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*Exempt from filing fee pursuant to
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8 MOJAVE WATER AGENCY

9 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**
10 **IN AND FOR THE COUNTY OF RIVERSIDE**

11 Coordination Proceeding Special Title
12 (Cal. Rules of Court, rule 3.550)

JCCP NO.: 5265
Lead Case No: CIV 208568

13 MOJAVE BASIN WATER CASES

Dept. 1, Riverside Superior Court
Hon. Harold W. Hopp, Judge Presiding

14 CITY OF BARSTOW,
15 Plaintiff,
16 vs.

**WATERMASTER'S OPPOSITION TO
GOLDEN STATE WATER COMPANY'S
MOTION TO ENFORCE JUDGMENT**

17 CITY OF ADELANTO, et al.,
18 Defendant.

Date: October 2, 2024
Time: 8:30 a.m.
Dept.: 1
Reservation ID: 562595011427

19 AND RELATED CROSS ACTIONS

Hon. Craig G. Riemer, Judge Presiding By
Assignment

21
22 Watermaster submits this brief in Opposition to the motion of Golden State Water
23 Company ("GSWC") purportedly to enforce the judgment.

24 **I.**
25 **Introduction**

26 Watermaster and GSWC have conducted a series of meetings that were interrupted by
27 the COVID pandemic. One such meeting occurred on February 10, 2022, which included a field
28 meeting to address GSWC's specific concerns and questions which are again raised in GSWC's

1 pending motion. Among the issues raised during the February 10, 2022 meeting were (a) the
2 possible installation of an additional stream gaging station, and (b) additional geophysical
3 investigations. Subsequent to the February 10, 2022 field meeting, MWA installed a new stream
4 gage at Hinkley Road near Hodge, upstream of the GSWC wells. MWA also conducted
5 extensive geophysical investigations at a cost of approximately \$150,000.00. In 2022, MWA
6 also imported to the Centro Subarea 1,994 acre-feet of water to address impacts to GSWC wells
7 due to drought conditions; the imported water was delivered to the Lenwood recharge site that
8 benefits the area where the GSWC wells are located. (See Technical Memorandum, p. 10,
9 Exhibit 1 to Wagner declaration filed concurrently herewith.)

10 As described below, Watermaster also is working to expand its current Upper Mojave
11 River Basin Model (“UMRBM”), to include the Transition Zone (“TZ”), the Centro Subarea,
12 and the Baja Subarea. In June 2024, the Watermaster Engineer informed the Court that the
13 updated UMRBM is scheduled to be completed by the end of 2024. The model expansion will
14 inform the estimates of flow into the Centro subarea, the water balance in the TZ, and provide
15 tools for evaluating recharge and pumping scenarios for optimal basin management. (See
16 Technical Memorandum, p. 10, Exhibit X to Wagner declaration filed concurrently herewith.)

17 As demonstrated herein, GSWC’s motion and the Aquilogic reports upon which it is
18 based: contain a fundamental error regarding what is required under the Judgment; rely upon
19 data from a measuring gage which its own expert notes was discontinued “because of unstable
20 controls and changing stage-discharge relations that did not allow for acceptable discharge
21 records” (GSWC 0082); fail to demonstrate that the decreased water levels observed in GSWC’s
22 well field are caused by allegedly reduced flow from the TZ to the Centro Subarea; and fail to
23 demonstrate the relief requested is needed or appropriate at this time:

24 **A. The Judgment does not mandate a Subarea Obligation to the Centro Subarea.**

25 GSWC’s motion, and the supporting Aquilogic reports, mistakenly assume that the Alto
26 Subarea is required to provide a defined quantity of water (Subarea Obligation) to the Centro
27 Subarea. It does not! The Judgment provides that the Alto Subarea Obligation is **to the**
28 **Transition Zone**, not to the Centro Subarea. Accordingly, GSWC’s motion conflates Alto’s

1 Subarea Obligation to the Transition Zone with the quantity of water “received” downstream
2 by the Centro Subarea through the Helendale Fault.

3 **B. The Alto Subarea’s compliance with its Subarea Obligation to the Transition Zone**
4 **is determined by actual “measurement,” not by estimates and assumptions.**

5 GSWC’s motion also claims, mistakenly, that the Watermaster bases its conclusion – that
6 the Alto Subarea obligation to the the Transition Zone has been met -- upon “estimates and
7 assumptions.” That also is not true. Inflows to the TZ from the Alto Subarea are determined by
8 actual measurement through the gage located at the Lower Narrows near Victorville; those
9 measurements are taken each week by USGS staff. (See Tech. Memo., pp. 2-3, attached as
10 Exhibit 1 to Wagner declaration filed concurrently herewith.)

11 **C. GSWC’s motion relies upon inaccurate and unreliable data.**

12 Although not found anywhere within the body of its motion, GSWC’s claims are based
13 largely upon readings from the Wild Crossing gage located near the Helendale fault during the
14 limited time period from 1966 to 1970 (GSWC 0082-0084). As explained below and in
15 Watermaster’s Reply brief filed May 18, 2024, to GSWC’s Opposition to the Rampdown
16 motion, readings from the Wild Crossing gage have been rejected because of the gage’s
17 undisputed inaccuracy and unreliability.¹

18 **D. GSWC has not proven that pumping is not responsible for the declining water levels**
19 **observed in its well field.**

20 The only other support for GSWC’s claim that there are diminished flows through the
21 Helendale fault (“HF”), is the declining water levels in GSWC’s wells. However, as
22 demonstrated herein, the aquilogic analysis of this issue fails to prove that the diminished water
23

24 ¹ GSWC’s Opposition to the Rampdown motion was far more up front about GSWC’s
25 reliance upon the Wild Crossing gage data, which Watermater thoroughly debunked in its Reply
26 brief. That may explain why there is no mention of the Wild Crossing gage in the body of GSWC’s
27 current motion, or in the supporting declarations of its experts, Toby Moore and Anthony Brown –
28 although, as noted, the unreliable readings from the Wild Crossing gauge for the short period of time
from 1966 to 1970, provide most of the underpinning in the Aquilogic report for GSWC’s claim
there are diminished flows from the Transition Zone to the Centro Subarea (GSWC 0082-0084).

1 levels in GSWC’s well field are not the result of concentrated groundwater extraction from the
2 segmented aquifers feeding GSWC’s well field, or from other causes unrelated to the amount
3 of water flowing from the TZ to the Centro Subarea.

4 **E. When completed later this year, the UMRBM will provide the data and information
5 needed to adequately estimate PSY for the Centro Subarea.**

6 To accurately calculate PSY for the Centro Subarea, the “average” water supply from all
7 sources must be determined. After the UMRBM is completed later this year (to include the
8 Transition Zone and the Centro and Baja subareas), it will provide data and information needed
9 to estimate PSY for all Subareas, including the Centro and Baja subareas.

10 GSWC’s experts agree the UMRBM needs to be completed; the Watermaster engineer
11 has committed to completing the UMRBM by the end of this calendar year. Therefore, GSWC’s
12 motion is premature. At this time, all that is required is that the Watermaster continue its work
13 to complete the UMRBM to include the TZ and the Centro and Baja subareas.

14 **II.**
15 **No Subarea Obligation is owed to Centro**

16 In this connection, Exhibit G of the Judgment provides:

17 1. Subarea Obligations. Producers in the respective Subareas shall have the
18 obligation to provide the following average annual and minimum Annual Subsurface
19 Flows and/or Base Flows per Year:

20 e. Alto subarea Producers – an average Annual combined Subsurface Flow and
21 Base Flow of 23,000 acre-feet per Year **to the Transition Zone**. . . .

22 Therefore, the Subarea Obligation owed by the Alto Subarea Producers is to the
23 Transition Zone, not to the Centro Subarea. Nonetheless, GSWC’s motion and the supporting
24 Aquilogic report repeatedly claim the Judgment requires that the Centro Subarea receive a
25 certain quantity of inflow from the Alto Subarea (see Mot., 16:20-22).

26 The same mistake is made in Aquilogic’s September 2024 report, i.e., “whether
27 groundwater producers in Alto are meeting their obligation to deliver defined volumes of annual
28 recharge to Centro, as specified in the Judgment” and “At present, there is insufficient
information to confirm if Centro receives the inflow specified in the Judgment” (GSWC 0009),

1 “There is currently a deficit in the volume of water producers in Alto are obligated under the
2 Judgment to deliver as recharge to Centro” (GSWC 0014), “the declining water levels call into
3 question whether groundwater Producers in Alto are meeting their obligation to deliver defined
4 volume of annual recharge to Centro as specified in the Judgment” (GSWC 0032), and “there
5 is insufficient information to confirm if Centro receives the inflow specified in the Judgment”
6 (GSWC 0033).

7 Accordingly, GSWC and Aquilogic suffer from the fundamental misconception that the
8 Judgment requires that Alto Subarea Producers provide a specific volume of inflow to the
9 Centro Subarea. It does not.

10 **III.**
11 **Whether Alto satisfies its Obligation to the Transition Zone is determined by actual**
12 **measurement.**

13 GSWC mistakenly argues the gage at the Lower Narrows measures only storm flows.
14 That is incorrect. The gage at the Lower Narrows near Victorville measures all surface flow (see
15 Tech. Memo., pp. 2-3, attached as Exhibit 1 to Wagner declaration filed concurrently herewith);
16 the assumed subsurface flow of 2,000 acre-feet annually is established in the Judgment, and was
17 agreed upon by all stipulating parties, including GSWC. Therefore, if GSWC does not receive
18 sufficient water to meet its needs, or experiences declining water levels in its well field, it is **not**
19 because the Alto Subarea Producers have failed to meet their obligation under the Judgment to
20 provide defined quantities of water to the TZ.

21 **IV.**
22 **Data from the Wild Crossing Gauge is inaccurate and unreliable.**

23 GSWC’s claim of diminished flows from the TZ to the Centro Subarea is based largely
24 upon stream flow readings of the Wild Crossing gage during the four year period from March
25 1966 to October 1970; GSWC contends the Wild Crossing gauge data demonstrates stream flow
26 losses of 51,500 acre-feet through the Helendale Fault (GSWC 0082-0084).

27 As explained in the Supplemental Declaration of Mr. Wagner, attached as Exhibit “A”
28 to Watermaster’s Reply Brief in Support of Motion to Adjust Free Production Allowance for

1 2024-2025,” filed on May 28, 2024 (Exhibit A hereto), the Wild Crossing gage readings during
2 the period in question were widely considered to be unreliable and are not “acceptable discharge
3 records.” As explained in Mr. Wagner’s Supplemental Declaration, the U.S. Geological Survey,
4 “Water-Resources Investigations Report 95-4189,” page 6, reports:

5 Gaging station 10261900, Mojave River at Wild Crossing, near Helendale, was operated
6 during water years 1967-70. About 7 miles farther downstream, gaging station 10262000,
7 Mojave River near Hodge, was operated during water years 1931-32 and 1971- 93. **Both
stations were discontinued because of unstable controls and changing stage-
discharge relations that did not allow for acceptable discharge records.**

8 (Emphasis added.)

9 Moreover, previous estimates of the flow at Helendale Fault have been made by the
10 California Department of Water Resources, Bulletin 84, **1967** (35,200 AFA, 1936-1961), USGS,
11 Stamos 2001, **1951-1999** (35,819 AFA at Vista Road near Helendale), and Webb Associates
12 (**2000**), 36,700 acre-feet, indicating the estimated average annual flow at Helendale has been
13 consistent since the 1930's. (See Tech. Memo., p. 2, Exhibit 1 to Wagner declaration filed
14 concurrently herewith.)

15 Mr. Wagner’s Supplemental Declaration (Exhibit A to Reply Brief filed May 28, 2024
16 [Exhibit A hereto]), also explains:

17 GSWC’s opposition is based upon reported USGS streamflow data for a now
18 defunct stream gaging station, 10261900, Mojave River at Wild Crossing, near
19 Helendale. USGS reported stream flow estimates of the Mojave River at this location
from March 1966 to October 1970. This location is about 20 miles downstream from the
USGS stream gage at Lower Narrows near Victorville.

20 The record at Wild Crossing, near Helendale covers a short period, approximately
21 54 months, of which the record for 1968 is missing or incomplete. There are also
22 missing records in 1967 and 1970. I have attached hereto the printed record published
23 by USGS for the Wild Crossing, near Helendale Station. The published report is called
24 “United States Department of The Interior Geological Survey Water Resources Division.
Water Resources Data for California” Volume 1 and shows the record of the Wild
Crossing, near Helendale gage. This report is attached as Exhibit 4. Notably, the data is
rated poor for 1968, 1969, 1970, and fair for 1967 (for 1967, record is rated poor for
discharge above 1,000 cfs). For 1970, the report notes, “no gage height record during
year.”

25
26 Approximately 83.6% of the total report flow represented by the above record
27 occurred in 1969 and about 15% occurred in 1967. In 1968 and 1970 about 1.4% of the
28 flow occurred. For 1969 the record notes, that “No gage-height record or stage-discharge
relation indefinite for Jan. 26-29, Feb. 2-5, 8-15, Feb. 26 to Mar. 17, Mar. 27 to Apr. 3,
Apr. 25-30, May 10-15.” This represents 56 days out of 130 days of reported flow. The
discharge for these 56 days was about 124,000 acre-feet or 54% of the total for the water

1 year. In order to estimate a stream discharge, a gage height and stage discharge relation
2 must be established. As reported for 1969, no data or stage discharge relation was
established for at least 54% of the reported flow, and the entire record was rated as poor.

