



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

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Application of California-American Water Company (U210W) for Authorization to increase its Revenues for Water Service by \$4,134,600 or 2.55% in the year 2011, by \$33,105,800 or 19.68% in the year 2012, by \$9,897,200 or 4.92% in the year 2013, and by \$10,874,600 or 5.16% in the year 2014.

A.10-07-007
(Filed July 1, 2010)

and Related Matter

A.11-09-016
(Filed September 23, 2011)

MOTION OF CALIFORNIA-AMERICAN WATER COMPANY, THE COUNTY OF SONOMA, AND THE MARK WEST AREA COMMUNITY SERVICES COMMITTEE TO ADOPT A SETTLEMENT AGREEMENT ON A MORATORIUM TRIGGER FOR THE LARKFIELD DISTRICT

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Dated: December 10, 2012

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ATTACHMENT 1: Settlement Agreement Between California-American Water Company, the County of Sonoma, and the Mark West Area Community Services Committee on a Moratorium Trigger for the Larkfield District, dated December 10, 2012.

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

Application of California-American Water Company (U210W) for Authorization to increase its Revenues for Water Service by \$4,134,600 or 2.55% in the year 2011, by \$33,105,800 or 19.68% in the year 2012, by \$9,897,200 or 4.92% in the year 2013, and by \$10,874,600 or 5.16% in the year 2014.

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I. INTRODUCTION

Pursuant to Rule 12 of the California Public Utilities Commission's ("Commission") Rules of Practice and Procedure, California-American Water Company ("California American Water"), the County of Sonoma, and the Mark West Area Community Services Committee ("MWACSC") (hereinafter referred to collectively as "the Parties") file this Motion to request approval and adoption of a settlement agreement among the Parties related the moratorium trigger for the Larkfield District. The settlement agreement is included as Attachment 1 to this Motion ("Settlement Agreement").

Specifically, the Parties represent to the Commission as follows: (1) that the Settlement Agreement has the sponsorship of the Parties; (2) that the Parties are fairly representative of the affected interests; (3) that no terms of the Settlement Agreement contravene any statutory provision or any decision of the Commission; and, (4) that the Settlement Agreement, together with the record in this proceeding, conveys to the Commission sufficient information to permit the Commission to discharge its regulatory obligations on the issues addressed by the Settlement Agreement.

The Settlement Agreement is reasonable in light of the entire record, and it fulfills the criteria that the Commission requires for approval of such a settlement. The Parties respectfully request that the Commission grant this Motion and approve the Settlement Agreement without modification.

II. PROCEDURAL HISTORY

On September 23, 2011, California American Water filed Application (“A.”) 11-09-016 which requested a moratorium on service connections in its Larkfield District. California American Water requested the service connections moratorium because it was unable to comply with California Code of Regulations, Title 22, Section 64554 and General Order 103-A which requires water systems to maintain the ability to deliver sufficient water to meet the largest daily volume demanded in the preceding 10 years.

On October 24, 2011 and October 31, 2011, MWACSC and Sonoma filed protests to California American Water’s application, respectively. On December 12, 2011, the Commission issued *Joint Revised Scoping Memo and Ruling of the Assigned Commissioner and Administrative Law Judges*, which consolidated A.11-09-016 with

A.10-07-007 and directed the Parties to address the Larkfield moratorium issue in Phase 2 of the above-captioned proceeding.¹

Following the service of their respective testimonies, California American Water provided notice of a settlement conference to all interested parties on July 27, 2012. The Parties participated in a settlement conference, on August 3, 2012, where they agreed to enter into a stipulation. At the August 6, 2012 evidentiary hearing, the Parties informed the administrative law judge of their intent to reach a settlement on the Larkfield moratorium issue. The Parties filed and served the stipulation on September 13, 2012. The California Department of Public Health (“CDPH”) approved the maximum day demand component of the moratorium trigger mechanism on November 9, 2012.

III. OVERVIEW OF THE SETTLEMENT AGREEMENT

The Parties agree that the moratorium on service connections in the Larkfield District requested by California American Water in Application (“A.”) 11-09-016 will not be implemented. The Parties support the Settlement Agreement because it will help protect current customers’ reliable water supply, allow for continued new connections within the current service area boundaries (which will help fund a new source of water through the recently approved connection fees), and ensure that the permanent water supply for the Larkfield District matches its actual needs going into the future.

The Parties agree that the Larkfield District can safely produce 1.85 million gallons per day (“MGD”) or 55.5 million gallons (“MG”) per month, inclusive of a supplemental water supply of 0.33 MGD from the Sonoma County Water Agency (“SCWA”), for six years following the Commission’s authorization of the attached Settlement Agreement. Additionally,

¹ See *Joint Revised Scoping Memo and Ruling of the Assigned Commissioner and Administrative Law Judges*, dated Dec. 12, 2011, pp. 1-2.

the Parties agree that it is reasonable to use the 80% of system capacity methodology (44.4 MG per month) during the proposed six-year period in conjunction with a modified maximum daily demand (“MDD”) of 1.85 MGD, which includes the temporary increase in purchased water supply of 0.33 MGD from SWCA in the supplemental water supply agreement.

The moratorium trigger mechanism agreed to in the Settlement Agreement will encourage that the Parties work together to ensure the long-term viability of the water supply. If SCWA does not approve the six-year supplemental water supply agreement, California American Water will file a Tier One advice letter with the Commission in order to place a temporary moratorium on all new connections in the Larkfield District. If any daily production exceeds 1.85 MGD in order to meet customer demand, California American Water shall notify the CDPH within 3 days of such event in order to discuss immediate conservation measures and acceleration of source capacity development. If use exceeds 44.4 MG per month for three consecutive months, California American Water will file a Tier One advice letter with the Commission in order to place a temporary moratorium on all new connections in the Larkfield District.

Finally, the Parties agree that California American Water will work with SCWA and other parties to identify and develop a conjunctive use project, or other mutually approved water supply project, as a separate individual filing with the Commission. The conjunctive use project or other mutually-approved water supply project will need to be implemented and placed into service prior to the expiration of the supplemental water supply agreement between California American Water and SCWA. If California American Water is unable to pursue Commission approval of the conjunctive use project by June 2015, the Parties agree that California American

Water may pursue Commission approval of a supplemental project as part of its general rate case application scheduled for May 2016.

Beginning in 2016, California American Water may recalculate the sustainable monthly production of the system based on any additional the permanent supply available. This safeguard will provide three additional years of data about water consumption trends in the Larkfield District and a three-year cushion to develop additional permanent supplies before the six-year supplemental water supply agreement between California American Water and SCWA expires.

IV. THE SETTLEMENT AGREEMENT IS FAIR AND REASONABLE AND IN THE PUBLIC INTEREST

Rule 12.1(d) requires that Commission approval of a settlement be based upon a finding that “the settlement is reasonable in light of the whole record, consistent with the law, and in the public interest.” The Settlement Agreement meets these requirements and should be adopted without change.

A. The Settlement Agreement is Reasonable in Light of the Whole Record

The moratorium trigger on new customer connections and maximum daily demand set forth in the Settlement Agreement reflect substantial compromise by the Parties. The Settlement Agreement appropriately resolves all of the contested issues in this proceeding based upon extensive independent analysis of the issues performed by each Party. The Parties looked at the characteristics of the Larkfield District, including current usage patterns, demographics, and water sources in order to develop the trigger mechanism. The result is a settlement that is reasonable and fair.

B. The Settlement Agreement is Consistent with the Law

In accordance with Rule 12.1(d), the Settlement Agreement is consistent with the law.

The Parties are aware of no statutory provision or prior Commission decision that would be contravened or compromised by the proposed Settlement Agreement. Indeed, the Settlement Agreement is consistent with the Commission's policy objectives as set forth in the 2010 Water Action Plan and is intended to advance the Water Action Plan's objective of balancing investment, conservation, and affordability. The issues resolved in the Settlement Agreement are also within the scope of the above-captioned proceeding.

C. The Settlement Agreement is in the Public Interest

In this proceeding, the primary public interest is the delivery of safe and reliable water service at reasonable rates in a manner that advances water conservation and efficiency. The Settlement Agreement is in the public interest because it advances those interests by encouraging conservation and encourages the development of a new water supply.

The Parties also agree that the Settlement Agreement benefits ratepayers by sparing the expense and time of litigating each of the settled items. Commission approval of the proposed Settlement Agreement will provide speedy resolution of contested issues, will save unnecessary litigation expense, and will conserve Commission resources. The Commission has acknowledged that "[t]here is a strong public policy favoring the settlement of disputes to avoid costly and protracted litigation."²

V. CONCLUSION

For the reasons state above, the Parties respectfully request that the Commission conclude that the Settlement Agreement is reasonable in light of the whole record, consistent with the law, and in the public interest. On that basis, the Parties jointly request that the Commission adopt the Settlement Agreement in its entirety as a complete resolution of the issues set forth therein.

² D.88-12-083, *Re Pacific Gas and Elec. Co.*, 30 CPUC 2d 189, 99 P.U.R. 4th 141, 1988 WL 391219 (Cal.P.U.C.).

