche Reservoirs and the Mokelumne River Fish Hatchery shall not be reported by EBMUD as consumptive beneficial use under Permit 10478.

(0580900)

The addition of this term prevents the change in purpose of use from creating an expansion of the existing right.

²³ A listing of the annexations and their environmental documents is included in the attachment to the Environmental Information Form accompanying EBMUD's change petition.

²⁴ D-858, pages 69-70

The State Water Board finds there is no injury or harm, nor any change from existing conditions, in formally adding recreation and fish and wildlife preservation and enhancement at Pardee and Camanche Reservoirs and the Mokelumne River Fish Hatchery as purposes of use under Permit 10478 with the inclusion of the proposed permit term above. Additionally, as the requested changes to the permit will result in no change to the operation of the facilities, it cannot cause unreasonable harm to public trust resources. Under California Code of Regulations section 798, these changes considered incidental and are eligible to be added without the filing of a petition.

5.2.1.3 New Permit Term Regarding Accounting for Diversions from Pardee and Camanche Reservoirs

EBMUD petitioned to add a new term to Permit 10478 to address accounting for direct diversion and withdrawals from storage under Permit 10478. The term requires EBMUD to have a reduction in the combined storage amount of Pardee and Camanche Reservoirs when diversion into the Aqueducts exceeds 310 cfs to allow the excess diversion to be accounted for as withdrawal from storage under Permit 10478. This proposed accounting term does not alter the release and bypass requirements for the lower Mokelumne River and is consistent with EBMUD's existing operations and therefore should prevent injury to downstream legal water users and instream beneficial uses.

The proposed accounting term reads as follows:

In order for any water diverted at Pardee Reservoir into the Mokelumne Aqueducts in excess of the 310 cubic feet per second authorized under License 11109 (Application 4228) to be accounted for as withdrawal from storage under Permit 10478 (Application 13156), there must be an equivalent corresponding net depletion (drawdown in storage level) from the combined storage of Pardee and Camanche Reservoirs during the same diversion period. This net depletion calculation shall exclude the loss to surface evaporation.

(0070900)

Approval of this term recognizes that accessing water in Camanche Reservoir would require construction of additional diversion facilities that are, at this point, unnecessary for provision of water supplies to EBMUD's service area and would increase EBMUD's energy consumption and thus release of greenhouse gasses to pump water uphill from Camanche Reservoir to the Mokelumne Aqueducts. Also, the 1998 JSA requires EBMUD to use its best efforts to maintain reservoir thermal stratification under certain conditions, and approval of this term allows the integrated operation of Pardee and Camanche Reservoirs to better manage reservoir temperatures. The close proximity of Pardee and Camanche Reservoirs further supports joint accounting for the reservoirs under this permit.

The amended permit will also include a new mandatory permit term requiring that EBMUD develop a compliance plan to comply with terms and conditions of the permit. As part of the compliance plan, EBMUD is developing a monitoring and reporting program to describe compliance with the proposed accounting term.

To address protest issues related to the proposed accounting term and to further clarify beneficial use under the permit, EBMUD also agreed to add the following new term to the amended permit:

EBMUD's releases downstream of Camanche Reservoir to meet required instream flows or prior rights shall not be reported by EBMUD as consumptive beneficial use under this water right.

(0160400)

This term does not constitute a substantive change to the permit, as it simply restates existing law. However, there is no harm in including the term if EBMUD and the protestants agree that it will resolve a concern.

With the proposed permit terms above, EBMUD will continue to meet its water supply needs as well as its various state and federal environmental objectives and operational requirements, including, but not limited to fishery flows, temperature management, flood control, and downstream water rights.

Further, the proposed accounting term will clarify EBMUD's existing operations under its water rights and does not expand EBMUD's existing rights to divert from the Mokelumne River.

The State Water Board finds that the inclusion of the terms above regarding EBMUD's accounting for diversions under Permit 10478 will not result in injury of any legal user of the water involved or initiate a new right, and will be in the public interest and not unreasonably harm fish, wildlife and other instream beneficial uses.

5.2.1.4 Approval of the Change Petitions

For all of the reasons set forth above, the State Water Board has determined that good cause for such changes, including the change to the place of use, additional purposes of use, and the permit term regarding accounting for diversions under Permit 10478, has been shown, and that the petitions do not constitute the initiation of a new right nor operate to the injury of any other lawful user of water. In addition, the petitioned changes to Permit 10478 do not unreasonably harm fish, wildlife and other instream beneficial uses, and the State Water Board has determined that the changes are in the public interest.

5.2.2 Updating Permit Terms

5.2.2.1 Permit Term Changes Requested by EBMUD

EBMUD requested to modify and/or eliminate several terms in Permit 10478, as follows:

- a) Remove existing Permit Term 8 regarding the provision for flood control which was met in 1962. Permit Term 8 reads as follows:

Construction of Camanche Dam and Reservoir under this permit shall not commence until the local interests have had an opportunity to financially participate in the construction of said dam and reservoir for flood control purposes or to secure Federal participation therein; provided that such participation for flood control purposes shall be determined on or before December 1, 1960.

(0000700)

Discussion:

As discussed in Section 5.1.1.1 (c)(1), EBMUD addressed the flood control issues by entering into a 1962 agreement with USACE, which requires that EBMUD maintain up to 200,000 af of flood control space to be provided in Camanche and/or Pardee Reservoirs. EBMUD indicated that Camanche Reservoir was constructed in 1964 such that it had the capacity to provide some of the required flood control space. Therefore, the State Water Board finds that Permit Term 8 is no longer necessary and will be removed from Permit 10478.

- b) Remove existing Permit Term 9 regarding fishery flows and replace it with the fishery flow conditions added to Permit 10478 by D-1641. Permit Term 9 reads as follows;

No diversion shall be made under this permit at the Camanche or Pardee Dam sites until an agreement has been reached between the permittee and the State Department of Fish and Game with respect to flows to be by-passed for fish life; or failing to reach such agreement, until a further order is entered by the Division or its successor with respect to said flows.

(0360300)

Discussion:

As discussed in Section 5.1.1.1 (c)(2), EBMUD originally met this condition by entering into an agreement with CDFW in 1961, which established minimum fishery flows to be released from Camanche Reservoir into the lower Mokelumne River. The 1961 agreement flows were subsequently superseded by the JSA flows in 1998, which were then added to Permit 10478 via the State Water Board's D-1641. Because the JSA flow schedule has been incorporated into Permit 10478 via D-1641, the State Water Board finds that Permit Term 9 is no longer necessary and will be removed from amended Permit 10478.