3 USGS Water-Resources Investigations Report 95-4189 (USGS, Lines 1996), page
4 6, notes that the gaging stations at Wild Crossing, near Helendale and at Hodge (about
10 river miles downstream) were discontinued:

5 “Gaging station 10261900, Mojave River at Wild Crossing, near Helendale, was
6 operated during water years 1967-70. About 7 mi farther downstream, gaging
7 station 10262000, Mojave River near Hodge, was operated during water years
8 1931-32 and 1971- 93. Both stations were discontinued because of unstable
controls and changing stage-discharge relations that did not allow for acceptable
discharge records.”

9 There were very few, if any, direct measurements taken at Wild Crossing, near
10 Helendale. Such measurements are essential to define the stage discharge relationship.
11 We requested field notes and direct measurements for Wild Crossing, near Helendale
12 from USGS and received the following response from Johnathan Newby at USGS on
13 April 18, 2024.

14 “Unfortunately there are no inspections/measurements in our system for
15 10261900. I also checked our paper backfile and did not find anything there as
16 well.”

17 By contrast to the foregoing, the USGS gage Mojave River at Lower Narrows,
18 near Victorville is measured directly by USGS staff once per week, and has been
19 measured at this frequency since about 1996. Further the Wild Crossing, near Helendale
20 gage record of 54 incomplete months is too short to be used to establish relationships
21 between the Lower Narrows gage and Transition Zone. The record at Lower Narrows
22 covers the years, 1900-1906, and 1931 to present (approximately 1,200 months).

23 The stream gage record at Wild Crossing, near Helendale is short, unreliable,
24 incomplete and was discontinued because unstable conditions did not allow for
25 acceptable discharge records.

26 (Wagner Suppl. Dec., Ex. A to Reply Brief, filed May 28, 2024 [Exhibit A hereto], 2:7-3:21.)

27 For the foregoing reasons, GSWC’s motion based upon the Wild Crossing gage’s
28 readings is entirely without merit.

Request for additional stream gage near the Helendale fault.

29 GSWC also asks the Court to Order Watermaster to replace the Wild Crossing stream
30 gage, or establish a stream gage at or near the Helendale Fault to directly measure surface water
31 inflows into the Centro Subarea. GSWC also argues the Judgment requires installation of
32 monitoring wells in the TZ and at Subarea boundaries, although monitoring wells are already
33 located in the TZ and near the Helendale Fault. Mr. Wagner’s supplemental declaration also
34 notes that installation of a stream gauge at or near the Helendale Fault would “be subject to the

1 same conditions that resulted in [the Wild Crossing gage’s] abandonment, as noted by USGS,
2 Line, 1996. Similarly, installing a stream gage at or near the Helendale Fault as suggested by
3 GSWC would encounter the same conditions, resulting in an unreliable record” (Wagner Suppl.
4 Dec., Exhibit A hereto, 3:21-25).

5 Data from the monitoring wells located at or near the Helendale Fault are used by the
6 Watermaster and the Watermaster Engineer annually. Such data is published in the
7 Watermaster’s Report every year. GSWC’s request that Watermaster be ordered to instal an
8 additional stream gauge or additional monitoring wells at the Helendale Fault is without merit
9 and should be denied.

10 **Request for annual water budget for the TZ.**

11 GSWC also argues Watermaster should be required to prepare an annual water budget
12 for the Transition Zone “as recommended by Aquilogic.” For the following reasons, this
13 suggestion also is without merit and unwarranted. As Mr. Wagner explains in his supplemental
14 declaration:

15 In response to GSWC’s suggestion that Watermaster prepare a water budget for
16 the TZ as recommended by Aquilogic, there are two significant elements of the water
17 balance to the TZ, both of which are measured or based directly on measurement. The
18 waste stream from the Victor Valley Wastewater Treatment Plant is discharged within
19 the TZ and is measured and discharged within the TZ. The flow at Lower Narrows is
20 measured directly by USGS weekly to estimate the mean daily discharge. Both of these
21 records are considered reliable and adequate for estimating the water balance in the TZ
22 and calculating outflow across the Helendale Fault. The water budget elements
23 recommended by Aquilogic are already included in the water budget analysis for the TZ.
24 The use of the USGS Basin Characterization Model (BCM) and the Parameter-elevation
25 Regressions on Independent Slopes Model (PRISM) are included in the Upper Mojave
26 Basin Model.

27 (Wagner Suppl. Dec., Exhibit A hereto, 4:3-12.)

28 For the foregoing reasons, no reliance should be placed on the readings from the Wild
Crossing gage, Watermaster should not be required to instal an additional steam gage near the
Helendale fault, and Watermaster should not be ordered to prepare a water budget for the TZ
to comply with Aquilogic’s recommendations.

F. Upper Mojave Basin Model

GSWC also criticizes Watermaster’s use of the Upper Mojave Bain Model to estimate

1 flows from the Transition Zone into the Centro Subarea. Again, GSWC’s criticism is
 2 unwarranted. As explained in Watermaster Engineer’s declaration, the UMRBM “incorporates
 3 hydrologic data and analysis to represent the conditions of the Alto Subarea for the period 1951-
 4 2020. A description of the Model and its assumptions and output is available as Appendix A-G
 5 of Exhibit 5.” (Wagner Declaration in Support of Motion to Adjust Free Production allocate for
 6 Water Year 2024-2025, Exhibit B hereto, 3:12-14).

7 Regarding utilization of the Upper Mojave Basin Model to estimate flows from the
 8 Transition Zone into the Centro Subarea, Mr. Wagner’s supplemental declaration attached
 9 hereto also explains that:

10 Importantly, the flow across Helendale Fault, which represents the long term
 11 average supply to Centro, will not occur every year. The Mojave River system is
 12 episodic, meaning there are long periods of well below average flow followed by
 occasional periods of well above average flow. The Judgment, is predicated on long term
 average flow.

13 The Upper Mojave Basin Model is an adequate tool for estimating flow into the
 14 TZ from the upstream portion of Alto. The Model is currently being expanded to include
 15 the TZ and the Centro and Baja subareas and when complete (Fall 2024) will provide
 another tool for basin management. Currently, the Upper Basin Model is used to estimate
 inflow to the TZ.

16 (Wagner Suppl. Dec., Exhibit A hereto, 4:13-20.)

17 **V.**
 18 **GSWC has not demonstrated the decreasing water levels in its well fields are the result**
 19 **of diminished flows from the Transition Zone to the Centro Subarea.**

20 GSWC starts by assuming there are only two possible causes for decreasing water levels
 21 in the area of its well field, i.e., groundwater extractions through its pumping operations or
 22 decreased flows into the Centro Subarea from the TZ. GSWC then proffers the Aquilologic report
 23 to prove, counter-intuitively, that GSWC’s water extractions are not a cause of the decreasing
 24 water levels observed in GSWC’s well fields.

25 For numerous reasons, Aquilologic’s analysis is unpersuasive, to wit: (1) there are more
 26 than two possible reasons for the decreasing water levels; (2) GSWC has not proven its
 27 groundwater pumping does not cause decreased water levels in its well field; (3) GSWC’s
 28 analysis does not take into consideration groundwater extractions in the same localized area by

1 large agricultural operations and others; (4) Watermaster's analysis demonstrates the Centro
2 Subarea has received for an extended period of time inflows that annually average 36,338 acre-
3 feet; and (5) wells in the Centro Subarea located closer to the TZ show stable water levels,
4 confirming that inflows to the Centro Subarea have not decreased significantly.

5 **A. More than two possible reasons exist for the decreasing water levels observed in**
6 **GSWC's well field.**

7 Other possible reasons for decreased water levels in the GSWC well field (besides
8 pumping and allegedly decreased flows to the Centro Subarea) include flow-impeding faults,
9 frequency and intensity of storms, groundwater flow patterns and transmissivity distribution
10 (ability of the sediments to transmit water to the wells), flow migrating to the Harper Valley or
11 Iron Mountain areas, and significant groundwater recharge between the HF and GSWC's well
12 field (i.e., the normally dry channel between the HF and Barstow induce more recharge in that
13 area). (See Tech. Memo., pp. 7-8, attached as Exhibit 1 to Wagner declaration filed concurrently
14 herewith.)

15 To demonstrate by the process of elimination, that allegedly reduced flows from the TZ
16 cause decreased water levels observed in GSWC's well field, GSWC would need to demonstrate
17 that the complex set of processes described above, together with groundwater extraction in and
18 around the GSWC well field, are not the cause of the declining water levels observed in the
19 GSWC well field. GSWC makes no such demonstration. In fact, GSWC's motion does not
20 address or consider any of the above-described other complex processes and possible causes of
21 declining water levels within the GSWC well field.

22 **B. GSWC has not proven its groundwater pumping does not cause decreased water**
23 **levels in its well field.**

24 The Aquilogic statistical analysis of depth to water versus pumping is based on the
25 hypothesis that if chronic water level decline is due to over-pumping alone, there should be a
26 correlation between pumping and depth to water. Similarly to the explanation given in point "A"
27 above, this approach overlooks the complexity of the aquifer system and the processes that
28 determine water levels in the GSWC well field.

1 Also, the correlation presented by Aquilogic is calculated using pumping rate from the
2 well where the water level is measured. Such an approach overlooks the fact that a well can be
3 influenced by pumping from other wells in the basin or even in the same well field. Moreover,
4 even with this approach, the results are not convincingly conclusive because 5 out of 17 wells
5 are indicated to have statistically significant correlations/trends that show depth to water
6 decreasing (**water level rises**) as pumping magnitude increases – which shows that the aquifer
7 system has more complexity than this simplified method can capture. (See Tech. Memo., p. 8,
8 attached as Exhibit 1 to Wagner declaration filed concurrently herewith.)

9 The lack of a clear correlation between water levels and pumping does not prove that
10 chronic decline of water levels in the GSWC well field is due to a decline of inflow into Centro
11 from the TZ. Other explanations that take into account the complexity of the Subarea basin
12 should be considered. As an example, a well calibrated model, such as the UMRBM, is a much
13 better tool for this type of study, as it incorporates the actual physical laws of groundwater flow,
14 surface geology, and hydrostratigraphy (geometry and extent of aquifers).

15 In short, GSWC’s purported showing that the declining water levels in its well field are
16 not the result of concentrated pumping in the segmented aquifers feeding GSWC’s wells, is not
17 persuasive.

18 **C. GSWC’s analysis also does not take into consideration groundwater extractions in**
19 **the same localized area by large agricultural operations and others.**

20 Mr. Wagner’s Technical Memorandum (Ex. 1 to his declaration, p. 8) also notes other
21 factors that may affect the water levels in GSWC’s well field, including pumping by other wells
22 in the area of influence of GSWC water level measurements; and pumping by nearby
23 agricultural interests that purchase excess FPA from GSWC. Yet, Aquilogic’s analysis fails to
24 consider the effects of such additional pumping on the water levels in GSWC’s wells.

25 **D. The Watermaster’s analysis demonstrates that the Centro Subarea receives, on**
26 **average, 36,338 acre-feet of flow annually.**

27 The average measured flows to the TZ total approximate 48,899 acre-feet annually; the
28 calculated consumptive losses in the TZ (based on 2023 land use and climate): (a) through

1 pumping average 6,859 acre-feet annually (i.e., approximately 10,039 acre-feet pumping in the
2 TZ, less return flows); and (b) through phreatophyte use averages 5,702 acre-feet annually (see
3 Tech. Memo., attached as Exhibit 1 to Wagner declaration filed concurrently herewith, Figure
4 1, and p. 4). Therefore, the calculated flow out of the TZ to the Centro Subarea is, on average,
5 36,338 acre-feet annually (i.e., 48,899 AF delivered to the TZ - 6,859 AF lost through
6 consumptive use from groundwater extractions - 5,702 AF loss through phreatophyte use).

7 GSWC claims a portion of the flow delivered to the TZ recharges the TZ in an amount
8 equal to the groundwater extractions less return flows in the TZ. That is true. However, as noted
9 above, the Watermaster engineer's calculation of the volume of flows received, on average, by
10 the Centro Subarea includes the amount of water lost in the TZ by consumptive uses (including
11 by groundwater extractions and phreatophyte use). Therefore, the fact that a portion of the
12 48,899 acre-feet delivered to the TZ is used to recharge the TZ in an amount equal to
13 consumptive uses in the TZ (from groundwater extractions less return flows and phreatophyte
14 use) is fully accounted for in the Watermaster's calculations – which, as noted, demonstrate that,
15 on average, the Centro Subarea receives 36,338 acre-feet of flow annually from the TZ.²

16 **E. Wells in the Centro Subarea closer to the TZ show stable water levels.**

17 Of particular note, hydrographs of production wells located closer to the TZ than the
18 GSWC well field reflect relatively stable water levels (see Tech. Memo., attached as Exhibit 1
19 to Wagner declaration filed concurrently herewith, p. 5 and Exhibits B, C, D, and E thereto; and
20 Aquilogic report [GSWC 0025, “not all Centro wells show declining water levels”]). That data
21 is entirely consistent with the Watermaster's conclusions as to the quantity of water reaching
22 Centro from the TZ.

