

# **Notice and Agenda of a Meeting of the Beaumont Basin Watermaster Wednesday, December 7, 2011 at 10:00 a.m.**

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## **Meeting Location:**

Beaumont Cherry Valley Water District  
560 Magnolia Avenue  
Beaumont, CA, 92223

## **Watermaster Members:**

- City of Banning: Represented by Duane Burk
  - City of Beaumont: Represented by Dave Dillon
  - Beaumont Cherry Valley Water District: Represented by Eric Fraser
  - South Mesa Water Company: Represented by George Jorritsma
  - Yucaipa Valley Water District: Represented by Joseph Zoba
- 

### **I. Call to Order**

### **II. Roll Call**

- |    |  |                  |
|----|--|------------------|
| A. | City of Banning:                       | Duane Burk       |
| B. | City of Beaumont:                      | Dave Dillon      |
| C. | Beaumont Cherry Valley Water District: | Eric Fraser      |
| D. | South Mesa Water Company:              | George Jorritsma |
| E. | Yucaipa Valley Water District:         | Joseph Zoba      |

### **III. Pledge of Allegiance**

### **IV. Public Comments** At this time, members of the public may address the Beaumont Basin Watermaster on matters within its jurisdiction; however, no action or discussion may take place on any item not on the agenda. To provide comments on specific agenda items, please complete a Request to Speak form and provide that form to the Secretary prior to the commencement of the meeting.

### **V. Consent Calendar**

- A. Approve Meeting Minutes for October 26, 2011

### **VI. Discussion Items**

- A. Presentation of the Draft Combined 7<sup>th</sup> and 8<sup>th</sup> Annual Report of the  
Beaumont Basin Watermaster - Page 7 of 75  
Recommendation: No recommendation.

### **VII. Watermaster Member Comments**

### **VIII. Adjournment**

# CONSENT CALENDAR

**Record of the Minutes of the  
Beaumont Basin Watermaster  
October 26, 2011**

**Meeting Location:**

Beaumont Cherry Valley Water District  
560 Magnolia Avenue  
Beaumont, CA, 92223

**I. Call to Order**

Chairman Burk called the meeting to order at 10:06 a.m.

**II. Roll Call**

A. City of Banning:	Duane Burk	Present
B. City of Beaumont:	Dave Dillon	Absent
C. Beaumont Cherry Valley Water District:	Eric Fraser	Present
D. South Mesa Water Company:	George Jorritsma	Present
E. Yucaipa Valley Water District:	Joseph Zoba	Present

Members of the public who registered their attendance were: Kyle Warsinski, Parley Kennelly, CPA, Patsy Reeley, Mary Ann Melleby, Dr. Blair Ball, Ken Ross and Pam Lindgren.

Chairman Burk announced that a letter was received from the City of Beaumont appointing Mr. Kyle Warsinski as the alternate representing City of Beaumont in the absence of Member Dillon.

**III. Pledge of Allegiance**

Member Jorritsma led the pledge.

**IV. Public Comments** At this time, members of the public may address the Beaumont Basin Watermaster on matters within its jurisdiction; however, no action or discussion may take place on any item not on the agenda. To provide comments on specific agenda items, please complete a Request to Speak form and provide that form to the Secretary prior to the commencement of the meeting.

Chairman Burk invited Judy Bingham to address the Committee on an item not on the agenda. Ms. Bingham commented on a court case where the court had ordered Urban Logic pay for damages.

**V. Consent Calendar**

- A. Approve Meeting Minutes for September 21, 2011
- B. Unaudited Financial Report - September 30, 2011

Alternate Member Warsinski requested that the minutes be changed to "action minutes" in the future.

Member Jorritsma moved to approve the Minutes of September 21, 2011. Member Fraser seconded. The motion passed with Alternate Member Warsinski abstaining.

Member Zoba moved to approve the Unaudited Financial Report. Jorritsma seconded. The motion passed with Alternate Member Warsinski abstaining.

## **VI. Discussion Items**

- A. Independent Financial Report for Fiscal Year 2010-2011 [Watermaster Memorandum No. 11-08 - Page 10 of 44]

Recommendation: That the Watermaster Committee receives and files the Independent Financial Report for the Fiscal Year Ending June 30, 2011.