- c) Remove existing Permit Term 10 regarding releases from Camanche Dam for WID, and replace it with new permit term that reflects the current agreements between WID and EBMUD. Permit Term 10 reads as follows:

During the months March through October, inclusive, whatever the mean monthly flows released downstream from Pardee Reservoir or Camanche Reservoir are less than 400 cfs, mean daily flows shall not be less than 75 percent of the average monthly rate of flow released past the lower of said dams, except in event of emergency.

(0000400)

Discussion:

This condition was included in Permit 10478 via D-858 to address concerns raised by WID regarding future potential decreased weekend releases of water from Camanche Reservoir by EBMUD. To address WID's concerns, during the hearing on Application 13156, EBMUD offered to reduce fluctuation of releases from Camanche Reservoir and agreed to the conditions as detailed in Permit Term 10. The condition has been superseded by subsequent agreements between WID and EBMUD. A permit term referencing the current agreement between WID and EBMUD will be included in amended Permit 10478. Therefore, the State Water Board finds that Permit Term 10 is no longer necessary and will be removed from amended Permit 10478 and replaced by a permit term referencing the current agreement between WID and EBMUD.

- d) Remove existing Permit Term 11 regarding minimum bypass flows below previously proposed Railroad Flat Dam, since EBMUD determined it will not build the dam. Permit Term 11 reads as follows:

Permittee shall at all times by-pass a minimum of 5.0 cfs or the natural flow of the stream whenever it is less than 5.0 cfs at Railroad Flat Dam, to maintain fish life.

(0140060)

Discussion:

Subsequent to issuance of D-858, EBMUD decided not to construct Railroad Flat Dam and filed a changed Plan of Development with the State Water Board in 1960 that included the modification to its plan of development. The State Water Board approved the change in Plan of Development, including the removal of Railroad Flat Dam, in a July 29, 1960 Order. Therefore, the State Water Board finds

that as Railroad Flat Dam was eliminated as an authorized facility under Permit 10478 over 50 years ago, Permit Term 11 is not necessary and will be removed from amended Permit 10478.

- e) Add a new permit term to reflect the Permit 10478 total use limitation of 140,000 afa imposed by DWR in 1959 in its release from priority.

Discussion:

The total use limitation of 140,000 afa will be included in amended Permit 10478.

- f) Add new permit terms that incorporate the mitigation measures in the Permit 10478 Time Extension Project EIR

Discussion:

A permit term will be included in amended Permit 10478 attaching a Mitigation Monitoring and Reporting Program (MMRP) to the permit which will require EBMUD to implement the necessary EIR mitigation measures. (See Section 5.3.1)

5.2.2.2 Permit Term Modifications Proposed by the State Water Board

- a) The State Water Board proposes to include the following terms in Permit 10478:

- 1) The State Water Board proposes to update Permit 10478 by including the following Standard Permit Term which allows for normal variations in direct diversions rates for municipal use over a 30-day period and is commonly included as a permit term in water rights that include direct diversion for municipal use. Further, the DWR 1959 release from priority indicated that diversions under Application 13156 shall not exceed the equivalent of an "average flow of 194 cfs", whether by direct diversion or diversion from storage:

The equivalent of such continuous flow allowance for any 30-day period may be diverted in a shorter time provided there is no interference with other rights and instream beneficial uses and provided further that all terms or conditions protecting instream beneficial uses are observed.

(0000027)

- 2) The State Water Board proposes to update Permit 10478 by including the following Standard Permit Term regarding limitations on collecting water to storage relative to evaporation and seepage as follows:

No water shall be collected to storage outside of the specified season to offset evaporation and seepage losses or for any other purpose.

(000005I)

- 3) The State Water Board proposes to include the following term in Permit 10478 limiting the capacities of Pardee and Camanche Reservoirs pursuant to the capacity limitations in State Water Rights Board July 29, 1960 Order granting EBMUD permission to change the Plan of Development:

*The capacities of Pardee and Camanche Reservoirs shall not exceed **209,950 acre-feet** and **431,500 acre-feet**, respectively.*

(000005P)

- 4) On March 21, 2016, new regulations were approved regarding measurement and reporting requirements for all water right holders who divert more than ten acre feet of water per year; therefore, the regulations apply to EBMUD and Permit 10478. The State Water Board proposes to update Permit 10478 by adding the following permit term requiring EBMUD to comply with the measuring and reporting regulations:

No water shall be diverted under this water right unless right holder is compliant with the measuring and monitoring requirements of California Code of Regulations, title 23, sections 931 through 938. If there is any conflict or inconsistency between conditions in this right for measurement, monitoring, and reporting of water use, and these regulations, the more stringent requirement or requirements shall control in each instance.

(0100699)

- 5) The State Water Board proposes to update Permit 10478 by adding the following Standard Permit Term regarding providing updated project maps to the Division:

If it is determined after permit issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany this right, the right holder shall, at their own expense have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the State of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, title 23. Said revision(s) or map(s) shall be furnished upon request of the Deputy Director for Water Rights.

(0000030)

- 6) The State Water Board proposes to update Permit 10478 by adding Mandatory Permit Terms A through Q, which are the Division's current Mandatory Permit Terms as of the date of this Order and are included in every new or modified water right issued by the State Water Board.

- b) The State Water Board proposes to modify the following term included in Permit 10478 as described below:

Permit 10478 includes Term 12 which reads as follows:

Insofar as this application relates to the diversion or storage of water from July 1 to December 1 of each year the same is denied.

(0000999)

Because the season of diversion under Permit 10478 is from December 1 through July 1, the State Water Board proposes to modify Term 12 to ensure that the two day overlap of prohibition of diversion doesn't conflict with the authorized season of diversion.

Term 12 has been modified to read as follows:

The direct diversion or collection to storage of water from July 2 to November 30 of each year is not authorized by this right.

(0350900)

- c) The State Water Board proposes to delete the following term included in Permit 10478 as described below:

By Order dated January 26, 1983, the State Water Board modified EBMUD's place of use to include the City of Brentwood (Brentwood), and conditioned the approval on the addition of the following Paragraph (Term) 13 to Permit 10478:

Water shall be served to the place of use added by this order (City of Brentwood) only after development and continued implementation of a water conservation program or actions for said added place of use. Permittee shall require as a condition of any agreement with a water purveyor for distribution of water to such added place of use that the water purveyor develop and implement a water conservation program or action. A progress report on development of the program shall be submitted to the Board within six months. The program or proposed action shall be presented to the Board for approval within one year from the date of this order or such further time as may for good cause shown by allowed by the Board.

