

ALISO WATER DISTRICT

PROPOSITION 218 FEE STUDY FOR CAPITAL PROJECTS

APRIL 2020

Prepared for:

Aliso Water District

Prepared by:



DATE SIGNED 4/29/2020

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ACRONYMS and ABBREVIATIONS

AF.....Acre-Feet
Art. XIII D..... California Constitution Article XIII D
AWD..... Aliso Water District
CASGEM..... California Statewide Groundwater Elevation Monitoring
District Aliso Water District
ET..... Evapotranspiration
GSA.....Groundwater Sustainability Agency
GSP..... Groundwater Sustainability Plan
GW.....Groundwater
ITRC..... Irrigation Training and Research Center
SGMA..... Sustainable Groundwater Management Act
SW Surface Water
SWRCB..... State Water Resources Control Board

REPORT SUMMARY

The Sustainable Groundwater Management Act (SGMA) became law in September 2014. SGMA requires local government in high and medium priority basins to halt overdraft and to bring groundwater basins into balanced levels of groundwater pumping and recharge. Specifically, Groundwater Sustainability Agencies (GSAs) are required to manage basins sustainably and must adopt Groundwater Sustainability Plans (GSPs) to work towards the goal of reaching groundwater sustainability by 2040.

The Aliso Water District (District) serves as the GSA for the lands within its boundaries, which overlies a portion of the Delta-Mendota Subbasin. The District is working cooperatively with stakeholders to develop and implement a GSP for its lands and is collaborating with other GSAs within the Delta-Mendota Subbasin to attain groundwater sustainability.

On March 31, 2020, the District landowners voted to initiate and implement a land-based assessment to fund the operations of the District; the “Operations Assessment”. This assessment is currently in effect.

In addition to the Operations Assessment, the District now proposes to charge each groundwater extractor a Capital Projects Extraction Fee to implement specific projects identified in the GSP to meet sustainability. The table below provides a schedule of the proposed projects to be funded by the Capital Project Extraction Fee. Based on the District’s needs, **the District’s Board of Directors is proposing to establish a new groundwater extraction fee of up to \$13.44 per acre-foot**. The actual extraction fee will be set annually by the Board, based on the budget needs, but will not exceed the proposed maximum rate. Although the fee is based on projections through 2024, the fee will continue beyond 2024 to fund future sustainability-related capital projects.

The District recognizes that certain landowners have already implemented and will continue to operate projects with their own funds to import surface water and recharge groundwater (directly or in-lieu). The District has determined that the continued operation of these projects should be encouraged, as they decrease the District’s overall need for additional surface water and recharge projects. Therefore, it is proposed that landowners who import surface water will be provided a credit against the groundwater extraction fee in recognition of their shared responsibility and contribution to meeting sustainability goals.

The proposed fee is considered an extraction fee under SGMA (Water Code Section 10730.2) and is subject to the provisions of Sections 6(a) and (b) of Article XIII D of the California Constitution (Art. XIII D). The proposed fee was calculated using the District’s annual budget for surface water supplies and capital projects to comply with SGMA, divided by the estimated total acre-feet of groundwater to be pumped in the District under certain conditions. Because the fee is based on amounts pumped, the fee is directly

correlated to the lands which use groundwater, and in proportion to the use of groundwater.

To comply with Art. XIII D Section 6(a), the Board will conduct a public hearing for the proposed fee on June 16, 2020. Hearing notices will be mailed to all affected landowners at least 45 days in advance of the hearing date. Property owners may submit written protests to the proposed fee prior to the hearing. If a majority of property owners submit written protests, the District may not adopt the fee. Absent a majority protest, the District is authorized to adopt the proposed fee at its public adoption hearing on June 16, 2020.