After briefly reporting on this item, Member Zoba moved to receive and file the Independent Financial Report for Fiscal Year Ending June 30, 2011. Member Fraser seconded. The motion passed with Alternate Member Warsinski abstaining.

- B. Status Report Related to the Beaumont Basin Watermaster Annual Report for Fiscal Years 2009/10 and 2010/11 [Watermaster Memorandum No. 11-09 - Page 20 of 44]

Recommendation: No recommendation.

Member Zoba reported that Samantha Adams with Wildermuth Environmental had provided a written status on the report on this item and a deadline to provide a draft Annual Report for Fiscal Year 2009-2010 and 2010-2011 was set for November 21, 2011. A draft report will be presented at the December's meeting for review and comments.

- C. Review of Draft Request for Proposals for Consulting Services [Watermaster Memorandum No. 11-10 - Page 25 of 44]

Recommendation: That the Watermaster Committee reviews the attached Request for Proposals and provides additional comments following the release of the Annual Report for FY 2010-2011.

Member Zoba reported on this item indicating that the release of the Request for Proposals for Consulting Services will be after receipt of the Annual Report currently in progress. He requested that members of the Committee forward any comments or suggestions for inclusion in the RFP. He further indicated that the final RFP will be presented for approval to release at the December's meeting.

- D. Review of Draft Request for Proposals for Legal Services [Watermaster Memorandum No. 11-11 - Page 35 of 44]

Recommendation: That the Watermaster Committee authorizes the issuance of the Request for Proposals for legal services.

Member Fraser reported on this item and answered questions from members of the Committee. He recommended that the Committee approve the release and publication of the Request for Proposals for legal services.

Member Zoba moved to authorize issuance of the RFP. Member Fraser seconded. The motion passed with Alternate Member Warsinski abstaining.

- E. Establishment of Regular Meeting Dates of the Beaumont Basin Watermaster [Watermaster Memorandum No. 11-12 - Page 44 of 44]  
Recommendation: No recommendation.

After discussion it was the consensus of the Committee to establish regular meeting dates to the first Wednesday of every even month.

Chairman Burk invited Patsy Reeley to address the Committee on an item not on the agenda.

Ms. Reeley made an invitation to all attendees to a meeting at 7:00 p.m. at the Grange where Supervisor Ashley was scheduled to be on attendance.

## **VII. Watermaster Member Comments**

The Next Watermaster meeting was scheduled to December 7, 2011 at 10:00 a.m.

## **VIII. Adjournment**

Chairman Burk adjourned the meeting at 10:35 a.m.

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Duane Burk, Chairman to the  
Beaumont Basin Watermaster

# DISCUSSION ITEMS

## **WATERMASTER MEMORANDUM NO. 11-13**

**Date:** December 7, 2011

**From:** Joseph Zoba, Treasurer

**Subject:** Presentation of the Draft Combined 7<sup>th</sup> and 8<sup>th</sup> Annual Report of the  
Beaumont Basin Watermaster

**Recommendation:** No recommendation.

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The attached draft document was emailed to Watermaster members on November 29, 2011. A copy of the draft document has been posted on the Watermaster website at [www.beaumontbasinwatermaster.org](http://www.beaumontbasinwatermaster.org).

The purpose of this agenda item is to provide an opportunity for the consultant to present the document to the members of the Watermaster Committee for review and discussion.

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**Acronyms, Abbreviations, and Initialisms**

acre-ft	acre-feet
acre-ft/yr	acre-feet per year
Banning	City of Banning
Basin	Beaumont Basin
BCVWD	Beaumont-Cherry Valley Water District
Beaumont	City of Beaumont
du	dwelling unit
FY	fiscal year
IRWMP	Integrated Regional Water Management Program
Pass Agency	San Geronio Pass Water Agency
SMWC	South Mesa Water Company
STWMA	San Timoteo Watershed Management Authority
STWMP	San Timoteo Watershed Management Program
SWP	State Water Project
Watermaster	Beaumont Basin Watermaster
WEI	Wildermuth Environmental, Inc.
YVWD	Yucaipa Valley Water District



## Section 1 – Overview of the Judgment and the Watermaster

This Combined Seventh and Eighth Annual Report of the Beaumont Basin Watermaster summarizes the activities and operations of the Watermaster for fiscal year<sup>1</sup> (FY) 2009/10 and FY 2010/11.