(0000029)

On January 3, 1984, EBMUD filed a summary of conservation actions that were prepared by Brentwood in order to comply with Paragraph 13. By letter dated April 18, 1984, the State Water Board indicated that the conservation actions proposed by Brentwood met the requirements of Paragraph 13. Subsequent to the State Water Board's approval of Brentwood's conservation actions, California's urban water suppliers who provide over 3,000 af of water annually or serve more than 3,000 urban connections (which includes Brentwood) were required, pursuant to Water Code section 10620, to prepare a UWMP. UWMPs are required to describe and evaluate sources of supply, reasonable and practical efficient uses, and reclamation and demand management activities for each urban water supplier. Consequently, UWMPs include each urban water supplier's conservation activities. Further, Mandatory Permit Term N, which will be included in amended Permit 10478, requires urban water suppliers to comply with the Urban Water Management Planning Act. Because EBMUD previously achieved compliance with Paragraph (Term) 13, and as Brentwood is required to develop and implement a UWMP with conservation measures, Paragraph (Term) 13 is no longer necessary and will be removed from amended Permit 10478.

5.3 CEQA and the Public Trust Doctrine

Under CEQA, EBMUD is the lead agency for the preparation of environmental documentation for the Permit 10478 Time Extension Project. Because the State Water Board's approval of the change petitions and time extension and subsequent amendment of Permit 10478 would authorize EBMUD to complete its project and apply water to beneficial use, the State Water Board's approval constitutes an approval of EBMUD's time extension petition. The State Water Board is a responsible agency for purposes of considering whether to approve EBMUD's petition for an extension of time. The State Water Board must review and consider the environmental effects of the project identified in any CEQA document prepared by EBMUD, and any other relevant information in the record, and reach its own conclusions on whether and how to approve the project involved. (Cal. Code Regs., tit.14, § 15096, subd. (a).)

As the lead agency, EBMUD complied with CEQA, as summarized below. On September 30, 2013, EBMUD released the Permit 10478 Time Extension Project DEIR for public review and comment. The DEIR addressed the potentially significant environmental impacts of the time extension and included mitigation measures to reduce such impacts to a level of insignificance.

On September 23, 2014, EBMUD certified the Final EIR on the project, adopted findings and a MMRP and approved implementation of the project. EBMUD filed Notices of Determination (NOD) for the project dated September 23, 2014, with the appropriate county clerks as required by CEQA Guidelines §15094.

In addition, EBMUD's DEIR for its petition for an extension of time included a discussion of the change petitions. As concluded in the DEIR, the changes in purpose of use, adding the Mokelumne River Fish Hatchery to the place of use, and the addition of the term regarding accounting of diversions from Pardee and Camanche Reservoirs are both statutorily and categorically exempt from CEQA. These changes are part of an ongoing project that has existed prior to the effective date of CEQA, and is therefore statutorily exempt from CEQA analysis. As described in EBMUD's DEIR, the proposed changes to the permit, other than the changes in place of use, fall within the operations and use of the project since prior to 1970, and do not constitute changes that would result in new environmental effects. (CEQA Guidelines § 15261.)

Additionally, the changes in purpose of use consist of permitting actions on a facility that existed prior to the enactment of CEQA and do not expand the scope of the project, and are therefore categorically exempt from CEQA under California Code of Regulations, tit. 14, § 15301. Finally, as these changes to purpose of use do not result in actual changes to the physical structures of or operations of EBMUD's facilities, they cannot have a significant effect on the environment, and are not subject to CEQA. (See Cal. Code Regs., tit. 14, § 15061(b)(3).)

The changes in place of use to include the service area boundaries as determined by LAFCO of Alameda and Contra Costa Counties were all implemented prior to filing of the petitions for change in place of use, EBMUD has been serving each of the 16 new annexations since at least 2002, and the development of the new service areas has been essentially completed. Therefore, the changes in place of use do not constitute a change from the existing baseline, and are exempt from CEQA.

5.3.1 CEQA Findings

The State Water Board has reviewed and considered the EIR and MMRP in connection with approving the time extension and change petitions and has considered the environmental effects of the Project, as reflected in the EIR.

The EIR identified the following potentially significant impacts of the time extension that fall within the State Water Board's purview:

- Potentially significant impacts to migration habitat for adult fall-run Chinook salmon and steelhead
- Potentially significant impacts to surface water supply for agricultural use by senior water right holders
- Potentially cumulative significant impacts on fish resources
- Potentially cumulative significant impacts on surface water supply for agricultural use by senior water right holders

With EBMUD's compliance with the proposed mitigation measures identified in the EIR and MMRP, the State Water Board finds that there are no potentially significant and unavoidable impacts resulting from the Project. As explained in the EIR and detailed in the findings below, all potentially significant impacts of the Project will be mitigated to less-than-significant levels through implementation of the mitigation measures identified in the EIR and included in the MMRP.

Potentially Significant Impact FISH-1: Reduced migration habitat for adult fall-run Chinook salmon and steelhead.

Low flows along the migration routes of adult Chinook salmon and steelhead can impede or delay their migration to spawning areas. During the primary fall-run Chinook salmon and steelhead immigration period (September through February), adequate water depths are required in the lower Mokelumne River to provide unimpeded passage downstream of Woodbridge Dam. Under Project conditions, flows below Woodbridge Dam from September through December may impede adult salmonid migration if inadequate

water depths occur. This impact would be significant if it precludes passage of upstream migrating adult fall-run Chinook salmon and steelhead.

Finding: The State Water Board finds that changes or alterations pursuant to Mitigation Measure FISH-1, have been required in, or incorporated into, the Project that will avoid or substantially lessen the significant environmental effect as identified in the EIR.

Facts in Support of Findings: To successfully navigate to their natal streams, adult Chinook salmon and steelhead require sufficient flow to provide adequate water depth in stream channels to overcome flow-related barriers. As discussed in Impact FISH-1 in the DEIR, flows that result in water depths of at least 0.8 foot typically provide adequate adult salmonid passage. The State Water Board recommendation for northern California coastal streams is at least 0.7 foot of water depth for steelhead and 0.9 foot of water depth for Chinook salmon. EBMUD measurements of flow below Woodbridge Dam and upstream salmonid passage at Woodbridge Dam indicate that 95 percent of adult salmonid passage occurs at flows exceeding 100 cfs. Mitigation measure FISH-1 would reduce impacts to less-than-significant levels through the combined approach of potentially increasing water for flows during below normal and dry years, and river survey/streambed modifications in critically dry years. Relying on the streambed approach exclusively would not address the causative factor leading to the impact (flows below 100 cfs) and therefore would not mitigate impacts to a less-than-significant level. Through this combined approach, the robustness and viability of the population is maintained by ensuring adequate flows (100 cfs or above) in all the years the project has an impact except critically dry years. During critically dry years, when water is scarcer, fish passage would be ensured through the use of stream survey and streambed improvements, as described in Mitigation Measure FISH-1.