1. LEGISLATIVE REQUIREMENTS

1.1. SGMA Legislation

The Sustainable Groundwater Management Act (SGMA) was passed by California Legislature in 2014. The Act requires that sub-basins defined by the Department of Water Resources (DWR) Bulletin 118 that are deemed High- and Medium-priority by the California Statewide Groundwater Elevation Monitoring Program (CASGEM) be sustainable by 2042. Further, if the subbasin is deemed Critically Overdrafted, the deadline is accelerated to 2040. Sustainability is defined as not creating undesirable results in the following categories:

- Lowering Groundwater Levels
- Reducing Groundwater Storage
- Seawater Intrusion
- Degrading Water Quality
- Land Subsidence
- Depleting Interconnected Surface Water

To comply with SGMA, local agencies were required to form Groundwater Sustainability Agencies (“GSA”) by June 30, 2017. These GSAs were tasked with preparing Groundwater Sustainability Plans (“GSP”) by January 31, 2020 (in Critically Overdrafted sub-basin). The GSPs will develop a course of action to become sustainable by 2040. The GSAs will have the ongoing responsibility to monitor the subbasin for compliance and develop Annual Reports and 5-Year Interim Updates. The State Water Resources Control Board will intervene if the GSAs do not comply with SGMA, to ensure the subbasins are sustainable.

1.2. District Compliance Activities and GSP Development

The Aliso Water District (District) serves as the GSA for the lands within its boundaries, which overlie the Delta-Mendota Subbasin. The District is working cooperatively with stakeholders to develop and implement a GSP for its lands and is collaborating with other GSAs within the Delta-Mendota Subbasin to attain groundwater sustainability.

The District is located in western Madera County, and encompasses approximately 26,348 accessible acres (**Figure 1**). The land is predominantly agricultural. Most of the crops in the District are permanent crops--the bulk being nuts and vines with some annual row crops. The District is completely developed, although developed land use may change over time. In addition to agricultural land, there are a nut processing plant and an underground natural gas storage facility. There are less than 20 permanent residences in the District and no cities or towns. There are no adjudicated areas or state or federal lands within the GSA except the Chowchilla Bypass, which is owned by the State and maintained by the Lower San Joaquin Levee District.

1.3. SGMA Extraction Fees and Art. XIII D Requirements

Water Code Section 10730.2 authorizes a GSA to impose fees on the extraction of groundwater to fund costs of groundwater management, including, but not limited to (a) the acquisition of lands or other property, facilities, and services, and (b) supply, production, treatment, or distribution of water. The GSA must comply with Sections 6(a) and (b) of Art. XIII D in adopting such fees.

1.3.1. Procedural Requirements

Section 6(a) of Art. XIII D requires:

- **Noticing Requirement** - The District must mail a notice of the proposed fee to all affected property owners or ratepayers. The notice must specify the amount of the fee, the basis upon which it was calculated, the reason for the fee, and the date/time/location of a public rate hearing at which the proposed fees will be considered/adopted.
- **Public Hearing** – The District must hold a public hearing prior to adopting the proposed fee. The public hearing must be held not less than 45 days after the required notices are mailed.
- **Rate Increases Subject to Majority Protest** - At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners or ratepayers submit written protests against the proposed rate increases, the fees cannot be adopted.

1.3.2. Substantive Requirements

Section 6(b) of Art XIII D requires:

- **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the "cost of service".
- **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
- **Proportional Cost Recovery** - The amount of the fee or charge levied on a landowner shall not exceed the proportional cost of service attributable to that landowner.
- **Availability of Service** - No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.

Charges for water services, such as the proposed property-related fee, are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted pursuant to procedural requirements of Proposition 218.

1.4. Legal Review

The District's legal counsel has reviewed the fee described in this report, and has determined that the fee is authorized under as an extraction fee under SGMA (Water Code Section 10730.2) and that the District must comply with Sections 6(a) and (b) of Art. XIII D in adopting the fee. As described in this report, the fees are calculated from the District's proposed 5-year budget, which documents the cost of the water supplies and recharge projects (i.e., the cost of service) on which the fees are based. The cost of service is divided by the estimated year with the least groundwater pumping within the District to calculate a \$/acre-foot ("AF") fee.

2. COST OF SERVICE AND RATE DESIGN

2.1. Cost of Service

The cost of service for the fees recommended in this report are based on the District's budget for fiscal year (FY) 2020 through FY2024. Annual expenses are estimated at \$662,500 (see **Table 2-1**). Costs for the ratepayers could potentially be reduced through grant funding and/or direct financial contributions from entities within the basin (e.g. project partners). This report identifies the maximum rate that could be expected and this report, as well as Proposition 218, allows the District's Board to set rates lower than identified here should outside funding become available.

Table 2-1. GSP Development and Implementation Costs.