### 1.1 Background

In January 2001, based on a common interest in the San Timoteo Watershed, the Beaumont-Cherry Valley Water District (BCVWD), the City of Beaumont (Beaumont), the South Mesa Water Company (SMWC), and the Yucaipa Valley Water District (YVWD) formed the San Timoteo Watershed Management Authority (STWMA). Once formed, the STWMA began a watershed-wide, multi-phase effort to develop and implement a comprehensive San Timoteo Watershed Management Program (STWMP). Phase 1 of the STWMP included developing a description of the area's water resources, establishing goals to protect and enhance these resources, and affirming a management plan to accomplish said goals. This work is documented in the *San Timoteo Watershed Management Program, Phase 1 Report* (WEI, 2002) and its successor, the updated and re-titled *Integrated Regional Water Management Program for the San Timoteo Watershed* (IRWMP) (WEI, 2005). The goals established in Phase I include:

- Enhancing basin water supplies
- Protecting and enhancing water quality
- Optimizing the management of STWMA area groundwater basins
- Protecting riparian habitat in San Timoteo Creek and protecting/enhancing habitat in the STWMA area
- Equitably distributing the benefits and costs of developing the IRWMP for the San Timoteo Watershed

The Phase 1 report also identified the initiatives and program elements necessary to achieve these goals. Program Element 5 called for the STWMA members to establish a groundwater management entity for the Beaumont Basin (Basin). The Basin encompasses approximately 26 square miles, has a safe yield of approximately 8,650 acre-feet (acre-ft), and a total storage capacity of over a million acre-ft. Two groups, representing Appropriator and Overlying interests in the Basin, began negotiations in May 2002 to implement this program element.

A Stipulated Agreement was developed and submitted to the Court as a result of the negotiations. Honorable Judge Gary Tranbarger of the Superior Court of the State of California for the County of Riverside signed the Judgment, titled "*San Timoteo Watershed Management Authority, vs. City of Banning, et al.*" (Case No. RIC 389197), on February 4, 2004. Pursuant to the Judgment, the Court appointed a five-member Watermaster committee, consisting of representatives from each of the Appropriator parties: the City of Banning

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<sup>1</sup> The Watermaster fiscal year is July 1 through June 30.



(Banning), Beaumont, the BCVWD, the SMWC, and the YVWD. The effective date of the Judgment for accounting purposes is July 1, 2003.

The Court gave the responsibility of managing the Basin to the Watermaster by approving the Stipulated Agreement but retained continuing jurisdiction should there be any future need to resolve difficult questions among the Parties.

## 1.2 Watermaster Responsibilities

The Watermaster, in carrying out its duties, is responsible for providing a legal and practical means of ensuring that the waters of the Basin are put to maximum beneficial use by facilitating the conjunctive use of surface, ground, and supplemental waters, and by satisfying the requirements of water users that have rights in the Basin or that are dependent upon the Basin. The specific responsibilities of the Watermaster are summarized below.

**Administer the Beaumont Basin Judgment.** The Watermaster operates under the Judgment and a formal set of Rules and Regulations (and any revisions thereto), which were adopted on June 8, 2004. Together, the Judgment and the Rules and Regulations establish the procedures by which the Watermaster accounts for the water resources of the Basin. To fund its operations, the Watermaster collects both administrative and replenishment assessments from the Appropriator Parties. Each year the Watermaster publishes an Annual Report on its activities, which includes an accounting of production and recharge in the Basin.

**Maintain and Improve Water Supply.** The Watermaster determines the amount of groundwater that each producer is entitled to pump annually without incurring a replenishment obligation. As needed, the Watermaster facilitates the acquisition and storage of replenishment water.

**Approve Producer Activities.** Producer Parties must notify and obtain approval, as necessary, from the Watermaster for activities, such as recharging water, transferring or exchanging water, storing local water, and storing or recovering supplemental water.