December 10, 2012

CALIFORNIA-AMERICAN WATER COMPANY

By: /s/Sarah E. Leeper
Sarah E. Leeper, Vice President – Legal,
Regulatory

December 10, 2012

THE COUNTY OF SONOMA

By: /s/Steven S. Shupe
Steven S. Shupe, Deputy County Counsel

December 10, 2012

MARK WEST AREA COMMUNITY SERVICES
COMMITTEE

By: /s/James M. Bouler
James M. Bouler

Attachment 1

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OF THE STATE OF CALIFORNIA**

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**SETTLEMENT AGREEMENT BETWEEN CALIFORNIA-AMERICAN WATER
COMPANY, THE COUNTY OF SONOMA, AND THE MARK WEST AREA
COMMUNITY SERVICES COMMITTEE ON A MORATORIUM TRIGGER FOR
THE LARKFIELD DISTRICT**

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December 10, 2012

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EXHIBIT A: Revised Technical Memorandum, dated August 27, 2012.

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

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COMPANY, THE COUNTY OF SONOMA, AND THE MARK WEST AREA
COMMUNITY SERVICES COMMITTEE ON A MORATORIUM TRIGGER FOR
THE LARKFIELD DISTRICT**

I. GENERAL

A. Pursuant to Article 12 of the California Public Utilities Commission's ("Commission") Rules of Practice and Procedure, California-American Water Company ("California American Water"), the County of Sonoma ("Sonoma"), and the Mark West Area Community Services Committee ("MWACSC") (collectively, "the Parties"), desiring to avoid the expense and uncertainty attendant to litigation of the matters in dispute between them, have agreed on the terms of this Settlement Agreement on a Moratorium Trigger for the Larkfield District ("Settlement Agreement") which they now submit for review, consideration, and approval by the Commission.

- B. Because this Settlement Agreement represents a compromise by them, the Parties have entered into each stipulation contained in the Settlement Agreement on the basis that its approval by the Commission not be construed as an admission or concession by any Party regarding any fact or matter of law in dispute in this proceeding.
- C. The Parties agree that no signatory to the Settlement Agreement assumes any personal liability as a result of their agreement.
- D. The Parties agree that the Settlement Agreement is an integrated agreement such that if the Commission rejects or modifies any portion of this Settlement Agreement, each Party must consent to the Settlement Agreement as modified, or any Party may withdraw from the Settlement Agreement. Such consent may not be unreasonably withheld. As between the Parties, this Settlement Agreement may be amended or changed only by a written agreement signed by all of the Parties.
- E. The Parties agree to use their best efforts to obtain Commission approval of the Settlement Agreement. The Parties shall request that the Commission approve the Settlement Agreement without change and find the Settlement Agreement to be reasonable, consistent with the law, and in the public interest.
- F. This Settlement Agreement may be executed in counterparts, each of which shall be deemed an original, and the counterparts together shall constitute one and the same instrument. Each of the Parties hereto and their respective counsel and advocates have contributed to the preparation of this Settlement Agreement. Accordingly, the Parties agree that no provision of this Settlement Agreement shall be construed against any Party because that Party or its counsel drafted the provision.
- G. The Settlement Agreement supersedes any prior agreement, commitments,

representations, stipulations or discussions between the Parties.

II. BACKGROUND

- A. On September 23, 2011, California American Water filed Application (“A.”) 11-09-016 which requested a moratorium on service connections in its Larkfield District. California American Water requested the service connections moratorium because it was unable to comply with California Code of Regulations, Title 22, Section 64554 and General Order 103-A which requires water systems to maintain the ability to deliver sufficient water to meet the largest daily volume demanded in the preceding 10 years.
- B. On October 24, 2011 and October 31, 2011, MWACSC and Sonoma filed protests to California American Water’s application, respectively. MWACSC is a community ratepayer advocacy organization based in Santa Rosa, CA. Its members are located in California American Water’s Larkfield District. Sonoma is interested in this proceeding as the Larkfield District lies entirely within the unincorporated area of Sonoma County. Sonoma adopted a General Plan that anticipates a specific level of growth and development in the unincorporated area, including the area served by the Larkfield District.
- C. On September 23, 2011, California American Water served the direct testimonies of F. Mark Schubert, P.E. and Andrew Soulé.
- D. On October 17, 2011, several parties discussed the issue of consolidating A.11-09-016 with A.10-07-007.
- E. On December 12, 2011, the Commission issued its *Joint Revised Scoping Memo and Ruling of the Assigned Commissioner and Administrative Law Judges*, which consolidated A.11-09-016 with A.10-07-007 and directed the Parties to address the

- Larkfield moratorium issue in Phase 2 of the above-captioned consolidated proceeding.¹
- F. On March 30, 2012, California American Water served the supplemental testimony of F. Mark Schubert, P.E.
 - G. On May 11, 2012, Sonoma served the testimony of Don Seymour opposing California American Water's proposed service moratorium on new water service connections in the Larkfield District.
 - H. On May 11, 2012, MWACSC served the testimony of James M. Bouler.
 - I. On June 8, 2012, California American Water served the rebuttal testimonies of F. Mark Schubert, P.E. and David P. Stephenson.
 - J. California American Water provided notice of a settlement conference on July 27, 2012. On August 3, 2012, the Parties participated in a settlement conference. Following this and other settlement discussions, the Parties agreed to memorialize the items of consensus in a stipulation which the Parties filed with the Commission on September 13, 2012.
 - K. At the August 6, 2012 evidentiary hearing, the Parties informed administrative law judge of their intent to reach a settlement on the Larkfield moratorium issue.
 - L. On September 5, 2012 Sonoma requested, via email, an extension until October 1, 2012 in order to file and serve a Settlement Agreement. The administrative law judge granted this extension, via email, on September 11, 2012.
 - M. On October 2, 2012, California American Water requested, via email, a 30-day extension in order to file and serve a Settlement Agreement. On October 3, 2012, the administrative law judge granted an extension until November 5, 2012.

¹ See *Joint Revised Scoping Memo and Ruling of the Assigned Commissioner and Administrative Law Judges*, dated Dec. 12, 2011, pp. 1-2.

- N. On November, 6, 2012, California American Water again requested, via email, a 2-week extension until November 20, 2012, which the administrative law judge granted.
- O. On November 9, 2012, the California Department of Public Health (“CDPH”) issued a letter granting a requested variance that would enable California American Water to implement the trigger mechanism described in this Settlement Agreement.
- P. On November 20, 2012, California American Water requested, via email, an extension until December 10, 2012. The administrative law judge granted the extension the same day.

The Parties now file this Settlement Agreement on the moratorium trigger for the Larkfield District.

III. SERVICE MORATORIUM RESOLUTION

The moratorium on service connections in the Larkfield District requested by California American Water in Application (“A.”) 11-09-016 will not be implemented. Instead, for six years following the authorization of this Settlement Agreement by the Commission, the Parties agree that the Larkfield District will be subject to a moratorium trigger. The moratorium trigger is adopted in order to protect current customers’ reliable water supply, allow for continued new connections within the current service area boundaries (which will help fund a new source of water through the recently approved connection fees), and ensure that the permanent water supply for the district matches the actual needs of the district going into the future.

A. Current System Capacity

1. The Parties, as well as the CDPH, agree that the Larkfield District can safely produce 1.85 million gallons per day (“MGD”) or 55.5 million gallons (“MG”) per month, inclusive of a supplemental water supply of 0.33 MGD from the Sonoma County

Water Agency (“SCWA”), for six years following the Commission’s authorization of this Settlement Agreement.

2. The Parties agree that California American Water shall enter into a six-year agreement with SCWA for a supplemental water supply of 0.33 MGD. The effective date of the supplemental water supply agreement shall be the date that the agreement is approved by SCWA’s Board of Directors.
3. If SCWA fails to approve the supplemental water supply agreement between California American Water and SCWA, the Parties agree that California American Water will file a Tier One advice letter with the Commission in order to place a temporary moratorium on all new connections in the Larkfield District.
4. If any daily production exceeds 1.85 MGD in order to meet customer demand, the Parties agree that California American Water shall notify the CDPH within 3 days of such event in order to discuss immediate conservation measures and acceleration of source capacity development. For an explanation as to how demand is calculated, please reference the August 27, 2012 revised technical memorandum, attached hereto as Exhibit A.
5. The Parties agree that all annual production reports provided by California American Water to the CDPH will include maximum day and month production as well as progress updates on the development of additional water supplies for the Larkfield District. The production reports, which are submitted by October 15 of each year, must also include data of October 1 of the previous year through September 30 of the reporting year.

B. The Trigger Mechanism

1. The Parties agree that it is reasonable to use the 80% of system capacity methodology (44.4 MG per month) during the proposed six-year period in conjunction with a modified maximum daily demand (“MDD”) of 1.85 MGD, which includes the temporary increase in purchased water supply of 0.33 MGD from SCWA in the supplemental water supply agreement.
2. The Parties agree that, in the event the 80% threshold value of 44.4 MG per month is exceeded for three consecutive months, California American Water will file a Tier One advice letter with the Commission in order to place a temporary moratorium on all new connections in the Larkfield District.

C. Development of Additional Supplies

1. The Parties agree that California American Water will work with SCWA and other parties to identify and develop a conjunctive use project, or other mutually approved water supply project.
2. As part of this effort, the Parties recognize that California American Water will need to submit said project for review and approval by the Commission. At this preliminary stage, said project will be included as part of a separate individual filing with the Commission.
3. The Parties contemplate that any such conjunctive use project or other mutually-approved water supply project will need to be implemented and placed into service prior to the expiration of the supplemental water supply agreement between California American Water and SCWA. The objective is to site a project in a location that could produce a higher yield supply at a less expensive price than the proposed

Faught Road Well, and to convey this supply under a wheeling agreement with SCWA or another local entity, or other arrangement to be determined at that time.