This order adopts Mitigation Measure FISH-1 and incorporates it as a condition of EBMUD's water right permit. The measure will be implemented as set forth in the MMRP. This measure will commit EBMUD to the following actions that will ensure that adequate flows remain in the Mokelumne River to maintain adequate water depths for salmon passage.

Mitigation Measure FISH-1: If expected flows below Woodbridge Dam impair adult salmonid migration from September through February, one of the following measures will be implemented depending on EBMUD reservoir carryover storage conditions and water year runoff.

1. EBMUD will release from Camanche Dam up to a total of 2,000 af of additional water above required releases during the September through February period in Below Normal and Dry water years to facilitate adult salmonid fish passage below Woodbridge Dam.
2. During Critically Dry water years, EBMUD will survey the reach below Woodbridge Dam prior to spawning season to identify any significant blockages or obstructions to instream passage. Adequate water depths of sufficient width are necessary to promote passage of adult salmonids at critical passage sites. At least 25 percent of the entire width of a potential passage impediment will be reconfigured to provide at least 0.9 foot in water depth. If a blockage is identified EBMUD will work with the appropriate entity including but not limited to CDFW to remove or reduce the impediment, to ensure that there is a depth of at least 0.9 foot to facilitate adult salmonid fish passage. If EBMUD is not able to complete removal or reduction of the fish passage impediments in an expedient manner, EBMUD may propose an alternative compliance plan to meet the passage criteria. The alternative compliance plan must be approved by the Deputy Director for Water Rights.

The magnitude, frequency, and duration of the additional flows set forth in number (1) above, are to be determined by the JSA Partnership Steering Committee based on Camanche cold water storage, and water temperatures below Woodbridge Dam. Instream passage improvements are to be determined by the JSA Partnership Steering Committee based on EBMUD assessment of potential passage

impediments from Woodbridge Dam downstream to tidal influence during July or August of current (April through September) or anticipated (October through March) Critically Dry water years.

Potentially Significant Cumulative Impacts to Fish Resources: With implementation of mitigation measure FISH-1, as specified in the EIR, the Project would not contribute considerably to cumulative impacts on fish resources.

Finding: The State Water Board finds that changes or alterations pursuant to Mitigation Measure FISH-1 have been required in, or incorporated into, the Project that will avoid or substantially lessen the significant environmental effect as identified in the EIR.

Facts In Support of Findings: The project could contribute to cumulative impacts on migration of fall-run Chinook salmon and steelhead in the lower Mokelumne River due to potential fish passage impediments. However, Mitigation Measure FISH-1 is incorporated into EBMUD's water right permit, and will be implemented as set forth in the MMRP. Its provisions are described above. Implementation of this mitigation measure will reduce the Project's contribution to cumulative impacts on fish resources by ensuring adequate flows will be released to provide sufficient water depth in the Mokelumne River, and by ensuring removal of fish passage impediments in critically dry years to allow fish passage without significant impediment. For these reasons, cumulative impacts to fish resources would be mitigated to less-than-significant levels.

Potentially Significant Impact AG-1: Potential reduction of surface water supply for agricultural use by senior water rights holders.

Impact AG-1²⁵ from the DEIR, considers Jackson Valley Irrigation District (JVID) water rights on the Mokelumne River that are senior to EBMUD's water right Permit 10478. JVID diverts water from Pardee Reservoir at the Jackson Creek Spillway Facility, to supply water for domestic and irrigation uses to customers in portions of Amador County. Compared to baseline conditions, water-surface elevations at Pardee Reservoir under the Project would potentially drop below 550 feet for 13 additional months—between the months of April through October—out of the 89-year hydrologic record, as simulated using EBMUD's Simulation Model or EBMUDSIM²⁶. These simulated drops correspond to model years 1961 (July through October), 1976 (April), 1988 (May through August), 1989 (August), and 1990 (July through September) conditions. When the elevation of Pardee Reservoir is below 550 feet, releases are not physically possible. However, implementation of mitigation measure AG-1 would ensure that impacts to JVID are mitigated to less-than-significant levels.

Finding: The State Water Board finds that changes or alterations pursuant to Mitigation Measure AG-1, have been required in, or incorporated into, the Project that will avoid or substantially lessen the significant environmental effect as identified in the EIR.

Facts in Support of Findings: When the water-surface elevation at Pardee Reservoir falls below 550 feet, even though the supply itself is not impacted because of its seniority, releases cannot physically be made for JVID through its release valve. To ensure that JVID is not impacted by those circumstances, mitigation measure AG-1 would require EBMUD to work with JVID on installation of a submersible pump in Pardee Reservoir that would allow JVID to divert water into its diversion facility and pipeline. This would ensure that water is available to JVID under its water right priority to the same extent as under baseline conditions. Pursuant to an existing 1999 agreement, JVID and EBMUD have agreed to work together to enable JVID to divert its water right entitlement at EBMUD's Jackson Creek Spillway at Pardee Reservoir. This contractual arrangement has worked well for several years, and EBMUD expects that cooperation between it and JVID to ensure the availability of water under JVID's senior right will continue in the future.

²⁵ DEIR, Section 3.4.3.3, Impact Assessment

²⁶ EBMUDSIM models the Mokelumne River system, the Mokelumne Aqueducts, and EBMUD's terminal reservoirs.

Mitigation Measure AG-1 is hereby adopted by the State Water Board, and incorporated into EBMUD's water rights, and will be implemented as set forth in the MMRP. This measure commits EBMUD to the following action that will avoid the significant effect by enabling releases to be made.

Mitigation Measure AG-1: Work with JVID to help JVID divert water under its water right.

During periods when the water-surface elevation of Pardee Reservoir is below 550 feet and water is available to JVID under its water right priority, consistent with its 1999 Agreement with JVID, EBMUD will provide access to JVID to allow them to install, operate, maintain, and remove their (JVID) floating pump platform.

Potentially Significant Cumulative Impacts to Agricultural Resources: With implementation of Mitigation Measure AG-1, as specified in the EIR, the project would not contribute to cumulative impacts to agricultural resources.

Finding: The State Water Board hereby finds that changes or alterations pursuant to Mitigation Measure AG-1 have been required in, or incorporated into, the Project that will avoid or substantially lessen the significant environmental effect as identified in the EIR.

Facts In Support of Finding: The Project could contribute to cumulatively significant impacts on surface water supply for agricultural use by senior water right holders. If JVID were to continue to divert the full 3,850 af of its senior water right at Pardee Reservoir through year 2040, there could be intermittent limitations as a result of low water surface elevations at Pardee Reservoir under cumulative conditions. Mitigation Measure AG-1 is hereby adopted and will be implemented as set forth in the MMRP. Its provisions are described above. This measure will reduce the Project's contribution to impacts, such that it is no longer cumulatively considerable, by ensuring that JVID has access to water during periods when the water surface elevation in Pardee Reservoir is low.