23 What then causes the declining water levels in GSWC's well field? The available
24 evidence continues to support the conclusion that the decrease in water levels in GSWC's well
25 field is the result of a combination of factors, including significant groundwater recharge

26
27 ² That a portion of the 48,899 acre-feet delivered to the TZ recharges TZ ground water levels
28 (to replace losses from the consumptive uses described above), also confirms the Watermaster
Engineer's conclusion of Zero change in groundwater storage in the TZ.

1 between the HF and GSWC’s well field (following the river, a distance of 15.5 to 21 miles),
2 groundwater extractions in an around GSWC’s well field, and other factors -- but not from
3 decreased flows from the TZ to the Centro Subarea. Nothing in GSWC’s motion or its
4 supporting documentation demonstrates otherwise.

5 **VI.**
6 **GSWC’s motion is premature**

7 GSWC’s motion correctly states that the flow dynamics between the TZ and the Centro
8 Subarea are not yet included in the Watermaster’s Upper Mojave River Basin Model. Although
9 that will soon be remedied, GSWC argues erroneously that, “Watermaster does not intend to
10 further update the ... modeled calculations contained in the water budget that comprises its PSY
11 calculations” (Mot., 9:25-27). That claim is patently false and made without any supporting
12 evidence.

13 The Watermaster Engineer has represented to the Court and stakeholders that
14 Watermaster is continuing to develop the model to include data and estimates for all Subareas
15 within the Basin, including the TZ and the Centro Subarea, and that the updated model is
16 expected to be completed within three months of the date for the hearing on this motion. GSWC
17 simply needs to be a bit more patient. It will soon be able to evaluate the updated model; if it
18 then believes the model can or should be improved, it will be free to make suggestions at that
19 time.

20 Moreover, the declarations supporting GSWC’s motion and the Aquilogic report fail to
21 demonstrate that Aquilogic’s recommendations, if implemented, would yield better or more
22 reliable results than those from the soon-to-be-completed Upper Mojave River Basin Model (to
23 be renamed the Mojave Regional Groundwater Model, when completed). Until the updated
24 model is completed, it is premature to “order” the Watermaster to “consider” other steps and
25 methodologies for developing water budgets and PSY estimates.

26 **VII.**
27 **Conclusion**

28 The Judgment does not mandate a Subarea Obligation to the Centro Subarea. GSWC’s
WATERMASTER’S OPPOSITION TO GOLDEN STATE WATER COMPANY’S MOTION TO ENFORCE JUDGMENT

1 motion relies upon inaccurate and unreliable information. GSWC have not proven that reduced
2 flow from the TZ is the cause of declining water levels in its well field. When completed later
3 this year, the UMRBM will provide the data and information needed to adequately estimate PSY
4 for the Centro Subarea. GSWC will have ample opportunity to comment on the updated
5 UMRBM.

6 For all of the reasons stated, Watermaster respectfully submits the Court should deny
7 GSWC's motion, in its entirety.

8 Dated: September 18, 2024

BRUNICK, MCELHANEY & KENNEDY PLC

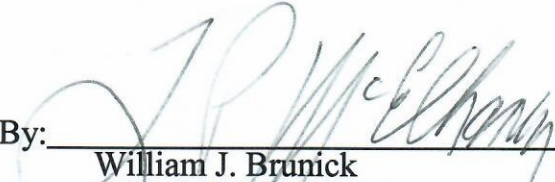
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11 By: 
12 William J. Brunick
13 Leland P. McElhaney
14 Attorneys for Defendant/Cross-complainant,
15 MOJAVE WATER AGENCY
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EXHIBIT “A”

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9 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**
10 **IN AND FOR THE COUNTY OF RIVERSIDE**

11 Coordination Proceeding Special Title
12 (Cal. Rules of Court, rule 3.550)

JCCP NO.: 5265
Lead Case No: CIV 208568

13 MOJAVE BASIN WATER CASES

Dept. 1, Riverside Superior Court
Hon. Harold W. Hopp, Judge Presiding

14 _____
15 CITY OF BARSTOW,
16 Plaintiff,
17 vs.

**WATERMASTER'S REPLY BRIEF IN
SUPPORT OF MOTION TO ADJUST
FREE PRODUCTION ALLOWANCE FOR
WATER YEAR 2024-2025**

17 CITY OF ADELANTO, et al.,
18 Defendant.

Date: June 4, 2024
Time: 8:30 a.m.
Dept.: 1

19 _____
20 AND RELATED CROSS ACTIONS

Reservation ID: 459779359960

Assigned for All Purposes to:
Hon. Harold W. Hopp, Judge Presiding

21
22 The Mojave Water Agency, acting in its capacity as the Mojave Basin Area Watermaster,
23 submits this Reply Brief in support of its motion to adjust free production allowance for water
24 year 2024-2025, and in response to the opposition filed by Golden State Water Company
25 ("GSWC") and the California Department of Fish and Wildlife ("CDFW").

26 \\\
27 \\\
28

I.

GSWC’s Opposition to the Motion is without merit

GSWC does not oppose Watermaster’s motion for adjustments to Free Production Allowance for water year 2024-2025. However, GSWC requests that Watermaster be ordered to take certain actions prior to submitting next year Watermaster’s recommendations for water year 2025-2026. As demonstrated below, the points of “opposition” which underlie GSWC’s requests are without merit, and Watermaster should not be “ordered” to take any of the actions proposed by GSWC:

A. The Wild Crossing gauge readings, upon which GSWC relies, are unreliable and were rejected.

Much of GSWC’s opposition is based upon purported stream flow readings by the Wild Crossing gage during the four year period from March 1966 to October 1970. GSWC contends the Wild Crossing gauge indicated stream flow losses of 51,500 acre-feet through the Helendale Fault and Watermaster does not explain the alleged “discrepancy.”

As explained in the attached supplemental declaration of Watermaster Engineer, Robert Wagner, the explanation is simple, to wit: the Wild Crossing gauge readings during the period in question were widely considered to be unreliable and likely inaccurate. As noted in the U.S. Geological Survey, “Water-Resources Investigations Report 95-4189, page 6:

Gaging station 10261900, Mojave River at Wild Crossing, near Helendale, was operated during water years 1967-70. About 7 mi farther downstream, gaging station 10262000, Mojave River near Hodge, was operated during water years 1931-32 and 1971- 93. **Both stations were discontinued because of unstable controls and changing stage-discharge relations that did not allow for acceptable discharge records.**

(Exhibit A hereto, emphasis added.)

Moreover, as noted in Mr. Wagner’s declaration attached to the Motion, the Watermaster’s estimate of 36,725 acre-feet of surface flow through the Helendale Fault and into the Centro Subarea, is fully consistent with and supported by other published data, to wit:

1 “We have estimated the average annual flow at Helendale Fault to be 36,725 acre-
2 feet per year (Exhibit 5, Appendix A, Table 1). Previous estimates of the flow at
3 Helendale Fault have been made by the California Department of Water
4 Resources, Bulletin 84, 1967 (35,200 AFA, 1936-1961), USGS, Stamos 2001,
5 1951-1999 (35,819 AFA at Vista Road near Helendale), and Webb Associates
6 (2000), 36,700 acre-feet, indicating the estimated average annual flow at
7 Helendale has been consistent since the 1930's.”

8 (Wagner Dec., Exhibit C to Motion, 5:3-8)

9 The referenced supporting data and analyses demonstrate further that the Wild Crossing
10 stream gage records during the four year period from 1966 to 1970 are unreliable and not a
11 proper basis for any calculation. Further explaining this point, Mr. Wagner’s supplemental
12 declaration attached as Exhibit A hereto stated:

13 GSWC’s opposition is based upon reported USGS streamflow data for a now
14 defunct stream gaging station, 10261900, Mojave River at Wild Crossing, near
15 Helendale. USGS reported stream flow estimates of the Mojave River at this
location from March 1966 to October 1970. This location is about 20 miles
downstream from the USGS stream gage at Lower Narrows near Victorville.

16 The record at Wild Crossing, near Helendale covers a short period, approximately
17 54 months, of which the record for 1968 is missing or incomplete. There are also
18 missing records in 1967 and 1970. I have attached hereto the printed record
19 published by USGS for the Wild Crossing, near Helendale Station. The published
20 report is called “United States Department of The Interior Geological Survey
21 Water Resources Division. Water Resources Data for California” Volume 1 and
22 shows the record of the Wild Crossing, near Helendale gage. This report is
23 attached as Exhibit 4. Notably, the data is rated poor for 1968, 1969, 1970, and
24 fair for 1967 (for 1967, record is rated poor for discharge above 1,000 cfs). For
25 1970, the report notes, “no gage height record during year.”

26 Approximately 83.6% of the total report flow represented by the above record
27 occurred in 1969 and about 15% occurred in 1967. In 1968 and 1970 about 1.4%
28 of the flow occurred. For 1969 the record notes, that “No gage-height record or
stage-discharge relation indefinite for Jan. 26-29, Feb. 2-5, 8-15, Feb. 26 to Mar.
17, Mar. 27 to Apr. 3, Apr. 25-30, May 10-15.” This represents 56 days out of
130 days of reported flow. The discharge for these 56 days was about 124,000
acre-feet or 54% of the total for the water year. In order to estimate a stream
discharge, a gage height and stage discharge relation must be established. As
reported for 1969, no data or stage discharge relation was established for at least
54% of the reported flow, and the entire record was rated as poor.

USGS Water-Resources Investigations Report 95-4189 (USGS, Lines 1996), page
6, notes that the gaging stations at Wild Crossing, near Helendale and at Hodge
(about 10 river miles downstream) were discontinued:

1 “Gaging station 10261900, Mojave River at Wild Crossing, near Helendale, was
2 operated during water years 1967-70. About 7 mi farther downstream, gaging
3 station 10262000, Mojave River near Hodge, was operated during water years
4 1931-32 and 1971- 93. Both stations were discontinued because of unstable
5 controls and changing stage-discharge relations that did not allow for acceptable
6 discharge records.

7 There were very few, if any, direct measurements taken at Wild Crossing, near
8 Helendale. Such measurements are essential to define the stage discharge
9 relationship. We requested field notes and direct measurements for Wild
10 Crossing, near Helendale from USGS and received the following response from
11 Johnathan Newby at USGS on April 18, 2024.

12 “Unfortunately there are no inspections/measurements in our system for
13 10261900. I also checked our paper backfile and did not find anything there as
14 well.”

15 By contrast to the foregoing, the USGS gage Mojave River at Lower Narrows,
16 near Victorville is measured directly by USGS staff once per week, and has been
17 measured at this frequency since about 1996. Further the Wild Crossing, near
18 Helendale gage record of 54 incomplete months is too short to be used to establish
19 relationships between the Lower Narrows gage and Transition Zone. The record
20 at Lower Narrows covers the years, 1900-1906, and 1931 to present
21 (approximately 1,200 months).

22 The stream gage record at Wild Crossing, near Helendale is short, unreliable,
23 incomplete and was discontinued because unstable conditions did not allow for
24 acceptable discharge records.

25 (Wagner Suppl. Dec., Exhibit A hereto, 2:7-3:21.)

26 For the foregoing reasons, GSWC’s opposition predicated on the Wild Crossing gage’s
27 readings is without merit, and does not warrant “ordering” Watermaster to do anything.

28 **B. GSWC’s production issues.**

GSWC also argues Watermaster and the Watermaster Engineer should be ordered to
analyze the causes of drawdown in GSWC and other Producer wells within the Barstow area.
However, the Watermaster Engineer has analyzed and identified that cause of the drawdown,
and it does not require a degree in rocket science to understand the reason for the drawdown in
that area, to wit:

“We note that Golden State Water Company has experienced problems with its
production wells in some areas due to declining water levels. We have presented
Watermaster with data showing that concentrated pumping (Exhibit 6) in small,
segmented aquifers along the river are depleted faster than they can be recharged

1 through long dry periods (2012-2022 for example). . . . **Due to concentrated**
2 **pumping in this area** by Industrial, agricultural, and municipal parties, water
3 levels are depressed during long drought periods, and respond positively to storm
4 events. The continuous importation of water to satisfy the annual deficit in the
5 upstream area will help mitigate this and other downstream issues.”

6 (Wagner Dec., Exhibit C to Motion, 4:11-24; emphasis added).

7 Therefore, the Watermaster Engineer has already analyzed and identified the cause of the
8 drawdown, and the Watermaster should not be “ordered” to perform any analysis beyond its
9 customary and ongoing consideration and analysis of drawdown issues in all five Subareas of
10 the Mojave Basin Area.

11 **C. The Judgment requires consideration of “average” stream flows.**

12 GSWC further complains that Watermaster’s reliance on historical data “may
13 overestimate outflow from the Transition Zone into the Centro Subarea.” However, the
14 Judgment requires that the Watermaster consider and base its estimates on “**average**” stream
15 flows. In this connection, the trial court’s Amended Statement of Decision states:

16 The flow requirements between subareas are as follows: . . . c) Alto to Centro 21,000
17 acre-feet **average** annual surface flow as measured at the lower narrows . . .