Capital Projects	2020	2021	2022	2023	2024 and thereafter
Projects to Increase Sustainable Yield	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000
Recharge Site Lease	120,000	120,000	120,000	120,000	120,000
Water Rights on Bypass	10,000	10,000	10,000	10,000	10,000
Water Purchase Fund	50,000	50,000	50,000	50,000	50,000
Total Capital Projects Costs	\$530,000	\$530,000	\$530,000	\$530,000	\$530,000
Contingency/Reserve	132,500	132,500	132,500	132,500	132,500
Grand Total Capital Projects Costs	\$662,500	\$662,500	\$662,500	\$662,500	\$662,500

The budget was approved by the Board based on estimated costs to develop and implement the GSP. A 25% contingency factor was added to all cost categories.

2.2. Rate Design

2.2.1. Methodology

Art. XIII D Section 6(b) requires that fees charged to each customer be proportional to the cost of service attributable to that customer and be based upon the benefit received. There are many methods to achieve proportionality in structuring rates such as: per-acre fees, rates charged per acre-foot of actual groundwater pumped (i.e. extraction fees), annual charges based on well capacity, etc.

In developing proposed fees, the District must consider how it incurs cost and the availability of customer data. The costs of water supplies and capital projects are expected to vary over time, reflecting the severity of groundwater conditions in the subbasin. The District finds extraction fees to appropriately and proportionally distribute these costs. In other words, the costs are imposed on the activity (pumping) that creates the need for the surface water supplies and projects, in direct proportion to the amount pumped.

At this time, groundwater use for each parcel is estimated based on cropping records, as most wells in the District do not have meters. Surface water use (for landowners that have access to surface water) has been accounted for when estimating groundwater use.

2.2.2. Surface Water Import Incentive Program

The District's Groundwater Sustainability Plan contemplates the use of surface water import and recharge projects to help groundwater usage become sustainable. To lessen the burden on the District and to support quicker implementation of surface water import and recharge, the District encourages growers to implement their own projects. Therefore, the District will implement a credit system to avoid charging the extraction fee on pumped water deemed recharged from imported surface water, and to partially account for the difference in costs between imported surface water and groundwater.

Landowners importing surface water will receive up to a 4:1 credit (determined as discussed below) against future extraction fees. In other words, each acre-foot of surface water imported can be credited against up to 4 acre-feet of groundwater pumped at a later time. **It is important to note that this credit is only a credit against the extraction fee. Landowners will not be considered to have "banked" groundwater.**

The 4:1 ratio is based on the difference in costs between imported surface water and pumped groundwater. The approximate cost of a surface water recharge project is estimated at \$160/AF¹, while the approximate cost to pump groundwater in the district is estimated at \$40/AF², resulting in a ratio of 4 to 1. (While costs may vary for individual landowners and specific projects, these values appear to reflect the average conditions experienced throughout the District.)

The amount of the credit will be reduced by 20% per year, if not used within two years after the import of surface water. For example, if a landowner imports 100 AF of surface water in the year 2020, the landowner will not have to pay the extraction fee on the 400 AF groundwater pumped in 2021 and 2022. If the landowner only pumps 300 AF over that time, the remaining 100 AF will be reduced by 20% to 80 AF, and remaining amounts will be reduced by 20% in each following year. The import quantity from each import event will be reduced on individual schedules. Furthermore, the water imported first will be depleted before the credit the next event is used. The reduction in the credit reflects (a) the District's policy that recharged surface water is considered to be pumped prior to natural groundwater, and (b) the natural migration of groundwater within the District. It is proposed that the migration factor will drawdown the credit account as shown in **Table 2-2**.

¹ Based on proposed Cottonwood Creek Recharge Project to divert 10,000 AF every 4 years from the Chowchilla Bypass and recharge into an 80-acre recharge site.

² Based on pumping a groundwater well from a depth to water of 130-ft @ \$0.20/kWh with 65% pumping plant efficiency.

Table 2-2. Migration Factor Implementation.

Year Since Flood	Migration Factor applied to year's beginning balance
0 (import year)	0%
1	0%
2	0%
3 and thereafter	20% ³

The proposed methodology discussed above for setting the proposed fees is complex. The following examples describe how this proposed methodology would be applied to a number of different situations for a landowner with a 2,000 AF demand and varying access to surface water, so that a more thorough discussion and understanding is documented.

Scenario 1 in **Table 2-3** demonstrates how the program would work for a grower with no surface water supply and a groundwater pumping amount of 2,000 AF. In this scenario the grower does not have any extraction fee credits as no water was imported by the grower. This grower would pay the complete groundwater extraction fee. Growers that pump more groundwater would pay more fees as a proportion of how much more groundwater was pumped.