4. The Parties recognize that California American Water has a statutory duty to provide its customers with water service. In recognition of this duty, the Parties agree that California American Water may pursue Commission approval of a supplemental project as part of its general rate case application scheduled for May 2016 if California American Water is unable to pursue Commission approval of a conjunctive use project, as part of a separate individual filing, by June 2015.
5. Beginning in 2016, the Parties agree that California American Water may recalculate the sustainable monthly production of the system based on any additional permanent supply available. This safeguard will provide three additional years of data about water consumption trends in the Larkfield District and a three-year cushion to develop additional permanent supplies before the six-year supplemental water supply agreement between California American Water and SCWA expires.
6. Nothing in this Settlement Agreement shall prohibit or impair MWACSC or Sonoma from protesting, commenting upon, or taking any other action at the Commission with respect to any future application, petition, or filing by California American Water with the Commission.

IV. CONCLUSION

This Settlement Agreement was executed by the Parties as of the date first set forth below.

December __, 2012

COUNTY OF SONOMA BOARD OF
SUPERVISORS

By: _____
Shirlee Zane, Chair

December __, 2012

CALIFORNIA-AMERICAN WATER COMPANY

By: _____
Richard C. Svindland, Vice President –
Engineering

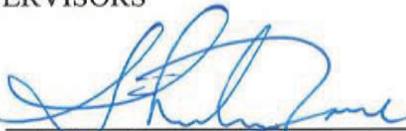
December __, 2012

MARK WEST AREA COMMUNITY SERVICES
COMMITTEE

By: _____
James M. Boulter

December 10, 2012

COUNTY OF SONOMA BOARD OF SUPERVISORS

By: 
Shirlee Zane, Chair

December __, 2012

CALIFORNIA-AMERICAN WATER COMPANY

By: _____
Richard C. Svindland, Vice President –
Engineering

December __, 2012

MARK WEST AREA COMMUNITY SERVICES COMMITTEE

By: _____
James M. Boulter

December __, 2012

COUNTY OF SONOMA BOARD OF
SUPERVISORS

By: _____
Shirlee Zane, Chair

December 7, 2012

CALIFORNIA-AMERICAN WATER COMPANY

By:  _____
Richard C. Svindland, Vice President –
Engineering

December __, 2012

MARK WEST AREA COMMUNITY SERVICES
COMMITTEE

By: _____
James M. Boulter

December __, 2012

COUNTY OF SONOMA BOARD OF
SUPERVISORS

By: _____
Shirlee Zane, Chair

December __, 2012

CALIFORNIA-AMERICAN WATER COMPANY

By: _____
Richard C. Svindland, Vice President –
Engineering

December 10, 2012

MARK WEST AREA COMMUNITY SERVICES
COMMITTEE

By: James M. Bouler
James M. Bouler

Exhibit A

T E C H N I C A L M E M O R A N D U M

To: California Department of Public Health – CDPH

From: Andy Soule, P.E. - General Manager
F Mark Schubert, P.E. - Manager Capital Assets & Planning

Date: August 27, 2012

Subject: Maximum Day Demand for Larkfield Water System
PWS ID: 4910023

Executive Summary

California American Water's (CAW) Larkfield District serves approximately 2400 connections in Sonoma County near Santa Rosa. The district supplies customers with a mix of locally produced and treated groundwater and water purchased from Sonoma County Water Agency (SCWA).

The Company has filed for a temporary moratorium on new service connections because historical 10 year data shows that the maximum daily amount of water used in Larkfield of 2.19 million gallons, on July 18, 2003, exceeds the current reliable supply capacity. Currently, Larkfield can sustain and reliably produce 1.52 million gallons per day (MGD) and will be able to safely produce 1.85 MGD later this year when SCWA expects to approve a 6 year supplemental supply of 0.33 MGD.

We do not believe that a moratorium is needed when the following factors are considered:

- The ten year maximum day demand number is outdated. Conservation and water efficiency measures including tiered rates, rebates for water efficient appliances and education have steadily reduced the actual amount of water used day to day and in peak day events.
- Growth in the district is expected to be limited in the next few years.

- Plans are in place for a temporary supply from the Sonoma County Water Agency that will provide a bridge until a new permanent supply is established.
- This Memorandum proposes a trigger mechanism to impose a moratorium in the future if demands should increase to protect customers while still providing a reliable source of water.

California American Water is requesting a variance from the California Department of Public Health (CDPH) for the 10 year historical maximum day demand methodology as presented in California Code of Regulations (CCR), Title 22. As we show in the body of this technical memorandum, 1.85 MGD is a responsible number for current water supply planning of maximum day demands. To provide additional protection to current customers we are proposing to the California Public Utilities Commission (CPUC) that we set a trigger based upon actual monthly demand – if demand reaches 80 percent of the sustainable capacity for three consecutive months a moratorium would be instituted and would remain in place until additional source of supply is developed and in service.

INTRODUCTION

Background

CAW has developed this technical memorandum to further the discussion of our water supply situation in the community water system we own in Sonoma County in the areas of Wikiup, Larkfield, and Fulton north of Santa Rosa (Larkfield). Furthermore, this technical memorandum is to serve as supporting documentation for CAW's formal request for a variance from the California Code of Regulations - Title 22 Standard which requires a water system be able to meet the 10 year historical maximum day demand (MDD).

CAW is an investor-owned utility regulated by the CPUC. CAW's Larkfield District serves 2,350 customers (ninety percent of which is residential and ten percent commercial). The district's source of supply is a mix of groundwater and purchased water. Groundwater supply comes from four wells, which are treated for arsenic, iron, and manganese at the Larkfield Water Treatment Plant (LWTP). Based on a 2004 engineering assessment, that identified limiting factors that include aquifer characteristics and well interference, the safe yield of the wells has been established at

approximately 500 gallons per minute (gpm) or 0.72 million gallons per day (MGD). Purchased water is supplied from an interconnection with the Sonoma County Water Agency. The contract with SCWA provides for an annual total of 700 acre-feet, with a monthly limit of 0.8 MGD or 24 million gallons (MG) per month.

CPUC Settlement and Reporting:

The Larkfield Moratorium Filing is included in Phase II of the 2012 General Rate Case proceeding. In early August, the interested parties (CAW, Sonoma County, Mark West Community Services Committee, and the Division of Ratepayer Advocates) met to discuss the moratorium. All interested parties strongly agreed that a moratorium is not required at this time. The parties further agreed that the trigger plan proposed herein coupled with an additional supply of water from SCWA will ensure a reliable supply for current customers and allow for a modest amount of growth in the district. The parties agreed to a stipulated settlement if CDPH does not object. That agreement is currently being finalized.

In conjunction with the proposals presented in this memorandum, CAW intends to provide annual reports to the Division of Ratepayer Advocates, Division of Water & Audits and the CDPH which detail the maximum day and monthly demands, provides a recalculation of permanent water supply (beginning in 2016) and indicates progress on establishment of a permanent water supply by October 15 of each year, beginning in 2013.

Regulations

General Order 103 and General Order 103-A: Although the California Public Utilities Commission's (Commission) General Order 103 was replaced by General Order 103-A in September 2009, it is necessary to understand the significance of its applicability to the source of supply and the historic water situation in CAW's Larkfield District. Commission General Order 103 provides the parameters for determining, in general, a supply / demand calculation. Section III, paragraph 4, discusses where the dependability of the source facilities is critical. The first sentence in paragraph 4 states, in part:

“Water Supply Requirements. The quantity of water delivered to the distribution system from all source facilities should be sufficient to supply adequately, dependably and safely the total requirements of all customers under maximum consumption ...”

There is a key consistency between what CDPH uses as a standard (Title 22, Chapter 16); the Commission’s standard in General Order 103, Section III; and the standard used by CAW (and its parent, American Water) in the assessment of its water systems. These standards all include the use of the terms “adequately, dependably and safely”. These terms all apply to meeting the total requirements of all customers under maximum day conditions. CAW typically performs Comprehensive Planning Studies (CPS) that evaluate a vast number of issues regarding water systems, including the ability of pumping facilities to meet projected maximum day demands with the largest single unit assumed out of service. This determination is defined as the reliable pumping capacity.

It should be noted that for industry practice on a national level, the “10 States Standards” is a recognized authority on water works practice by a number of states, while specific states develop and administer their own standards. For example, New Jersey and West Virginia have their own specific standards. In New Jersey, firm capacity means adequate pumping equipment and / or treatment capacity when the largest pumping or treatment unit is out of service. Similarly, in West Virginia there must be multiple pumps provided, so that with any pump out of service, the remaining pump or pumps will be capable of providing the maximum daily pumping demand of the system. It is noted that CDPH is consistent with the specific state (Title 22, Chapter 16) and industry standards for evaluating the ability of pumping facilities to meet projected maximum day demands with the largest single unit assumed out of service.

The Commission adopted General Order 103-A in D.09-09-004 on September 10, 2009, which superseded General Order 103. The Commission’s General Order 103-A, details the new water supply requirements of a water system. Such revisions were necessary to make the Commission’s regulations consistent with the CDPH’s Waterworks Standards, CCR Title 22. The key difference between General Order 103-A and the previously issued General Order 103 is that General Order 103-A does not factor in the four-day yield of distribution storage as contributing to the system’s source capacity that

would be available to meet the maximum day demand. For reference, the definition for the source capacity requirements, as referenced in General Order 103-A is as follows:

“A system’s facilities shall have the capacity to meet the source capacity requirements as defined in the Waterworks Standards, CCR Title 22, Section 64554, or its successor.” (G.O. 103-A, Section II. Standards of Service, Subsection B. Quantity of Water, Part 3, Potable Water System Capacity.)”