Based in the foregoing, the State Water Board finds that with implementation of the Mitigation Measures identified above, the Project would not cause any significant environmental impacts. The State Water Board hereby approves, adopts, and imposes the Mitigation Monitoring and Reporting Program attached hereto as Attachment 1 to Permit 10478 and incorporated herein by reference.

5.3.2 Public Trust Doctrine

Regardless of any obligation EBMUD or the State Water Board may have under CEQA, the State Water Board has an independent obligation to consider the effect of the proposed project on public trust resources and to protect those resources where feasible. (*National Audubon Society v. Superior Court* (1983) 33 Cal. 3d 419 [189 Cal. Rptr. 346].)

As discussed in Section 5.1.1.1 (c)(2) of this Order, EBMUD, USFWS and CDFW entered into a JSA in 1998. The JSA includes flow and non-flow measures to protect and enhance the anadromous fishery resources of the lower Mokelumne River,²⁷ and required EBMUD, USFWS, and CDFW to develop a Water Quality and Resource Management Program (WQRMP) for approval by FERC for EBMUD's Lower Mokelumne River Project No. 2916. In 1998, FERC approved the JSA and amended EBMUD's FERC license to require the JSA flow releases. FERC also approved the WQRMP that was developed pursuant to the JSA. The State Water Board included the JSA flows in D-1641 and amended Permit 10478 to include the JSA flow releases and other JSA requirements related to ramping rates and maintaining the reservoir hypolimnion in order to benefit downstream fisheries and the Delta. The changes to EBMUD's permits here maintain these requirements, which form the core protections for public trust resources. As

²⁷ The provisions of the JSA are described in greater detail in EBMUD's DEIR, at pages 3.2-21 – 27.

discussed in the EIR, the potential for cumulatively-significant impacts based on passage impediments from the permit changes are fully addressed, and will not cause an unreasonable impact to public trust resources.

Based on the information in the EIR, the mitigation measures incorporated herein, and the foregoing, the State Water Board finds that granting the proposed changes or an extension of time until December 31, 2040, will not unreasonably impact public trust resources.

6.0 CONCLUSION

The State Water Board finds that there is good cause and it is in the public interest to approve EBMUD's petitions for change, and the petition for extension of time is approved until December 31, 2040.

ORDER

NOW, THEREFORE, IT IS ORDERED THAT the State Water Board hereby approves the following regarding Permit No. 10478: 1) the November 27, 2000 petition for extension of time until December 31, 2040; 2) the December 10, 2010 petition for change in place of use; 3) the March 2, 2012 petition to add a new term regarding accounting of diversions from Pardee and Camanche Reservoirs; 4) the December 19, 2012 petition (with May 21, 2015 modification) for changes to place and purpose of use; and 5) the November 7, 2013 request by EBMUD to modify some existing permit terms. The Deputy Director for Water Rights shall issue an amended Permit No.10478 pursuant to the following conditions:

1. The purpose of use and the place of use shall be updated and modified in Terms 3 and 4 to be included in Permit 10478 as follows:

3. Purpose of use	4. Place of use			
	Location	Township	Range	Base and Meridian
Fish & Wildlife Preservation and Enhancement	Pardee Reservoir	4N-5N	10E	MD
	Camanche Reservoir	4N-5N	9E-10E	MD
	Mokelumne River Fish Hatchery	Within the S½ of Section 6, T4N, R9E, MDB&M		
Recreation	Pardee Reservoir	4N-5N	10E	MD
	Camanche Reservoir	4N-5N	9E-10E	MD
Municipal and Industrial	Within East Bay Municipal Utility District's (EBMUD) service area comprising the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Hercules, Oakland, Piedmont, Pinole, Richmond, San Leandro, San Pablo, Walnut Creek, and the City of Brentwood and unincorporated areas in Alameda and Contra Costa Counties; adjacent incorporated and unincorporated areas located outside the District's boundaries but within EBMUD's probable ultimate service boundary; and military installations of the United States, adjacent to the District or to its facilities, where service is required for national security; and generally located within T1, 2, and 3S and T1 and 2N, R1, 2, 3, 4, and 5W, and R1, 2, and 3E, MDB&M, as shown on EBMUD's Map 1932-R dated December 6, 2010, filed with the State Water Board.			

2. Permit Term 1 shall be replaced by the following term:

The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed **194 cubic feet per second** by direct diversion and **353,000 acre-feet per year** by collection to storage to be collected from December 1 of each year to July 1 of the succeeding year. The total amount of water to be placed to beneficial use (direct diversion plus withdrawal from storage) shall not exceed **140,000 acre-feet per year**.

(000005E)

3. The following Term shall be added to Permit 10478:

The equivalent of such continuous flow allowance for any 30-day period may be diverted in a shorter time provided there is no interference with other rights and instream beneficial uses and provided further that all terms or conditions protecting instream beneficial uses are observed.

(0000027)

4. The following Term shall be added to Permit 10478:

No water shall be collected to storage outside of the specified season to offset evaporation and seepage losses or for any other purpose.

(0000005I)

5. The following Term shall be added to Permit 10478:

The capacities of Pardee and Camanche Reservoirs shall not exceed **209,950 acre-feet** and **431,500 acre-feet**, respectively.

(0000005P)

6. Permit Term 12 shall be modified in Permit 10478 to read as follows:

The direct diversion or collection to storage of water from July 2 to November 30 of each year is not authorized by this right.

(0350900)

7. Permit Terms 3, 4, and 5 shall be replaced by the following term:

Construction work and complete application of the water to the authorized use shall be prosecuted with reasonable diligence and completed by December 31, 2040.

(0000009)

8. The following Term shall be added to Permit 10478:

Water solely used for recreation or fish and wildlife preservation and enhancement at Pardee and Camanche Reservoirs and the Mokelumne River Fish Hatchery shall not be reported by EBMUD as consumptive beneficial use under this water right.

(0580900)

9. The following Term shall be added to Permit 10478:

In order for any water diverted at Pardee Reservoir into the Mokelumne Aqueducts in excess of the 310 cubic feet per second authorized under License 11109 (Application 4228) to be accounted for as withdrawal from storage under Permit 10478 (Application 13156), there must be an equivalent corresponding net depletion (drawdown in storage level) from the combined storage of Pardee and Camanche Reservoirs during the same diversion period. This net depletion calculation shall exclude the loss to surface evaporation.

(0070900)

10. The following Term shall be added to Permit 10478:

EBMUD's releases downstream of Camanche Reservoir to meet required instream flows or prior rights shall not be reported by EBMUD as consumptive beneficial use under this right.

