

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Application of California-American Water Company (U210W) to Obtain Approval of the Amended and Restated Water Purchase Agreement for the Pure Water Monterey Groundwater Replenishment Project, Update Supply and Demand Estimates for the Monterey Peninsula Water Supply Project, and Cost Recovery

Application No. 21-11-024  
(Filed November 29, 2021)

**PHASE 2 DIRECT TESTIMONY OF DAVID J. STOLDT**

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MANAGEMENT DISTRICT**

August 19, 2022

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**PHASE 2 DIRECT TESTIMONY OF DAVID J. STOLDT**

**I. INTRODUCTION**

Q1: What is your name, title, and business address?

A1: My name is David Stoldt, and I am the General Manager of the Monterey Peninsula Water Management District (MPWMD). My address is 5 Harris Court, Building G, Monterey, CA 93940.

Q2: Have you previously provided testimony in this proceeding?

A2: Yes, I submitted testimony in Phase 1 of this proceeding on March 11, 2022, and April 4, 2022. My credentials were included in the March 11, 2022, direct testimony.

Q3: Are there any additions to your credentials or qualifications you would like to add?

A3: Yes. Early in my career, for a few years I was responsible for demand forecasting at PG&E. Those duties involved reviewing the economic and demographics underlying the annual energy

1 forecast and developing an annual peak load forecast based on housing, temperature, and geography,  
2 among other variables.

3  
4 **II. PURPOSE OF TESTIMONY**

5  
6 Q4: What is the purpose of your testimony?

7 A4: In response to the Assigned Commissioner's Scoping Memo and Ruling dated February 9,  
8 2022, I am providing updated supply and demand analyses related to the Monterey Peninsula Water  
9 Supply Project, as well as providing alternative views to many of the issues raised in the Phase 2  
10 Direct Testimony of Ian C. Crooks of California American Water (Cal-Am). I will also briefly  
11 touch on the Phase 2 direct testimony of Christopher Cook and Paul Findley.

12  
13 Q5: What specific issues does your direct testimony cover?

14 A5: I will address the following:

15 **Background:**

- 16 • The process of forecasting water supply needs is relatively simple, yet the approach taken  
17 by Cal-Am and its consultants has overcomplicated it and rendered it confusing to the  
18 Commission, the intervenors, and other parties. This has been done to continue to justify an  
19 investment in a desalination facility that will not be needed for decades;
- 20 • The prior findings within the Commission's decision D.18-09-017 are no longer timely and  
21 should be subject to greater scrutiny;
- 22 • The Commission performed no original analysis of its own, nor hired a third-party to  
23 determine validity of water demand projections;
- 24 • The Cal-Am Urban Water Management Plan (UWMP) is a poor predictor of future  
25 performance; and
- 26 • Cal-Am's 2020 UWMP represents only the view of Cal-Am and its hired consultant, was  
27 not properly vetted publicly, and reflects no input of other local water suppliers in the area.

1 **Water Demand:**

- 2
- The Cal-Am demand forecast is riddled with examples of double-counting;
  - Cal-Am has misinterpreted and miscalculated water demand for the Regional Housing Needs Allocation;
  - The Cal-Am assumptions with respect to Legal Lots of Record, Tourism Rebound, and Pebble Beach Entitlements are out of date and inconsistent; and
  - Cal-Am uses the “peaking factor” in a disingenuous manner.
- 8

9 **Water Supply:**

- 10
- Cal-Am improperly understates the amount of supply available from Pure Water Monterey, Aquifer Storage and Recovery (ASR), and the Sand City Water Supply Project (desalination plant); and
  - Malpaso water rights should be included.
- 14

15 **Supply v. Demand:**

- 16
- With Pure Water Monterey Expansion and without a desalination plant, projected supplies can meet forecasted demands for more than 30 years.
  - A Commission decision to not authorize Cal-Am to approve the Amended WPA in support of the proposed Pure Water Monterey Expansion would have a negative impact on Cal-Am's available water supplies. Pure Water Expansion is needed to offset limits of these existing water supplies.
- 22

23 **Other:**

- 24
- There is no “trend” in Carmel River flows over time; Near-term supply issues need to be separated from long-term issues; and
  - The upcoming modeling of the Seaside groundwater basin is flawed;
- 27

1 **III. BACKGROUND**

2  
3 Q6: How is it your view that forecasting future water supply needs is “simple”?

4 A6: At its basic level, planning water supply is being able to answer three simple questions: (i)  
5 What is our usage today (current demand)? (ii) What will we need in the future (future demand)?  
6 and, (iii) when will we get there (growth rate)? The answers translate to how much supply will be  
7 needed each year going forward. In addition, the planner also has to examine if there is enough  
8 supply available to reliably serve the 10-Year Maximum Daily Demand (MDD) and Peak Hour  
9 Demand (PHD) in the higher demand months, per the California Code of Regulations (CCR) section  
10 64554.

11  
12 Q7: Why do you believe that Cal-Am and its consultants have overcomplicated supply  
13 forecasting and rendered it confusing?

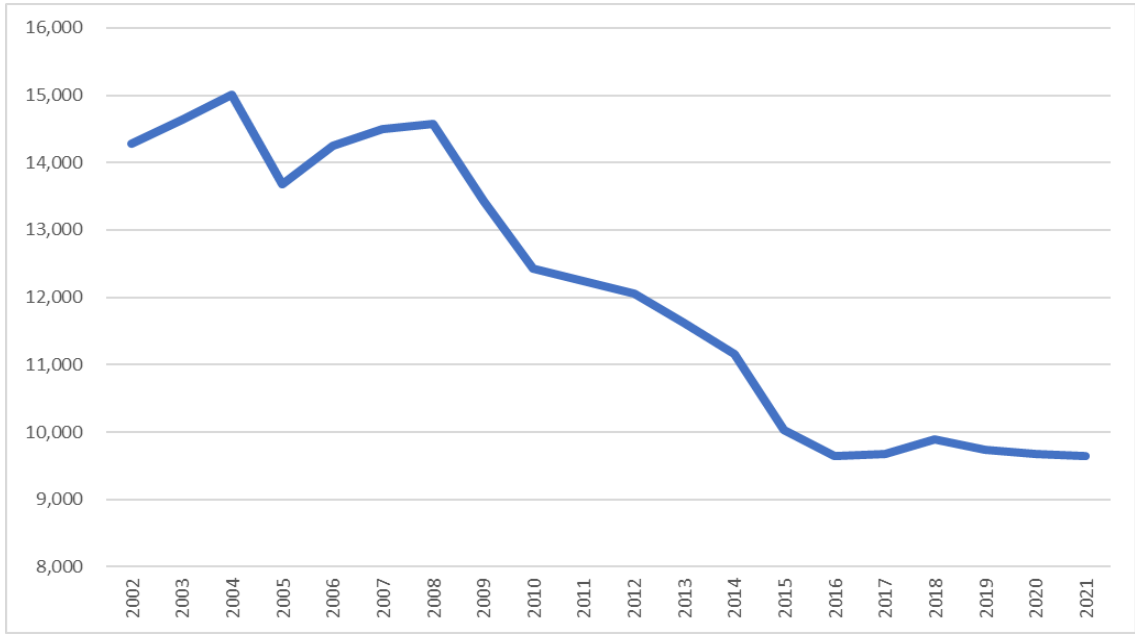
14 A7: The proceeding (A.12-04-019) that led to D.18-09-017 took over 6 years. During that time,  
15 Cal-Am obfuscated the three basic water supply planning questions above and continues to do so in  
16 this proceeding.

17  
18 Q8: How has Cal-Am confused issues related to basic question 1: “What is our usage today  
19 (current demand)?”

20 A8: I believe that Cal-Am has finally come around to an honest representation of current demand  
21 but had spent the better part of A.12-04-019 confusing the Commission and overstating actual water  
22 use. In that proceeding at the Commission, Cal-Am maintained that the answer to the first question  
23 (current demand) was 12,350 AFA. Yet, at the time D.18-09-017 was issued in September 2018,  
24 that very same water year ending September 30, 2018, saw 9,893 AF of actual demand (production  
25 for customer service) and the 5-year average from 2017-2021 was 9,725 AFY. This trend that was  
26 ongoing during the proceeding is shown in Figure 1 below.

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Figure 1  
20-Year Trend in Production for Customer Service (Demand)



Cal-Am initially sized its Monterey Peninsula Water Supply Project (MPWSP) desalination plant solely as a replacement supply<sup>1</sup> to replace unlawful Carmel River diversions, together with additional capacity for some future needs. However, Cal-Am’s plant sizing story changed over time. When filed, the application of Cal-Am in that CPUC proceeding utilized 13,290 AFA as the current demand which was the 5-year average demand for 2007-2011.<sup>2</sup> As stated earlier, the project was to be replacement supply and Cal-Am’s Application stated “At this point future demands of the Monterey System have not been included in the sizing of the plant.”<sup>3</sup> In a January 2013 CPUC filing, average demand was reiterated by Cal-Am to be 13,290 AFA, but Cal-Am added that the plant would need to be increased by approximately 700 acre-feet per year for in-lieu recharge of the Seaside Basin for 25 years following project completion.<sup>4</sup> However, that was done without changing the size of the plant from the initial Application. In a 2016 update to the CPUC, Cal-Am

<sup>1</sup> Direct Testimony of Richard C. Svindland in A.12-04-019, April 23, 2012, pp. 5,7.  
<sup>2</sup> Id., p. 21. Line 25.  
<sup>3</sup> Id., p. 36. Line 20.  
<sup>4</sup> Supplemental Testimony of Richard C. Svindland in A.12-04-019, January 11, 2013, pp. 4-5.



1 recognized that average demand had declined in the intervening three years.<sup>5</sup> The 5-year average  
2 had declined to 10,966 AFA. At the time of that 2016 update, Cal-Am suggested that it should size  
3 the plant based on the backward-looking 10-year average demand, instead of the 5-year average in  
4 the original Application, as well as several alternate assumptions about return of water to the Salinas  
5 Valley. They concluded “we do not believe the size of the plants should be changed.”<sup>6</sup>

6  
7 In a September 2017 filing to the CPUC, Cal-Am acknowledged continuing declines in demand, but  
8 indicated that the plant sizing remained appropriate saying “We anticipate demand to rebound over  
9 time after these new water supplies are available, the drought conditions continue to subside, the  
10 moratorium on new service connections is lifted, and strict conservation and water use restrictions  
11 are eased.”<sup>7</sup> The company also for the first time introduced the use of future population and demand  
12 as a way to “normalize” the average demand used in sizing, a departure from the “replacement  
13 supply” basis under the initial Application in 2012.<sup>8</sup> This resulted in Cal-Am’s estimate of average  
14 “current” system demand of 12,350 AFA which found its way into D.18-09-017 as shown in page  
15 25 of that Decision and also on page 47 where the Commission stated “While the averaging of the  
16 two methods used by Cal-Am to project demand for existing customers is somewhat complicated,  
17 the Commission finds that both methods provide reasonable results and that the average is a  
18 reasonable figure to use for forecasting demand for existing customers. Cal-Am has met its burden  
19 of proof in that its forecast of demand, when weighed with those opposed to it, has more convincing  
20 force and the greater probability of truth.”<sup>9</sup> And on page 49 of the Decision: “we are convinced that  
21 12,350 afy represents an appropriate estimate of annual  
22 demand to use”.<sup>10</sup> Again, at the time D.18-09-017 was issued in September 2018, that same water  
23 year saw 9,893 AF of actual demand, almost 2,500 AF (20%) less than approved in the Decision.

24 \_\_\_\_\_  
25 <sup>5</sup> Supplemental Testimony of Richard C. Svindland in A.12-04-019, April 14, 2016 (Errata), pp. 7-11.

26 <sup>6</sup> Id., p. 9.

27 <sup>7</sup> Direct Testimony of Ian Crooks Errata Version in A.12-04-019, September 27, 2017, p. 10.

28 <sup>8</sup> Id., pp. 11-13

<sup>9</sup> See Attachment A hereto, CPUC D.18-09-017, September 13, 2018, Selected Pages, p. 47.

<sup>10</sup> Id., p. 49.