**Develop and Administer a Well Policy.** Watermaster is responsible for developing a policy on the proper construction and abandonment of wells in the Basin. The Well Policy that is currently in effect was adopted as Resolution 2004-04, *A Resolution of the Beaumont Basin Watermaster Adopting Minimum Standards for the Construction, Reconstruction, Abandonment and Destruction of Groundwater Extraction Wells*, on July 20, 2004. With Resolution 2004-04, the Watermaster Committee adopted existing Riverside County Ordinance No. 682.3 and expanded it by requiring the installation of a “sounding tube” to facilitate the measurement of water levels on all wells constructed in the Basin after July 20, 2004.

**Monitor and Understand the Basin.** The Watermaster collects data from the Appropriator Parties, and other cooperating agencies to expand its knowledge of how the Basin works in order to manage it more effectively. The Appropriator parties provide Watermaster with production, water level, and water quality data for their wells. Beaumont provides the Watermaster with additional water level and water quality data collected at wells throughout the region as part of their Maximum Benefit Monitoring Program (see WEI, 2010). The Watermaster also conducts a periodic ground surface survey to determine if land subsidence is



occurring in the Basin. All of these data are periodically compiled into an Engineer's Report on the state of the Basin's water resources, including changes in groundwater elevation, storage, and quality.

**Maintain and Improve Water Quality.** The Watermaster coordinates and participates in local efforts to preserve the quality of groundwater in the Basin. It assists and encourages regulatory agencies to enforce water quality regulations that affect the Basin and its surrounding resources. The Watermaster supports the Maximum Benefit Monitoring efforts in the Beaumont Management Zone and utilizes the results of these efforts when reporting regional water quality conditions in its Engineer's Report.

**Develop Contracts for Beneficial Programs and Services.** Watermaster is responsible for developing and entering into contracts for programs and services that are beneficial to the Basin on behalf of the Parties to the Judgment. This includes programs for conjunctively utilizing the Basin for the storage of supplemental water with other entities, such as the Pass Agency, and programs for the direct and/or indirect use of recycled water.

**Provide Cooperative Leadership.** The Watermaster helps develop and implement regional scale programs for the management of the Basin and its surrounding resources.

### 1.3 Watermaster Address

For the purposes of conducting Watermaster business and maintaining records, the Watermaster's official address remains as follows:

Office of the Watermaster Secretary  
C/O Beaumont-Cherry Valley Water District  
560 Magnolia Avenue  
Beaumont, CA 92223

### 1.4 Watermaster Website

The Watermaster maintains a website to communicate its activities to the Parties and the public. The website contains copies of the Judgment, the Rules and Regulations, Annual Reports, Engineer's Reports, meeting minutes, meeting agendas, and other relevant documents. The website address is [www.beaumontbasinwatermaster.org](http://www.beaumontbasinwatermaster.org).

### 1.5 Mission Statement

The Watermaster adopted the following mission statement in October 2004:

“Watermaster's mission is to manage the yield of and storage within the Beaumont Basin to provide maximum benefit to the people dependent on it.”



## Section 2 – Watermaster Activities

The Watermaster continued to administer and implement the Judgment during its seventh and eighth years of operation. Watermaster's activities are discussed in more detail below by subject matter.

### 2.1 Watermaster Committee Representatives and Staff

The Committee Representatives serving each Appropriator Party during FY 2009/10 and FY 2010/11 were as follows:

Banning, City of	Duane Burk, Director of Public Works
Beaumont, City of	Dave Dillon, Economic Development Director
Beaumont-Cherry Valley Water District	Anthony Lara, Interim General Manager
South Mesa Water Company	George Jorritsma, General Manager
Yucaipa Valley Water District	Joseph B. Zoba, General Manager

The Representatives listed below served as the officers to the Watermaster Committee in FY 2009/10 and FY 2010/11:

Chairman	George Jorritsma
Vice Chairman	Dave Dillon
Secretary	Anthony Lara
Treasurer	Joseph B. Zoba

Mr. J. Andrew Schlange continued to serve as the Chief of Watermaster Services until his resignation from the position effective November 30, 2009. After Mr. Schlange's resignation, the Watermaster Committee elected not to seek out a new Chief of Watermaster Services. All Watermaster activities after November 30, 2009 were initiated and coordinated by the Committee members themselves.