(0160400)

11. The following Term shall be added to Permit 10478:

No water shall be diverted under this water right unless right holder is compliant with the measuring and monitoring requirements of California Code of Regulations, title 23, sections 931 through 938. If there is any conflict or inconsistency between conditions in this right for measurement, monitoring, and reporting of water use, and these regulations, the more stringent requirement or requirements shall control in each instance.

(0100699)

12. The following Term shall be added to Permit 10478:

If it is determined after permit issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany this right, right holder shall, at its own expense, have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the State of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, title 23. Said revision(s) or map(s) shall be furnished upon request of the Deputy Director for Water Rights.

(0000030)

13. Permit Term 8 shall be deleted.

14. Permit Term 9 shall be deleted.

15. Permit Term 11 shall be deleted.

16. Permit Term 10 shall be deleted and replaced by the following term:

Right holder shall release water from Camanche Reservoir to the lower Mokelumne River in accordance with the 1965 Agreement and 1983, 2003 and 2009 Supplementary Agreements between right holder and Woodbridge Irrigation District (WID), on file with the State Water Board, or as said agreements may hereafter be amended by mutual consent of the parties thereto. The right holder shall advise the Deputy Director for Water Rights if the parties make subsequent amendments to the agreement that would change the releases from Camanche Reservoir. The Deputy Director for Water Rights shall have the authority to disapprove such changes if inconsistent with water right law or State Water Board authority. Said agreements currently provide as follows in regard to flows:

- a. Right holder shall release up to 60,000 acre-feet of water from Camanche Reservoir and/or Pardee Reservoir from March 1 to October 31 for irrigation use by WID on a net area of not more than 19,370.3 acres within WID's boundaries, that said quantity is subject to a reduction of not to exceed 35 percent in specified dry years, and that said quantity of water is defined as constituting the "Permanent Regulated Base Supply" of WID (Regulated Base Supply). Said releases shall be in accordance with a schedule agreed upon between right holder and WID. An exception in paragraph 13(g) of the 1965 Agreement provides that WID may request the release of a portion of its Regulated Base Supply during the winter months, which are charged on the quantities of water the District is entitled to receive in the following irrigation season.

- b. The 2009 Supplementary Agreement provides that by September 30th of the then-current year, WID may in writing request right holder to release up to 1,000 acre-feet of Woodbridge's pre-1914 water right portion of its Regulated Base Supply water from Camanche Dam over the period from October 15 of one year through the end of February of the following year for purposes of providing water to Lodi pursuant to the agreements between WID and Lodi. Such releases when requested by WID and actually made thereafter shall be deducted from the quantity of Regulated Base Supply water which WID is entitled to receive and divert under its agreements with right holder for the following irrigation season. Once started, such non-irrigation season releases shall be at a uniform rate and shall cease if releases for flood control purposes are required by the U.S. Army Corps of Engineers. The Parties may meet and confer in a timely manner to determine an actual non-irrigation season release schedule if a Party wishes to modify the uniform release. Requests to modify the uniform release schedule shall not exceed one per month during the non-irrigation season.

(0160300)

17. The following Term shall be added to Permit 10478:

Right holder shall provide the "Release from Camanche Dam" into the Mokelumne River in accordance with the flow schedules set forth in State Water Board Decision 1641 and the 1998 Joint Settlement Agreement right holder entered into with California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS). The water year types are defined below:

NORMAL AND ABOVE NORMAL YEARS

Mokelumne River Minimum Flow Schedule (1)

FALL RUN CHINOOK SALMON	PERIOD	NOTE*	DAYS	RELEASE FROM CAMANCHE DAM (CFS)
LIFE STAGE				
Adult Immigration	10/1-10/15	(2)	15	325
Spawn/Incubation	10/16-10/31	(2)	16	325
	11/1-11/30	(3)	30	325
	12/1-12/31	(3)	31	325
Incubation/Alevin	1/1-1/31	(3)	31	325
	2/1-2/28	(3)	28	325
Fry Rearing	3/1-3/31	(3)	31	325
	4/1-4/15	(4),(5)	15	325
	4/16-4/30	(4),(5)	15	325
Fry Rearing/Juvenile Rearing Outmigration	5/1-5/31	(5)	31	325
	6/1-6/30	(5)	30	325
Oversummer	7/1-9/30		92	100

Notes*

(1) Due to changes in water conditions or to optimize fishery conditions, right holder may modify Flow Standards upon written concurrence of CDFW and USFWS, provided the total quantity of water released for fishery purposes in Normal and Above Normal year types is not less than the quantity provided by this flow schedule.

(2) During October, right holder will maintain minimum flows of 325 cfs below Camanche Dam and 100 cfs below WID's dam in Normal and Above Normal year types.

(3) During the period when WID's dam boards are pulled out and Lodi Lake is empty (approximately November 1 through March 31), right holder shall make minimum releases of 325 cfs from Camanche Dam in Normal and Above year types. This release from Camanche Dam is expected to provide at least 100 cfs below WID's dam during this period. However, right holder shall not be obligated to increase releases above 325 cfs during this period in Normal and Above Normal year types.

(4) During April, right holder will maintain minimum flows of 325 cfs below Camanche Dam and 150 cfs below WID's dam in Normal and Above Normal year types.

(5) For the months of April, May, and June during Normal and Above Normal year types, additional release of up to 200 cfs is required depending on combined Pardee and Camanche storage levels relative to the maximum allowable for the end of the prior month as follows:

Less than 10 thousand af (TAF) below maximum allowable storage (BMAS), additional release is 200 cfs for subsequent month.

10 TAF <= BMAS < 20 TAF, additional release is 150 cfs for subsequent month.

20 TAF <= BMAS < 30 TAF, additional release is 100 cfs for subsequent month.

30 TAF <= BMAS < 40 TAF, additional release is 50 cfs for subsequent month.

**BELOW NORMAL YEAR
Mokelumne River Minimum Flow Schedule (1)**

FALL RUN CHINOOK SALMON	PERIOD	NOTE*	DAYS	RELEASE FROM CAMANCHE DAM (CFS)
LIFE STAGE				
Adult Immigration	10/1-10/15	(2)	15	250
Spawn/Incubation	10/16-10/31	(2)	16	250
	11/1-11/30	(3)	30	250
	12/1-12/31	(3)	31	250
Incubation/Alevin	1/1-1/31	(3)	31	250
	2/1-2/28	(3)	28	250
Fry Rearing	3/1-3/31	(3)	31	250
	4/1-4/15	(4),(5)	15	250
	4/16-4/30	(4),(5)	15	250
Fry Rearing/Juvenile Rearing Outmigration	5/1-5/31	(5)	31	250
	6/1-6/30	(5)	30	250
Oversummer	7/1-9/30		92	100

Notes*

(1) Due to changes in water conditions or to optimize fishery conditions, right holder may modify Flow Standards upon written concurrence of CDFW and USFWS, provided the total quantity of water released for fishery purposes in Below Normal year types is not less than the quantity provided by this flow schedule.