18 Likewise, Exhibit G of the Judgment governs “Subarea Obligations” and, in pertinent
19 part states:

20 1. Subarea Obligations. Producers in the respective subareas shall have the obligation
21 to provide the following **average** Annual and minimum Annual Subsurface Flows and/or Base
22 Flow per year: . . .

23 e. Alto Subarea Producers – an **average** Annual combined Subsurface Flow and Base
24 Flow of 23,000 acre-feet per Year to the Transition Zone.

25 The Judgment defines “Subarea Obligation” to mean, “the **average** Annual amount of
26 water that a subarea is obligated to provide to an adjoining downstream Subarea or the
27 Transition Zone . . .” Accordingly, Watermaster’s reliance on historical data is required in order
28 to comply with the Judgment’s mandate to calculate/estimate “average” annual flows from the

1 Alto Subarea (which includes the Transition Zone) to the Centro Subarea.

2 Additionally, it is important to note that while the Transition Zone is guaranteed a certain
3 quantity of water every year, the Centro and Barstow subareas are not. For the foregoing
4 reasons, GSWC’s criticism of Watermaster’s reliance on “historical data” to determine
5 “average” flows also is without merit.

6 **D. Installation of additional stream gauges or monitoring wells.**

7 GSWC asks the Court to Order Watermaster to replace the Wild Crossing stream gauge,
8 or establish a stream gauge at or near the Helendale Fault to directly measure surface water
9 inflows into the Centro Subarea. GSWC also argues the Judgment requires installation of
10 monitoring wells “in the Transition Zone and at Subarea boundaries.” The answer to GSWC’s
11 argument and request is as follows: monitoring wells are, in fact, present in the Transition Zone
12 and near the Helendale Fault (see Wagner supplemental declaration attached hereto, 4:1-2). Mr.
13 Wagner’s supplemental declaration also notes that installation of a stream gauge at or near the
14 Helendale Fault would “be subject to the same conditions that resulted in [the Wild Crossing
15 gage’s] abandonment, as noted by USGS, Line, 1996. Similarly, installing a stream gage at or
16 near the Helendale Fault as suggested by GSWC would encounter the same conditions, resulting
17 in an unreliable record” (Wagner Suppl. Dec., Exhibit A hereto, 3:21-25).

18 Data from the monitoring wells located at or near the Helendale Fault are used by the
19 Watermaster and the Watermaster Engineer annually. Such data is published in the
20 Watermaster’s Report every year.

21 Therefore, GSWC’s request that the Court order Watermaster to instal an additional
22 stream gauge or additional monitoring wells at the Helendale Fault also is without merit.

23 **E. Water budget for Transition Zone.**

24 GSWC also argues Watermaster should be required to prepare an annual water budget
25 for the Transition Zone “as recommended by Aquilogic.” For the following reasons, this
26 suggestion also is without merit and unwarranted. As Mr. Wagner explains in his supplemental
27 declaration:

28 “In response to GSWC’s suggestion that Watermaster prepare a water budget for
WATERMASTER’S REPLY BRIEF IN SUPPORT OF MOTION TO ADJUST FREE PRODUCTION ALLOWANCE
FOR WATER YEAR 2024-2025

1 the TZ as recommended by Aquilogic, there are two significant elements of the
2 water balance to the TZ, both of which are measured or based directly on
3 measurement. The waste stream from the Victor Valley Wastewater Treatment
4 Plant is discharged within the TZ and is measured and discharged within the TZ.
5 The flow at Lower Narrows is measured directly by USGS weekly to estimate the
6 mean daily discharge. Both of these records are considered reliable and adequate
7 for estimating the water balance in the TZ and calculating outflow across the
8 Helendale Fault. The water budget elements recommended by Aquilogic are
9 already included in the water budget analysis for the TZ. The use of the USGS
10 Basin Characterization Model (BCM) and the Parameter-elevation Regressions
11 on Independent Slopes Model (PRISM) are included in the Upper Mojave Basin
12 Model.”

13 (Wagner Suppl. Dec., Exhibit A hereto, 4:3-12.)

14 **F. Upper Mojave Basin Model**

15 GSWC also criticizes Watermaster’s use of the Upper Mojave Basin Model to
16 estimate flows from the Transition Zone into the Centro Subarea. Again, GSWC’s criticism
17 is unwarranted. As explained in Watermater Engineer’s declaration, the Upper Mojave Basin
18 Model “incorporates hydrologic data and analysis to represent the conditions of the Alto
19 Subarea for the period 1951-2020. A description of the Model and its assumptions and
20 output is available as Appendix A-G of Exhibit 5.” (Wagner Dec., Exhibit C to Motion,
21 3:11-14).

22 “The model output for future conditions resulting from importing 17,475 acre-feet per
23 year in Alto will increase water flow at the Upper Narrows at the Mojave Narrows Regional
24 Park, increase flow through the Lower Narrows and support habitat throughout the
25 Transition Zone, while also increasing flow downstream to Centro across the Helendale
26 Fault. The modeling output shows that average annual flow as measured at Lower Narrows
27 will increase by about 9,000 acre-feet per year (Exhibit 5, Appendix A, Figure 4).”

28 (Wagner Decl., Exhibit C to Motion, 4:1-6)

1 Regarding application of the Upper Mojave Basin Model to estimate flows from the
2 Transition Zone into the Centro Subarea, Mr. Wagner’s supplemental declaration attached
3 hereto also explains that:

4 “Importantly, the flow across Helendale Fault, which represents the long term
5 average supply to Centro, will not occur every year. The Mojave River system
6 is episodic, meaning there are long periods of well below average flow
7 followed by occasional periods of well above average flow. The Judgment, is
8 predicated on long term average flow. The Upper Mojave Basin Model is an adequate tool for
9 upstream portion of Alto. The Model is currently being expanded to include the TZ and the
10 Centro and Baja subareas and when complete (Fall 2024) will provide another tool for basin
11 management. Currently, the Upper Basin Model is used to estimate inflow to the TZ.”
12 (Wagner Suppl. Dec., Exhibit A hereto, 4:13-20.)

13 **G. Conclusion**

14 For the foregoing reasons, GSWC’s “opposition” and request that the Court order
15 Watermaster to take certain actions prior to submission next year of its recommendations for
16 water year 2025-2026 are all without merit.

17 **II.**

18 **California Department of Fish and Wildlife opposition also is without merit.**

19 The California Department of Fish and Wildlife opposition requests that the Court
20 deny Watermaster’s proposed increases in FPA in the Alto and Centro subareas. In support
21 of its argument CDFW notes that certain species of riparian vegetation are struggling
22 because their root systems have difficulty reaching groundwater.¹

23 **A. The Upper Basin Model**

24
25
26 ¹ In this connection, it is important to note that Exhibit H to the Judgment specifically
27 provides that a Biological Resources Trust Fund is to be established and used “only in the event that
28 groundwater levels are not maintained” as indicated therein, and “DFG agrees that absent substantial
changed circumstances, DFG shall not seek to modify the provisions of this Judgment in any way to
add to or change the above-stated measures to protect the referenced species or habitat.”

1 Like GSWC, CDFW also argues that “model used has only been applied to the upper
2 areas of the Basin, and has not been completed for the Transition Zone, Centro and Baja.”
3 This is answered in Point “I,” subdivision “F” above, which is incorporated herein by this
4 reference.

5 **B. That increases have not yet been seen.**

6 CDFW argues further that “Watermaster engineer provides no evidence, since it is
7 almost certainly not the case, that this water [9,800 acre-feet of increased flow] will be seen
8 at the Lower Narrows in WY 2024-2025.” While CDFW’s assertion is true for Water Year
9 2024-2025, it is fundamentally wrong. This is explained in Mr. Wagner’s supplemental
10 declaration, as follows:

11 CDFW argues that “Watermaster engineer provides no evidence, since it is almost
12 certainly not the case”, that 9,800 acre-feet (Watermaster update is 9,022 acre-feet
13 per year per Wagner Dec., Exhibit C to Motion) of increased flow through Lower
14 Narrows will be seen in the Water Year 2024-25. While CDFW’s assertion is true
15 for Water Year 2024-2025, it nonetheless is fundamentally wrong. Based on how
16 money is raised from producers to purchase replacement water that will result in
17 the projected recharge in the Alto Subarea, it will be impossible for that to occur
18 in the next water year. This is so, because assessments for pumping are levied
19 after the end of the water year (September 30) and collected in July of the
20 following water year. Watermaster then pays MWA to import water, which does
21 so as water is available for importation, usually the following year.

22 Further, it is unknown whether or not there will be water to import due to the
23 uncertainties of supply availability from the State Water Project (SWP).
24 Consequently, the Judgment provides that supplemental water is to be purchased,
25 as soon as practicable. The Judgment itself prevents CDFW’s assertion from
26 being meaningful.

27 The projected future increased flow through the Lower Narrows is based on an
28 assumption that the hydrologic conditions of the past (2001-2020 in this case) will
be repeated in the future, and that the current patterns of water use and disposal
will continue during this period. These assumptions are consistent with the
definition of PSY in the Judgment. Further, the calculation of PSY and
corresponding FPA are conditions precedent to the purchase of replacement
water, not the result of the projected purchases. If the assumptions are correct,
and if water is available for importation, then on average, based on the PSY and
corresponding FPA, the average flow through Lower Narrows, predicted by the
Upper Mojave Basin Model, will increase by about 9,022 acre-feet per year.
(Wagner Suppl. Dec., Exhibit A hereto, 4:22-5:14.)

Accordingly, the projected future increased flow through the narrows is based on an
assumption that the hydrologic conditions of the past (in this case, 2001-2020) will be

1 repeated in the future, and that the current patterns of water use and disposal will continue
2 during this period. These assumptions are consistent with the definition of PSY in the
3 Judgment. Further, the calculation of PSY and corresponding FPA are conditions precedent
4 to the purchase of replacement water not the result of the projected purchases. If the
5 assumptions are correct, and if water is available for importation, then on average, based on
6 the PSY and corresponding FPA, the *average* flow through Lower Narrows, predicted by the
7 Upper Mojave Basin Model, will increase by about 9,022 acre feet per year.

8 Additionally, as explained in Point I, subdivision “C” above, the Centro and Baja
9 subareas are not guaranteed a specific quantity of surface and subsurface flow every water
10 year; instead, the calculations applicable to Centro and Baja are based on “average” flows
11 over a period of years, with variations from year to year as a result of drought conditions and
12 other factors.

13 **C. Decreasing water flow to Baja.**

14 CDFW also complains that surface water flow at Barstow has decreased to 8,900
15 acre-feet annually, and “Therefore, somewhere below the Lower Mojave Narrows gauge in
16 the Transition Zone, or in Centro water is being lost or produced, preventing it from reaching
17 Baja . . . **However, the Watermaster and Watermaster Engineer are unable to explain
18 this loss.**” (Emphasis added.) That is not so, as is explained further in Mr. Wagner’s
19 supplemental declaration, to wit:

20 CDFW suggests that there is a loss of flow to Baja and that Watermaster and
21 Watermaster engineer are unable to explain this loss. CDFW doesn’t clarify how
22 it determines the loss is 8,900 acre-feet, or the conditions during which this “loss”
23 occurred. Apparently, CDFW is comparing an estimated long-term average
(1931-1990) supply at or near the Baja/Centro boundary to the shorter-term
measurements at the Barstow gage (2001-2020).

24 Further, as previously discussed (Wagner Dec., Exhibit C to Motion, 5:3-8) the
25 inflow to Centro estimated at the Helendale Fault has been consistent since the
26 1930’s. This suggests that reductions in the inflow to Baja (if any over the long
27 term) result from losses between Helendale Fault and below the Barstow gage.
28 Noteworthy, CDFW doesn’t oppose the recommendation for FPA is Baja. The
recommendation is based on an interpretation of the trends in Baja Subarea
water levels suggesting there is or will soon be stabilization.

(Wagner Suppl. Dec., Exhibit A hereto, 5:15-26.)

1 Therefore, CDFW’s supposition is incorrect. As noted in Point I, subdivision “B”, as
2 a result of concentrated pumping in the area, “small, segmented aquifers along the river are
3 depleted faster than they can be recharged through long dry periods (2012-2022 for
4 example)” (Wagner Dec., Exhibit C to Motion, 4:11-24). CDFW merely speculates that
5 unmeasured losses in the Transition Zone could account for this loss, and “The inability to
6 directly measure these inflows and outflows of surface water creates a large uncertainty in
7 the estimate of the total inflow to Centro . . .” That speculation does not warrant denying
8 Watermaster’s recommendations for adjusting FPA in Alto and Centro for water year 2024-
9 2025.