Mr. Joseph S. Aklufi continued to serve as the Watermaster's Legal Counsel, and Mr. Mark J. Wildermuth of Wildermuth Environmental, Inc. (WEI) continued to serve as the Watermaster Engineer in FY 2009/10 and FY 2010/11.

### 2.2 Watermaster Meetings

Meetings of the Watermaster Committee were held on the following dates:

September 15, 2009  
 April 14, 2010  
 May 11, 2010  
 September 14, 2010  
 April 7, 2011



Copies of the agendas and approved minutes from each of the above meetings can be viewed at the Watermaster's website or by making a request to the Watermaster secretary. Pursuant to Resolution 2009-001, all public records of the Watermaster are open for inspection during office hours, provided that a written request to inspect said records has been submitted.

## 2.3 Resolutions

No resolutions were adopted by the Watermaster during FY 2009/10 or FY 2010/11.

## 2.4 Storage Applications and Agreements

The first applications and agreements to store unused appropriator production rights and supplemental water recharge were approved in FY 2005/06. During that year, Watermaster approved applications and agreements with Banning, BCVWD, SMWC, and YVWD to store up to 135,000 acre-ft of water in the Basin. Beaumont's first application and agreement to store water was approved by the Watermaster in FY 2007/08, and brought the total approved storage allocation to 157,000 acre-ft. During FY 2009/10, the Watermaster received four applications to increase the total storage allowed under the existing Storage Agreements with Banning, BCVWD, Beaumont, and YVWD, as summarized below. All of the applications to increase storage were approved, increasing the total storage allocation to 260,000 acre-ft. The Watermaster has not yet executed amended Storage Agreements with the Parties to reflect the changes to their accounts. No applications to store water were received in FY 2010/11, however the Pass Agency notified the Watermaster of its interest in submitting an application for a storage agreement, likely in FY 2011/12.

Appropriator	Authorized Storage Account as of July 1, 2009 (acre-ft)	Date of Application to Increase Storage Account	Requested Storage Account Increase (acre-ft)	Date of Application Approval	Authorized Storage Account as of July 1, 2011
Banning	40,000	April 16, 2010	40,000	Sept. 14, 2010	80,000
BCVWD	70,000	Sept. 15, 2009	10,000	May 11, 2010	80,000
Beaumont	22,000	April 19, 2010	8,000	Sept. 14, 2010	30,000
SMWC	20,000	n/a	n/a	n/a	20,000
YVWD	5,000	April 15, 2010	45,000	May 11, 2010	50,000
Total	157,000		103,000		260,000

## 2.5 Rules and Regulations

The original Rules and Regulations of the Watermaster were adopted on June 8, 2004. The rules were adopted with an understanding that modifications would be considered as necessary. No changes to the Rules and Regulations were made in FY 2009/10 or FY 2010/11.



## 2.6 Annual Audit

Under Part VI, Paragraph 6(b) of the Judgment, Watermaster’s annual report of operations shall include an accounting and audit of all assessments and expenditures. Copies of the FY 2009/10 and FY 2010/11 Audit Reports have been included with this annual report as Appendix A.

## 2.7 Active Party List

Under Part VII, Paragraph 1 of the Judgment, “[T]he Watermaster shall maintain, at all times, a current list of Parties to whom notices are to be sent and their addresses for the purposes of service. The Watermaster shall also maintain a full current list of names and addresses of all Parties or their successors, as filed herein. Copies of such lists shall be available to any Person.” These lists are commonly referred to as Watermaster’s “Active Party List.” A copy of the list has been included with this annual report as Appendix B. Under the Judgment, any Party that desires to be relieved of receiving notices regarding Watermaster activities can complete the Waiver of Notice and Designation of Address for Notice and Service portion of the form adopted by Watermaster.