(2) During October, right holder will maintain minimum flows of 250 cfs below Camanche Dam and 100 cfs below WID's dam in Below Normal year types.

(3) During the period when WID's dam boards are pulled out and Lodi Lake is empty (approximately November 1 through March 31), right holder shall make minimum releases of 250 cfs from Camanche Dam in Below Normal year types. This release from Camanche Dam is expected to provide at least 100 cfs below WID's dam during this period. However, right holder shall not be obligated to increase releases above 250 cfs during this period in Below Normal year types.

(4) During April, right holder will maintain minimum flows of 250 cfs below Camanche Dam and 150 cfs below WID's dam in Below Normal year types.

(5) For the months of April, May, and June in Below Normal year types, additional release of up to 200 cfs is required depending on combined Pardee and Camanche storage levels relative to the maximum allowable for the end of the prior month as follows:

Less than 10 TAF below maximum allowable storage (BMAS), additional release is 200 cfs for subsequent month.

10 TAF <= BMAS < 20 TAF, additional release is 150 cfs for subsequent month.

20 TAF <= BMAS < 30 TAF, additional release is 100 cfs for subsequent month.

30 TAF <= BMAS < 40 TAF, additional release is 50 cfs for subsequent month.

DRY YEAR
Mokelumne River Minimum Flow Schedule (1)

FALL RUN CHINOOK SALMON	PERIOD	NOTE*	DAYS	RELEASE FROM CAMANCHE DAM (CFS)
LIFE STAGE				
Adult Immigration	10/1-10/15	(2)	15	220
Spawn/Incubation	10/16-10/31	(2)	16	220
	11/1-11/30	(3)	30	220
	12/1-12/31	(3)	31	220
Incubation/Alevin	1/1-1/31	(3)	31	220
	2/1-2/28	(3)	28	220
Fry Rearing	3/1-3/31	(3)	31	220
	4/1-4/15	(4)	15	220
	4/16-4/30	(4)	15	220
Fry Rearing/Juvenile Rearing Outmigration	5/1-5/31	(5)	31	220
	6/1-6/30		30	100
Oversummer	7/1-9/30		92	100

Notes*

- (1) Due to changes in water conditions or to optimize fishery conditions, right holder may modify Flow Standards upon written concurrence of CDFW and USFWS, provided the total quantity of water released for fishery purposes in Dry year types is not less than the quantity provided by this flow schedule.
- (2) During October, right holder will maintain minimum flows of 220 cfs below Camanche Dam and 80 cfs below WID's dam in Dry year types.
- (3) During the period when WID dam boards are pulled out and Lodi Lake is empty (approximately November 1 through March 31), right holder shall make minimum releases of 220 cfs from Camanche Dam in Dry year types. This release from Camanche Dam is expected to provide at least 80 cfs below WID's dam during this period. However, right holder shall not be obligated to increase releases above 220 cfs during this period in Dry year types.
- (4) During April, right holder will maintain minimum flows of 220 cfs below Camanche Dam and 150 cfs below WID's dam in Dry year types.
- (5) During June, outmigrating smolts will be trapped, tagged, and transported around the Delta in Dry year types with approval of the Partnership Steering Committee created under the 1998 Joint Settlement Agreement.

**CRITICALLY DRY YEAR
Mokelumne River Minimum Flow Schedule (1)**

FALL RUN CHINOOK SALMON	PERIOD	NOTE*	DAYS	RELEASE FROM CAMANCHE DAM (CFS)
LIFE STAGE				
Adult Immigration	10/1-10/15	(2)	15	100
Spawn/Incubation	10/16-10/31	(2)	16	130
	11/1-11/30	(3)	30	130
	12/1-12/31	(3)	31	130
Incubation/Alevin	1/1-1/31	(3)	31	130
	2/1-2/28	(3)	28	130
Fry Rearing	3/1-3/31	(3)	31	130
	4/1-4/15	(4)	15	130
	4/16-4/30	(4)	15	130
Fry Rearing/Juvenile Rearing Outmigration	5/1-5/31	(5)	31	100
	6/1-6/30	(5)	30	100
Oversummer	7/1-9/30		92	100

Notes*

- (1) Due to changes in water conditions or to optimize fishery conditions, right holder may modify Flow Standards upon written concurrence of CDFW and USFWS, provided the total quantity of water released for fishery purposes in Critically Dry year types is not less than the quantity provided by this flow schedule.
- (2) During October, right holder will maintain minimum flows of 130 cfs below Camanche Dam and will maintain minimum flows of 15 cfs from Oct. 1-15 and 75 cfs from Oct. 16-31 below WID's dam in Critically Dry year types.

(3) During the period when WID's dam boards are pulled out and Lodi Lake is empty (approximately Nov. 1 through March 31), right holder shall make minimum releases of 130 cfs from Camanche Dam in Critically Dry year types. This release from Camanche Dam is expected to provide at least 75 cfs below WID's dam during this period. However, right holder shall not be obligated to increase releases above 130 cfs during this period in Critically Dry year types.

(4) During April, right holder will maintain minimum flows of 130 cfs below Camanche Dam and 75 cfs below WID's dam in Critically Dry year types.

(5) During May and June, outmigrating smolts will be trapped, tagged, and transported around the Delta in Critically Dry year types with approval of the Partnership Steering Committee created under the 1998 Joint Settlement Agreement.

18. The following Term shall be added to Permit 10478: (0140400)

Right holder may reschedule or modify the specified flow releases required in the tables above, but the total quantity of water released in any year shall not be less than the quantity of water that would have been provided pursuant to the flow schedule specified in the tables above for the water year type in which the rescheduling or modification occurs. Thirty days prior to rescheduling or modifying the specified flow releases, right holder shall submit to the Executive Director of the State Water Board an operations plan acceptable to the Executive Director of the State Water Board that specifies the release schedule for that year.

Right holder shall also submit a written concurrence to both the proposed modification of flow releases and operations plan signed by a representative of the CDFW and USFWS.

(0140400)

19. The following Term shall be added to Permit 10478:

For the protection of fish, right holder shall:

(a) Make river flow changes gradually. During the October 16 through March 31 spawning and incubation period, flows shall not decrease by more than 50 cfs per day. During other periods, flows shall not decrease by more than 100 cfs per day. This requirement does not apply during emergency conditions or when flood control releases are being made.