10 **D. Decreased estimate of consumptive use by phreatophytes.**

11 CDFW expresses concern about Watermaster’s estimates of reduced consumptive use
12 by phreatophytes (native vegetation) in Baja from 2,000 acre-feet per year to 984 acre-feet
13 per year. This estimate is based upon remote sensing analysis performed over a period of five
14 years, including at Camp Cady. In his original supporting declaration, Mr. Wagner noted,
15 “CDFW objected to the characterization that water use by riparian habitat has decreased as
16 indicated by Exhibit 5, Appendix E. Watermaster recognizes the importance of protecting
17 the sensitive habitats in Baja and will work with CDFW to update estimates of riparian water
18 use and identifying cause of the decline.” (Wagner Dec., Exhibit C to Motion, 5:22-25). In
19 his supplemental declaration, Mr. Wagner explain further that:

20 “The estimate we made for this use (984 acre-feet) is intended to help
21 understand the actual demand from the riparian plant community. CDFW
22 should identify, clearly, the limits and location of riparian plant use so that a
23 complete evaluation can be made. In any event, as stated in my prior
24 declaration, the recommendation for PSY and for FPA isn’t predicated on our
25 current estimate of riparian habitat water use. The riparian vegetation use is a
26 critical element and needs further evaluation.”

27 (Wagner Suppl. Dec., Exhibit A hereto, 5:27-6:4)

28 However, CDFW’s concern about the reduced estimate of consumptive use by native
WATERMASTER’S REPLY BRIEF IN SUPPORT OF MOTION TO ADJUST FREE PRODUCTION ALLOWANCE
FOR WATER YEAR 2024-2025

1 vegetation -- which is well documented -- does not warrant denial of Watermaster's
2 recommendations for adjustments to Free Production allowances in Alto and Centro for
3 water year 2024-2025.

4 **III.**

5 **Conclusion**

6 For the reasons stated above, Watermaster respectfully submits the Court should deny
7 GSWC's request that the Court order that Watermaster take certain actions prior to
8 submitting next year its recommendations for Free Production Allowances for water year
9 2025-2026. The Court should also deny CDFW request that the Court deny the
10 Watermaster's motion for adjustments to Free Production Allowance in the Alto and Centro
11 subareas for water year 2024-2025.

12 Dated: May 28, 2024

BRUNICK, MCELHANEY & KENNEDY PLC

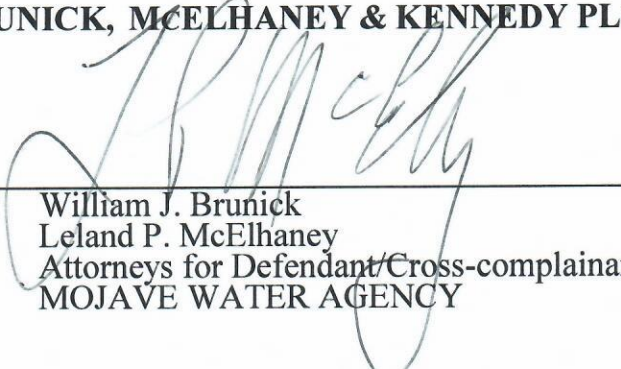
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14
15 By: 
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19 MOJAVE WATER AGENCY

EXHIBIT A

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10 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**
11 **IN AND FOR THE COUNTY OF RIVERSIDE**

12 Coordination Proceeding Special Title
13 (Cal. Rules of Court, rule 3.550)

JCCP NO.: 5265
Lead Case No.: CIV 208568

14 MOJAVE BASIN WATER CASES

Dept. 1, Riverside Superior Court
Hon. Harold W. Hopp, Judge Presiding

15 CITY OF BARSTOW, et al.,

16 Plaintiff,

17 vs.

18 CITY OF ADELANTO, et al.,

19 Defendant,

**SUPPLEMENTAL DECLARATION OF
ROBERT C. WAGNER, P.E. IN SUPPORT
OF WATERMASTER'S REPLY BRIEF IN
SUPPORT OF MOTION TO ADJUST
FREE PRODUCTION ALLOWANCE FOR
2024-2025**

Assigned for All Purposes to:
Hon. Harold W. Hopp, Judge Presiding

DATE: June 4, 2024

TIME: 8:30 AM

DEPT: 1

Reservation ID: 459779359960

22 AND RELATED CROSS ACTIONS

25 I, Robert C. Wagner, declare as follows:

26 I am a licensed Civil Engineer in the State of California and President of the firm of Wagner and
27 Bonsignore, Consulting Civil Engineers in Sacramento, California. A copy of my professional resume
28

1 is attached as Exhibit 1 and list of sources used in support of this declaration is attached as Exhibit 2. I
2 serve in the capacity of Engineer for the Mojave Basin Area Watermaster in performance of its duties
3 specified on Exhibit 3. I am providing the following information in support of Watermaster's
4 recommendations regarding Free Production Allowance (FPA) and in response to Objections filed by
5 the Golden State Water Company (GSWC) and the California Department of Fish and Wildlife (CDFW).

6 With respect to GSWC's filing, I submit the following comments and analysis.

7 GSWC's opposition is based upon reported USGS streamflow data for a now defunct stream
8 gaging station, 10261900, Mojave River at Wild Crossing, near Helendale. USGS reported stream flow
9 estimates of the Mojave River at this location from March 1966 to October 1970. This location is about
10 20 miles downstream from the USGS stream gage at Lower Narrows near Victorville.

11 The record at Wild Crossing, near Helendale covers a short period, approximately 54 months, of
12 which the record for 1968 is missing or incomplete. There are also missing records in 1967 and 1970.
13 I have attached hereto the printed record published by USGS for the Wild Crossing, near Helendale
14 Station. The published report is called "United States Department of The Interior Geological Survey
15 Water Resources Division. Water Resources Data for California" Volume 1 and shows the record of the
16 Wild Crossing, near Helendale gage. This report is attached as Exhibit 4. Notably, the data is rated poor
17 for 1968, 1969, 1970, and fair for 1967 (for 1967, record is rated poor for discharge above 1,000 cfs).
18 For 1970, the report notes, "no gage height record during year."

19 Approximately 83.6% of the total report flow represented by the above record occurred in 1969
20 and about 15% occurred in 1967. In 1968 and 1970 about 1.4% of the flow occurred. For 1969 the
21 record notes, that "No gage-height record or stage-discharge relation indefinite for Jan. 26-29, Feb. 2-5,
22 8-15, Feb. 26 to Mar. 17, Mar. 27 to Apr. 3, Apr. 25-30, May 10-15." This represents 56 days out of
23 130 days of reported flow. The discharge for these 56 days was about 124,000 acre-feet or 54% of the
24 total for the water year. In order to estimate a stream discharge, a gage height and stage discharge
25 relation must be established. As reported for 1969, no data or stage discharge relation was established
26 for at least 54% of the reported flow, and the entire record was rated as poor.

1 USGS Water-Resources Investigations Report 95-4189 (USGS, Lines 1996), page 6, notes that
2 the gaging stations at Wild Crossing, near Helendale and at Hodge (about 10 river miles downstream)
3 were discontinued:

4 “Gaging station 10261900, Mojave River at Wild Crossing, near Helendale, was operated during
5 water years 1967-70. About 7 mi farther downstream, gaging station 10262000, Mojave River
6 near Hodge, was operated during water years 1931-32 and 1971- 93. Both stations were
7 discontinued because of unstable controls and changing stage-discharge relations that did not
8 allow for acceptable discharge records.”

9 The were very few, if any, direct measurements taken at Wild Crossing, near Helendale. Such
10 measurements are essential to define the stage discharge relationship. We requested field notes and direct
11 measurements for Wild Crossing, near Helendale from USGS and received the following response from
12 Johnathan Newby at USGS on April 18, 2024.

13 “Unfortunately there are no inspections/measurements in our system for 10261900. I also
14 checked out paper backfile and did not find anything there as well.”

15 By contrast to the foregoing, the USGS gage Mojave River at Lower Narrows, near Victorville
16 is measured directly by USGS staff once per week, and has been measured at this frequency since about
17 1996. Further the Wild Crossing, near Helendale gage record of 54 incomplete months is too short to
18 be used to establish relationships between the Lower Narrows gage and Transition Zone. The record at
19 Lower Narrows covers the years, 1900-1906, and 1931 to present (approximately 1,200 months)

20 The stream gage record at Wild Crossing, near Helendale is short, unreliable, incomplete and
21 was discontinued because unstable conditions did not allow for acceptable discharge records. The re-
22 establishment of the Wild Crossing, near Helendale gage would be subject to the same conditions that
23 resulted in its abandonment, as noted by USGS, Lines, 1996. Similarly, installing a stream gage at or
24 near the Helendale Fault as suggested by GSWC would encounter the same conditions, resulting in an
25 unreliable record.

26 The elements of the water balance for the Transition Zone (TZ) are described in the
27 Watermaster’s Annual Report beginning on page 25. Water level data indicating a long term stable
28 groundwater system in the Transition Zone is shown on Figures 3-7 through 3-9 of the annual report.

1 Wells near the Helendale Fault area show water levels are at approximately at the same elevation as they
2 were 95 years ago.

3 In response to GSWC's suggestion that Watermaster prepare a water budget for the TZ as
4 recommended by Aquilogic, there are two significant elements of the water balance to the TZ, both of
5 which are measured or based directly on measurement. The waste stream from the Victor Valley
6 Wastewater Treatment Plant is discharged within the TZ and is measured and discharged within the TZ.
7 The flow at Lower Narrows is measured directly by USGS weekly to estimate the mean daily discharge.
8 Both of these records are considered reliable and adequate for estimating the water balance in the TZ
9 and calculating outflow across the Helendale Fault. The water budget elements recommended by
10 Aquilogic are already included in the water budget analysis for the TZ. The use of the USGS Basin
11 Characterization Model (BCM) and the Parameter-elevation Regressions on Independent Slopes Model
12 (PRISM) are included in the Upper Mojave Basin Model.

13 Importantly, the flow across Helendale Fault, which represents the long term average supply to
14 Centro, will not occur every year. The Mojave River system is episodic, meaning there are long periods
15 of well below average flow followed by occasional periods of well above average flow. The Judgment,
16 is predicated on long term average flow.

17 The Upper Mojave Basin Model is an adequate tool for estimating flow into the TZ from the
18 upstream portion of Alto. The Model is currently being expanded to include the TZ and the Centro and
19 Baja subareas and when complete (Fall 2024) will provide another tool for basin management.
20 Currently, the Upper Basin Model is used to estimate inflow to the TZ.

21 With regard to CDFW's filing I provide the following comments and analysis.

22 CDFW argues that "Watermaster engineer provides no evidence, since it is almost certainly not
23 the case", that 9,800 acre-feet (Watermaster update is 9,022 acre-feet per year per Wagner Dec., Exhibit
24 C to Motion) of increased flow through Lower Narrows will be seen in the Water Year 2024-25. While
25 CDFW's assertion is true for Water Year 2024-2025, it nonetheless is fundamentally wrong. Based on
26 how money is raised from producers to purchase replacement water that will result in the projected
27 recharge in the Alto Subarea, it will be impossible for that to occur in the next water year. This is so,
28 because assessments for pumping are levied after the end of the water year (September 30) and collected

1 in July of the following water year. Watermaster then pays MWA to import water, which does so as
2 water is available for importation, usually the following year.

3 Further, it is unknown whether or not there will be water to import due to the uncertainties of
4 supply availability from the State Water Project (SWP). Consequently, the Judgment provides that
5 supplemental water is to be purchased, as soon as practicable. The Judgment itself prevents CDFW's
6 assertion from being meaningful.

7 The projected future increased flow through the Lower Narrows is based on an assumption that
8 the hydrologic conditions of the past (2001-2020 in this case) will be repeated in the future, and that the
9 current patterns of water use and disposal will continue during this period. These assumptions are
10 consistent with the definition of PSY in the Judgment. Further, the calculation of PSY and corresponding
11 FPA are conditions precedent to the purchase of replacement water, not the result of the projected
12 purchases. If the assumptions are correct, and if water is available for importation, then on average,
13 based on the PSY and corresponding FPA, the average flow through Lower Narrows, predicted by the
14 Upper Mojave Basin Model, will increase by about 9,022 acre-feet per year.

15 CDFW suggests that there is a loss of flow to Baja and that Watermaster and Watermaster
16 engineer are unable to explain this loss. CDFW doesn't clarify how it determines the loss is 8,900 acre-
17 feet, or the conditions during which this "loss" occurred. Apparently, CDFW is comparing an estimated
18 long-term average (1931-1990) supply at or near the Baja/Centro boundary to the shorter-term
19 measurements at the Barstow gage (2001-2020).

20 Further, as previously discussed (Wagner Dec., Exhibit C to Motion, 5:3-8) the inflow to Centro
21 estimated at the Helendale Fault has been consistent since the 1930's. This suggests that reductions in
22 the inflow to Baja (if any over the long term) result from losses between Helendale Fault and below the
23 Barstow gage.

24 Noteworthy, CDFW doesn't oppose the recommendation for FPA is Baja. The recommendation
25 is based on an interpretation of the trends in Baja Subarea water levels suggesting there is or will soon
26 be stabilization. CDFW objects to the characterization that phreatophyte water use (water demand of
27 riparian habitat) has declined. The estimate we made for this use (984 acre-feet) is intended to help
28 understand the actual demand from the riparian plant community. CDFW should identify, clearly, the

1 limits and location of riparian plant use so that a complete evaluation can be made. In any event, as
2 stated in my prior declaration, the recommendation for PSY and for FPA isn't predicated on our current
3 estimate of riparian habitat water use. The riparian vegetation use is a critical element and needs further
4 evaluation.