## **Section 3 – Administration of the Judgment: Accounting for Production, Recharge, Transfers, and Storage**

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One of Watermaster's primary responsibilities is to account for the production, recharge, transfer, and storage activities of the Parties to the Judgment. The following sections detail the accounting of these activities for FY 2009/10 and FY 2010/11.

### **3.1 Production**

Watermaster is responsible for the tracking and accounting of groundwater production by all Appropriator and Overlying Parties named in the Judgment. Beaumont Basin producers who pump less than 10 acre-ft per year (acre-ft/yr), otherwise known as minimal producers, are exempt from the provisions of the Judgment unless otherwise ordered by the Court (Judgment Part III, Paragraph 4). Accordingly, Watermaster does not collect production information from minimal producers other than those participating in the Judgment. Figure 1 shows the locations of all wells that belong to the Appropriator and Overlying Parties of the Judgment.

#### **3.1.1 Appropriator Production**

There are five Appropriative producers participating in the Judgment: Banning, Beaumont, the BCVWD, the SMWC, and the YVWD. As stated in the Judgment, an Appropriator's annual production right consists of:

- “[T]he Appropriator's share of operating safe yield, plus
  - (1) any water acquired by an Appropriator from an Overlying Producer or other Appropriator pursuant to the Judgment,
  - (2) any water withdrawn from the Appropriator's storage account, and
  - (3) New Yield created by the Appropriator” (Part I, Paragraph 3B).

An Appropriator's annual production right represents the maximum quantity of water said Appropriator can produce from the Basin each year without incurring a replenishment obligation. It includes the Appropriator's share of the temporary surplus (Part I, Paragraph 3M), defined in the Judgment as “the amount of groundwater that can be pumped annually in excess of safe yield from a groundwater basin necessary to create enough additional storage capacity to prevent the waste of water” (Part I, Paragraph 3BB). The temporary surplus in the Basin was decreed to be 160,000 acre-ft, was allocated over the first ten years of the physical solution at 16,000 acre-ft/yr, and was split among the Appropriators in accordance with their respective percentage shares of the unused safe yield.

Table 1a shows total monthly and annual production, the share of operating safe yield, and the amount of unused water that is eligible for storage by each Appropriator for FY 2009/10. Table 1b shows the same data for FY 2010/11. During FY 2009/10, the Appropriators pumped a total of 12,537 acre-ft of water. Production was down in FY 2009/10 by about eight percent compared to FY 2008/09. During FY 2010/11, the Appropriators pumped a total of 11,115 acre-ft of water. Production in FY 2010/11 was down by about 11 percent



compared to FY 2009/10 and 18 percent compared to FY 2008/09. All metered groundwater production data for FY 2003/04 through 2010/11 is contained in an Access database that has been included with this report as Appendix C.

### 3.1.2 Overlying Production

Producers who pump groundwater for overlying uses and are Parties to the Judgment are defined as Overlying Producers. Overlying Producers are assigned a share of the Basin's safe yield and may not use more than five times their share of the safe yield in any five-year period (Part II, Paragraph 1A).

During FY 2005/06, the Watermaster engineer reported that several Overlying Producers' wells were not metered or that their meters may not have been working properly. The Watermaster Engineer recommended using a water duty method that is routinely used to estimate production in the absence of metered production. The water duty method estimates each Overlying Party's production based on the type of use (indoor, outdoor, and industrial). Watermaster accepted the water duty method and the subsequent production estimates made in FY 2005/06, subject to the receipt of more accurate information from the affected Overlying Producers. During FY 2007/08, an updated water duty method, developed by the Watermaster Engineer, was used to estimate production for Overlying Producers with un-metered wells.

During FY 2009/10 and 2010/11, only 5 of the 17 Overlying Parties to the Judgment metered and reported their monthly or annual groundwater production. The water duty method developed in FY 2007/08 was used to estimate production for each un-metered Overlying Producer in FY 2009/10 and 2010/11.<sup>2</sup> A detailed description of the water duty method has been included with this report as Appendix D.