1 Just nine months after D.18-09-017 Cal-Am itself moved away from the 12,350 AFA number as a  
2 measure of current water demand in its General Rate Case (GRC) application. In Cal-Am’s GRC  
3 application in July 2019 Cal-Am asserted its total water production for 2021 and 2022 from the  
4 Central Division would be 9,789 AFA,<sup>11</sup> which included the Cal-Am Main System plus its satellites.  
5 Previously, in CPUC Decision 16-12-026, the Commission required Class A and B water utilities  
6 to propose improved forecast methodologies in their next general rate cases.<sup>12</sup> In the 2019 GRC,  
7 Jeffrey Linam, Cal-Am’s Vice President of Rates and Regulatory, stated in his testimony that Cal-  
8 Am “believes that the testimony demonstrates improved forecasting methodologies that consider  
9 the consumption trends during and following the drought that began in 2013”.<sup>13</sup> Cal-Am “hired  
10 David Mitchell of consulting firm MCubed to provide its sales forecast based on econometric  
11 models. The Company believes this is a significant improvement over the prior methods and use of  
12 historical averages...”<sup>14</sup> This augments the testimony of Cal-Am expert witness Bahman  
13 Pourtaherian in the GRC who says David Mitchell’s company M-Cubed “has expertise addressing  
14 sales forecasting and rate design issues for energy, municipal and investor-owned water utilities  
15 across the State.”<sup>15</sup>

16  
17 Mr. Mitchell developed a highly complex econometric model for Cal-Am in that GRC which  
18 estimated the then-current demand (2021-2023) for the Cal-Am Main System.<sup>16</sup>

19  
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22  
23 \_\_\_\_\_  
24 <sup>11</sup> California-American Water Company’s (U-210-W) Update to General Rate Case Application, A.19-07-004,  
October 14, 2019, Table 3.14 of Results of Operations Model.

25 <sup>12</sup> Direct Testimony of Jeffrey T. Linam in A.19-07-004, July 1, 2019, p. 108 at line 14.

26 <sup>13</sup> Id., p. 102 at line 25.

27 <sup>14</sup> Id., p. 105 at line 6.

28 <sup>15</sup> Direct Testimony of Bahman Pourtaherian, in A.19-07-004, July 1, 2019, p. 9 at line 21.

<sup>16</sup> Direct Testimony of David Mitchell, in A.19-07-004, July 1, 2019, Attachment 2, p. 32, final line converted to acre-  
feet from CCF.

1 Table 1

2 Cal-Am Estimates of Current Demand from 2019 GRC (in AFY)

	2021	2022	2023
3			
4 Central Division Forecast Sales			
5 Results of Operations Model in A.19-07-004, Table 3.14	9,789	9,789	n/a
6 Expert Testimony of Cal-Am Witness David Mitchell	9,338	9,478	9,610
7 Cal-Am Main System			

8 Hence, in nine short months Cal-Am went from telling the Commission that current demand in the  
9 Main System was 12,350 AFY to revising it down to 9,338 AFY, a difference of 3,012 AFY – this  
10 represents almost half the capacity of the proposed MPWSP desalination plant.

11  
12 Today, in this Phase 2 proceeding, Cal-Am has now brought the estimate of current demand into  
13 line with the historic data, using a baseline of 9,303 AFY,<sup>17</sup> which is a recognition of the fallacy of  
14 their position in D.18-09-017, but Cal-Am now seeks to pad its future demand numbers as discussed  
15 below, to continue to justify construction of a desalination plant that is unnecessary in the near-term.

16  
17 MPWMD, however is using a more conservative value of 9,725 AFY, the most recent five-year  
18 average of production for customer service, as current annual demand for the system.

19  
20 Q9: How has Cal-Am confused issues related to basic question 2: “What will we need in the  
21 future (future demand)?”

22 A9: There is nothing wrong with adding up Legal Lots of Record/future population or housing  
23 needs, Tourism Rebound, and Pebble Beach Entitlements in order to ascertain a single data-point of  
24 how much water might be needed some unspecified time in the future. In D. 18-09-017 the  
25 Commission stated, “Over the course of this proceeding Cal-Am maintained its projections for legal

26  
27 <sup>17</sup> Phase 2 Direct Testimony of Ian C. Crooks in A.21-11-024, July 20,2022, p. 10, Table 2.

1 lots of record (1,180 afy), Pebble Beach entitlements (325 afy), and economic recovery of the  
2 tourism industry (500 afy). After considering all of the testimony in the record, the Commission is  
3 persuaded by Cal-Am that these projections of future demand are reasonable based on growth of  
4 population, development, and tourism.”<sup>18</sup> The Phase 2 Direct Testimony of Ian C. Crooks repeats  
5 these same assumptions. However, the Commission did not scrutinize the assumptions underlying  
6 each factor, nor did it ask when that future demand might be needed, but MPWMD has examined  
7 these factors. MPWMD undertook a deep dive into all the assumptions and discovered most of  
8 them are unsupportable by the facts. Unfortunately, MPWMD’s new information was revealed after  
9 D.18-09-017 was issued. What MPWMD learned after D.18-09-017 will be discussed later in my  
10 testimony. One of the most important takeaways of MPWMD’s effort was the understanding that  
11 once a growth forecast is created that also includes these categories of demand, double-counting can  
12 be introduced. This is what Cal-Am has done.

13  
14 It is important to note that MPWMD no longer supports or endorses its own water demand testimony  
15 provided in A.12-04-019 because of more complete and updated information.

16  
17 Cal-Am has taken the confusing step of adding these categories of future demands on top of, or  
18 additive to, the Association of Monterey Bay Area Government (AMBAG) Regional Growth  
19 Forecast upon which their UWMP base demand forecast is based. The problem with doing so is  
20 that the AMBAG forecast represents population growth and expansion of the commercial sector/job  
21 growth that already encompass such future demands. New homes and businesses get built on legal  
22 lots of record to accommodate the population forecast and economic growth, including Pebble  
23 Beach, Sand City, or any other location in the service area. Even housing to meet the Regional  
24 Housing Needs Allocation (RHNA) gets built on the legal lots of record. **These components of**  
25 **future demand are already captured within the AMBAG growth forecast and are not additive**

26  
27 \_\_\_\_\_  
<sup>18</sup> See [Attachment A](#) hereto, CPUC D.18-09-017, September 13, 2018, Selected Pages, p. 47.

1 – **TO DO SO DOUBLE-COUNTS THIS DEMAND FACTOR.** This will be explained in further  
2 detail later in my testimony.

3  
4 Q10: How has Cal-Am confused issues related to basic question 3: “When will we get there  
5 (growth rate)?”

6 A10: The ability of the Monterey Peninsula to generate or “absorb” the housing and commercial  
7 growth will help determine when such water supply is needed. The average growth in, or absorption  
8 of, water use in the decade preceding the Cease and Desist Order (CDO) was during a period of  
9 relative economic stability, available property, no moratorium on new service connections, and  
10 lower water rates, yet only resulted in 16.4 AF per year of absorption. Things do not develop quickly  
11 on the Monterey Peninsula.

12  
13 Later in this testimony, MPWMD evaluates the AMBAG 2022 Regional Growth Forecast for water  
14 needed for population and commercial growth. MPWMD analysis shows an aggressive 31.4 AF per  
15 year, almost twice as much as the historical rate. In Table 2 at page 10 of the Phase 2 Direct  
16 Testimony of Ian C. Crooks, the growth in residential plus non-residential demand is 84.1 AF per  
17 year, but when the “Other Future Demand” amounts are added in, the growth rate is 160.7 AF per  
18 year. Finally, in Table 5 on page 24 of the Crooks testimony which adds in RHNA housing demands  
19 on top, the rate becomes 179.2 AF per year. That is over 10X the actual pre-CDO rate and over 5X  
20 MPWMD’s current forecasted rate. The rate of growth in water demand immensely affects when a  
21 new supply project must be brought online and when approvals and design must be initiated. If the  
22 “When will we get there” question is answered incorrectly a utility can be left with a future supply  
23 shortfall or a stranded asset that current ratepayers must pay for without the help of future  
24 populations. Therefore, it is imperative that the water demand growth assumptions must be  
25 scrutinized by the Commission.

1 Q11: Why is it important to note the Commission performed no original analysis of its own, nor  
2 did it hire a third-party to determine validity of demand projections in the prior proceeding?

3 A11: In Mr. Crooks Phase 2 Direct Testimony, Answer 7, he states on page 5 “The Commission  
4 found that both of California American Water’s methods for projecting demand for existing  
5 customers provided reasonable results, and the average was a reasonable figure to use for forecasting  
6 demand.” And regarding Legal Lots of Record, Tourism Rebound, and Pebble Beach Entitlements  
7 “The Commission found these additional amounts were supported, and properly included in future  
8 demand.” On page 6 of his Phase 2 testimony Mr. Crooks states “after reviewing arguments and  
9 evidence submitted by multiple parties, the Commission determined that the proper forecasted  
10 demand for the Monterey Peninsula Main System was approximately 14,000 AFY.” He also uses  
11 statements on that page such as “the Commission determined...”, “the Commission further  
12 concluded...”, and “The Commission also concluded...” These statements give the impression that  
13 the Commission undertook rigorous technical analysis to reach its own independent conclusions.  
14 However, that was not the case. In its review leading to D.18-09-017 the Commission read multiple  
15 testimonies on future water demand submitted by Cal-Am and several intervenors, which was  
16 summarized in Appendix B to the Decision.<sup>19</sup> But rather than any technical analysis of its own or  
17 hiring a third-party, the Commission relied on reviewing the survey of various data presented by  
18 others and picked one that supported its narrative, concluding in the Conclusions of Law: “11. Cal-  
19 Am has met its burden of proof in that its forecast of demand when weighed with those opposed to  
20 it has more convincing force and the greater probability of truth.” But further review now shows the  
21 weaknesses of that conclusion, begging a reopening of the analysis today.

22  
23 As stated earlier, MPWMD undertook a deep dive into the assumptions relating to Legal Lots of  
24 Record, Tourism Rebound, and Pebble Beach Entitlements, and discovered most of them are  
25 unsupportable by the facts. However, this “deep dive” occurred after D.18-09-017 was rendered,  
26

27 \_\_\_\_\_  
28 <sup>19</sup> See [Attachment A](#) hereto, CPUC D.18-09-017, September 13, 2018, Selected Pages, Appendix B.

1 so it could not influence that decision. Similarly, as discussed later in my testimony, there are a  
 2 number of instances of double-counting that are now revealed with this in-depth analysis that did  
 3 not occur prior to D.18-09-017.

4  
 5 Q12: Why do you say the prior findings within the Commission’s decision D.18-09-017 are no  
 6 longer timely and should be subject to greater scrutiny?

7 A12: The initial application for the Monterey Peninsula Water Supply Project was filed in April  
 8 2012. Its assumptions are therefore 10 years out of date. The Phase 2 Direct Testimony of Ian C.  
 9 Crooks perpetuates those erroneous assumptions. Actually, the Legal Lots of Record demand value  
 10 was based on a study that began with vacant lots as of January 1, 1997, which is now 25 years out  
 11 of date. This is another reason it is imperative to scrutinize water demand assumptions.

12  
 13 Q13: Why do you believe that the Urban Water Management Plan (UWMP) is a poor predictor of  
 14 future performance?

15 A13: Cal-Am used the same consultant to prepare its last three UWMPs – Water Systems  
 16 Consulting Inc. – and the 2005 plan was prepared by Donaldson Associates.<sup>20</sup> Table 2 below shows  
 17 the success such plans had in predicting future water demand.

18 Table 2  
 19 Estimated Future Demand from Cal-Am UWMPs Compared to Actual Demand

	2010	2010		2015	2015		2020	2020	
	Projected	Actual	Variance	Projected	Actual	Variance	Projected	Actual	Variance
2005 UWMP	20,750	12,432	67%	23,600	10,023	135%	26,450	9,680	173%
2010 UWMP				11,298	10,023	13%	11,617	9,680	20%
2015 UWMP							11,951	9,680	23%

24  
 25  
 26  
 27 <sup>20</sup> See Attachment B hereto, Cal-Am Urban Water Management Plans 2005, 2010, 2015 - Water System Demands;  
 See also Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20, 2022, Attachment A.

1 It is clear that the UWMPs have not been very accurate at predicting future demand, even simply  
2 five years out from publication. Hence, MPWMD cautions the Commission to NOT simply accept  
3 what has been written in the UWMP as an accurate predictor of the future.

4  
5 Q14: Why do you think Cal-Am’s 2020 UWMP was not properly vetted publicly and reflects no  
6 input of other local water suppliers in the area?