Scenario 2 in **Table 2-4** demonstrates how the program would work for a grower with moderate surface water supply. Like scenario 1, the grower is pumping 2,000 AF in most years but in this case is able to import 2,000 AF in flood years. This scenario shows a grower whose groundwater pumping credit is insufficient to meet demand until the next flood cycle. This grower would pay a partial groundwater extraction fee.

Scenario 3 in **Table 2-5** demonstrates how the program would work for a grower with significant surface water supply. This scenario shows a grower whose groundwater pumping credits exceeds demand until the next flood cycle. This grower would not pay a groundwater extraction fee.

³ Roughly 20% of the natural inflow into the District leaves the District's northerly and easterly boundaries.

Table 2-3. Scenario 1 - Grower with No Surface Water Supplies.

Year	Import Event 1				+	Import Event 2				=	Total GW Credit Summary			Amount Due @ \$13.44/AF
	SW Import	GW Pumping Credit	Migration Loss (20%)	Balance		SW Import	GW Pumping Credit	Migration Loss (20%)	Balance		Total GW Pumping Credit	GW Pumping demand	Balance	
2015-2019	0	0	0	0		0	0	0	0	0	0	0	NA	
2020	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2021	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2022	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2023	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2024	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2025	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2026	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	
2027	0	0	0	0		0	0	0	0	0	(2,000)	(2,000)	\$ 26,880	

Table 2-4. Scenario 2 - Grower with Moderate Surface Water Supplies.

Year	Import Event 1				+	Import Event 2				=	Total GW Credit Summary			Amount Due @ \$13.44/AF
	SW Import	GW Pumping Credit	Migration Loss (20%)	Balance		SW Import	GW Pumping Credit	Migration Loss (20%)	Balance		Total GW Pumping Credit	GW Pumping demand	Balance	
2015-2019	2,000	8,000	0	8,000		0	0	0	0	8,000	0	8,000	NA	
2020	0	8,000	0	8,000		0	0	0	0	8,000	(2,000)	6,000	\$ -	
2021	0	6,000	0	6,000		0	0	0	0	6,000	(2,000)	4,000	\$ -	
2022	0	4,000	(800)	3,200		0	0	0	0	3,200	(2,000)	1,200	\$ -	
2023	0	1,200	(240)	960		0	0	0	0	960	(2,000)	(1,040)	\$ 13,978	
2024	0	0	0	0		2,000	8,000	0	8,000	8,000	(2,000)	6,000	\$ -	
2025	0	0	0	0		0	6,000	0	6,000	6,000	(2,000)	4,000	\$ -	
2026	0	0	0	0		0	4,000	0	4,000	4,000	(2,000)	2,000	\$ -	
2027	0	0	0	0		0	2,000	(400)	1,600	1,600	(2,000)	(400)	\$ 5,376	

Table 2-5. Scenario 3 - Grower with Significant Surface Water Supplies.

Year	Import Event 1				+	Import Event 2				=	Total GW Credit Summary			Amount Due @ \$13.44/AF
	SW Import	GW Pumping Credit	Migration Loss (20%)	Balance		SW Import	GW Pumping Credit	Migration Loss (20%)	Balance		Total GW Pumping Credit	GW Pumping demand	Balance	
2015-2019	3,500	14,000	0	14,000		0	0	0	0		14,000	0	14,000	NA
2020	0	14,000	0	14,000		0	0	0	0		14,000	(2,000)	12,000	\$ -
2021	0	12,000	0	12,000		0	0	0	0		12,000	(2,000)	10,000	\$ -
2022	0	10,000	(2,000)	8,000		0	0	0	0		8,000	(2,000)	6,000	\$ -
2023	0	6,000	(1,200)	4,800		0	0	0	0		4,800	(2,000)	2,800	\$ -
2024	0	2,800	(560)	2,240		3,500	14,000	0	14,000		16,240	(2,000)	14,240	\$ -
2025	0	240	(48)	192		0	14,000	0	14,000		14,192	(2,000)	12,192	\$ -
2026	0	0	0	0		0	12,192	0	12,192		12,192	(2,000)	10,192	\$ -
2027	0	0	0	0		0	10,192	(2,038)	8,154		8,154	(2,000)	6,154	\$ -

2.3. Fee Calculation

The District's review of historical cropping patterns and surface water imports resulted in chargeable groundwater pumping estimates ranging from 49,300 AF in wetter years to 69,900 AF in other years (**Table 2-6**). Therefore, the proposed fees were calculated as the annual cost to develop capital projects divided by the anticipated chargeable pumping estimate as shown in **Table 2-7**.