General Order 103-A also defines Source Capacity as:

“The total amount of water supply available expressed as a flow from all active sources permitted for use by the water system, including approved surface water, groundwater, and purchased water.”

CPUC Water Action Plan and 20 x 2020

In November 2009, Senate Bill 7x7 was signed by the Governor. This legislation requires water providers to work with customers to reduce per capita urban water consumption 20 percent by the year 2020 with an interim goal of a 10 percent reduction by 2015.

The CPUC has been a leader among national regulatory agencies in its planning and water conservation activities. In 2005, the CPUC released the first Water Action Plan – a planning document that outlined the strategic goals of water utilities regulated by the CPUC. Among the four key principles of the plan was the “efficient use of water”. One of six key objectives in the original plan was to strengthen water conservation programs to a level comparable to those of energy utilities. The plan stated:

“Water conservation is critical in California to extend limited resources as far as possible to allow for future growth. Indeed, cost-effective water conservation is the least expensive source of water. Conservation is also critical to protect and restore the aquatic environment, most notably the Bay-Delta system. The Commission will use existing tools to strengthen utility conservation programs, and will provide the necessary direction to do so by initiating formal proceedings where appropriate. Emphasis on water conservation mirrors the Commission’s similar high priority for conservation in the energy sector.”

The commission focused on meeting these goals on multiple fronts including the adoption of tiered rates, the establishment of conservation funds through the use of surcharges, and the decoupling of rates and revenue.

In 2010, the CPUC updated the Water Action Plan. The updated plan pointed to the 20 by 2020 legislation and the drought that was then occurring as reasons that the 2005 principles and goals about water efficiency and conservation were of continued importance and should not be compromised. The 2010 plan included new action items to strengthen the conservation ethos including metering, establishment of block (tiered) rates for all utilities, establishing the energy/water nexus, regulating BMP (Best Management Practices) compliance for utilities, creating incentives and removing disincentives for utilities to promote conservation.

The focus on conservation in the Water Action Plans shows the commitment that the CPUC and the regulated utilities have had on conservation in the last decade and the important steps that have occurred in the regulatory process to decrease per capita water consumption throughout the state including Larkfield. It also signals that the CPUC regulated water systems must meet the 20 by 2020 goals of SB 7x7 and that conservation will continue to be a key principle in regulating our water systems in the future.

Overview of Issue

CAW has applied to the Commission for approval to impose a moratorium on CAW's Larkfield District due to its inability to comply with Title 22 Chapter 16 of the CDPH regulations concerning water supply. The ten year MDD threshold is not particularly well suited to evaluate water supply in Sonoma County in 2012 due to the large reduction in water consumption that has occurred throughout the region and in CAW's Larkfield District. CAW hereby is formally requesting CDPH to waive the ten year MDD requirement for CAW by using a shorter historical period.

CAW will be subject to the regulatory oversight of the CPUC on this matter if CDPH agrees with the suggested approach. The approach agreed to by all parties of record in the proceeding General Rate Case (GRC) proceeding includes an appropriate mechanism to institute a moratorium, such that if at any point the Larkfield MDD exceeds

the proposed trigger as outlined below the currently requested moratorium would be reinstated.

CURRENT WATER SUPPLY

Overview

CAW's Larkfield District currently receives groundwater from five sources. Four of the sources are municipal groundwater wells owned and operated by CAW and are located within the District boundaries. Groundwater in the area contains naturally occurring arsenic and high concentrations of manganese and iron and thus requires treatment. Due to these containments, and to avoid numerous facilities, all four wells pump untreated raw water to the LWTP where these contaminants are removed.

Due to the nature of the aquifer, type of well construction, and the close proximity of the wells to one another, the individual capacity of each well is reduced during periods of continuous pumping or during times when multiple wells are simultaneously operated. In 2004, CAW retained Bookman Edmonston, a division of GEI Consultants, to conduct a study to evaluate these interrelationships and determine safe operating parameters for each well and hence the groundwater extraction system as a whole. Operating experience over the past several years has confirmed that the total reliable production capacity of the CAW owned facilities is 0.72 MGD, although if need be short-term variances may be accommodated above this amount.

The fifth source of supply is from a purchased water connection with SCWA. This agreement allows purchases of no more than 24 MG per month or an average of 0.8 MGD in any month. Additionally, the total water delivered in any year is limited to no more than 700 acre-feet, which averaged over the year is 0.625 MGD. Because winter demand is less than summer demand, CAW is able to reduce water deliveries in the winter to allow the maximum summer deliveries of 0.8 MGD. With this operating scheme, the existing CAW facilities and the existing SCWA Contract Agreement provide a total reliable source of supply during the summer peak period of 1.52 MGD (0.72 MGD + 0.8 MGD = 1.52 MGD).

CURRENT WATER DEMAND

10 Year Data

As a part of their charter and to provide for the health and safety of the public, water purveyors are required to provide a safe and reliable water supply over a wide range of potentially different circumstances. Common methods of evaluating reliability in terms of adequacy of supply include historic water use together with projections for additional future needs, as measured against current production capacity including specific system components such as treatment, distribution and storage.

As required by current regulation (Title 22, Chapter 16), the most recent past ten years are used to quantify historic demands. A ten year evaluation period normalizes the impact of one-time events or climatic variations and establishes reasonable trends. Key metrics in evaluating historical water demand include yearly totals, monthly totals and daily totals. Within these metrics, in any given year, it is important to establish the MDD. Water purveyors size production, storage and distribution systems around the MDD and Peak Hour Demand (PHD) within this maximum day period. Production should equal or exceed the MDD or the system will experience loss of pressure or reductions in quantities held in storage for emergencies, fire fighting or for other health and safety reasons.

Table 1 provides historic demand information for the last ten years plus 2012 year to date demand information on a monthly basis. Within each month, water produced by CAW and water obtained from the SCWA is also shown. Months highlighted in red are those months where the recorded demand was more than 80% of the available source. This metric is often used by planners to evaluate the potential for a shortage, or a deficit in supply. Table 1 also highlights in red where purchases from SCWA exceeded 24 MG per month. Table 1a highlights the same information but illustrates the effects of additional 0.33 MGD allotment from SCWA. Table 2 shows the MDD for each of the last ten years and 2012 year to date. The records show that over the last ten years the largest MDD was observed on July 18, 2003, when 2.19 MG was required. The lowest MDD over this same period is 1.56 MG which was observed on June 21, 2011. It is important to point out that since 2006; the MDD is trending downward in CAW's Larkfield District. Since 2007, the highest MDD recorded is 1.85 MGD. See the Question and

Answer portion of the Appendix for addition detail concerning the 2008 MDD and why is has been reduced from a previously reported 1.94 MGD to 1.85 MGD.

It is important to note, that over the last ten year period, CAW did not exceed the 700 AF per year annual limit on its contract with SCWA.

As discussed previously, in 2004 CAW completed a well assessment report to verify the long term safe yield of it well fields, taking into account well interference and dry summer months. That report indicated that a 0.72 MGD well supply could be sustained over the long term without reducing the viability of the well field. As Table 1 and 1a shows, CAW has exceeded this amount in the past, but if one considers the entire 5 month dry period (May to September) as shown in Table 1b, CAW has not over pumped its groundwater supplies. Furthermore, as shown in Table 1b, CAW has not overly taxed the groundwater supply since completing the well assessment report in 2004.



Table 1 – 10 Year Historic Demand (MG)

MONTH	2002			2003			2004			2005			2006		
	CAW	SCWA	Total												
JAN	22.38	3.08	25.46	18.26	1.42	19.67	18.98	0.49	19.47	15.92	6.08	22.01	16.64	1.66	18.29
FEB	18.08	1.47	19.55	17.96	3.50	21.46	18.70	0.48	19.19	15.45	5.05	20.50	14.23	4.32	18.55
MAR	17.56	3.14	20.69	17.29	4.00	21.29	27.59	2.56	30.16	20.97	5.94	26.91	15.35	7.72	23.06
APRIL	19.29	7.33	26.61	20.50	30.14	50.64	22.67	8.34	31.00	15.39	8.98	24.37	15.64	3.27	18.91
MAY	22.72	21.97	44.69	23.23	6.25	29.48	24.78	16.18	40.95	16.34	12.31	28.65	19.27	21.63	40.90
JUNE	21.29	36.74	58.04	27.14	14.81	41.94	29.47	28.63	58.11	25.27	23.09	48.36	19.58	23.56	43.14
JULY	14.22	33.64	47.86	37.35	25.10	62.45	22.79	25.02	47.80	20.35	25.94	46.29	23.47	24.45	47.93
AUG	15.63	29.22	44.85	27.05	19.83	46.88	21.32	25.26	46.58	25.77	30.60	56.37	26.51	27.08	53.59
SEPT	20.21	31.01	51.21	24.64	19.41	44.06	25.75	33.15	58.90	20.45	19.78	40.23	18.20	21.40	39.60
OCT	16.70	20.30	37.00	30.33	18.15	48.48	19.46	14.81	34.27	20.73	16.12	36.85	14.91	16.31	31.22
NOV	15.97	9.15	25.12	20.51	4.49	25.00	14.86	7.91	22.78	20.84	6.66	27.50	14.43	14.65	29.08
DEC	20.21	6.08	26.29	24.23	1.00	25.23	18.50	9.72	28.22	14.86	4.23	19.09	13.77	5.51	19.28
TOTAL (MG)	224.25	203.14	427.39	288.47	127.60	416.07	264.88	172.54	437.41	232.33	164.80	397.13	211.99	171.55	383.54
TOTAL (AF)	688	623	1,312	885	392	1,277	813	529	1,342	713	506	1,219	651	526	1,177