5 I declare under penalty of perjury, under the laws of the State of California, that the foregoing is
6 true and correct.

7 Dated: May 28, 2024

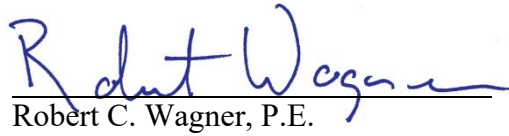
8 
9 Robert C. Wagner, P.E.

EXHIBIT 1

Wagner Bonsignore

Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D., P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

ROBERT C. WAGNER PROFESSIONAL RESUME

REGISTRATION:

Civil Engineer, California (License No. 52903)

EDUCATION:

B.S. Civil Engineering – California State University, Sacramento – 1988

EXPERIENCE:

Mr. Wagner is the president of Wagner & Bonsignore Engineers and is a Registered Civil Engineer in California, with 25 years experience in water resources management, water right analysis, surface and groundwater hydrology and land use evaluations for municipal and agricultural projects. Mr. Wagner has been the court appointed engineer for the Mojave Watermaster for over 20 years and has provided expert witness testimony on various matters related to water resources and water rights in court and before the State Water Resources Control Board. Mr. Wagner has demonstrated expertise in areas of consumptive use analysis, watershed hydrology, facility design for storm water capture and analysis of return flow to support water transfers, administration of court ordered judgments and water supply sustainability.

Mr. Wagner serves a wide variety of private and public clients throughout California, managing projects from concept to implementation. Mr. Wagner's work includes pre-1914 appropriative water right investigation, analysis of riparian and overlying water rights and appropriative rights administered by the State Water Resources Control Board.

Mr. Wagner has demonstrated communication skills to work with a wide range of legal and technical professional and stakeholder groups. He has strong organizational and analytical skills and a recognized ability to provide cost effective solutions to difficult water resource problems.

RECENT EXPERIENCE INCLUDES THE FOLLOWING:

- District Engineer for Reclamation District No. 38, Staten Island, San Joaquin County
- District Engineer for Reclamation District No. 341, Sherman Island, Sacramento County
- District Engineer for Reclamation District No. 348, New Hope Tract, San Joaquin County
- District Engineer for Reclamation District No. 800, Cosumnes River, Sacramento County
- Provide engineering consulting services on behalf of Antelope Valley East Kern Water Agency in connection with quantification of return flow from water used for irrigation and other uses.
- Provide engineering consulting services on behalf of Los Angeles World Airports in connection with quantifying water use from various sources for irrigation.
- Provide engineering consulting services on behalf of San Joaquin County in connection with water right applications and water resources management within San Joaquin County.
- Provide engineering services for Chino Basin Water Conservation District, San Bernardino County in connection with storm water recharge in Chino Basin.
- Watermaster Engineer for Orange County Water District; perform analysis of hydrologic and water quality data for the Santa Ana River Watershed for Water Year 2009-10; distinguish storm flow and base flow at Prado Dam and at Riverside Narrows, preparation of portions of the Watermaster's annual report to the Court.
- Provide engineering services for Lake Alpine Water Company / Alpine County in connection with the State Water Resources Control Board water right hearing and hydrology of South Fork Stanislaus River for State Filed Application 5648.
- Provide Engineering services for Natomas Mutual Water Company, in connection with the water rights. Evaluation of water rights for 51,000 acres of agricultural operation, water right analysis and water transfers.
- Provide engineering services on behalf of City of Sacramento in connection with the Water Resources of the American River.

- Provide engineering services on behalf of City of Ukiah in connection with water rights and hydrology of the Russian River, Mendocino County.
- Provide engineering services on behalf of Sonoma County Water Agency in connection with development of agricultural reuse project for use of treated wastewater for vineyard irrigation.
- Provide engineering services in connection with analysis of water production and hydrologic data for development of water use agreements for over 100 growers in the Dry Creek Valley in Sonoma County.
- Provide engineering services for City of Santa Maria in connection with the hydrologic resources of the Santa Maria Groundwater Basin.
- Engineering expert in the matter of Bonadiman v. Evans in San Bernardino Superior Court on behalf of prevailing party Evans. Research and documentation of water development and water right acquisition dating to 1883.
- Provide engineering services for The Wildlands Conservancy in connection with water resource matters for extensive land holdings in San Bernardino and Kern Counties.
- Provide engineering services for Wells Fargo Bank in connection with the analysis of water rights and water availability on the Kern River.
- Watermaster Engineer for the Mojave Basin Area Watermaster in the matter of the Mojave River Adjudication, City of Barstow, et al, vs. City of Adelanto, et al. Collection and analysis of data for preparation of Annual Watermaster Report, including groundwater production and hydrology studies of the Mojave River System and groundwater basin in connection with storm flow base flow separation determination and the analysis of water transfers and land use changes. Preparation of Annual Watermaster report.
- Provide engineering services on behalf of the Mojave Water Agency in connection with Mojave Basin Area Adjudication. Coordinate activities for professional and sub-professional staff for collection, analysis and verification of water production records for approximately 7,000 wells in the Mojave River Basin. Participate in meetings of the Joint Engineer-Attorney Drafting Committee formed to negotiate and draft the Stipulated Judgment. Participation in the drafting and ongoing revisions of the Watermaster Rules and Regulations.
- Provide engineering services in connection with for the Warren Valley Basin Watermaster, San Bernardino County. Analysis of groundwater production records and basin hydrology for preparation of Annual Watermaster Report.

- Provide engineering services in connection with work for East Valley Water District, San Bernardino County, regarding the analysis of surface and subsurface hydrology of the Santa Ana River and the availability of water for the Seven Oaks Dam Project and fully appropriated listing of the Santa Ana River.
- Provide engineering services on behalf of Kirkwood Associates before the State Water Resources Control Board in the matter of South Fork American River Hearings, October 1995. Analysis of the South Fork American River and Caples Creek hydrology in connection with same.
- Provide engineering services in connection with work for High Desert Water District, San Bernardino County, regarding the analysis of water quality and ground water elevation data for monitoring the potential impacts of ground water extractions from the Ames Valley Basin.
- Provide engineering services in connection with work for Hidden Valley Lake Community Services District, Lake County, regarding the hydrologic analysis of Upper Putah Creek Watershed and the Coyote Valley groundwater basin in support of amendments to fully appropriated stream status and applications to appropriate surface and subsurface water from Putah Creek; continued monitoring of the Coyote Valley groundwater basin in connection with administration of water rights.

CONTINUING EDUCATION:

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EXHIBIT 2

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EXHIBIT 3

Duties of the Watermaster and Engineer as outlined in the Judgment

MWA was appointed as the initial Watermaster and has duties separate from the Court Appointed Watermaster. MWA Obligations under the Judgment are specified in paragraph 9.0 as follows:

“The Physical Solution is intended to provide delivery and equitable distribution to the respective Subareas by MWA of the best quality of Supplemental Water reasonably available. MWA shall develop conveyance or other facilities to deliver this Supplemental Water to the areas depicted in Exhibit “I” unless prevented by forces outside its reasonable control such as the inability to secure financing consistent with the sound municipal financing practices and standards. “

MWA’s obligations under the Judgment relate to purchasing, importing and recharging the groundwater basin with supplemental water. MWA has engaged in various activities since implementation of the Judgment to meet this obligation including acquisition of additional State Water Project Entitlement and development of conveyance, recharge and extraction facilities, and the financing of those facilities.

Watermaster’s powers and duties are specified in Paragraph 24 (a) through (x) and include all of the data collection and analyses and functions reported to Court in the Watermaster Annual Reports. The engineer is responsible to Watermaster and the Court to ensure that requirements as set forth in 24 (a) through (x) are carried out as intended and consistent with the Physical Solution embodied in the Judgment. The activities described in this declaration are a result of Watermaster exercising its obligations under the Judgment. The Watermaster staff and the engineer’s duties on behalf of Watermaster include some or all of the following annually:

- Interpret and enforce the Rules and Regulations
- Calculate Subarea Make Up Obligations, and Producer Replacement Water Obligations
- Evaluate various methods of monitoring and measuring and work with producers to ensure production data is reliable
- Collect and evaluate Hydrologic, and Climate data, and monitor and evaluate phreatophyte consumptive use
- Prepare detailed producer consumptive use analyses for estimating supply to the basin from return flows of production
- Evaluate crop water requirements and various categories of water use
- Evaluate and process transfers for producers
- Maintain a database of individual producers water use, property location, wells, water production, etc.
- Calculate individual assessments as required by the Judgment
- Hold public hearings as required
- Calculate Free Production Allowance and make recommendations for adjustments
- Prepare annual report the Court on the above and all matters as delineated in Paragraph 24 (a) through (x) of Judgment.

EXHIBIT 4

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division

WATER RESOURCES DATA
FOR
CALIFORNIA
1967

Part 1: Surface Water Records
Volume 1: Colorado River Basin, Southern
Great Basin, and Pacific Slope
Basins excluding Central Valley

Prepared in cooperation with the
California Department of Water Resources
and with other agencies

Menlo Park, California
1968

MOJAVE RIVER BASIN

10-2819. MOJAVE RIVER AT WILD CROSSING, NEAR HELENDALE, CALIF.

LOCATION.--Lat 34°46'58", long 117°16'35", in NE½NE½SE¼ sec.15, T.8 N., R.4 W., on downstream wingwall of bridge on Indian Trail road at Wild Crossing, 4.7 miles northeast of Helendale.

DRAINAGE AREA.--960 sq mi.

RECORDS AVAILABLE.--March 1966 to September 1967.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,360 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 13,000 cfs (estimated) Dec. 7 (gage height, 5.80 ft); no flow for most of year.
1966-67: Maximum discharge, that of Dec. 7, 1966; no flow for most of each year.

REMARKS.--Records fair except those above 1,000 cfs, which are poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 10,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	1.5	0	0	256		0		
2			0	0	1.5	0	0	240		0		
3			0	0	1.5	0	38	232		0		
4			0	0	1.6	0	20	283		0		
5			0	0	1.8	0	348	330		0		
6			2,270	0	1.7	0	340	258		0		
7			3,890	0	1.4	0	132	197		0		
8			340	0	1.0	0	191	232		0		
9			92	0	.80	0	150	232		0		
10			21	0	.70	0	106	328		0		
11			14	0	.50	0	114	185		0		
12			12	0	.30	0	355	124		0		
13			6.9	0	.20	148	232	89		3.9		
14			0	0	.20	921	258	46		0		
15			0	0	.10	470	209	46		0		
16			0	0	.10	500	155	22		0		
17			0	0	.10	258	138	19		0		
18			0	0	0	151	128	21		0		
19			0	0	0	132	213	5.8		0		
20			0	0	0	82	240	3.6		0		
21			0	0	0	58	258	2.3		0		
22			0	0	0	75	647	1.5		0		
23			0	0	0	24	588	.80		0		
24			0	0	0	14	604	.10		0		
25			0	32	0	6.6	470	0		0		
26			0	47	0	2.8	470	.60		0		
27			0	20	0	1.0	512	.20		0		
28			0	7.2	0	0	470	0		0		
29			0	2.3	0	0	380	0		0		
30			0	1.7	0	0	300	0		0		
31			0	1.7	0	0	0	0		0		
Total	0	0	6,459	111.9	15.00	2,663.4	3,056	3,164.90	0	3.9	0	0
Mean	0	0	214	3.61	0.536	85.9	259	102	0	0.126	0	0
Max	0	0	3,890	47	1.8	921	547	330	0	3.9	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	13,180	222	30	3,220	10,000	6,280	0	7.7	0	0
Cal yr 1966: Total	-	-	-	-	-	-	-	-	-	-	-	-
Wtr yr 1967: Total	20,671.00			56.6		3,890				41.000		

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-7	0200	5.80	13,000	4-5	1100	3.10	1,450
1-25	1600	1.90	110	4-22	1400	3.90	4,500
3-14	1600	2.90	1,300				

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division

WATER RESOURCES DATA
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1968

Part 1: Surface Water Records
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Basins excluding Central Valley

Prepared in cooperation with the
California Department of Water Resources
and with other agencies

Menlo Park, California
1969

MOJAVE RIVER BASIN

10-2619. MOJAVE RIVER AT WILD CROSSING, NEAR HELENDALE, CALIF.

LOCATION.--Lat 34°46'58", long 117°16'35", in NE¼NE¼SE¼ sec.15, T.8 N., R.4 W., on downstream wingwall of bridge on Indian Trail road at Wild Crossing, 4.7 miles northeast of Helendale.

DRAINAGE AREA.--960 sq mi.

RECORDS AVAILABLE.--March 1966 to September 1968.

GAGE.--Graphic water-stage recorder. Altitude of gage is 2,360 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 137 cfs Aug. 7 (gage height, 2.60 ft); no flow for most of year. 1966-68: Maximum discharge, 13,000 cfs (estimated) Dec. 7, 1968; no flow for most of each year.