7 A14: Crooks makes the following statement on page 20 of his Phase 2 Direct Testimony:  
8 “although it had the opportunity, MPWMD provided no comment or objection to California  
9 American Water’s UWMP”. However, Cal-Am made its 2020 UWMP available in draft form on  
10 June 10, 2021 and held a hearing on the UWMP seven days later; Cal-Am then adopted it verbatim,  
11 without change.<sup>21</sup> Providing comments on a 544 page document within 7 days, including a weekend,  
12 proved impossible. To the contrary, most agencies provide greater time for review, such as the  
13 Marina Coast Water District providing a full month between release of a draft and the public  
14 hearing.<sup>22</sup> Cal-Am’s timeline had the effect of ensuring MPWMD, nor anyone else, would be able  
15 provide relevant comments upon the UWMP. In the past, for example, MPWMD commented  
16 heavily on the 2010 and 2005 UWMPs<sup>23</sup>, all of which were then ignored by Cal-Am. In some  
17 respects, MPWMD has been frustrated in providing comment, because it appears Cal-Am finds its  
18 input to be adversarial. This is especially troubling since the Urban Water Management Plan  
19 Guidebook 2020 counsel’s efforts to foster cooperation between water agencies and providers in a  
20 region: “Regional planning can deliver mutually beneficial solutions to all agencies involved by  
21 reducing costs for the individual agency, assessing water resources at the appropriate geographic  
22 scale, and allowing for solutions that cross jurisdictional boundaries.

23 Some of the other possible benefits, depending on the level of regional cooperation, can include:

- 24 • More reliable water supplies

25  
26 <sup>21</sup> See Attachment C hereto, Correspondence Related to 2020 Urban Water Management Plans, second page.

27 <sup>22</sup> Id., third page.

28 <sup>23</sup> See Attachment D hereto, Correspondence Related to Prior Cal-Am UWMPs.



- 1 • Increased regional self-reliance
- 2 • Improved water quality
- 3 • Better flood management
- 4 • Increased economic stability
- 5 • Restored and enhanced ecosystems
- 6 • Reduced conflict over resources

7 In support of regional UWMPs and regional water conservation targets, the UWMP portion of the  
8 Water Code provides mechanisms for participating in area-wide, regional, watershed, or basin-wide  
9 urban water management planning.”<sup>24</sup> and “Developing a cooperative 2020 UWMP may be a  
10 natural continuation of other regional coordination efforts, such as IRWM, or it may present an  
11 opportunity to begin regional collaboration.” and “Suppliers may find it beneficial to collaborate  
12 with other Suppliers to develop a RUWMP.”<sup>25</sup> MPWMD has been a supplier to Cal-Am since 2002  
13 for the Aquifer Storage and Recovery (ASR) project and since 2020 for the Pure Water Monterey  
14 project, but Cal-Am has never asked MPWMD to participate in its UWMP preparation.

15  
16 The Cal-Am 2020 UWMP represents only the view of Cal-Am and its hired consultant. The process  
17 followed prior to its adoption effectively silenced regional input.

18  
19 **IV. WATER DEMAND**

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21 Q15: Can you provide examples of double-counting in the Cal-Am water demand forecast?

22 A15: The Cal-Am demand forecast in Table 2 of Crooks’ Phase 2 Direct Testimony is the same  
23 as that from its 2020 UWMP. The UWMP states “The service area population will increase at the  
24 rate forecasted by AMBAG. For non-residential customers, water use will increase at the rate of  
25

26 \_\_\_\_\_  
27 <sup>24</sup> See Attachment E hereto, Urban Water Management Plan Guidebook 2020, pp. 2-5, 2-6.

28 <sup>25</sup> Id., pp. 2-6, 2-7.

1 employment growth forecasted by AMBAG”<sup>26</sup> In other words, AMBAG has captured the factors  
2 that influence both residential and non-residential water demand growth in its Regional Growth  
3 Forecast. AMBAG’s Final 2022 Regional Growth Forecast which Ian Crooks of Cal-Am included  
4 as Attachment D to his Phase 2 Direct Testimony was the basis for the UWMP demand forecast and  
5 the base of Table 5 to Crook’s Phase 2 Testimony. The version of the AMBAG growth forecast  
6 utilized by Cal-Am was dated 11/18/20, seven months before the June 2021 submittal date of the  
7 UWMP. This includes housing required to meet population growth.<sup>27</sup>

8  
9 AMBAG conducted 22 one-on-one meetings with local jurisdictions in the Cal-Am Main service  
10 area,<sup>28</sup> where AMBAG discussed the Regional Growth Forecast estimates, subregional allocations,  
11 and recent trends at the Planning Directors Forum in August 2019, January 2020, and August 2020.<sup>29</sup>  
12 Those meetings were the opportunity for the jurisdictions to voice concerns that other growth-related  
13 activities needed to be reflected and incorporated into the growth forecast.

14  
15 Contrary to the UWMP statement that Legal Lots of Record, Tourism Rebound, and Pebble Beach  
16 Entitlements “are independent and additive to the AMBAG projections”<sup>30</sup> they ARE NOT, and  
17 instead these factors are captured within the AMBAG growth forecast and should not be added on  
18 top. This results in double-counting.

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23 <sup>26</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment A, Cal-Am 2020 Urban  
Water Management Plan, p. 4-7.

24 <sup>27</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment D, Final 2022 Regional  
Growth Forecast, pp. 3-4.

25 <sup>28</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment D, Final 2022 Regional  
Growth Forecast, Attachment 3.

26 <sup>29</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment D, Final 2022 Regional  
Growth Forecast, p. 6.

27 <sup>30</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment A, Cal-Am 2020 Urban  
Water Management Plan, p. 4-7.

1 The same is true for the RHNA housing numbers. AMBAG develops a Metropolitan Transportation  
2 Plan and Sustainable Communities Strategy (MTP/SCS) every four years. “The 2045 MTP/SCS  
3 includes a planning period through 2045. The years forecasted include 2025,  
4 2030, 2035, 2040, and 2045. The forecast uses a model that predicts employment growth using  
5 a shift-share model based on local data as well as state and national trends. Population growth  
6 is then driven by employment growth. Household and housing growth are driven by population  
7 growth, demographic factors and external factors. This approach was vetted and approved by  
8 the AMBAG Board of Directors in 2014 for use in the metropolitan transportation plan, Moving  
9 Forward 2035 Monterey Bay. The framework was used again in 2018 for Moving Forward 2040  
10 Monterey Bay, and remains in use in 2022. While the methodology for the 2022 RGF (*Regional*  
11 *Growth Forecast*) has remained the same through three planning cycles, the models have been  
12 updated for the Moving Forward 2045 Monterey Bay Plan to include current data, a revised base  
13 year of 2015 and a new horizon year of 2045.” and “the regional growth forecast (RGF) is an  
14 important reference point in the RHNA process.”<sup>31</sup>

15  
16 “The 2045 MTP/SCS includes an updated RHNA. The 6th Cycle Regional Housing Needs  
17 Determination (RHND) from HCD to AMBAG is 33,274 units.”<sup>32</sup> The final growth forecast was  
18 adopted along with the 2045 Metropolitan Transportation Plan/Sustainable Communities in June  
19 2022.<sup>33</sup> As noted, the 2022 Regional Growth Forecast used for the MTP/SCS was available  
20 11/18/20, seven months prior to the adoption of the UWMP, so the statement by Crooks in his Phase  
21 2 Direct Testimony that the RHNA housing numbers “were not considered at the time of the 2020  
22 UWMP” is not true.<sup>34</sup> The 6<sup>th</sup> Cycle RHNA Plan itself recognizes that it is contained within the  
23 2045 MTP/SCS which utilizes the AMBAG 2022 Regional Growth Forecast. “May 2022 –

24 \_\_\_\_\_  
25 <sup>31</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment B, Draft 6<sup>th</sup> Cycle Regional  
Housing Needs Allocation Plan 2023-2031, p. 5.

26 <sup>32</sup> See Attachment F hereto, Monterey Bay 2045 – Moving Forward, AMBAG, June 2022, Excerpts, pp. 4-38.

27 <sup>33</sup> See Attachment G hereto, Resolution of Adoption of AMBAG Final Regional Growth Forecast and the 2045  
Metropolitan Transportation Plan, including its Sustainable Communities Strategy.

28 <sup>34</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, p. 10, Answer 10 at lines 18-21.

1 AMBAG releases final 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy  
2 (MTP/SCS) accommodating RHNA.”<sup>35</sup> They are all tied together.

3 It should be further noted that in the Phase 2 Direct Testimony of Ian C. Crooks, page 16, line 8 he  
4 states, “Since the City of Seaside is not entirely served by California American’s service area, only  
5 half of the units for Seaside in the table above are assumed to be within our service area.” However,  
6 any future housing permitted and built in the old Fort Ord area of the cities of Monterey, Del Rey  
7 Oaks, or Seaside would be served by Marina Coast Water District, not Cal-Am. Similarly, any  
8 housing units to be built in unincorporated Carmel Valley may be served by existing supplies that  
9 are not Cal-Am’s future supplies, but perhaps “wheeled” by Cal-Am – including 130 units at Carmel  
10 Valley Village, as well as September Ranch, that will apply against the RHNA goal, but not be a  
11 new supply to be met by Cal-Am. MPWMD believes the water for housing requirements that will  
12 be met by others should be as follows: Seaside 50% (Cal-Am assumption), Del Rey Oaks 20%,  
13 Monterey 10%, unincorporated County 30% and should be applied as a discount to future residential  
14 water demand. These discounts will be reflected in MPWMD’s demand forecast shown in Table 5.

15  
16 To summarize:

- 17 • Legal Lots of Record: Population moves to the area and lives in either existing housing stock  
18 or new housing stock that is built on Legal Lots of Record. Housing is already included in  
19 the AMBAG Regional Growth Forecast. Thus, Legal Lots of Record is not additive.
- 20 • Tourism Rebound: Non-residential economic growth is captured in the AMBAG Regional  
21 Growth Forecast and is not additive.
- 22 • Pebble Beach Entitlements: The entitlements represent new housing and commercial growth  
23 in the unincorporated County area of Pebble Beach within the Cal-Am service area. Hence,  
24 it is encapsulated within the AMBAG Regional Growth Forecast and is not additive.

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27 <sup>35</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20,2022, Attachment B, AMBAG Draft 6<sup>th</sup> Cycle  
28 Regional Housing Needs Allocation Plan 2023-2031, April 2022, p. 13.

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- RHNA Housing Numbers: The new 6<sup>th</sup> Cycle Regional Housing Needs Allocation Plan 2023-2031 is reflected within the AMBAG Regional Growth Forecast and is not additive. Houses don't use water, people do – population estimates drive water demand not housing stock estimates. It is either within the AMBAG growth forecast or separately estimated, but not both, which is double-counting. Since Cal-Am did not remove it from the Growth Forecast, this factor is double-counted.

Q16: Well, that was a powerful analysis. However, if someone did not believe your assertion that those demands are not independent and are additive to the AMBAG projections, are the amounts for Legal Lots of Record, Tourism Rebound, and Pebble Beach Entitlements projected by Cal-Am correct?

A16: No, Cal-Am's relies on estimates are that are outdated and incorrect. And keep in mind, these factors are not actually additive as they are captured in the third-party AMBAG Regional Growth Forecast.

Q17: Would you please elaborate?

A17: Certainly. Cal-Am over-estimated future water required and timing for RHNA housing numbers, Legal Lots of Record, Tourism Rebound, and Pebble Beach Entitlements.

Q18: Why do you say Cal-Am over-estimated the water and timing required for RHNA housing number?

A18: New housing stock is primarily built on Legal Lots of Record, so the RHNA housing numbers should not be treated separately from Legal Lots of Record. And since the RHNA numbers have been contemplated in the population within the Regional Growth Forecast, they should not be treated separately.

1 Cal-Am misinterprets how the RHNA housing numbers are actually implemented. In its  
2 modification of the UWMP forecast in Table 5 at page 24 of Crooks' Phase 2 Direct Testimony,  
3 Cal-Am adds a "RHNA Demand" line on top of (additive to) the AMBAG Regional Growth  
4 Forecast numbers. Even though we earlier have shown that these demands are not additive, rather  
5 already accommodated within the AMBAG growth forecast upon which the UWMP is based, it is  
6 also important to note that Cal-Am did not interpret these numbers correctly. Cal-Am assumes all  
7 the housing units identified in the 6<sup>th</sup> Cycle RHNA allocation process will be built within the  
8 window of 2023-2031. This is a specious assumption as I explain below.