MONTH	2007			2008			2009			2010			2011		
	CAW	SCWA	Total	CAW	SCWA	TOTAL	CAW	SCWA	Total	CAW	SCWA	Total	CAW	SCWA	Total
JAN	18.49	5.71	24.20	17.40	7.08	24.48	17.14	0.25	17.39	15.66	4.59	20.26	12.00	7.65	19.65
FEB	14.43	4.54	18.98	17.63	0.53	18.15	14.19	2.41	16.60	13.64	1.68	15.32	12.18	3.35	15.53
MAR	9.60	12.85	22.44	17.82	2.76	20.58	18.37	6.29	24.66	11.77	6.29	18.06	11.67	3.39	15.06
APRIL	15.61	11.44	27.05	26.46	10.58	37.03	18.34	5.93	24.27	6.33	9.94	16.27	12.30	5.35	17.66
MAY	22.34	19.92	42.27	20.69	17.41	38.10	18.07	7.93	26.00	11.63	13.93	25.57	14.48	16.29	30.78
JUNE	22.66	18.75	41.41	20.52	22.06	42.57	23.14	17.07	40.21	13.79	16.33	30.12	11.55	15.51	27.05
JULY	21.70	19.84	41.54	25.81	27.41	53.21	19.72	15.97	35.68	19.74	23.06	42.80	22.55	18.23	40.79
AUG	26.72	23.78	50.50	19.74	21.06	40.80	24.24	19.67	43.91	16.85	16.17	33.02	17.71	16.61	34.32
SEPT	19.22	18.52	37.74	18.05	20.32	38.37	18.60	13.31	31.91	17.02	15.53	32.54	18.52	14.81	33.33
OCT	20.33	14.03	34.36	22.89	15.42	38.31	17.26	9.18	26.44	15.61	16.56	32.18	21.92	7.75	29.67
NOV	12.72	8.88	21.60	14.49	5.43	19.92	21.01	2.16	23.16	12.01	4.16	16.17	14.44	3.49	17.93
DEC	16.86	2.43	19.29	22.54	0.37	22.90	15.24	1.23	16.47	9.53	6.52	16.05	15.92	1.81	17.73
TOTAL (MG)	220.68	160.68	381.36	244.02	150.41	394.44	225.31	96.78	322.09	163.60	134.76	298.35	185.24	114.24	299.47
TOTAL (AF)	677	493	1,170	749	462	1,210	691	297	988	502	414	916	568	351	919

MONTH	2012		
	CAW	SCWA	Total
JAN	16.35	2.59	20.94
FEB	14.46	1.53	15.99
MAR	12.71	3.33	16.04
APRIL	17.56	4.28	21.84
MAY	14.95	13.04	27.99
JUNE	18.62	15.22	33.84
JULY	24.79	18.79	43.59

Note: Values in **Red** indicate the months where either the total demand exceeded 80% of the current total system capacity (80% of 1.52*30 = 36.5 MG) or the purchased amount exceeded 24 MG per month from SCWA.



Table 1a – Effect of Additional 0.33 MGD Supply on 10 Year Historic Demand (MG)

MONTH	2002			2003			2004			2005			2006		
	CAW	SCWA	Total												
JAN	22.38	3.08	25.46	18.26	1.42	19.67	18.98	0.49	19.47	15.92	6.08	22.01	16.64	1.66	18.29
FEB	18.08	1.47	19.55	17.96	3.50	21.46	18.70	0.48	19.19	15.45	5.05	20.50	14.23	4.32	18.55
MAR	17.56	3.14	20.69	17.29	4.00	21.29	27.59	2.56	30.16	20.97	5.94	26.91	15.35	7.72	23.06
APRIL	19.29	7.33	26.61	20.50	9.64	30.14	22.67	8.34	31.00	15.39	8.88	24.37	15.64	3.27	18.91
MAY	22.72	21.97	44.69	23.23	6.25	29.48	24.78	16.18	40.95	16.34	12.31	28.65	19.27	21.63	40.90
JUNE	21.29	36.74	58.04	27.14	14.81	41.94	29.47	28.63	58.11	25.27	23.09	48.36	19.58	23.56	43.14
JULY	14.22	33.64	47.86	37.35	25.10	62.45	22.79	25.02	47.80	20.35	25.94	46.29	23.47	24.45	47.93
AUG	15.63	29.22	44.85	27.05	19.83	46.88	21.32	25.26	46.58	25.77	30.60	56.37	26.51	27.08	53.59
SEPT	20.21	31.01	51.21	24.64	19.41	44.06	25.75	33.15	58.90	20.45	19.78	40.23	18.20	21.40	39.60
OCT	16.70	20.30	37.00	30.33	18.15	48.48	19.46	14.81	34.27	20.73	16.12	36.85	14.43	16.31	31.22
NOV	15.97	9.15	25.12	20.51	4.49	25.00	14.86	7.91	22.78	20.84	6.66	27.50	14.43	14.65	29.08
DEC	20.21	6.08	26.29	24.23	1.00	25.23	18.50	9.72	28.22	14.86	4.23	19.09	13.77	5.51	19.28
TOTAL (MG)	224.25	203.14	427.39	288.47	127.60	416.07	264.88	172.54	437.41	232.33	164.80	397.13	211.99	171.55	383.54
TOTAL (AF)	688	623	1,312	885	392	1,277	813	529	1,342	713	506	1,219	651	526	1,177

MONTH	2007			2008			2009			2010			2011		
	CAW	SCWA	Total	CAW	SCWA	TOTAL	CAW	SCWA	Total	CAW	SCWA	Total	CAW	SCWA	Total
JAN	18.49	5.71	24.20	17.40	7.08	24.48	17.14	0.25	17.39	15.66	4.59	20.26	12.00	7.65	19.65
FEB	14.43	4.54	18.98	17.63	0.53	18.15	14.19	2.41	16.60	13.64	1.88	15.32	12.18	3.35	15.53
MAR	9.60	12.85	22.44	17.82	2.76	20.58	18.37	1.68	20.04	11.77	6.29	18.06	11.67	3.39	15.06
APRIL	15.61	11.44	27.05	26.46	10.58	37.03	18.34	5.93	24.27	6.33	9.94	16.27	12.30	5.35	17.66
MAY	22.34	19.92	42.27	20.89	17.41	38.10	18.07	7.93	26.00	11.63	13.93	25.57	14.48	16.29	30.78
JUNE	22.66	18.75	41.41	20.52	22.06	42.57	23.14	17.07	40.21	13.79	16.33	30.12	11.55	15.51	27.05
JULY	21.70	19.84	41.54	25.81	27.41	53.21	19.72	15.97	35.68	19.74	23.06	42.80	22.55	18.23	40.79
AUG	26.72	23.78	50.50	19.74	21.06	40.80	24.24	19.67	43.91	16.85	16.17	33.02	17.71	16.61	34.32
SEPT	19.22	18.52	37.74	18.05	20.32	38.37	18.60	13.31	31.91	17.02	15.53	32.54	18.52	14.81	33.33
OCT	20.33	14.03	34.36	22.89	15.42	38.31	17.26	9.18	26.44	15.61	16.56	32.18	21.92	7.75	29.67
NOV	12.72	8.88	21.60	14.49	5.43	19.92	21.01	2.16	23.16	12.01	4.16	16.17	14.44	3.49	17.93
DEC	16.86	2.43	19.29	22.54	0.37	22.90	15.24	1.23	16.47	9.53	6.52	16.05	15.92	1.81	17.73
TOTAL (MG)	220.68	160.68	381.36	244.02	150.41	394.44	225.31	96.78	322.09	163.60	134.76	298.35	185.24	114.24	299.47
TOTAL (AF)	677	493	1,170	749	462	1,210	691	297	988	502	414	916	568	351	919

MONTH	2012		
	CAW	SCWA	Total
JAN	18.35	2.59	20.94
FEB	14.46	1.53	15.99
MAR	12.71	3.33	16.04
APRIL	17.56	4.28	21.84
MAY	14.95	13.04	27.99
JUNE	18.62	15.22	33.84
JULY	24.79	18.79	43.59

Note: Values in **Red** indicate the months where the total demand exceeded 80% of the **proposed** total system capacity (80% of 1.85*30 = 44.4 MG).

Table 1b – 10 Year Historic Demand - Summer Pumpage for CAW

MONTH	2002		2003		2004		2005		2006	
	MG	MGD								
MAY	22.72	0.73	23.23	0.75	24.78	0.80	16.34	0.53	19.27	0.62
JUNE	21.29	0.71	27.14	0.90	29.47	0.98	25.27	0.84	19.58	0.65
JULY	14.22	0.46	37.35	1.20	22.79	0.74	20.35	0.66	23.47	0.76
AUG	15.63	0.50	27.05	0.87	21.32	0.69	25.77	0.83	26.51	0.86
SEPT	20.21	0.67	24.64	0.82	25.75	0.86	20.45	0.68	18.20	0.61
TOTAL (MG)	94.07	0.62	139.41	0.91	124.11	0.81	108.17	0.71	107.04	0.70
Average (MGD)										
MONTH	2007		2008		2009		2010		2011	
	MG	MGD								
MAY	22.34	0.72	20.69	0.67	18.07	0.58	11.63	0.38	14.48	0.47
JUNE	22.66	0.76	20.52	0.68	23.14	0.77	13.79	0.46	11.55	0.38
JULY	21.70	0.70	25.81	0.83	19.72	0.64	19.74	0.64	22.55	0.73
AUG	26.72	0.86	19.74	0.64	24.24	0.78	16.85	0.54	17.71	0.57
SEPT	19.22	0.64	18.05	0.60	18.60	0.62	17.02	0.57	18.52	0.62
TOTAL (MG)	112.64	0.74	104.80	0.68	103.76	0.68	79.03	0.52	84.81	0.55
Average (MGD)										

Notes: Values in **Red** indicate the months where the total pumpage exceeded 0.72 MGD. 2012 Year to date pumpage in May through July is 0.65 MGD.