REMARKS.--Records poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 10,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0								0	0	
2		0								0	0	
3		0								0	0	
4		0								0	0	
5		0								0	0	
6		0								0	0	
7		0								0	3.6	
8		0								0	.10	
9		0								0	0	
10		0								0	0	
11		0								0	0	
12		0								0	0	
13		0								0	0	
14		0								0	0	
15		0								0	0	
16		0								0	0	
17		0								0	0	
18		1.5								0	0	
19		.10								0	0	
20		0								0	0	
21		1.0								0	0	
22		.40								0	0	
23		0								0	0	
24		0								0	0	
25		0								0	0	
26		0								0	0	
27		0								0	0	
28		0								0	0	
29		0								0	0	
30		0								.10	0	
31		0								0	0	
TOTAL	0	3.00	0	0	0	0	0	0	0	0.10	3.70	0
MFAN	0	.10	0	0	0	0	0	0	0	.003	.12	0
MAX	0	1.5	0	0	0	0	0	0	0	.10	3.6	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	6.0	0	0	0	0	0	0	0	.2	7.3	0

CAL YR 1967 TOTAL 14,028.10 MFAN 38.4 MAX 921 MIN 0 AC-FT 27,820
 WTR YR 1968 TOTAL 6.80 MFAN .019 MAX 3.6 MIN 0 AC-FT 13

Peak discharge (base, 100 cfs).--Aug. 7 (2000 hrs) 137 cfs (2.60 ft).

1969

**Water Resources Data
for
California**

Part 1. Surface Water Records

**Volume 1: Colorado River Basin, Southern
Great Basin, and Pacific Slope Basins
excluding Central Valley**



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**Prepared in cooperation with the California Department
of Water Resources and with other agencies**

MOJAVE RIVER BASIN

10-2619. MOJAVE RIVER AT WILD CROSSING, NEAR HELENDALE, CALIF.

LOCATION.--Lat 34°46'58", long 117°16'35", in NE¼NE¼SE¼ sec.15, T.8 N., R.4 W., San Bernardino County, on downstream wingwall of bridge on Indian Trail road at Wild Crossing, 4.7 miles northeast of Helendale.

DRAINAGE AREA.--960 sq mi.

PERIOD OF RECORD.--March 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,360 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 32,200 cfs (estimated) Feb. 25 (gage height, 6.79 ft); no flow for most of year.

Period of record: Maximum discharge, 32,200 cfs (estimated) Feb. 25, 1969 (gage height, 6.79 ft); no flow for most of each year.

REMARKS.--Records poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 10,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	142	2,600	700	150	0	0	0	0
2	0	0	0	0	126	2,000	730	161	0	0	0	0
3	0	0	0	0	115	1,600	700	142	0	0	0	0
4	0	0	0	0	105	1,350	684	155	0	0	0	0
5	0	0	0	0	97	1,150	744	179	0	0	0	0
6	0	0	0	0	581	1,000	764	232	0	0	0	0
7	0	0	0	0	561	900	536	310	0	0	0	0
8	0	0	0	0	460	800	526	197	0	0	0	0
9	0	0	0	0	400	720	428	191	0	0	0	0
10	0	0	0	0	350	660	456	170	0	0	0	0
11	0	0	0	0	300	600	470	158	0	0	0	0
12	0	0	0	0	270	560	428	142	0	0	0	0
13	0	0	0	0	250	520	428	130	0	0	0	0
14	0	0	0	0	230	490	380	120	0	0	0	0
15	0	0	0	0	210	460	414	110	8.7	0	0	0
16	0	0	0	0	324	440	340	100	0	0	0	0
17	0	0	0	0	266	420	274	88	44	0	0	0
18	0	0	0	0	300	400	215	45	0	0	0	0
19	0	0	0	0	266	390	232	46	0	0	0	0
20	0	0	0	0	209	498	300	65	0	0	0	0
21	0	0	0	326	161	604	300	60	0	0	0	0
22	0	0	0	762	155	744	300	46	0	0	0	0
23	0	0	0	246	191	652	258	36	0	0	0	0
24	0	0	0	40	2,610	652	240	10	0	0	0	0
25	0	0	0	11,900	17,000	668	220	0	0	0	0	0
26	0	0	0	9,760	12,000	526	200	38	0	0	0	0
27	0	0	0	4,480	6,000	510	180	26	0	0	0	0
28	0	0	0	789	3,500	500	170	5.2	0	0	0	0
29	0	0	0	310	-----	550	160	0	0	0	0	0
30	0	0	0	203	-----	600	150	0	0	0	0	0
31	0	-----	0	161	-----	670	-----	0	-----	0	-----	0
TOTAL	0	0	0	28,977	47,179	24,234	11,925	3,112.2	57.7	0	0	0
MEAN	0	0	0	935	1,685	782	398	100	1.76	0	0	0
MAX	0	0	0	11,900	17,000	2,600	764	310	44	0	0	0
MIN	0	0	0	0	97	390	150	0	0	0	0	0
AC-FT	0	0	0	57,480	93,580	48,070	23,650	6,170	105	0	0	0
CAL YR 1968	TOTAL	3.80	MEAN	.010	MAX	3.	MIN	0	AC-FT	7.5		
WTR YR 1969	TOTAL	115,479.90	MEAN	316	MAX	17,000	MIN	0	AC-FT	229,100		

PEAK DISCHARGE (BASE, 100 CFS)			
DATE	TIME	G.H.	DISCHARGE
1-21	1630	4.86	a4,300
1-25	2045	7.10	a31,000
2- 6	1700	3.85	a1,900
2-25	1800	6.79	a32,200
4- 6	1100	3.45	1,600
6-16	2400	1.64	203

NOTE.--No gage-height record or stage-discharge relation indefinite Jan. 26-29, Feb. 2-5, 8-15, Feb. 26 to Mar. 17, Mar. 27 to Apr. 3, Apr. 25-30, May 10-15.

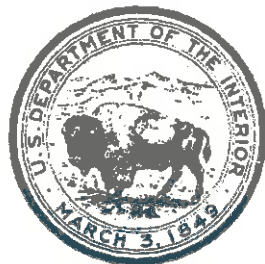
a Estimated.

1970

Water Resources Data
for
California

Part 1. Surface Water Records

**Volume 1: Colorado River Basin, Southern
Great Basin, and Pacific Slope Basins
excluding Central Valley**



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

*Prepared in cooperation with the California Department
of Water Resources and with other agencies*

MOJAVE RIVER BASIN

10261900 MOJAVE RIVER AT WILD CROSSING, NEAR HELENDALE, CALIF

LOCATION.--Lat 34°46'58", long 117°16'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.8 N., R.4 W., San Bernardino County, on downstream wingwall of bridge on Indian Trail Road at Wild Crossing, 4.7 miles northeast of Helendale.

DRAINAGE AREA.--960 sq mi.

PERIOD OF RECORD.--March 1966 to September 1970 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 2,360 ft (from topographic map)

EXTREMES.--Current year: Maximum discharge, 75 cfs (estimated) Mar. 3 (gage height, unknown): no flow most of year.

Period of record: Maximum discharge, 32,200 cfs (estimated) Feb. 25, 1969 (gage height, 6.79 ft): no flow most of each year.

REMARKS.--Records poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 10,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	10	11	10	15	10	4.3				
2		0	10	10	10	30	10	4.1				
3		0	10	7.0	10	28	9.8	4.0				
4		0	10	6.5	10	26	9.5	3.9				
5		0	10	6.5	10	25	9.2	3.8				
6		0	10	6.5	10	24	9.0	3.6				
7		1.0	11	6.5	10	22	8.7	3.5				
8		1.0	11	7.0	10	22	8.5	3.4				
9		1.0	11	8.5	10	21	8.2	3.3				
10		1.0	12	10	10	20	8.0	3.1				
11		1.0	12	10	10	20	7.8	2.9				
12		1.0	12	10	11	19	7.6	2.7				
13		1.0	13	10	11	19	7.4	2.5				
14		1.0	13	10	11	18	7.2	2.3				
15		1.0	13	10	11	18	6.9	2.0				
16		1.0	14	10	11	17	6.7	1.7				
17		1.0	14	10	11	16	6.5	1.4				
18		5.0	14	10	11	16	6.3	1.1				
19		6.0	14	10	11	15	6.1	.80				
20		7.0	14	10	11	15	5.9	.60				
21		8.0	14	10	10	15	5.8	.40				
22		10	14	10	10	14	5.6	.20				
23		10	14	10	10	14	5.4	.10				
24		10	14	10	10	13	5.2	0				
25		10	14	10	10	13	5.1	0				
26		10	13	10	10	13	5.0	0				
27		10	13	10	10	12	4.8	0				
28		10	13	10	10	12	4.7	0				
29		10	13	10	-----	11	4.5	0				
30		10	12	10	-----	11	4.4	0				
31		-----	12	10	-----	11	-----	0	-----			-----
TOTAL	0	127.0	384	289.5	289	546	209.8	55.70	0	0	0	0
MEAN	0	4.73	12.4	9.34	10.3	17.6	6.99	1.80	0	0	0	0
MAX	0	10	14	11	11	30	10	4.3	0	0	0	0
MIN	0	0	10	6.5	10	11	4.4	0	0	0	0	0
AC-FT	0	252	762	574	573	1,080	416	110	0	0	0	0

CAL YR 1969 TOTAL 115,990.90 MEAN 318 MAX 17,000 MIN 0 ACFT 230,100
 #AT YR 1970 TOTAL 1,901.00 MEAN 5.2 MAX 30 MIN 0 ACFT 3,770

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

NOTE.--No gage-height record during year.

EXHIBIT 5

the first and second stations are 74.8 and 70.3 mi², respectively, streamflow for all practical purposes is equivalent at the two sites, except perhaps for a few hundred acre-feet of storm runoff from the 4.5-mi² area between the stations.

On the main stem of the Mojave River, 0.8 mi downstream from the confluence of Deep Creek and West Fork, gaging station 10261100, Mojave River below Mojave River Forks Reservoir, near Hesperia, was operated during water years 1972-74. The station was inactive during water years 1975-79, and it was reactivated during water year 1980. Drainage area at the station is 211 mi².

Gaging station 10261500, Mojave River at Lower Narrows, near Victorville (fig. 5), was operated during water years 1900-06 and 1931-36 at the Upper Narrows about 3 mi upstream from its present location where it has been in operation since December 9,

1936. Drainage area at the current location is 513 mi², which includes about 120 mi² of noncontributing internal drainage in Apple Valley.

Gaging station 10261900, Mojave River at Wild Crossing, near Helendale, was operated during water years 1967-70. About 7 mi farther downstream, gaging station 10262000, Mojave River near Hodge, was operated during water years 1931-32 and 1971-93. Both stations were discontinued because of unstable controls and changing stage-discharge relations that did not allow for acceptable discharge records.

The Mojave River at Barstow (fig. 6) has been measured at gaging station 10262500 since water year 1931. Drainage area of the Mojave River at the station is 1,291 mi², which includes about 120 mi² of noncontributing area in Apple Valley.



Figure 5. Gaging station 10261500, Mojave River at Lower Narrows, near Victorville, January 31, 1995. (Gage house in top right hand corner.)

EXHIBIT “B”

1 William J. Brunick, Esq. (State Bar No 46289)
2 Leland P. McElhaney, Esq. (State Bar No. 39257)
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NO FEE PER GOV'T. CODE SEC. 6103

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6 Telephone: (909) 889-8301
7 Facsimile: (909) 388-1889

8 Attorneys for Defendant/Cross-Complainant
9 MOJAVE WATER AGENCY

10 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**
11 **IN AND FOR THE COUNTY OF RIVERSIDE**

12 Coordination Proceeding Special Title
13 (Cal. Rules of Court, rule 3.550)

14 MOJAVE BASIN WATER CASES

15 CITY OF BARSTOW, et al.,

16 Plaintiff,

17 vs.

18 CITY OF ADELANTO, et al.,

19 Defendant,

20 AND RELATED CROSS ACTIONS

JCCP NO.: 5265

Lead Case No.: CIV 208568

Dept. 1, Riverside Superior Court
Hon. Harold W. Hopp, Judge Presiding

**DECLARATION OF ROBERT C.
WAGNER, P.E. IN SUPPORT OF
MOTION TO ADJUST FREE
PRODUCTION ALLOWANCE FOR
WATER YEAR 2024-2025**

Assigned for All Purposes to:
Hon. Harold W. Hopp, Judge Presiding

DATE: June 4, 2024

TIME: 8:30 AM

DEPT: 1

Reservation ID: 459779359960

24 I, Robert C. Wagner, declare as follows:

25 I am a licensed Civil Engineer in the State of California and President of the firm of Wagner and
26 Bonsignore, Consulting Civil Engineers in Sacramento, California. A copy of my professional resume
27 is attached as Exhibit 1 and list of sources used in support of this declaration is attached as Exhibit 2. I
28

1 serve in the capacity of Engineer for the Mojave Basin Area Watermaster in performance of its duties
 2 specified on Exhibit 3. I am providing the following information in support of Watermaster's
 3 recommendations regarding Free Production Allowance (FPA) and to address other matters related to
 4 water supply use and disposal within the five Subareas. I incorporate by reference, as though fully set
 5 forth herein, my declarations and all attachments thereto that were filed with the court in this action in
 6 support of prior Motions to Adjust FPA.