9  
10 Cal-Am interprets the RHNA process as requiring housing units to be built within the next 8 years.  
11 That is not the case. The role of local governments is to participate in the development of the  
12 allocation methodology and to update their Housing Elements within the County General Plans  
13 and local zoning to show how they will accommodate their share of the housing, following the  
14 adoption of the RHNA methodology. It is a planning and zoning process. This is not a building  
15 process.

16  
17 The City of Lafayette describes the process as "the RHNA allocation is not a prescription to build  
18 any units. And, the City itself does not build units; private developers do. The City is only required  
19 to show that there is enough land zoned at appropriate densities to accommodate this need, should  
20 a developer want to build these units. In addition, the City must demonstrate that its codes and  
21 requirements do not unduly constrain the building of housing (for example, it needs to show that  
22 housing can be built "as-of-right" in some zones, without requiring a land use permit)."<sup>36</sup> Or, as the  
23 City of Santa Monica adds: "It is important to recognize that the RHNA is a targeted housing number  
24 - Cities and counties do not have to build this number of units, but rather they are required by the  
25 state to plan for them and demonstrate that under the current land use and development standards,

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28 <sup>36</sup> See Attachment I hereto, Frequently Asked Questions About RHNA, pp. 17, 19 et al.

1 there is capacity to accommodate for this number of housing units.”<sup>37</sup> Instead, Cal-Am assumes they  
2 are all built between 2023 and 2031, and on top of and additive to the AMBAG Regional Growth  
3 Forecast, which is a false assumption. This assumption needs to be corrected and the line for “RHNA  
4 Demands” removed from their forecast.

5  
6 This concept is reinforced by Sand City’s appeal and statement “it is inconceivable how the City  
7 could meet the goals of the current RHNA allocation. The City of Sand City requests AMBAG  
8 lower Sand City's allotment to a number that is actually achievable in light of its small size and  
9 noted constraints” and Pacific Grove Councilmember’s statement “Do I think Pacific Grove will  
10 really build all (1,125 units)? No, but we’re putting a policy in place that is supportive of additional  
11 housing. Our staff’s job is to show that the city in good faith is implementing policing, zoning or  
12 incentives to do so.”<sup>38</sup>

13  
14 This interpretation was also confirmed by AMBAG staff at a presentation on July 19, 2022.<sup>39</sup>

15  
16 Q19: Why do you say Cal-Am over-estimates water required for Legal Lots of Record?

17 A19: First of all, we have already shown that water for Legal Lots of Record is included in the  
18 AMBAG Regional Growth Forecast, RHNA housing numbers, and the UWMP base case hence  
19 should not have any additions thereto. As stated earlier, new housing stock is primarily built on  
20 Legal Lots of Record, so Legal Lots of Record should not be treated separately from RHNA housing  
21 numbers. Nevertheless, the 1,180 AF (often previously stated as 1,181 AF) number utilized by Cal-  
22 Am is derived from the October 2009 Coastal Water Project Final Environmental Impact Report  
23 and references a 2001 MPWMD analysis as the source. It was actually sourced from a Land Systems  
24 Group Phase II February 2002 interim draft report that used the number 1,181.438 AF. At that time,

25  
26 <sup>37</sup> Id., p. 16.

27 <sup>38</sup> Id., pp. 21, 23-24.

28 <sup>39</sup> “Housing Plan Update” - Presentation to Monterey County Special Districts Association by Heather Adamson,  
AICP, AMBAG Director of Planning 7-19-22.

1 a calculation error was corrected, and the report was subsequently updated in June 2002. The number  
2 was revised to 1,210.964. However, the earlier number seems to have been erroneously used going  
3 forward. Both versions did not include vacant lots on improved parcels in the unincorporated  
4 County. That database was first developed in 1998 and included vacant lots in the Cal-Am service  
5 area as of January 1, 1997. This calculation is woefully out of date by 25 years. In the decades since  
6 the study was done, MPWMD's conservation programs have caused reductions in average water  
7 use factors per housing unit. This reduces water needed for the same lots of record. Cal-Am's  
8 reliance on 25-year-old data is not appropriate or relevant.

9  
10 Further, many lots have been built upon, others have been determined to be unbuildable. Attachment  
11 J hereto – a Sampling of 1997 Legal Lots of Record Database – shows that vacant lots from the  
12 earlier study have been built upon, contrary to Phase 2 Direct Testimony of Ian C. Crooks at pages  
13 17-20. Those numbers can no longer be trusted, yet Cal-Am holds on to them to advance its  
14 investment in desalination. MPWMD sampled 188 property records of the original 1,783 vacant,  
15 buildable legal lots on vacant parcels in the Cal-Am service area as of January 1, 1997. 116 of those  
16 188 parcels, or 62%, have been built upon by today. Such a high percentage indicates the 1,180 AF  
17 per year for Legal Lots of Record is grossly exaggerated. Statistically, it is overstated by 62%.

18  
19 Also, General Plans have been rewritten and housing elements recalculated. Cities such as  
20 Monterey and Seaside have adopted up-zoning (increased height for building) and downtown  
21 specific plans that have radically changed assumptions from 25 years ago. MPWMD also notes that  
22 “remodels” made up approximately 16% of the Legal Lots of Record number (9% residential/7%  
23 commercial). MPWMD has also learned over time that residential remodels do not immediately add  
24 to water demand – rather, such remodels are typically a convenience for existing residents who do  
25 not immediately use more water. Rather the addition of water fixtures from a remodel only leads to  
26 increased water use upon a resale of the property to a larger family. Hence, the older numbers are  
27 likely over-stated for water demand.



1 These factors, taken together, result in a significant reduction in the assumption of water needed for  
2 legal lots of record. Nevertheless, legal lots of record are already factored within the AMBAG  
3 Regional Growth Forecast relied upon by Cal-Am in their base water demand forecast for this filing.  
4 Population growth that will live in housing units that will be on legal lots is either within the  
5 AMBAG growth forecast or separately estimated, but not both, which is double-counting. Since  
6 Cal-Am did not remove it from the Growth Forecast, it is double-counting. This assumption needs  
7 to be corrected and the line for “Legal Lots of Record” removed from their forecast.

8  
9 Q20: Why do you say Cal-Am over-estimated water for the Pebble Beach Entitlements?

10 A20: Pebble Beach Entitlements are already included in the AMBAG Regional Growth Forecast  
11 – within housing for population growth and within non-residential demand for the unincorporated  
12 County. It is either within the AMBAG Growth Forecast or separately estimated, but not both, which  
13 is double-counting. Since Cal-Am did not remove it from the Growth Forecast, it is double-  
14 counting. This assumption needs to be corrected and the line for “Pebble Beach Entitlements”  
15 removed from their forecast.

16  
17 Further, Cal-Am misestimates the amount anyway: At the time of the 2012 MPWSP Application,  
18 the Pebble Beach Company had approximately 325 AF of entitlements still available, and that  
19 number was added by Cal-Am to the MPWSP sizing needs. However, the final environmental  
20 impact report certified in 2012 envisioned only 145 AFY for the buildout of Pebble Beach.<sup>40</sup>

21  
22 The project buildout from the Pebble Beach EIR is 145 AFY, not 325 AFY used in MPWSP sizing.  
23 Further, the buildout number includes estimated water use that may not materialize in decades, if  
24 ever. Table 3 shows the elements that comprise the Pebble Beach buildout.

25  
26  
27 

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<sup>40</sup> See [Attachment K](#) hereto, Pebble Beach Final Environmental Impact report (FEIR), April 2012.

Table 3

Components of Pebble Beach Buildout in AFY

Project	Demand (AFY)
Lodge	13.11
Inn at Spanish Bay	12.85
Spyglass Hotel	30.59
Area M Residential	10.00
Other Residential	77.00
Driving Range	0.33
Roundabout	0.70
Total	144.58

Two elements of the project warrant greater discussion: “Other Residential” above includes 66 single family residences at 1.0 AF each and 22 residences at 0.50 AF each. MPWMD research in 2006 determined the average large lot Pebble Beach home utilized 0.42 AFY. Building conservation standards have increased since then. Many of the proposed homes are not utilized year-round. Hence, the estimate is likely overstated by one-third or more. Spyglass Hotel is not currently being pursued and there are no plans to do so in the near-term. Hence, the Pebble Beach entitlement number should be much less than 145 AFY.

MPWMD also would like to address two aspects of the Pebble Beach Company letter included as Attachment Y to the Phase 2 Direct Testimony of Ian C. Crooks: (a) the Company states it has used or allocated all but 60 out of the total 365 AF entitlement, where in reality it has only utilized 100.587 as of June 2022, and (b) MPWMD agrees that the Company has a vested right to use its full water entitlement, however customer interest to purchase any other unused or unscheduled entitlement is very likely to go away when a new water supply comes online because homeowners will have no reason to pay \$250,000 per AF to the Pebble Beach Company for an entitlement when connecting directly to Cal-Am is possibly more affordable when the moratorium on new service connections is lifted. In the ten years 2011-2020, Pebble Beach Entitlement water demand has averaged 4.9 AF added each year, yet there were no barriers or limitations to home or commercial

1 construction within Pebble Beach due to water. Hence it is unreasonable to assume 65 AF every  
2 five years going forward as Cal-Am has done in its forecast. It is reasonable to assume something  
3 like only another 15 AFA during the next three years before a permanent water supply is online.  
4 And because Pebble Beach growth is already in the AMBAG forecast it is not additive anyway, so  
5 the point is moot.

6  
7 Q21: Why do you say Cal-Am has over-estimated the water required for Tourism Rebound?

8 A21: Tourism Rebound has already occurred with no corresponding increase in commercial water  
9 use.

10  
11 The 500 AFY for economic recovery was originally suggested by the local hospitality industry to  
12 account for a recovery of occupancy rates in the tourist industry in a post-World Trade Center  
13 tragedy setting. Representatives of the Coalition of Peninsula Businesses indicated in 2017  
14 testimony that the hospitality industry was hurt by the recent recession and that occupancy rates  
15 need to increase by 12 to 15 percent to re-attain the levels of decades ago.<sup>41</sup> It is true that the Salinas-  
16 Monterey market was one of five California markets, out of 22, to experience significant declines  
17 after the events of 2001, from 71.8% in 2000 to 63.0% in 2001.<sup>42</sup> It is also true that the decline  
18 persisted and was still down when the MPWSP desalination plant was sized in April 2012, with  
19 occupancy rates of 62.8% in 2011-12 and 64.1% in 2012-13.<sup>43</sup> However, occupancy rates have  
20 since recovered with no notable increase in water demand. Hotel occupancy locally was back at  
21 approximately 72% and was estimated by Smith Travel Research to be higher for better quality  
22 properties on the Monterey Peninsula in 2015/16.<sup>44</sup> The Monterey County Convention and Visitors  
23  
24  
25

26 <sup>41</sup> See Attachment L hereto, p. 2, Testimony of John Narigi in A.12-04-019, September 29, 2017.

27 <sup>42</sup> Id., p. 5, HVS San Francisco, August 19, 2003.

28 <sup>43</sup> Id., p. 9, Monterey County Convention and Visitors Bureau Annual Report 2012-13, page ii.

<sup>44</sup> Id., p. 11, Fiscal Analysis of the Proposed Hotel Bella Project, Applied Development Economics, April 6, 2016.

1 Bureau recently stated that occupancy rates were 75%-80% pre-COVID and are now in the low  
2 70%-75% range.<sup>45</sup> Hence, Tourism Rebound has already occurred.

3  
4 The commercial sector water demand for the Cal-Am Main service area is shown below in Table 4  
5 for the year prior to the World Trade Center tragedy, the year of the MPWSP plant sizing 2012, and  
6 recent years pre- and post-COVID. As can be seen, commercial demand, which is heavily  
7 influenced by the hospitality industry remains in decline, despite the already absorbed “rebound” in  
8 occupancy rates.