Table 2 – 10 Year Historic Maximum Day Demands

MONTH	DAY	2002			2003			2004			2005			2006		
		Cal Am	SCWA	Total	Cal Am	SCWA	Total	Cal Am	SCWA	Total	Cal Am	SCWA	Total	Cal Am	SCWA	Total
JUNE	9	0.68	1.51	2.19	1.21	0.98	2.19	1.01	1.10	2.11	0.97	1.06	2.03	1.19	0.86	2.05
JULY	18															
AUG	8															
AUG	5															
JULY	23															
MONTH	DAY	2007			2008 (*)			2009			2010			2011		
		Cal Am	SCWA	Total	Cal Am	SCWA	Total	Cal Am	SCWA	Total	Cal Am	SCWA	Total	Cal Am	SCWA	Total
JULY	7	0.93	0.90	1.83	0.95	0.90	1.85	0.72	0.92	1.63	0.77	0.87	1.64	0.77	0.80	1.56
AUG	11															
JULY	13															
JULY	11															
JUNE	21															

- Notes: 1. As of August 20, 2012, the 2012 MDD in Larkfield was **1.68** MGD. This occurred on August 13, 2012.
2. (*) –The 2008 MDD data was modified to account for water added to storage that day. See Q&A in the Appendix for further detail. Additionally, in May 2007 a new tank, increasing storage by 47%, was added to the distribution system and CAW had not fully incorporated its operation in 2007 and 2008.

Conservation Program Spending

A portion of the demand reductions recently observed in Larkfield is the direct result of an active conservation program. Prior to 2006 the Larkfield district had no formal, budgeted conservation program. Conservation activities were conducted as adjunct activities administered in conjunction with SCWA and CAW's Sacramento office. Beginning in 2006, however, specific targets were established and a funded conservation program tailored to the needs of Larkfield was established. Initially the program centered on rebates to support the low flow fixture program including low flow toilets and washing machine rebates. Actual spends that year for these activities was \$1,489. In subsequent years the conservation program was expanded and spending for conservation activities increased dramatically. In 2007 the spending level increased to \$10,539, in 2008 conservation spending was \$16,702, and in 2009 \$34,335. In 2010 a part time conservation intern was added to the Larkfield staff. The 2010 conservation budget, including staff time, was increased to \$43,291 and was increased again in 2011 to \$50,725. Previous and current conservation budget estimates indicate that about \$166,000 has been spent on conservation related programs in Larkfield. In recognition of continued recent reductions in demand, CAW and the California Public Utilities Commission recognized that a conservation minded ethic has been established in Larkfield but that an active conservation program will continue to ensure that we retain and improve upon the reductions garnered to date. In the rate case for years 2012 through 2014 funding for conservation programs was established at \$29,386 for 2012, \$29,771 for 2013 and \$30,563 for 2014.

Attached in the Appendix are examples of conservation mailers, press releases, rebate applications, bill inserts, door-hangers and other communications tools we have used to help customers reduce waste and use water more efficiently. All of our bills contain 12 month historical usage data and graphs to help customers track consumption trends. Additionally we often run conservation text messages on our bills and we have extensive conservation information available at our office, our national call centers are fully trained and able to inform customers about our local programs, and our company websites (www.amwater.com & www.amwater.com/caaw/) have extensive conservation information detailing programs, rebates, and education. See Figure 1 below for example from the website:

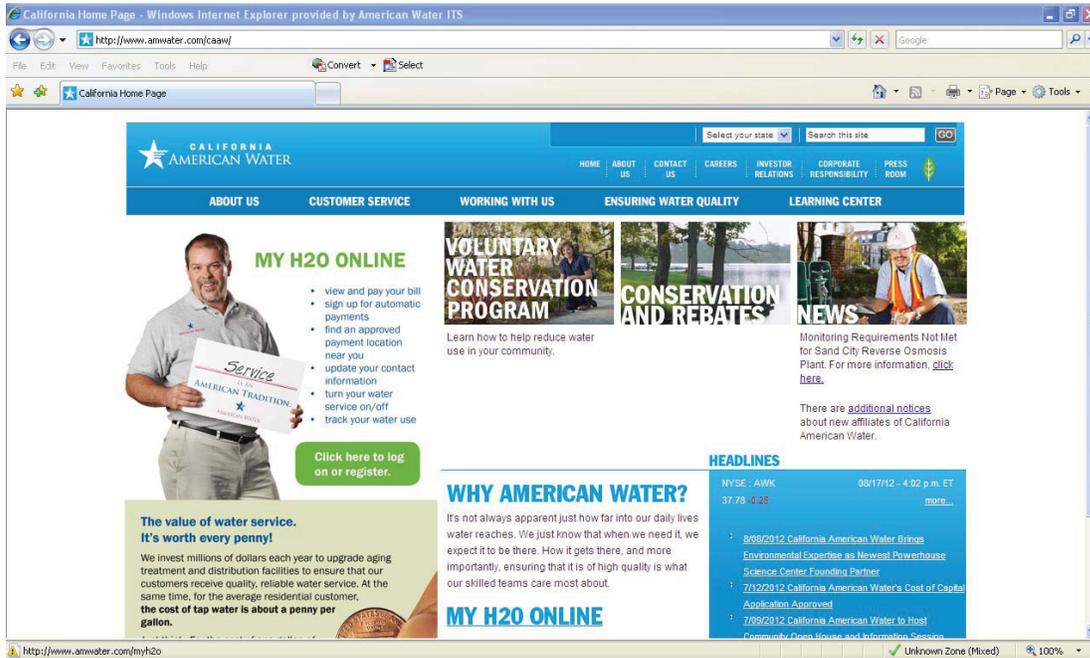


Figure 1 – Company Website Home Page

Conservation Rates

As late as 2008 customers in Larkfield paid for water on a bimonthly basis. Bills were generated based on the sum of two component charges. The first charge was a “stand by” or “ready to serve” charge that was determined based on meter size regardless of consumption. The second component was a commodity charge based on the meter reading over the previous two month period for one hundred cubic feet (1 CCF - approximately 748 gallons which is considered a “unit” of water) delivered. The commodity charge was uniformly set independent of consumption. To foster conservation an inclining block pricing (IBP) structure was developed and implemented for residential customers in Larkfield in 2009. Since residential use in Larkfield comprises the majority of water consumed (over 2/3 of deliveries), conservation efforts were focused primarily on this customer class. In an IBP rate structure the first few units are priced relatively lower so everyone has access to an essential amount of water at the most affordable price. High use consumers face higher marginal prices, encouraging them to conserve water. Three rate Tiers were established, based on consumption records, such that the first two Tiers would capture 80% of the use. In the last rate case CAW proposed an expansion of the Tiered rate structure to add additional

Tiers and to increase the relative cost difference between the inclining blocks. This proposal has been accepted by the CPUC staff and interveners in the rate case and is currently being finalized. Going forward, Larkfield residential customers will see four rate blocks instead of the three previously used. Break points in the price points have also been calculated to so that the new Tier 2 block will end with a total of 14 units instead of the previous 17 units while still capturing 80% of the use. This is reflective of the demand reductions that have occurred. Additionally the marginal cost of water has been significantly increased when moving from the second, to third and into the fourth block. The history of the residential rate structure is summarized in Table 3.

Table 3 – Historical and Proposed Larkfield Residential Rates

3/12/2007	2/1/2009	Current as of 1/1/2012	Recent GRC - Proposed Tiers & Rates	Comments
Uniform Rate \$2.8126 / CCF	Tier 1 First 7 CCF \$3.6120	Tier 1 First 7 CCF \$4.4941	Tier 1 First 7 CCF - \$5.160	14.8% Increase over Existing Tier 1 Rate. Represents the Winter Median - Captures 56% of Use
	Tier 2 10 CCF \$4.1701	Tier 2 Next 10 CCF \$5.1885	Tier 2 Next 7 CCF \$6.458	24.4% Increase over Existing Tier 2 Rate. Represents the Summer Median - Captures 80% of Use
	Tier 3 > 17 CCF \$4.5313	Tier 3 > 17 CCF \$5.6379	Tier 3 Next 24 CCF \$9.373	66.2% Increase over Existing Tier 3 Rate. Captures 94 - 97% of Use
			Tier 4 > 38 CCF - \$12.728	New Tier. 125.7% Increase over Existing Tier 3 Rate. Captures Top 3 - 6% of Use

We anticipate that the changes to the IBP and the associated marginal costs will further reduce demand from those seen through 2011. Economic studies (and common sense) indicate that the cost of water is a powerful tool for encouraging conservation. This phenomena is called price elasticity. Because of its basic necessity, demand for water is not elastic. However, some price elasticity is observed, particularly with inclining block pricing structures in upper Tiers that have high marginal water costs. A research paper titled “Do Residential Water Consumers React to Price Increases? – Evidence from a Natural Experiment in Santa Cruz” concludes that:

“The RD (Regression Discontinuity) elasticity estimates indicate that the introduction of a third price block, which doubled the marginal price faced by high-use consumers, decreased their demand by 15-25 percent over a one to three-year period.”