Table 2-6. Pumped Groundwater Calculation.

Description	2020	2021	2022	2023	2024
Applied Water* (AF)	98,800	98,800	98,800	98,800	98,800
Surface Water Credit Applied* (AF)	49,500	36,000	31,400	28,900	48,800
Remaining Groundwater Pumping to be Charged (AF)	49,300	62,800	67,400	69,900	50,000
*All values are estimates based on previous hydrology and forecast analysis					

Table 2-7. Fee Estimate Calculation.

Description	2020	2021	2022	2023	2024
Capital Improvements Budget	\$662,500	\$662,500	\$662,500	\$662,500	\$662,500
Remaining Groundwater Pumping to be charged (AF)	49,300	62,800	67,400	69,900	50,000
Proposed Extraction Fee (\$/AF)	\$13.44	\$10.55	\$9.83	\$9.48	\$13.25

The year with the most groundwater credits to be applied (i.e. the year with the least amount of chargeable groundwater pumping) was chosen as a worst-case scenario so that the extraction fee would annually cover the capital improvement costs. In other years, more groundwater would be pumped, resulting in an excess collection of funds. In such case, the extraction fee may be reduced in the subsequent year by the Board by the amount of surplus collections that occurred in the previous year. **The maximum of \$13.44/AF will remain in perpetuity. The Board may not raise the fees beyond \$13.44 per AF without another Proposition 218 election.**

2.3.1. Implementation & Collection

Below are the assumptions and methods that will be used to begin implementation and collection of the proposed extraction fee.

- All landowners will be given a credit for the surface water that was imported during the period from 2015 (when SGMA was entered into law) through 2020 (when SGMA is to begin implementation). During this time growers modified the water management practices in response to SGMA to import surface water and will be recognized for their efforts.
- Any groundwater pumping prior to 2020 (i.e., prior to SGMA implementation) will not be counted.

- As a default, groundwater extractions will be estimated based on the best available cropping data, Cal Poly ITRC ET data, effective precipitation, and finally an irrigation efficiency of 80%:

$$\text{Groundwater Extraction} = \frac{(\text{Parcel size} * \text{Crop ET}) - \text{Effective Precipitation}}{\text{Irrigation Efficiency}}$$

- A grower may opt to provide flow meter reading for groundwater extraction data in-lieu of the cropping-data estimate method above.
- Any meter data for groundwater extraction or surface water import must meet the standard of the District's meter policies, as adopted from time to time.
- This fee will become effective as of January 1, 2020.

3. IMPLEMENTATION PROCEDURES

To comply with Art. XIII D Section 6(b), the Board will conduct a public hearing for the proposed fee on June 16, 2020. Hearing notices will be mailed to all affected landowners at least 45 days in advance of the hearing date. Property owners may submit written protests to the proposed fee prior to the hearing. If a majority of property owners submit written protests, the District may not adopt the fee. Absent a majority protest, the District is authorized to adopt the proposed fee at its public adoption hearing on June 16, 2020.

4. REFERENCES

Aliso Water District GSA Groundwater Sustainability Plan, January 2020. Provost & Pritchard Consulting Group.

Proposition 218, Local District Guidelines for Compliance, 2007 Update (May 2007) Association of California Water Agencies

Sustainable Groundwater Management Act, and related provisions, effective January 1, 2016, [http://groundwater.ca.gov/docs/2014 Sustainable Groundwater Management Legislation with 2015 amends 1-15-2016.pdf](http://groundwater.ca.gov/docs/2014_Sustainable_Groundwater_Management_Legislation_with_2015_amends_1-15-2016.pdf)

Bulletin No. 118, California's Groundwater, 2003 and 2016 Interim Update California Department of Water Resources

Madera County Assessor's Office, Ownership Records, January 2020.

California Department of Water Resources, Groundwater Information Center Interactive Map Application, https://gis.water.ca.gov/app/gicima/#bookmark_DepthBelowGroundSurface