9 Table 4  
10 Commercial Sector Water Demand - Selected Years<sup>46</sup>

Year	Demand (AFY)
2001	3,387
2012	2,770
2018	2,442
2021	2,672

11  
12  
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16 There is a secular change in commercial demand that is due to permanent demand reductions  
17 resulting from targeted MPWMD rebate programs, MPWMD conservation standards for the visitor-  
18 serving sector since 2002, MPWMD mandatory conservation standards for other commercial  
19 businesses instituted in 2013, and commercial inspection/enforcement by MPWMD. A “Tourism  
20 Rebound” of 500 AFY would represent an increase in water use demand of 19% in the entire  
21 commercial sector, not just the hospitality industry. MPWMD does not view this as likely in the  
22 near-term due to a return to higher occupancy rates already, and unrealistic outcomes if the  
23 assumption was considered valid.

24  
25  
26 <sup>45</sup> Rob O’Keefe, CEO, Monterey County Convention and Visitors Bureau, remarks made June 10, 2022 to the  
27 Monterey County Hospitality Association.

28 <sup>46</sup> Cal-Am Consumption by Political Jurisdiction report, various years.

1 Hence, Tourism Rebound is not likely to exist, and if it did it is already included in the AMBAG  
2 Regional Growth Forecast of non-residential economic expansion. It is either within the AMBAG  
3 growth forecast or separately estimated, but not both, which is double-counting. Since Cal-Am did  
4 not remove it from the Growth Forecast, it is double-counting.

5  
6 Q22: Does MPWMD have a demand forecast of its own to share?

7 A22: Yes. Similar to Cal-Am, MPWMD’s forecast is based on the AMBAG 2022 Regional  
8 Growth Forecast and uses current production, a measure of the total water required before losses or  
9 fire flows, as the base. Where MPWMD’s forecast differs is that it uses the most recent 5-year  
10 average for production as the current base and it removes the double-counting that is inherent in the  
11 Cal-Am estimates. Starting with three years of Cal-Am consumption data (2017, 2018, and 2019 –  
12 pre-COVID), MPWMD allocated consumption for residential and non-residential by political  
13 jurisdiction, based on the proportionate percentages of each then mapped the current base production  
14 to the same proportions.<sup>47</sup>

15 Assuming all prospective population and housing growth is captured in AMBAG’s Regional  
16 Growth Forecast, and all commercial economic expansion occurs at the same rate as AMBAG’s  
17 employment projections, MPWMD offers the following water demand forecast:

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27 <sup>47</sup> See Attachment M hereto, Data and Methodology to Support MPWMD Forecast of Water Demand, for background  
and detail.

Table 5

Water Required to Meet AMBAG 2022 Regional Growth  
Water Required for Population Growth<sup>48</sup>

	Monterey	Pacific Grove	Carmel-by-the-Sea	Seaside	Del Rey Oaks	Sand City	County <sup>49</sup>	TOTAL
Population in 2020	28,170	15,265	3,949	33,537	1,662	385	8,916	91,884
Population in 2045	29,639	15,817	3,984	38,316	2,650	1,198	9,916	101,520
Increase	5.2%	3.6%	0.9%	14.2%	59.4%	211.2%	11.2%	10.5%
Acre-Feet in 2020	1,675	908	413	1,015	92	21	2,221	6,345
Acre-Feet by 2045	1,762	941	417	1,160	146	65	2,471	6,961
AF Served by Others <sup>50</sup>	9	-	-	72	11	-	75	167
Net AF in 2045	1,753	941	417	1,087	135	65	2,396	6,795

Water Required for Employment Growth<sup>51</sup>

	Monterey	Pacific Grove	Carmel-by-the-Sea	Seaside	Del Rey Oaks	Sand City	County <sup>52</sup>	TOTAL
Jobs in 2020	40,989	8,016	3,566	10,476	748	2,092	4,300	70,187
Jobs in 2045	45,509	8,445	3,915	11,543	834	2,259	4,721	77,226
Increase	11.0%	5.4%	9.8%	10.2%	11.5%	8.0%	9.8%	10.0%
Non-Residential AF in 2020	1,547	332	225	336	22	66	853	3,380
Non-Residential AF in 2045	1,718	349	247	370	24	71	936	3,716
Increase	171	18	22	34	3	5	83	336

<sup>48</sup> See Attachment H, AMBAG 2022 Regional Growth Forecast, Adopted June 2022.

<sup>49</sup> To estimate unincorporated County population, use Cal-Am service area population reported in SWRCB Urban Water Supplier Monthly Reports (Raw Dataset), May 2022 value, minus urban areas. Estimate 1,000 residents added by 2045. [https://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/conservation\\_reporting.html](https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.html).

<sup>50</sup> This represents the portion of new residents in the jurisdiction who will reside in units served by water other than Cal-Am's Main system. Non-Residential water demand served by others has not been designated.

<sup>51</sup> See Attachment H, AMBAG 2022 Regional Growth Forecast, Adopted June 2022.

<sup>52</sup> California Employment Development Department, Monthly Labor Force Data for Cities and Census Designated Places. November 15, 2019. Sum of Carmel Valley Village CDP and Del Monte Forest CDP. Escalated at same rate as Carmel-by-the-Sea.

1 These AMBAG Regional Growth Forecast values can be converted to a long-term water demand  
 2 forecast in the following manner:

3 Table 6

4 Calculation of Future (Year 2045) Water Demands

	Base Year (2020)	Estimate For 2045 AMBAG	AF per Year
Net Water for Population	6,345 AF	6,795 AF	18.00
Water for Non- Residential	3,380 AF	3,716 AF	13.44
Total	9,725 AF	10,511 AF	31.44

5  
6  
7  
8  
9  
10 This future year growth rate, applied annually, results in the following water demand forecast:

11 Table 7

12 MPWMD Water Demand Forecast

	2020	2025	2030	2035	2040	2045	2050	2055
Water Demand - AF	9,725	9,882	10,039	10,196	10,353	10,511	10,668	10,825

13  
14  
15  
16  
17 Q23: Does the supply to meet this demand forecast need to be increased by a “peaking factor” of  
 18 1.21 to meet the Maximum Month Demand (and Peak Hourly Demand), as asserted in Crooks’  
 19 Phase 2 Direct Testimony, page 26, lines 12-19?

20 A23: As explained later in my testimony about “Water Supply”, it is not necessary to provide  
 21 additional supplies if water resources saved or stored can be utilized to meet peak demands. Instead,  
 22 stored water can be accessed with increased production well capacity, rather than over-building  
 23 supplies. It is always in the ratepayer’s interest to build one or two additional production wells for  
 24  
 25  
 26  
 27

1 \$3 million each, rather than a \$321 million<sup>53</sup> desalination plant if stored water can be utilized to  
2 meet peak demands. Please see Answers 42 and 43 of my testimony.

3  
4 **V. WATER SUPPLY**

5  
6 Q24: Without including a proposed desalination facility, what are the other available sources of  
7 water supply to the Cal-Am Main system?

8 A24: MPWMD is in general agreement with Cal-Am about the Carmel River and Seaside sources  
9 of supply, but disagrees with Cal-Am's view of Pure Water Monterey Expansion, Aquifer Storage  
10 and Recovery (ASR), and the Sand City Water Supply Project. Available sources of supply are  
11 shown in Table 8 below and are described in the discussion that follows.

12 Table 8

13 Monterey Peninsula Available Supply  
14 (Acre-Feet Annually)

15

Supply Source	w/ PWM Expansion
Pure Water Monterey	3,500
PWM Expansion	2,250
Carmel River	3,376
Seaside Basin	774
Aquifer Storage & Recovery (ASR)	1,300
Sand City Desalination Plant	210
Table 13 Water Rights	0
Malpaso Water Rights	58
<b>Total Available Supply</b>	<b>11,468</b>

16  
17  
18  
19  
20  
21

22  
23 Q25: What is the supply reliably available from the Pure Water Monterey (PWM) base project?  
24  
25

26 <sup>53</sup> From Attachment C-3 of Advice Letter AL 1220-A, September 10, 2019. Proposed costs for Cal-Am desalination  
27 plant have not been updated for many years. Given current inflation, supply chain issues, and increased construction  
28 cost environment, the desalination plant costs should be updated.



1 A25: Monterey One Water’s (M1W) PWM base project came online in February 2020 and  
2 successfully delivered 3,500 AFY to Cal-Am in FY 2021-22 as contractually required. That amount  
3 is expected to be reliably available every year for its 30-year contract period.

4  
5 Q26: What is reliably available from the Pure Water Monterey Expansion project?

6 A26: In his Phase 2 Direct Testimony, Mr. Crooks spends 25 pages discounting the performance  
7 of Pure Water Monterey Expansion, ultimately concluding that the Expansion will only yield 1,794  
8 to 2,027 AFY in normal years. That is a false conclusion because the public agencies behind the  
9 Expansion are contractually committed to 2,250 AFY. The Phase 2 Direct Testimony of Paul Sciuto,  
10 M1W General Manager, separately addresses the misstatements in the Crooks testimony and rebuts  
11 Crooks’ analysis of the source waters.

12  
13 The Amended and Restated Water Purchase Agreement for the PWM base project plus Expansion  
14 has an Event of Default under Section 20.(c)(8):

15 “The failure of the Agency or the District to meet the Water Availability Guarantee in any  
16 Fiscal Year;”

17  
18 The Water Availability Guarantee is defined in Section 13.(b) as:

19 “Beginning on the Performance Start Date and throughout the term of this Agreement, the  
20 District must deliver enough AWT Water to the Delivery Point so that the Company may  
21 draw AWT Water (including Company Water, Operating Reserve Water, and Drought  
22 Reserve Water released by the District to the Company) from the Seaside Basin every Fiscal  
23 Year in an amount at least equal to the Company Allotment (also, the “Water Availability  
24 Guarantee”).”

25  
26 The definition of Company Allotment means:

1 “3,500 acre-feet of AWT Water until the Expansion Performance Start Date, after which it  
2 shall mean 5,750 acre-feet, or another quantity of AWT Water as agreed to, in writing, by  
3 the Parties.”  
4

5 Cal-Am’s testimony says that delivery of a total of 5,750 AFY is unlikely and will not happen. Yet  
6 failure to deliver the contractually obligated Water Availability Guarantee in any year is an Event  
7 of Default. Under the Amended and Restated WPA, default on the delivery guarantees can result in  
8 financial penalties to MPWMD. It is an absurd assumption that all three parties – Cal-Am, M1W,  
9 and MPWMD – would enter into an agreement where they knowingly would be in default each and  
10 every year. For that reason, the PWM Expansion is fully expected to yield 2,250 AFY. The Phase 2  
11 Direct Testimony of Paul Sciuto demonstrates that this amount has sufficient source waters and is a  
12 reliable output.  
13

14 Q27: What is reliably available from the Camel River?

15 A27: We agree with Cal-Am that it has legal rights to 3,376 AFY from the Carmel River  
16 comprised of 2,179 AFY from License 11866, 1,137 AFY of pre-1914 appropriative rights, and 60  
17 AFY of riparian rights. This does not include what is referred to as Table 13 rights, discussed below.  
18

19 Q28: What is reliably available from the Seaside Groundwater Basin?

20 A28: The 2006 Seaside Groundwater Basin adjudication imposed triennial reductions in operating  
21 yield for Standard Producers such as Cal-Am until the basin’s Natural Safe Yield is achieved. The  
22 last reduction occurred in 2021 and Cal-Am now has rights to 1,474 AFY. However, with the  
23 delivery of a long-term permanent water supply, Cal-Am would like to begin replacing its  
24 accumulated deficit of over-pumping through in-lieu recharge by leaving 700 AFA of its production  
25 right in the basin for 25 years. Hence, in MPWMD’s forecast only 774 AFA is reflected as long-  
26 term supply available, although the additional 700 AF becomes available again in the future after  
27 25 years. Cal-Am has indicated in-lieu recharge can occur when a desalination plant comes online  
28

1 in 2030. We disagree with Cal-Am’s conclusion and accommodate the recharge, as if without  
2 desalination online, in MPWMD supply projections.

3  
4 Q29: What is reliably available from Aquifer Storage and Recovery?

5 A29: There are two water rights that support ASR. Permit 20808A allows maximum diversion of  
6 2,426 AFA and Permit 20808C allows up to 2,900 AFA for a total of 5,326 AFA. However, these  
7 are maximums that may only be close to being achieved in the wettest of years. Based on long-term  
8 historical precipitation and streamflow data, ASR was designed to produce 1,920 AFA on average.  
9 The ASR Reliability Analysis included in the Phase 2 Direct Testimony of Paul Findley and also  
10 attached to that of Ian C. Crooks shows a long-term average availability of 1,210 AFY.<sup>54</sup> The Phase  
11 2 Direct Testimony of MPWMD’s hydrogeologist Jonathan Lear shows that the Findley report is  
12 10% to 15% understating water availability. A 10% increase in the Findley number would be 1,331  
13 AFY. The MPWMD assumes a lesser amount of 1,300 AFA to be conservative.