The proposed four block Tiers and associated rates will increase rates to high-use consumers now in Tier 3 by 66% in the new Tier 3 and by 126% in the new Tier 4. The addition of the fourth rate block is expected to further encourage reductions in demand which will be reflected in reductions to the MDD.

Another report by the Pioneer Institute titled “Managing Water Demand, Price vs. Non-Price Conservation Programs” reaches two important conclusions applicable to the Larkfield situation as follows:

“Price elasticity can be expected to be greater under high prices, all else equal.”

and

“On average, in the United States, a ten percent increase in the marginal price of water can be expected to diminish demand in the urban residential sector by about 3 to 4 percent. (This is equivalent to saying that U. S. residential water price elasticity is in the range of -0.3 to -0.4).”

The overall price of water in Larkfield is expected to increase about 26% to meet the authorized revenue requirement. The maximum day demand is seen in the summer months and is primarily driven by outdoor irrigation demand. Given the addition of a fourth block together with a general rate increase and greater differences in the marginal cost of water between blocks; we believe it possible to see an additional decrease in the MDD from historical records. In the case of Larkfield these recent changes could equate to a 10 - 15% reduction which could account for as much as a 0.27 MGD reduction on the maximum day using data from the historical maximum month in 2003. Copies of the two cited studies are included in the Appendix.

Monthly Billing

In 2011 CAW also changed its customer billing in Larkfield from a bimonthly to a monthly schedule. Typically the maximum day demand in Larkfield is seen in July or August. A monthly billing schedule allows customers to evaluate how their water use may be

increasing in the spring months as the weather warms and adjust future use accordingly and it allows customers to take corrective action sooner to spot leaks as witnessed by higher than average water bills. Additionally, monthly billing enables CAW to compute non revenue water sooner so as to minimize losses. These actions contribute to increased efficiency and assist in overall reductions to production as reflected by decreases in the MDD.

Staged Conservation and Ration Plan

In July of 2009 CAW developed and submitted a Tier 1 Advise Letter to the CPUC which was approved by the Commission. The Advise Letter detailed staged water conservation and rationing in response to supply shortages in Larkfield – Rule 14.1-NO. The intent was to establish appropriate goals, triggers and administrative actions in case of drought or significant supply shortages and to quantify consumer demand reductions necessary to make more efficient use of water in response to existing conditions. Four response stages were identified along with conservation measures as briefly outlined.

Response Stage 1 Voluntary Conservation – Water supply is projected to be insufficient to meet normal customer demand, and are beyond the control of the utility.

Stage 1 Conservation identified 14 non-essential uses of water as minimum water conservation requirements. Violators of this section of the Rule are considered wasters and notified.

Response Stage 2 Mandatory Conservation – Water supply is reduced 15.01 to 20% and water restrictions are needed to ensure District's supply and distribution system will be able to meet all water demands of its customers in the immediate future.

Stage 2 adds four additional restrictions / limitations to the Stage 1 response.

Response Stage 3 Mandatory Rationing – Water supply is reduced 20.01 to 30% and water restrictions are needed to ensure District's supply and distribution system will be able to meet all water demands of its customers in the immediate future.

Stage 3 adds four additional restrictions or stricter limitations to those of the Stage 2 response.

Stage 4 Mandatory Rationing – Water supply is reduced by greater than 30% and water restrictions have not been effective in that the District's

supply, storage, and distribution system will not continue to meet all the water demands of its customers.

Stage 4 adds four additional restrictions or stricter limitations to those of the Stage 3 response.

Violations that occur during Response Stages 2, 3 or 4 are subject to notification and fine. Additionally, after written notification, the utility may install a flow control device to violators effectively limiting the amount of instantaneous deliveries. A copy of the Staged Water Conservation and Rationing Plan, Rule 14.1-NO is included in the Appendix. This plan allows rapid implementation should conditions warrant, thereby ensuring a safe and reliable supply to customers.

Direct Conservation Reductions

As discussed previously, CAW has made a tremendous effort to promote conservation and water efficiency over the last 6 years. These efforts have been made relative to direction from the Commission (through the five year Water Action Plans of 2005 and 2010, decoupling revenues from sales for CAW's Larkfield District and the adoption and implementation of conservation rate designs for residential customers in 2009).

In addition, CAW has implemented a strategy of direct supply side reductions including:

- 146 rebates for high efficiency clothes washers, which are estimated to save 35,029 gallons annually per machine, or 14,011 gallons per day and 5,114,237 total annual gallons.
- 137 rebates for ultra low flow toilets, which are estimated to save 12,349 gallons annually per toilet, or 4,635 gallons per day and or 1,691,813 total annual gallons.
- 84 rebates for ultra low flow toilets and urinals at the Wells Fargo Performing Center for the Arts
- 36 rebates for turf replacement, totaling 23,409 square feet of turf removed
- 67 Home water surveys
- 4 Commercial water surveys
- Over 300 free conservation kits including showerheads, leak detection kits, sink aerators and garden hose nozzles

- Water conservation education program for 144 Mark West School District 5th graders
- Comprehensive communications program to educate customers about water efficiency and conservation

Furthermore, CAW successfully implemented a tiered rate structure for residential customers in 2009. Three rate tiers were established with the highest users paying proportionally higher unit charges, thus providing an economic incentive to reduce consumption. The first tier covers the first seven units (100 cubic feet per unit) of water consumed monthly – corresponding to average indoor water usage. The second tier covers the next ten units of water, a reasonable amount for outdoor irrigation. The second tier is priced at 115 percent of the first tier. The highest 20 percent of users typically fall into the third tier. The second tier is priced at 115 percent of the first tier. All water usage above the first two tiers is priced at 125 percent of the first tier rate. A copy of the current Larkfield tariffs are attached in the Appendix.

In addition to the efforts of CAW to support conservation in the Larkfield District, there have been other factors which have reduced overall consumption. The SCWA runs the Airport-Larkfield-Wikiup Sanitation Zone (Zone) which provides wastewater service to most of CAW's Larkfield customers. Although the boundaries are not entirely contiguous, the two systems share the vast majority of customers. SCWA launched an aggressive program to directly install toilets for their customers. According to SCWA, 928 toilets and 24 urinals were installed in our service area as part of the program resulting in an estimated savings of 32,920 gallons per day or 12,015,800 gallons annually. Summarizing the above items, we believe that an estimated 0.1 MGD is directly related to CAW's and SCWA's conservation programs.

Regional Trends

SCWA has also been instrumental in regional water reduction issues in recent years in response to curtailments of their supply by the State Water Resources Control Board. In 2009, during the curtailment period, SCWA reduced diversions by 25 percent and its contractors were able to reduce water consumption by 14 percent from 2004 levels. CAW reduced overall usage by approximately 26 percent from 2004 levels during the course of the year and achieved a 28 percent reduction during the SWRCB mandated

reduction period of June through October. Across the region, water retailers have seen consumption volumes remain at or near the levels used during the two mandatory curtailment years which suggests that many of the conservation measures are embedded and permanent.

Table 4 presents a summary of water consumption for various SCWA contractors from the period 2003 – 2010. Table 5 is a summary of SCWA historic maximum demand days. As can be seen, much like CAW, SCWA has recorded a steady decline from a maximum demand day of 96.1 MGD in 2006 to 61.8 MGD in 2011.

Provided in Table 6 is a ratio comparison of the CAW maximum demand day (MDD) to the SCWA MDD. From this comparison, both CAW and SCWA MDD demands have maintained a similar ratio over the last ten years, which indicates to us that regional trends and trends within CAW service area are similar.

Table 4 – SCWA Total Water Demands by Water Agency Contractors ⁽¹⁾

Customer	Water Year							
	2003	2004	2005	2006	2007	2008	2009	2010
Cotati	1,211	1,233	1,102	1,122	1,144	1,031	1,056	955
Forestville ⁽²⁾	461	544	473	487	505	549	443	389
North Marin	10,666	11,259	10,353	10,897	10,758	10,732	9,846	8,391
Petaluma	10,828	11,265	9,911	10,309	10,374	10,283	9,444	7,052
Rohnert Park	7,886	8,036	6,832	6,486	6,384	6,365	5,596	5,143
Santa Rosa	23,139	24,631	22,707	23,971	23,551	23,879	21,035	19,160
Sonoma	2,571	2,628	2,308	2,374	2,306	2,361	2,136	1,965
Valley of the Moon	3,467	3,524	3,281	3,445	3,364	3,359	2,817	2,658
Windsor	4,246	4,662	4,243	4,567	4,806	4,986	4,352	3,837
Grand Total	64,475	67,782	61,209	63,658	63,192	63,545	56,725	49,549

Note:

Demands in acre-feet by water year (October 1 - September 30)

(1) - Water Agency Deliveries + Local Supplies + Recycled Water

(2) - In 2006 Forestville Water District changed status from Water Agency Contractor to Other Agency Customer.

Table 5 – SCWA 10 Year Historic Maximum Day Demands

MONTH	DAY	2002	2003	2004	2005	2006
July	10	92.7				
July	16		89.1			
August	26			92.8		
July	24				84.7	
June	22					96.1

MONTH	DAY	2007	2008	2009	2010	2011
July	4	75.4				
July	6		76.8			
May	17			61.6		
August	24				64.3	
September	8					61.8

Table 6 – Ratio of CAW MDD vs. SCWA MDD

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ratio (CAW/SCWA)	0.024	0.025	0.023	0.024	0.021	0.024	0.024	0.026	0.026	0.025

Sonoma County Permit and Resource Management Division (PRMD) is also projecting a very low growth rate for the Larkfield area. See the attached letter from Sonoma County for confirmation.