Table 2a shows a summary of annual production, the share of operating safe yield, and the amount of unused water for each Overlying Producer for FY 2009/10. Table 2b shows the same data for FY 2010/11. During FY 2009/10, the Overlying Producers pumped an estimated 2,500 acre-ft of water. Estimated production was down in FY 2009/10 by about 14 percent compared to FY 2008/09. During FY 2010/11, the Overlying Producers pumped an estimated 11,115 acre-ft of water. Estimated production in FY 2010/11 was down by about 13 percent compared to FY 2009/10 and 25 percent compared to FY 2008/09. All metered and estimated groundwater production data for FY 2003/04 through 2010/11 is contained in an Access database that has been included with this report as Appendix C.

<sup>2</sup> Production values were not reported by Oak Valley Partners (OVP) for either FY 2009/10 or FY 2010/11. This was the first time the OVP did not report production to the Watermaster, which typically included meter reads for one well and estimates of production for two additional wells (the estimates by OVP were previously deemed appropriate for use by the Watermaster in lieu of the water duty method used for other overlying parties). For this draft report, the average production reported by OVP for FY 2006/07 through FY 2008/09 was used for FY 2009/10 and FY 2010/11. Watermaster does not have sufficient information for performing the water duty method in Appendix D for the OVP given the large area of land owned and varied water uses (domestic, commercial, agricultural) by this Overlying Party.



### 3.1.3 Eight-Year Production Summary

Table 3 shows the annual production summary for each Party since FY 2003/04. During the eight years since the adjudication of the Basin, a total of 129,037 acre-ft of water has been pumped. Of this, 104,150 acre-ft (81 percent) was pumped by Appropriator Producers, and 24,887 acre-ft (19 percent) was pumped by Overlying Producers. The minimum annual production during the eight-year period was 13,299 acre-ft in FY 2010/11, and the maximum production was 19,405 acre-ft in FY 2007/08. Total production in the basin has steadily decreased each year since the maximum production value in FY 2007/08. The average production across all eight years is 16,130 acre-ft.

## 3.2 Recharge

Pursuant to Section 5 of the Watermaster Rules and Regulations, all groundwater recharge activities in the Basin shall be subject to the review and approval of the Watermaster. There are three types of water being recharged in the Basin: supplemental imported State Water Project (SWP) water, supplemental recycled water, and new yield stormwater. Table 4 summarizes the annual groundwater recharge from all supplemental and new yield sources in the Basin since FY 2003/04. Daily groundwater recharge data for FY 2003/04 through FY 2010/11 is contained in an Access database that has been included with this report as Appendix C.

### 3.2.1 Imported Water Recharge

Currently, there are two facilities in operation that recharge SWP water imported by the Pass Agency to the Basin: (1) the Little San Geronio Creek Spreading Ponds, operated by the Pass Agency and located on the northwest corner of Orchard Street and Avenida Miravilla; and (2) the BCVWD's Noble Creek facility, located east of Beaumont Avenue between Brookside Avenue and Cherry Valley Boulevard. The location of the recharge facilities is shown in Figure 1.

The Pass Agency began recharging SWP water in August 2003 and has since recharged about 6,700 acre-ft of water at the Little San Geronio Creek Spreading Ponds. A total of 829 acre-ft was recharged in FY 2009/10 and 1,683 acre-ft was recharged in FY 2010/11. As of June 30, 2011, the Pass Agency has not submitted an application for a recharge or storage agreement with the Watermaster.

The BCVWD began recharging SWP water in September 2006, and has since recharged about 27,376 acre-ft of water pursuant to the storage and recharge agreements on file with the Watermaster. A total of 5,765 acre-ft was recharged in FY 2009/10 and 8,937 acre-ft was recharged in FY 2010/11.

The City of Banning began recharging SWP water at the BCVWD's Noble Creek facility in July 2008 and has since recharged 3,600 acre-ft of water pursuant to the storage agreement on file with the Watermaster. As of June 30, 2011, Banning has not submitted an application for recharge with the Watermaster. A total of 1,200 acre-ft was recharged in FY 2009/10 and



1,200 acre-ft was recharged in FY 2010/11.