14  
15 Q30: But I thought the Cal-Am witness has accounted only for available supplies of 470 AFY  
16 from ASR in a normal year, less during drought?<sup>55</sup>

17 A30: Yes, he said that, but he was using faulty technical analysis.

18  
19 Q31: What makes the Cal-Am technical analysis of ASR faulty?

20 A31: In its testimony, Cal-Am states: “The capability of the ASR system to provide potable water  
21 to California American Water’s portfolio is highly unpredictable and depends entirely on rainfall  
22 conditions during a water year.”<sup>56</sup> This not entirely correct. Instead, the capability of the ASR  
23 system to provide potable water to Cal-Am depends on rainfall conditions during a water year **and**

24  
25 \_\_\_\_\_  
26 <sup>54</sup> Phase 2 Direct Testimony of Paul Findley, in A.21-11-024, July 20, 2022, Attachment 1 - “ASR Availability and  
Reliability Analysis”, Attachment 1, Table 3, pp. 6-7.

27 <sup>55</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20, 2022, p. 37 at line 12.

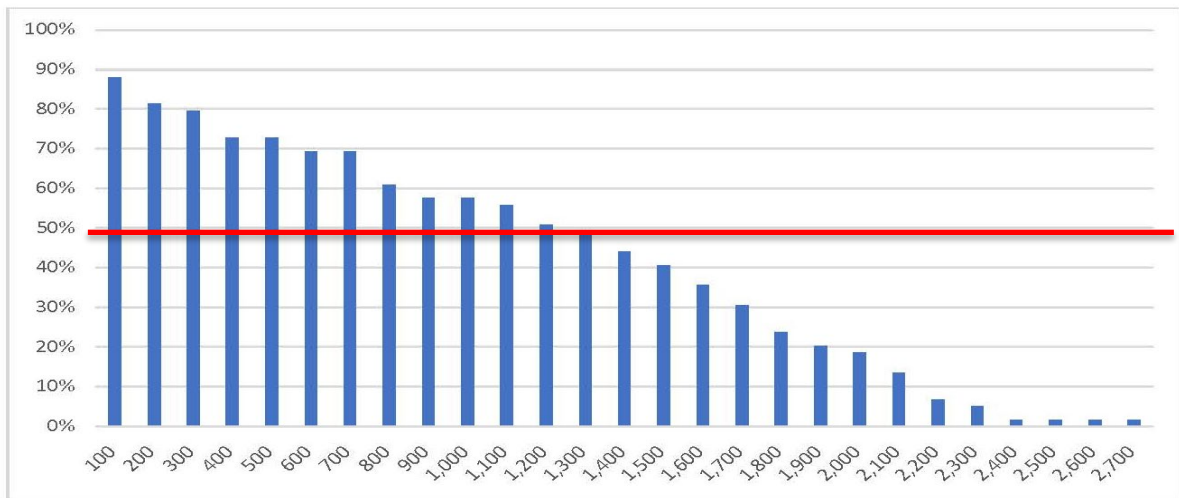
28 <sup>56</sup> Id., p. 34, beginning at line 12.

1 stored ASR water from prior years. Cal-Am’s analysis focuses on injection in the water year and  
2 has mistakenly left storage completely out of the equation.

3  
4 The 1,210 AFY average injection rate cited above also corresponds to the 50<sup>th</sup> percentile water  
5 availability shown in Table 5 of Cal-Am’s technical analysis as reprinted below with enhancements  
6 in red:

7 Figure 2

8 Historic Percent Exceedance of Simulated ASR Injection<sup>57</sup>



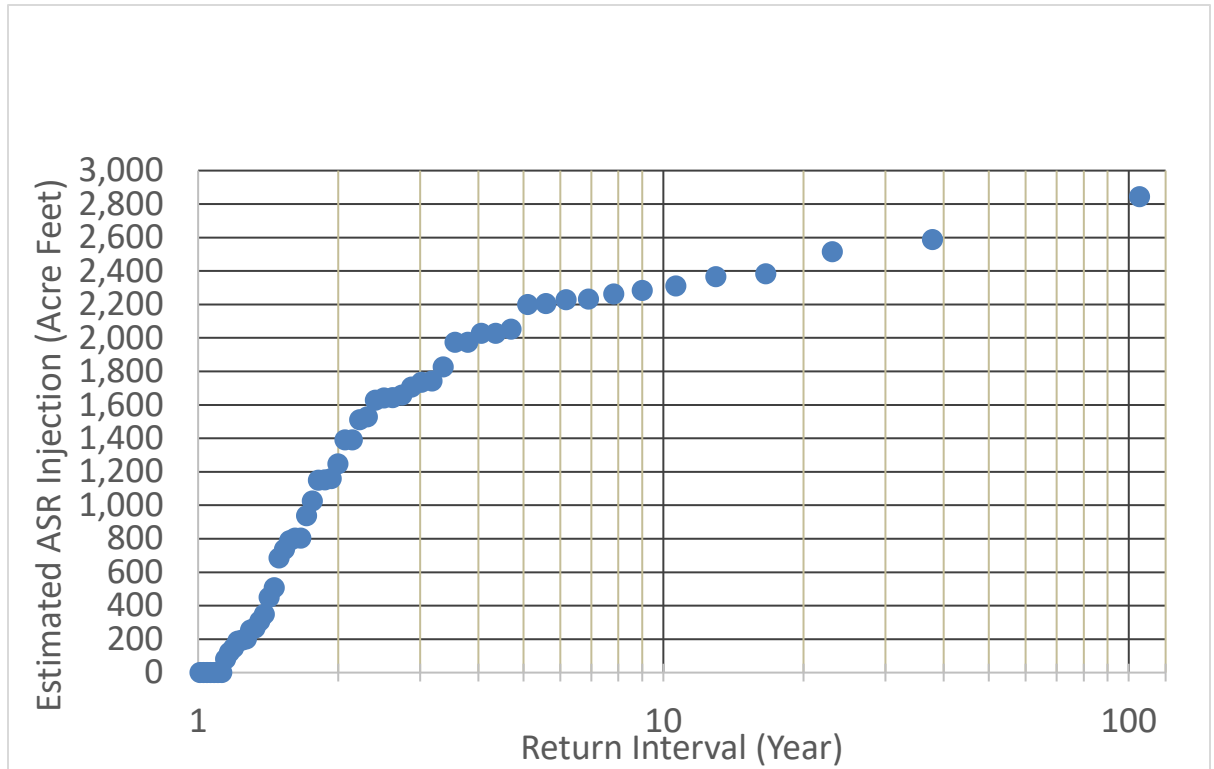
17 What this chart demonstrates is that 50% of the years have more than 1,210 AFY available and 50%  
18 have less. What the analysis failed to analyze is the effect of saving and storing the water from the  
19 good, wet years and making it available during the dryer years. That is precisely how ASR is  
20 supposed to work – like the reservoir behind a dam.

21  
22 As shown in the Phase 2 Direct Testimony of Jonathan Lear, MPWMD believes the Findley analysis  
23 was not carried out in a manner that addresses all of the variability and return interval in the climate.  
24 Instead, MPWMD performed a more appropriate United States Geological Survey – Gumbel

25  
26  
27 <sup>57</sup> Phase 2 Direct Testimony of Paul Findley, in A.21-11-024, July 20, 2022, Attachment 1 - “ASR Availability and  
28 Reliability Analysis”, Attachment 1, Table 5, p. 9.

1 method return interval analysis on the estimated ASR yields presented in Findley's memo. The  
2 chart from MPWMD analysis is presented below:

3  
4 Figure 3  
5 Return Interval for ASR Injection Volumes  
6 Using Findley's Yearly Estimations (USGS - Gumbel Method)



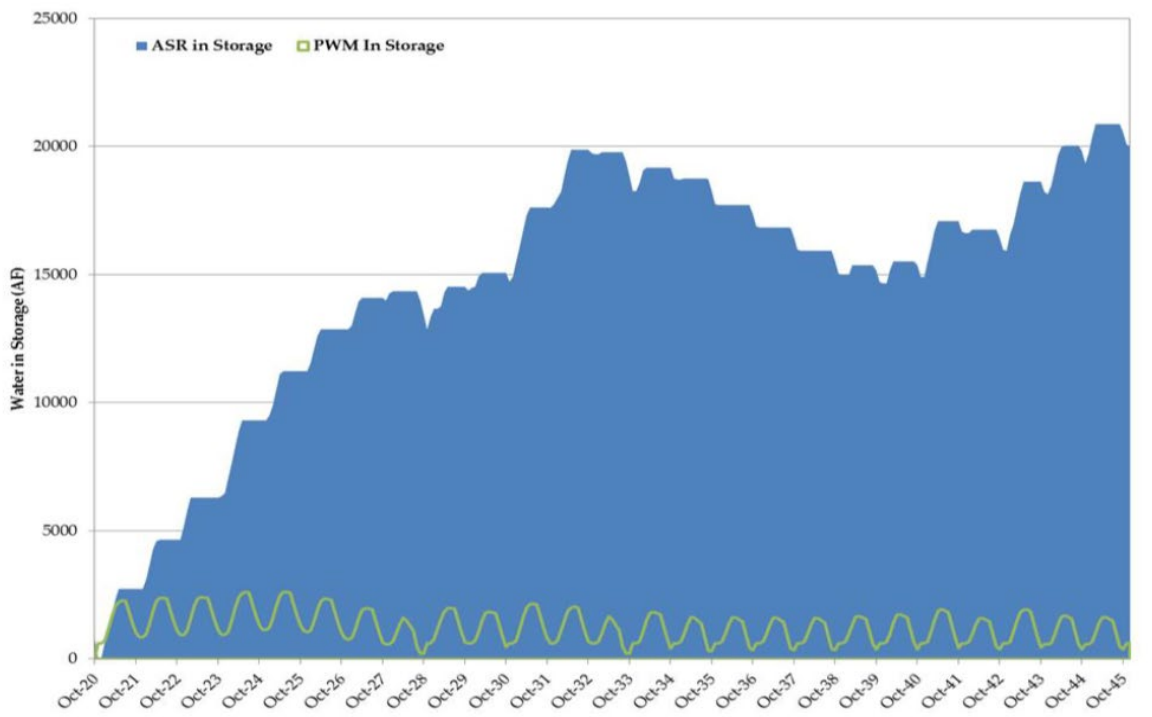
18 Lear's testimony states the 2-year return interval is the appropriate measure of average water  
19 availability, which corresponds to Findley's 1,210 AFY mark. Lear also says the concept of year  
20 over year storage of excess water was ignored in the Findley memo but is the core functionality of  
21 the ASR program. Even with the ASR yield estimates being 10% to 15% low, the return interval of  
22 annual yields show that water can be banked as the project operates over many years. This  
23 conclusion supports using the average long term estimated operational yield of 1,300 AFY for ASR  
24 when planning for supply.

25  
26 Shown differently, based on a technical memorandum contained in the Pure Water Monterey SEIR  
27 (SEIR) appendices, MPWMD concluded in a summary memorandum that build-up of ASR storage

1 would be sufficient to meet a 5-year drought.<sup>58</sup> The build-up occurs based on historical data  
 2 including wet, normal, and dry years. If the data is randomized, the same results will occur – ASR  
 3 acts like a lake behind a dam, building up supplies for use later during a drought. To remove or  
 4 diminish ASR from the resource planning mix is inappropriate and would be inconsistent with  
 5 industry practice for estimating water supply availability. Even AWWA recognizes ASR in its  
 6 reliability assessment: “ASR wells can improve water basin management by storing water  
 7 underground from periods of excess supply..., and later allowing a portion of the stored water to be  
 8 extracted during periods of demand or short supply”<sup>59</sup> Figure 4 below shows (in blue) the build-up  
 9 and use of stored ASR supplies as modeled for the Pure Water Monterey Expansion SEIR:

10 Figure 4

11 Estimated Storage and Use of ASR



22  
23  
24  
25 <sup>58</sup> See Attachment N hereto, MPWMD Memorandum, “Aquifer Storage and Recovery (ASR) Resistance to Drought”.