CPUC Moratorium Filing

On September 23, 2011, CAW filed application A.11-09-016 requesting that the Commission approve a moratorium on all new or expanded water service connections within CAW’s Larkfield District until the Larkfield system meets the source capacity requirements as defined by California state regulations (22 CCR § 64554). This proceeding was consolidated with CAW’s 2010 General Rate Case proceeding (A.10-07-007) on December 12, 2011. The Ruling consolidating the proceedings also set a schedule for resolving the Larkfield Moratorium issue by end of 2012.

CAW’s petition to the CDPH to modify the MDD is part of a CAW’s effort with the County of Sonoma (“the Parties”) to attempt to avoid a moratorium in the Larkfield District. The Parties recognize that the 10-year MDD is unnecessarily high due to an ongoing trend

showing a decrease in consumption. A variance in the MDD to reflect this trend in decreased consumption together with increased water deliveries from the SCWA would allow the Larkfield District system to meet the source capacity requirements.

CDPH's approval of a lower MDD is the first step in resolving the Larkfield Moratorium application pending before the Commission. Should the CDPH grant the petition to temporarily lower the MDD in the Larkfield District, CAW and SCWA would then need to either: 1) amend its existing contract; 2) execute a new contract or; 3) implement another legal mechanism that would provide for increased water deliveries. After completing a source of supply evaluation, SCWA has indicated that they can provide additional deliveries for the next six years. Following this, the Parties would need to submit to the Commission a plan to identify a permanent long-term additional source of supply and a trigger mechanism that would allow the imposition of a moratorium if at any point the Larkfield MDD exceeded the trigger below the modified MDD that is requested. Finally, this approach would have to be approved by the Commission in order to resolve application A.11-09-016. Only after Commission approval, CAW would implement any modified MDD in the Larkfield District.

PROJECTED SUPPLY

SCWA Purchased Water

A temporary increase in purchased water allotment of 0.33 MGD for six years will be contracted out to CAW by the SCWA.

Identification of a Conjunctive Use Project

A Conjunctive Use Project will be identified before CAW's 2018-2020 GRC Filing to identify a project with SCWA or other suitable party whereby a new source could be sited in a part of the County that would produce a higher yield supply, resulting in a less expensive cost per acre-foot of water delivered, and conveying this flow through SCWA system under a wheeling or similar type of agreement. CAW has developed several conjunctive use projects in its Sacramento and Monterey systems.

Faught Road Well

CAW will work with the County Permitting and Resource Management Department (PRMD) to finalize a hydrogeologic assessment for the well and receive a use permit. CAW will begin work on this project with an anticipated in service date of 2015 or 2016. It is important to note that this project has already been approved by the CPUC as an Advice Letter project, meaning that CAW has authority to implement this project at any time and upon completion place it into rates. Alternately, the parties will continue to identify an alternate project that may be able to provide a greater amount of water supply and take advantage of economies of scale.

Mark West Station Road

Additional sources of supply as identified at the Mark West Station well site shall be investigated for viability. The Fulton Processor Well site will also be included in this assessment.

PROPOSED SOLUTION

Explanation of Solution

There is a three step process whereby CAW can meet the requirements of General Order 103-A.

1. The first step is to produce more groundwater. CAW detailed the need for an additional source of supply in support of the Faught Road Well project in both the 2009 Larkfield District Rate Case (A.09-01-013) and 2010 General Rate Case (A.10-07-007). The project need has been recognized by the Commission in the past (D.10-06-038 at 18-19) and reaffirmed in the current Settlement Agreement for the pending GRC. The Faught Road Well project is not expected to completely cover the current deficit, or provide for the additional demand placed on the system by new customers.
2. The second step is to purchase an additional water supply from SCWA. In the past, CAW has approached SCWA with this request, however, at that time SCWA did not have excess capacity and the request was denied. In the last few years, however, SCWA has seen its demand and sales decrease. The decrease

in demand is the result of several factors including the results of active conservation programs like the direct install toilet program, and development of additional supply sources from other contract purchasers resulting in reduced SCWA deliveries. As a result, it appears SCWA has a temporary surplus of water available for deliveries to Larkfield. The SCWA has presently indicated that an additional 0.33 MGD is available. Accordingly, this option would include the development of a formal proposal to modify the existing contract with SCWA for purchase of additional water.

3. The third and most essential step is to reduce the required capacity or demand. Recent CAW experience with water sales is similar to that of SCWA. CAW has seen the Larkfield District MDD decrease by over 15% from a high of 2.19 MGD in 2003 to 1.85 MGD in 2008, which is effectively the highest value in the last six years. If consumption remains below this peak for the next few years, the planning guidance and General Order 103-A will allow CAW to establish 1.85 MGD as the new MDD.

The proposed solution is a combination of all three steps with a trigger mechanism to protect existing customers from shortages. A demand reduction plan would also be developed with certain thresholds to ensure adequate production is available to meet the MDD in the Larkfield District system. The new adjusted MDD value is proposed to be recognized as 1.85 MGD, or 1,285 gallons per minute.

Engineering data with triggers moving forward to ensure reliable supply

CAW proposes to use a trigger mechanism going forward to ensure the protection of its existing customers. The trigger mechanism is based on water regulations from Virginia that state a plan should be in place to expand the water system if the water usage for three consecutive months exceeds 80% of the water system's reliable capacity. Provided below is a copy of the Virginia Regulation:

12VAC5-590-520. Waterworks expansion.

A. At such time as the water production of a community waterworks reaches 80% of the rated capacity of the waterworks for any consecutive three-month period, the owner shall cause plans and specifications to be developed for expansion of the waterworks to include a schedule for construction; however, if it can be shown by the owner that growth within the service area is limited and will not exceed the rated capacity of the waterworks or if unusual transient conditions caused production to reach the 80% level, preparation of plans and specifications for expansion will no longer be required.

B. All waterworks shall provide metering of total water production.

Statutory Authority

§§ [32.1-12](#) and [32.1-170](#) of the Code of Virginia.

Historical Notes

Derived from VR355-18-005.08 § 2.19, eff. August 1, 1991; amended, Virginia Register Volume 9, Issue 17, eff. June 23, 1993.

As discussed previously in this technical memorandum, the Larkfield District can safely produce 1.85 MGD / 55.5 MG per Month with the additional six year temporary supplemental supply from SCWA. Eighty percent of 55.5 MG is 44.4 MG per month. Thus, as long as monthly production does not exceed 44.4 MG per month for three consecutive months the trigger would not be met. As can be seen in the data provided in Table 1 demand regularly came close to or exceeded this 80% threshold for three consecutive months until 2006. Since 2009, monthly demand has not exceeded 44.4 MG per month on a single occasion, indicating that demand reductions have become sustainable and permanent. Furthermore, as shown in Table 1a, assuming the temporary supply where in place, the trigger would not have been exceeded in the last 10 years with the exception of 2004 and 2005. For CAW this provides further confidence in the approach as proposed.

CAW would use this 80% of system capacity methodology during the proposed six year period in conjunction with the CDPH supported MDD of 1.85 MGD and a temporary increase in purchased water supply of 0.33 MGD contracted with the SCWA. During the period, should the 80% value be exceeded, an advice letter request to the Commission would be issued in order to place a temporary moratorium on all new connections. This advice letter mechanism would need to be adopted by the Commission in the pending proceeding.

The Faught Road Well project (or another permanent water supply source) is expected to be placed in service by 2016, or three years before the temporary increase in purchased water allotment expires. Therefore, beginning in 2016 CAW will recalculate the sustainable monthly production of the system based on permanent supply. This safeguard will provide three additional years of data about water consumption trends in the district and a three year cushion to develop additional permanent supplies before the 6 year contract with SCWA expires

Conclusions

Plan to Avoid Moratorium

In order to avoid a moratorium in the Larkfield District, CAW will continue to manage demands and develop new sources of supply. CAW will continue to fund water efficiency programs in the district and will work with SCWA to receive an additional supply of treated SCWA water for the next six years, explore a conjunctive use or a jointly sponsored project with SCWA or other partners outside the Larkfield service district, and develop additional wells within its service area.

Events that will Trigger Future Moratorium

The Parties believe that CAW should be able to continue to provide safe and reliable water service to our Larkfield customers without a moratorium if current trends in declining water consumption and slow growth within the district continue. Additional temporary supplies from SCWA will provide a cushion while efforts are made to develop additional permanent supplies. If the current MDD trends reverse themselves the trigger mechanism (three consecutive months of MDD exceeding 80 percent of current sustainable supplies) will provide quick relief for CAW and its current customers to ensure that their water needs are met.

At the completion of the Faught Road well or other project in 2016, CAW will recalculate the sustainable monthly production capacity and will adjust the 80% trigger volume to reflect current conditions. The parties recognize that the 80% trigger volume could increase or decrease at that time and also recognize that there will be additional data available between now and then with which to evaluate the MDD and maximum month demands.

CAW encourages CDPH to provide a waiver that supports deferring an immediate moratorium and supporting the trigger proposal because the ten year MDD is clearly trending downward and the plan will allow for CAW to work with the County and SCWA to increase supplies available to serve our customers.

Appendix

- 14.1 – NO, Staged Water Conservation & Rationing Plan
- Examples of conservation hand outs, brochures, etc.
- Larkfield Rate Schedule, LW – 1 (Current Rates)
- Letter from Sonoma County RE: Development in Larkfield
- Price Elasticity Studies
- Q & A from CDPH Correspondence