(b) Use its best efforts to maintain a minimum of 28 TAF of hypolimnetic volume in Camanche Reservoir through October whenever Pardee Reservoir volume exceeds 100 TAF.

(c) Take action to maintain dissolved oxygen and to reduce hydrogen sulfide levels in the Camanche Reservoir hypolimnion during the period from May through October by using its Hypolimnetic Oxygenation System (HOS).

(0140400)

20. The following Term shall be added to Permit 10478:

Right holder shall implement the Mitigation Measures FISH-1 and AG-1 as required in the Mitigation and Monitoring Program which is attached hereto as Attachment 1 to this right.

(0140500)

21. The following Mandatory Terms shall be added to Permit 10478:

- A. Right holder is on notice that: (1) failure to timely commence or complete construction work or beneficial use of water with due diligence, (2) cessation or partial cessation of beneficial use of water, or (3) failure to observe any of the terms or conditions of this right, may be cause for the State Water Board to consider revocation (including partial revocation) of this right. (Cal. Code Regs., tit. 23, § 850.)

(0000016)
- B. Right holder is on notice that when the State Water Board determines that any person is violating, or threatening to violate, any term or condition of a right, the State Water Board may issue an order to that person to cease and desist from that violation. (Wat. Code, § 1831.)

(0000017)
- C. Right holder is not authorized to make any modifications to the location of diversion facilities, place of use or purposes of use, or make other changes to the project that do not conform with the terms and conditions of this right, prior to submitting a change petition and obtaining approval of the State Water Board.

(0000018)
- D. Once the time to develop beneficial use of water ends under this permit, right holder is not authorized to increase diversions beyond the maximum annual amount diverted or used during the authorized development schedule prior to submitting a time extension petition and obtaining approval of the State Water Board.

(0000019)
- E. The amount of water for consideration when issuing a license shall be limited to only the amount of water diverted and applied to beneficial use in compliance with the terms and conditions of this right, as determined by the State Water Board. (Wat. Code, § 1610.)

(0000006)
- F. Right holder shall maintain records of the amount of water diverted and used under this right to enable the State Water Board to determine the amount of water that has been applied to beneficial use.

(0000015)
- G. Right holder shall promptly submit any reports, data, or other information that may reasonably be required by the State Water Board, including but not limited to documentation of water diversion and use under this right and documentation of compliance with the terms and conditions of this right.

(0000010)
- H. No water shall be diverted under this right unless right holder is operating in accordance with a compliance plan, satisfactory to the Deputy Director for Water Rights. Said compliance plan shall specify how right holder will comply with the terms and conditions of this right. Right holder shall comply with all reporting requirements in accordance with the schedule contained in the compliance plan.

(0000070)

I. Right holder shall grant, or secure authorization through right holder's right of access to property owned by another party, the staff of the State Water Board, and any other authorized representatives of the State Water Board the following:

1. Entry upon property where water is being diverted, stored or used under a right issued by the State Water Board or where monitoring, samples and/or records must be collected under the conditions of this right;
2. Access to copy any records at reasonable times that are kept under the terms and conditions of a right or other order issued by State Water Board;
3. Access to inspect at reasonable times any project covered by a right issued by the State Water Board, equipment (including monitoring and control equipment), practices, or operations regulated by or required under this right; and,
4. Access to photograph, sample, measure, and monitor at reasonable times for the purpose of ensuring compliance with a right or other order issued by State Water Board, or as otherwise authorized by the Water Code.

(0000011)

J. This right shall not be construed as conferring right of access to any lands or facilities not owned by right holder.

(0000022)

K. All rights are issued subject to available flows. Inasmuch as the source contains treated wastewater, imported water from another stream system, or return flow from other projects, there is no guarantee that such supply will continue.

(0000025)

L. This right does not authorize diversion of water dedicated by other right holders under a senior right for purposes of preserving or enhancing wetlands, habitat, fish and wildlife resources, or recreation in, or on, the water. (Wat. Code, § 1707.) The Division of Water Rights maintains information about these dedications. It is right holders' responsibility to be aware of any dedications that may preclude diversion under this right.

(0000212)

M. No water shall be diverted or used under this right, and no construction related to such diversion shall commence, unless right holder has obtained and is in compliance with all necessary permits or other approvals required by other agencies. If an amended right is issued, no new facilities shall be utilized, nor shall the amount of water diverted or used increase beyond the maximum amount diverted or used during the previously authorized development schedule, unless right holder has obtained and is in compliance with all necessary requirements, including but not limited to the permits and approvals listed in this term.

Within 90 days of the issuance of this right or any subsequent amendment, right holder shall prepare and submit to the Division of Water Rights a list of, or provide information that shows proof of attempts to solicit information regarding the need for, permits or approvals that may be required for the project. At a minimum, right holder shall provide a list or other information pertaining to whether any of the following permits or approvals are required: (1) lake or streambed alteration agreement with the Department of Fish and Wildlife (Fish & G. Code, § 1600 et seq.); (2) Department of Water Resources, Division of Safety of Dams approval (Wat. Code, § 6002); (3) Regional Water Quality Control Board Waste Discharge Requirements (Wat. Code, §

13260 et seq.); (4) U.S. Army Corps of Engineers Clean Water Act section 404 permit (33 U.S.C. § 1344); and (5) local grading permits.

Right holder shall, within 30 days of issuance of any permits, approvals or waivers, transmit copies to the Division of Water Rights.

(0000203)

- N. Urban water suppliers must comply with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.). An "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

Agricultural water users and suppliers must comply with the Agricultural Water Management Planning Act (Act) (Water Code, § 10800 et seq.). Agricultural water users applying for a permit from the State Water Board are required to develop and implement water conservation plans in accordance with the Act. An "agricultural water supplier" means a supplier, either publicly or privately owned, supplying more than 50,000 acre-feet of water annually for agricultural purposes. An agricultural water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.

(000029D)

- O. Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this right, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this right with a view to eliminating waste of water and to meeting the reasonable water requirements of right holder without unreasonable draft on the source. Right holder may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tail water or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this right and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by right holder in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution, article X, section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

(0000012)

- P. The quantity of water diverted under this right is subject to modification by the State Water Board if, after notice to right holder and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

(0000013)

- Q. This right does not authorize any act which results in the taking of a candidate, threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) or the federal Endangered Species Act (16 U.S.C. § 1531 et seq.). If a "take" will result from any act authorized under this right, right holder shall obtain any required authorization for an incidental take prior to construction or operation of the project. Right holder shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this right.

(0000014)

22. All other conditions of Permit 10478 remain in full force and effect.

Dated: 8/2/2016



Thomas Howard
Executive Director

Attachment