26 <sup>59</sup> See Attachment O hereto, AWWA, “Water Resources Planning: Manual of Water Supply Practices M50”, 3<sup>rd</sup>  
 27 Edition, p. 148.

1 If the Monterey Peninsula were to experience drought during the initial “buildup period” of ASR  
2 reserves following the completion of new water supply and the lifting of the CDO, ASR would  
3 arguably be delayed in building up a drought reserve, but it should not be overlooked that a Pure  
4 Water Monterey Expansion is new capacity without an immediate offsetting demand. That is, 2,250  
5 AFA from Pure Water Monterey Expansion would provide an off-set in the early years if ASR’s  
6 drought reserve has not yet built-up. Just a few years of Pure Water Monterey Expansion water  
7 could also provide drought-resilience to the Monterey Peninsula. This is covered later in my  
8 testimony under in Answer 45.

9  
10 MPWMD believes ASR is drought-resilient and Pure Water Monterey expansion provides an  
11 additional factor of safety against drought impacts to ASR.

12  
13 Q32: What is a reasonable assumption of annual water supply available from the Sand City  
14 desalination plant?

15 A32: The Sand City plant was designed to produce a nominal 300 AFY, but has failed to achieve  
16 more than the 276 AF in 2011. Due to source water quality issues and discharge permit requirements  
17 the plant has averaged 172 AFA the past four years including water year 2021. Cal-Am proposes  
18 to construct one test well and one production well along with new pump, motor, electrical, controls  
19 and connection to the existing distribution system. The City of Sand City has received confirmation  
20 from the Coastal Commission that the Coastal Development Permit for this project has been vested  
21 effective 2/6/2020. The new Sand City well is currently in design. It is planned to bid out well  
22 drilling by the end of 2022 and have the well complete, above ground improvements complete, and  
23 the well on-line in late 2023. MPWMD believes that this well will allow the plant to reliably produce  
24 at least 210 AFY. Crooks’ testimony incorrectly states “California American Water’s allocation of  
25 94 AFY from the Sand City Water Supply Project is assumed to be reasonably available as a future  
26 water supply. Any other water produced by the Sand City Water Supply Project is reserved by the  
27 City and cannot be relied upon as a future water supply for the rest of California American Water’s

1 service territory.”<sup>60</sup> Because future Sand City population and commercial growth is already included  
2 in the AMBAG Regional Growth Plan, either the demand should be removed from the demand side  
3 or the full capacity of the plant included on the available supply side. Here, MPWMD has chosen  
4 to leave Sand City’s demand in the demand forecast and include the full 210 AFY of the plant on  
5 the supply side.

6  
7 Q33: Mr. Crooks has stated in his testimony that Table 13 water rights from the Carmel River are  
8 weather dependent and speculative, hence should be assigned no water supply value. Do you agree?

9 A33: No. There is value to the Table 13 water right and it can be considered “available” annually  
10 just like other supplies that vary annually if storage is used intelligently. In 2013, Cal-Am received  
11 Permit 21330 from the State Water Board for 1,488 AFA from the Carmel River, called a Table 13  
12 water right. However, the permit is seasonally limited to December 1 through May 31 each year  
13 and subject to instream flow requirements. As a result, actual production will vary by water year.  
14 In 2017, a wet year, the right produced 525 AFY. In 2021, a dry year, the right produced 18 AFY.  
15 In a very wet year, it is beneficial to label Carmel River diversions as Table 13 rights, saving the  
16 Cal-Am ‘regular’ Carmel River right, and allowing Cal-Am to leave more Pure Water Monterey or  
17 ASR water in storage. If a predictable annual value was assigned to the Table 13 supply, a year that  
18 does not meet that amount could utilize stored water to make up the difference. Nevertheless, to  
19 avoid confusion we will agree to discount it to zero.

20  
21 Q34: Has Cal-Am left any available water supply source out of their analysis that MPWMD  
22 believes should be in?

23 A34: Yes, what we call Malpaso Water Entitlements.  
24  
25  
26

27 \_\_\_\_\_  
28 <sup>60</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20, 2022, beginning at page 40, line 18.



1 A Malpaso Water Entitlement is available as a result of various regulatory approvals from the State  
2 Water Resources Control Board and MPWMD, and an agreement with Cal-Am. including:

- 3 (1) SWRCB Water Right License 13868A
- 4 (2) SWRCB Division of Water Rights Decision 2015-0001
- 5 (3) MPWMD Ordinance No. 165 (which includes MPWMD Rule 23.7)

6 The Malpaso Water Entitlement is available for use for new and intensified water uses on existing  
7 lots of record within the parts of Cal-Am's service area that are within either the Carmel River  
8 watershed or within the City of Carmel, and water use is or will be limited to the existing lot of  
9 record identified in the purchaser's offer.

10  
11 Cal-Am has been granted authority under the State Water Board's Cease and Desist Order to access  
12 the Malpaso water for service to its customers.<sup>61</sup> However, whether it is unused or committed  
13 Malpaso entitlements, the analogy is the same as Sand City desalination: Malpaso water is available  
14 as a supply to Cal-Am for growth included in its forecast.

15  
16 80 acre-feet of 393 individual such Malpaso entitlements have been sold. 217 of the entitlements  
17 are 0.12 AFY or less and MPWMD views those as available for "convenience" remodels that would  
18 not generate immediate growth in water demand. The other 176 entitlements greater than 0.12 AFY  
19 add up to 58 AFY in total and MPWMD views those as available for likely commercial and  
20 residential growth as reflected within the AMBAG 2022 Regional Growth Forecast and representing  
21 increased water demand. Because future Malpaso entitlement population and commercial growth  
22 is already included in the AMBAG Regional Growth Plan, either the demand should be removed  
23 from the demand side or the full capacity of the 58 AFY of entitlements included on the available  
24 supply side. Here, MPWMD has chosen to leave entitlement demand in the demand forecast and  
25 include the 58 AFY of the Malpaso Water Entitlement on the supply side.

26  
27 \_\_\_\_\_  
<sup>61</sup> See Attachment P hereto, State Water Board Documents Related to Malpaso Water Rights.

1 Q35: So, when all “firm” supplies are considered, inclusive of storage, what is your view of  
2 available supplies with Pure Water Monterey Expansion, but not a new desalination facility?

3 A35: 11,468 AFY.  
4

5 **VI. SUPPLY v. DEMAND**  
6

7 Q36: How do you evaluate whether future water supply beyond a Pure Water Monterey  
8 Expansion, such as a desalination plant, is needed for the Monterey Peninsula?

9 A36: By comparing future supplies available inclusive of Pure Water Monterey Expansion and  
10 comparing to the expected long-term water demand.<sup>62</sup>  
11

12 Q37: What does your future Supply versus Demand analysis show?

13 A37: It shows that the addition of the Pure Water Monterey Expansion meets the region’s demand  
14 needs for over 30 years and a new Cal-Am desalination plant, or some other alternative, is not  
15 needed.  
16

17 Q38: What do MPWMD’s results show?

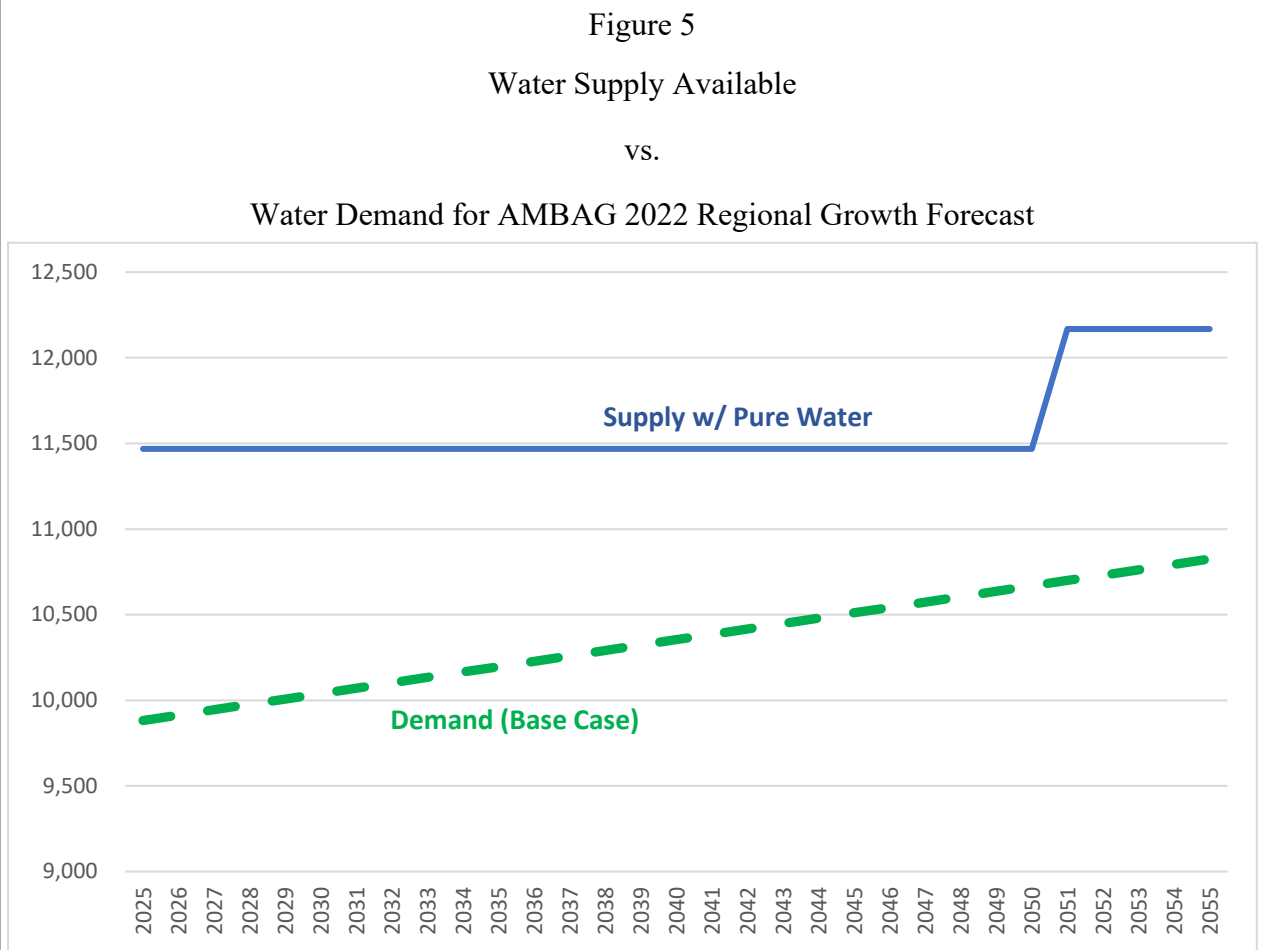
18 A38: Here, as shown below, we evaluated AMBAG’s 2022 Regional Growth Forecast,  
19 specifically the subregional population forecast as a proxy for residential water demand, and the  
20 subregional employment forecast, using job growth as a proxy for commercial (non-residential)  
21 water demand. AMBAG implemented an employment-driven forecast model for the first time in the  
22 2014 forecast and contracted with the Population Reference Bureau (PRB) to test and apply the  
23 model again for the 2018 Regional Growth Forecast (RGF). To ensure the reliability of the  
24 population projections, PRB compared the employment driven model results with results from a  
25

---

26 <sup>62</sup> See Attachment Q hereto, Evaluation of Water Supply Available versus Water Demand.  
27  
28

1 cohort-component forecast, a growth trend forecast, and the most recent forecast published by the  
2 California Department of Finance (DOF). All four models resulted in similar population growth  
3 trends. As a result of these reliability tests, AMBAG and PRB chose to implement the employment-  
4 driven model again for the 2022 Regional Growth Forecast.

5  
6 Using this methodology, the total water demand increase in the 25-year AMBAG Forecast period is  
7 786 AF or 31.44 AFY. Applying the 31.44 AFY linearly across a 30-year horizon results in the  
8 demands shown in the figure below showing expected supply versus demand.