7 In my capacity as Engineer for the Mojave Basin Area Watermaster, I have reviewed the Motion
 8 to Adjust FPA for Water Year 2024-25 and the Watermaster's Thirtieth Annual Report. Each of the facts
 9 set forth in the Motion to Adjust FPA for Water Year 2024-25 are true and correct to the best of my
 10 knowledge and I could competently testify thereto.

11 I have reviewed the recommended adjustments to FPA for Water Year 2024-25 set forth in the
 12 pending motion and each of the recommendations set forth therein for each of the Subareas is consistent
 13 with my opinions and recommendations as conveyed to the Watermaster. The recommendation to adjust
 14 FPA for each Subarea was presented at the February 28, 2024 and the March 27, 2024 hearings held by
 15 Watermaster as required by the Judgment. Public workshops were held for each Subarea to present
 16 information about proposed Production Safe Yield (PSY) and FPA adjustments on March 13, and 14,
 17 2024. The presentations for the Watermaster meetings and workshops are attached as Exhibit 4.

18 The following table shows the current FPA for each Subarea and the PSY adopted by
 19 Watermaster.

<u>Subarea</u>	<u>Base Annual Production</u>	<u>2023-24 FPA</u>	<u>Production Safe Yield</u>	<u>Percent Difference¹</u>	<u>2022-23 Verified Production</u>
Alto	116,412	59,771	62,005	-1.9%	68,751
Baja	66,157	15,414	12,749	4.0%	9,191
Centro	51,030	28,793	31,420	-5.1%	14,840
Este	20,205	11,568	6,582	24.7%	3,547
Oeste	7,095	3,667	3,634	0.5%	2,607

¹This value represents the percent of BAP that PSY departs from FPA.

27 ///

28 ///

1 The following is the recommended FPA for Water Year 2024-25:

<u>Subarea</u>	<u>Proposed 2024-25 Free Production Allowance</u>
Alto	53.3% of Base Annual Production
Centro	60% of Base Annual Production
Baja	20.5% of Base Annual Production
Este	50% of Base Annual Production
Oeste	50% of Base Annual Production

9 **Alto – 53.3% of BAP**

10 I prepared an update to the PSY for Alto (Production Safe Yield and Consumptive Use Update,
11 February 28, 2024) included herein as Appendix A of Exhibit 5, based on output from the Upper Mojave
12 Basin Model prepared by Mojave Water Agency. The model incorporates hydrologic data and analysis
13 to represent the conditions in the Alto subarea for the period 1951-2020. A description of the Model
14 and its assumptions and output is available as Appendix A-G of Exhibit 5.

15 Watermaster adopted findings developed from the model to establish the PSY for Alto, at its
16 March 27, 2024 meeting.

17 The current estimate of PSY is 62,005 acre-feet, an increase of about 4.4% (59,409 acre-feet)
18 over the previous estimate. Under current conditions of water supply use and disposal, and pursuant to
19 the transfer provisions of the Judgment, we expect that Alto producers will purchase from Watermaster
20 about 17,475 acre-feet per year to offset the annual deficit in Alto (Exhibit 5, Summary, (Table 1).

21 Pursuant to Exhibit H of the Judgment, if FPA exceeds PSY by 5% or more, Watermaster shall
22 recommend a reduction equal to a full five percent of the Subarea Base Annual Production. There is no
23 restriction for Watermaster to increase FPA, however in considering whether to increase or decrease the
24 FPA in a Subarea, Watermaster shall, among other factors, take into consideration the areas shown on
25 Figure H-1, the Consumptive Use of water by riparian habitat, the protection of public trust resources,
26 including the species listed in Table H-1 and the riparian habitat areas shown on Figure H-1, and whether
27 an increase would be detrimental to the protection of public trust resources. The UMBM, has recognized
28 that the habitat is using about 11,000 acre-feet (Exhibit 5, Appendix G).

1 The model output for future conditions resulting from importing 17,475 acre-feet per year in Alto
2 will increase water flow at the Upper Narrows at the Mojave Narrows Regional Park, increase flow
3 through the Lower Narrows and support habitat throughout the Transition Zone, while also increasing
4 flow downstream to Centro across the Helendale Fault. The modeling output shows that average annual
5 flow as measured at Lower Narrows will increase by about 9,000 acre-feet per year (Exhibit 5, Appendix
6 A, Figure 4).

7 Watermaster adopted the Alto PSY of 62,005 acre-feet and set the FPA at 53.3% of BAP for the
8 2024-25 Water Year

9 **Centro – 60% of BAP**

10 PSY for Centro has been reevaluated and should be set at 31,420 acre-feet (Exhibit 5, Appendix
11 A, Table 1). The indicated FPA for Centro based on the PSY update would be 61.6% of BAP. We note
12 that Golden State Water Company has experienced problems with its production wells in some areas due
13 to declining water levels. We have presented Watermaster with data showing that concentrated pumping
14 (Exhibit 6) in small, segmented aquifers along the river are depleted faster than they can be recharged
15 through long dry periods (2012-2022 for example). Exhibit 6, was prepared by MWA personnel under
16 my supervision.

17 In 2022 MWA committed to deliver 5,000 acre-feet of supplemental water as a temporary relief
18 for Centro Producers. The storms of 2023 (199,660 acre-feet at the Forks of native water supply) and
19 the release of about 73,000 acre-feet to the Mojave River by MWA have increased water levels
20 downstream (Watermaster Annual Report, May 1, 2024, Figure 3-15). Water levels in this area of
21 Centro are variable dependent on Mojave River storm flow. Due to concentrated pumping in this area
22 by Industrial, agricultural, and municipal parties, water levels are depressed during long drought periods,
23 and respond positively to storm events. The continuous importation of water to satisfy the annual deficit
24 in the upstream subarea will help mitigate this and other downstream issues.

25 The Mojave River flows between the Alto Subarea and the Centro Subarea across the Helendale
26 fault, just north of the community of Helendale. The TZ is the area between the Lower Narrows and the
27 Helendale Fault and is part of the Alto Subarea. There is a subarea flow obligation between Alto and
28 Centro of 21,000 acre-feet of surface flow and 2,000 acre-feet of subsurface flow. This obligation is to

1 the Transition Zone (TZ). (Judgment After Trial, Exhibit G (e), page G-2) and has been met every year
2 since entry of Judgment.

3 We have estimated the average annual flow at Helendale Fault to be 36,725 acre-feet per year
4 (Exhibit 5, Appendix A, Table 1). Previous estimates of the flow at Helendale Fault have been made by
5 the California Department of Water Resources, Bulletin 84, 1967 (35,200 AFA, 1936-1961), USGS,
6 Stamos 2001, 1951-1999 (35,819 AFA at Vista Road near Helendale), and Webb Associates (2000),
7 36,700 acre-feet, indicating the estimated average annual flow at Helendale has been consistent since
8 the 1930's.

9 Watermaster adopted the Centro PSY of 31,420 acre-feet and set the FPA at 60% of BAP for the
10 2024-25, Water Year.

11 **Baja – 20.5% of BAP**

12 We have updated the PSY for Baja based on a subarea wide assessment of water levels and
13 decreases in pumping in Baja (Exhibit 5, Appendix E). Pumping has declined 75% since entry of
14 Judgment (1996) and 60% from the 2016 level. The pumping decline since 2016 has caused some water
15 levels to slow the historic drop, and even recover in some wells (Exhibit 5, Appendix E). This trend is
16 likely to continue and is an indication that the PSY in Baja is close to the average amount of pumping
17 for the past several years. Our assessment of the Baja water balance, for long term conditions and
18 existing pumping and outflow, also suggests that Baja has reached a level of sustainability. We note that
19 any increase in pumping in the future will likely cause water level declines.

20 The California Department of Fish and Wildlife (CDFW) provided comments to Watermaster
21 addressing concerns for water loss in the Baja Subarea and water use by riparian habitat. Watermaster
22 met with CDFW on March 11, 2024 and April 17, 2024 to discuss these concerns. CDFW objected to
23 the characterization that water use by riparian habitat has decreased as indicated by Exhibit 5, Appendix
24 E. Watermaster recognizes the importance of protecting the sensitive habitats in Baja and will work
25 with CDFW to update estimates of riparian water use and identifying causes of the decline. CDFW has
26 agreed with the recommendation to leave Baja FPA unchanged at 20.5% of Base Annual Production.

27 Watermaster adopted the Baja PSY of 12,749 acre-feet and set the FPA at 20.5% of BAP for the
28 2024-25, Water Year.

1 **Este – 50% of BAP**

2 PSY has been reevaluated and should be set at 6582 acre-feet. As FPA remains higher than PSY
3 in Este, additional Rampdown is warranted. The Este water levels over a long period of time suggest
4 there is little or no loss of storage. An evaluation of water supply and water levels is provided in the
5 Exhibit 5, Appendix D. The UMBM indicates a loss of storage of 191 acre-feet per year for the 70-year
6 model period of record, but an increase of 134 acre-feet per year in the 20-year base period (2001-2022).
7 For Lucerne Valley, we note that water level changes are small and stable for many years, including
8 some water levels showing increases. Assuming limited or no change in storage, the PSY for Este is
9 about equal to the pumping, or about an average 5,108 acre-feet for the past 5 years and 6,582 acre-feet
10 for the 20-year base period (2001-2022). Assuming water levels indicate lack of storage change during
11 the past 20 plus years, the PSY might be as high as 6,582 acre-feet.

12 Watermaster adopted the Este PSY of 6,582 acre-feet and set the FPA at 50% of BAP for the
13 2024-25, Water Year.

14 **Oeste – 50% of BAP**

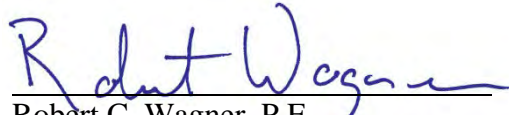
15 PSY for Oeste has been reevaluated and we recommend setting PSY equal to the average
16 pumping for the past 5 years, 3,634 acre-feet. The water supply conditions in Oeste are not well
17 understood, despite numerous investigations. Inflow to Oeste from Sheep Creek wash, and other local
18 washes is unmeasured, and difficult to quantify. Water levels over time are variable but have generally
19 fluctuated within a range. Assuming water levels are indicating little or no loss of storage, the PSY
20 would be about equal to the pumping. Our evaluation suggests that there might be some minor loss in
21 storage, but it isn't easily quantified (Exhibit 5, Appendix C). The UMBM indicates a loss in storage of
22 1,558 acre-feet per year for the past 20 years. Assuming the average pumping for the past 20 years, the
23 PSY would be 2,983 acre-feet. However, many changes have occurred over the past 20 years that would
24 affect the water balance. There is now only one major producer that pumps more than 90% of all the
25 water, and exclusively for domestic and commercial uses. The current pumping in Oeste is about 2,600
26 acre-feet. Given the changes in land use, and pumping patterns (agriculture is no longer active) it is
27 expected that there will be lower consumptive uses in the future. Small errors in inflow, recharge, and
28 consumptive use could result in a lower estimate of storage loss.

1 While the UMBM is a tool that we plan to rely on for PSY calculations and basin management,
2 for Oeste for 2024-25, we are suggesting that FPA remain at 50% and we continue to monitor production
3 and water levels, consistent with recommendations we have made previously. We are continuing to
4 gather data from local pumpers regarding water level changes in wells that are outside, but tributary to
5 the Oeste Subarea and could represent a source of supply that is not currently captured by the UMBM
6 and may show a reduction in the indicating deficit in Oeste.

7 Watermaster adopted the Oeste PSY of 3,634 acre-feet and set the FPA at 50% of BAP for the
8 2024-25, Water Year.

9 I declare under penalty of perjury, under the laws of the State of California, that the foregoing is
10 true and correct.

11 Dated: May 1, 2024

12 
13 Robert C. Wagner, P.E.

PROOF OF SERVICE

STATE OF CALIFORNIA }
COUNTY OF SAN BERNARDINO}

I am employed in the County of the San Bernardino, State of California. I am over the age of 18 and not a party to the within action; my business address is 13846 Conference Center Drive, Apple Valley, California 92307.

On September 18, 2024, the document(s) described below were served pursuant to the Mojave Basin Area Watermaster's Rules and Regulations paragraph 8.B.2 which provides for service by electronic mail upon election by the Party or paragraph 10.D, which provides that Watermaster shall mail a postcard describing each document being served, to each Party or its designee according to the official service list, a copy of which is attached hereto, and which shall be maintained by the Mojave Basin Area Watermaster pursuant to Paragraph 37 of the Judgment. Served documents will be posted to and maintained on the Mojave Water Agency's internet website for printing and/or download by Parties wishing to do so.

Document(s) filed with the court and served herein are described as follows:

WATERMASTER'S OPPOSITION TO GOLDEN STATE WATER COMPANY'S MOTION TO ENFORCE JUDGMENT

 X (STATE) I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on September 18, 2024 at Apple Valley, California.



Jeffrey D. Ruesch

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Mojave Basin Area Watermaster Service List as of September 18, 2024

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Mojave Basin Area Watermaster Service List as of September 18, 2024

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Mojave Basin Area Watermaster Service List as of September 18, 2024

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Mojave Basin Area Watermaster Service List as of September 18, 2024

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Mojave Basin Area Watermaster Service List as of September 18, 2024

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Mojave Basin Area Watermaster Service List as of September 18, 2024

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