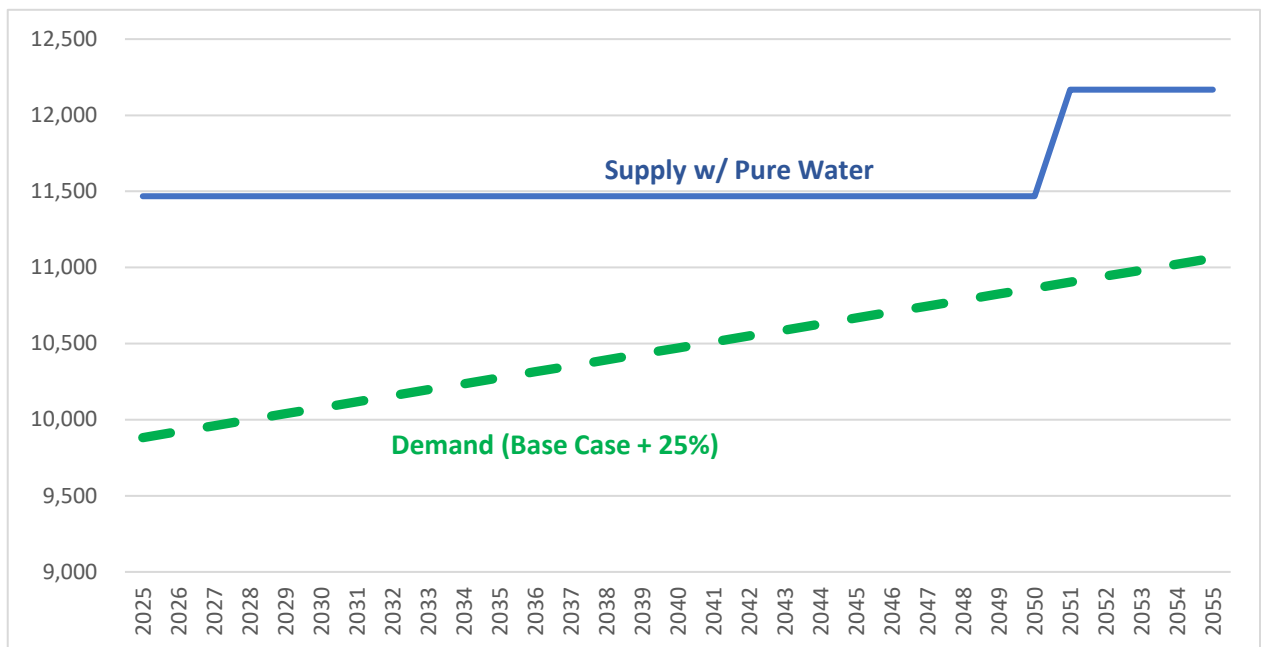
24  
25 Q39: Are available supplies sufficient to serve forecasted demands?

26 A39: Yes. For more than 30 years.  
27

1 Q40: What if your water demand forecast missed something and is too low?

2 A40: MPWMD also analyzed a demand forecast 25% higher, at 39.3 AF per year of average  
3 growth. That result is shown in Figure 6, below:

4  
5 Figure 6  
6 Water Supply Available  
7 vs.  
8 Water Demand for AMBAG 2022 Regional Growth Forecast  
9 Plus 25% for Forecasting Error



20 Q41: Did MPWMD test its forecast further?

21 A41: Yes. MPWMD also analyzed a demand forecast 50% higher, at 47.2 AF per year of average  
22 growth. At that level, available supplies (with Pure Water Monterey Expansion, without a  
23 desalination plant) exceed water demand for over 30 years. In fact, MPWMD's model shows that at  
24 63 AF per year of average growth – 200% of or twice the water forecasted to be required for the  
25 AMBAG 2022 Regional Growth Forecast – supplies are available for over 30 years.  
26  
27  
28

1 Q42: Cal-Am said that one can only rely on 90% of its supply and needs a 10% contingency.<sup>63</sup> Is  
 2 a contingency necessary?

3 A42: A contingency can be achieved by having additional stored water available to call upon at  
 4 any time. This can be achieved by building up available storage in the early years where supply  
 5 exceeds demand. As seen in Figures 4 and 5 above, and in the last columns of Attachment Q, in the  
 6 initial years following completion and availability of Pure Water Monterey Expansion (2025) the  
 7 available supplies exceed demands by over 1,500 AF per year. In the very first year, more than 10%  
 8 of available supplies (1,147 AF) can be stored to satisfy any contingency.

9  
 10 Water for available storage is shown below:

11 Table 9  
 12 Water Available for Storage  
 13 (With Pure Water Monterey Expansion, without Desalination)

Year	Storage Available Base Case Demand	Storage Available Base Case Demand + 25% Error	Year	Storage Available Base Case Demand	Storage Available Base Case Demand + 25% Error
2025	1,586	1,586	2041	1,083	957
2026	1,555	1,547	2042	1,052	918
2027	1,523	1,507	2043	1,020	879
2028	1,492	1,468	2044	989	839
2029	1,460	1,429	2045	957	800
2030	1,429	1,390	2046	926	761
2031	1,397	1,350	2047	894	721
2032	1,366	1,311	2048	863	682
2033	1,334	1,272	2049	831	643
2034	1,303	1,232	2050	800	604
2035	1,272	1,193	2051	1,469	1,264
2036	1,240	1,154	2052	1,437	1,225
2037	1,209	1,114	2053	1,406	1,186
2038	1,177	1,075	2054	1,374	1,146
2039	1,146	1,036	2055	1,343	1,107
2040	1,114	997	Total	38,046	34,392

63 Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20, 2022, p. 29 at line 17 and p. 69 at line 7.

1 Q43: That’s a lot of potential stored water. What else can stored water be used for?

2 A43: In addition to eliminating a need for a 10% supply contingency from bigger construction,  
3 the stored water can be used for peaking to meet maximum month demands (MMD), maximum day  
4 demand (MDD), and peak hourly demand (PHD) without building more supply projects. As I stated  
5 earlier, it is always in the ratepayer’s interest to build one or two additional production wells for \$3  
6 million each, rather than a \$321 million desalination plant if saved or stored water can be utilized to  
7 meet peak demands.

8  
9 Stored water can also be used as a drought reserve and to provide protective water levels in the  
10 Seaside Groundwater Basin, as mentioned by Crooks<sup>64</sup> and Cook<sup>65</sup>. In fact, the average water to  
11 storage in the base case above in Table 9 is 1,268 AFY – far in excess of recommended protective  
12 water levels for the basin.<sup>66</sup>

13  
14 Q44: Footnote 2 of the February 9, 2022, Assigned Commissioner’s Scoping Memo and Ruling,  
15 states “Supplemental testimony to be submitted in Phase 1, pursuant to the adopted schedule below,  
16 is required to establish the need for the Amended and Restated Water Purchase Agreement. It is  
17 distinguished from the supplemental testimony required in Phase 2, which should address the most  
18 recent supply and demand data California American Water has available and which should further  
19 address a scenario in which the Amended and Restated Water Purchase Agreement (WPA) is  
20 adopted and a scenario in which it is not adopted.” What is the supply versus demand scenario in  
21 which the WPA is not adopted?

22 A44: If the WPA is not adopted, there will be insufficient supplies to begin the Seaside Basin in-  
23 lieu recharge in 2025 and by 2027 there would not be sufficient supplies to meet regular customer  
24 demand.

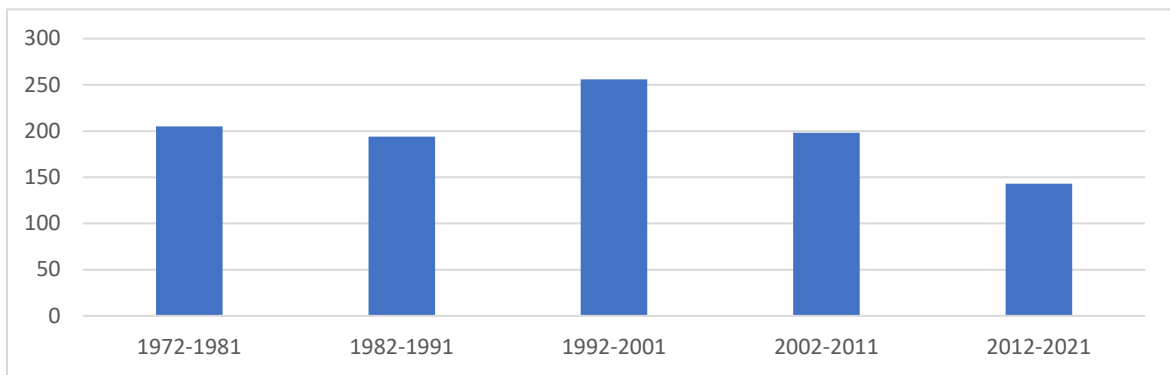
25 \_\_\_\_\_  
26 <sup>64</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20, 2022, p. 31 at line 14 and p. 69 at line 9.  
27 <sup>65</sup> Phase 2 Direct Testimony of Christopher Cook, in A.21-11-024, July 20, 2022, p. 3 beginning at line 7.  
28 <sup>66</sup> Phase 2 Direct Testimony of Ian C. Crooks, in A.21-11-024, July 20, 2022, p. 68 at line 23, and of Christopher  
Cook, p. 3 at line 17.

1 **VII. OTHER ISSUES**

2 Q45: Cal-Am cites a “a definite downward trend in average river flow in the past 30 years”<sup>67</sup> for  
3 the Carmel River. Can you confirm that there is a “trend” in Carmel River flow?

4 A45: There is no “trend” in Carmel River flows over time. Findley’s most recent decade of data  
5 contained a 5-year drought. If you look at the two decades prior to the period discussed by Findley,  
6 you will find 1972-1981 was 204.9 CFS and 1982-1991 was 194.4 CFS, on average. When plotted  
7 graphically as in Figure 6 below, one can see that over the 5-decade cycle there is no clear trend.

8 **Figure 6**  
9 **Average Carmel River Flows by Decade (CFS)**  
10 **Past 50 Years**



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18 Q46: How critical is the need now for new supplies? Cal-Am states that (a) it is in a multi-year  
19 drought,<sup>68</sup> and (b) there is no excess water in the Pure Water Monterey Drought Reserve.<sup>69</sup>

20 A46: Near-term supply issues need to be separated from long-term issues for purposes of this  
21 proceeding’s Phase 2. Long-term water supply planning does not rely on today’s weather conditions.  
22 Nevertheless, to address these issues: MPWMD defines “drought” as two or more years in a row  
23 where unimpaired stream flow in the river is in the “Dry” or “Critically Dry” categories based on  
24 data from 1902 to 2021. The current year is only the second year in a row that will end in such  
25

26 <sup>67</sup> Phase 2 Direct Testimony of Paul Findley, in A.21-11-024, July 20, 2022, p. 4 beginning at line 4.

27 <sup>68</sup> Phase 2 Direct Testimony of Christopher Cook, in A.21-11-024, July 20, 2022, p. 1 at line 26.

28 <sup>69</sup> Id., p. 2 beginning at line 20.

1 categories, hence we are just entering “drought.” Furthermore, as of the end of July 2022, there is  
2 25,560 AF of usable storage in the Carmel Valley Alluvial Aquifer – 7 times Cal-Am’s legal water  
3 right from the river. Hence, theoretically Cal-Am’s Carmel River supply will be unimpeded with  
4 several more years of drought.

5  
6 Regarding stored reserves, as of today, it is correct that there is no excess water in the Pure Water  
7 Monterey Drought Reserve, but there is 1,207 AF in the Pure Water Monterey Operating Reserve  
8 and 1,307 AF banked in the ASR reserve, equaling a total of 2,514 AF in reserve.

9  
10 Q47: Will the upcoming modeling mentioned in Cal-Am’s testimony<sup>70</sup> provide useful information  
11 to inform protective water levels for the Seaside Groundwater Basin?

12 A47: No. The upcoming modeling of the Seaside groundwater basin is flawed for the reasons  
13 stated in a May 25, 2022, letter from MPWMD to the Watermaster.<sup>71</sup> The letter states the primary  
14 flaws in the assumptions are (a) under-valuing the supply available from Pure Water Monterey, and  
15 (b) a reliance on the Cal-Am Urban Water Management Plan demand forecast which includes a  
16 variety of assumptions MPWMD believes to be inappropriate. Both of these concerns have been  
17 addressed in this Phase 2 Direct Testimony.

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19 Q48: Does that conclude your Phase 2 Direct Testimony?

20 A48: Yes.

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27 <sup>70</sup> Phase 2 Direct Testimony of Christopher Cook, in A.21-11-024, July 20, 2022, p. 4 beginning at line 4.

28 <sup>71</sup> See Attachment R hereto, May 25, 2022, Letter from District to Seaside Watermaster.