### **3.2.2 Recycled Water Recharge**

In March 2010, pursuant to its Waste Discharge permit with the Regional Board (R8-2009-0002), Beaumont began discharging recycled water from Wastewater Treatment Plant No. 1 to Discharge Point (DP) 007 located in an unnamed tributary of Marshall Creek (see Figure 1). A portion of the recycled water discharged at DP-007 flows into and recharges the Basin. Prior to March 2010, all of Beaumont's recycled water was discharged at DP-001 in Cooper's Creek where it infiltrates into the San Timoteo Management Zone, which is outside of the Basin. Thus, recycled water discharged to DP-007 that flows into and infiltrates the Basin is considered a new recharge source for which the City obtains credit pursuant to the storage agreement on file with the Watermaster. Since March 2010, an estimated 369 acre-ft of recycled water has recharged in the Basin: 74 acre-ft in FY 2009/10 and 295 acre-ft in FY 2010/11. A description of the methodology used to compute the amount of recycled water recharge to the Basin has been included with this report as Appendix E.

### **3.2.3 New Yield Stormwater Recharge**

Pursuant to section 4.2 of the Watermaster Rules and Regulations, recharge of new, locally-generated water shall be accounted for by the Watermaster and shall be credited to the Party that creates the new recharge. The City of Beaumont continues to recharge local waters to the Basin, however the Watermaster has yet to develop rules and regulations regarding the methodology to quantify and credit the New Yield. Upon development of the New Yield rules, the Watermaster will compute and credit all New Yield to the Basin dating back to FY 2003/04, if applicable.

## **3.3 Water Transfers and Adjustments of Rights**

Pursuant to Section 7 of the Watermaster Rules and Regulations, the Watermaster shall maintain an accounting of all water transfers and adjustments of rights by and between the Appropriator and Overlying Producers. There are three types of transfers that the Watermaster accounts for: the transfer of water rights and/or water in storage between Appropriators, the transfer of water rights from Overlying Producers in exchange for water service by an Appropriator Party, and the allocation of unused Overlying Water.

### **3.3.1 Transfers between Appropriators**

An Appropriator may transfer to another Appropriator all or any portion of its production right or water in storage that is surplus to its needs. On January 8, 2008, the SMWC and the BCVWD entered into a long-term water transfer agreement that allows the BCVWD the option to purchase from the SMWC all or any portion of water that is not pumped or designated for storage, termed as "available water." This agreement is effective through February 4, 2014. During FY 2010/11, the BCVWD purchased 3,500 acre-ft of available water in storage from the SMWC. The purchase agreement and records of transfer are on file



with the Watermaster.

### **3.3.2 Transfers of Overlying Rights for Service by an Appropriator**

The Judgment provides that to the extent any Overlying Party requests, and uses its adjudicated water rights to obtain water service from an Appropriator Party, an equivalent volume of potable groundwater shall be earmarked by the Appropriator Party which will serve the Overlying Party, up to the volume of the Overlying Water Right as reflected in Exhibit B of the Judgment (Part III, Paragraph 3B). Section 7.1 of the Watermaster Rules and Regulations requires that the Overlying Pumper and Appropriator shall complete a Notice of Adjustment of Rights (Watermaster Form 5) and file it with the Watermaster. As of June 30, 2011, the Watermaster has not received any notices for the adjustment of water rights.

### **3.3.3 Allocation of Unused Overlying Water**

On September 9, 2009, the Watermaster adopted Rule & Regulation 7.8, entitled *Availability of Unused Overlying Production and Allocation to the Appropriator Parties*. The objective of Rule & Regulation 7.8 is to define the process for allocating unused Overlying production to the Appropriator Parties. So long as an Overlying Party's groundwater production does not exceed five times their share of the safe yield in any five-year period, the amount of groundwater not produced by that Overlying Party becomes available for allocation to the Appropriator Parties. The unused water will be reallocated based on each Appropriator's percent share of the operating safe yield, as shown in Exhibit C of the Judgment, and will have no impact on the legal water right held by the Overlying Parties in subsequent years. Table 5 summarizes the unused Overlying water rights for FY 2003/04 through FY 2010/11. Table 6 shows the allocation of the unused Overlying water to each Appropriator Party per their percentage share of the unused safe yield and the schedule of allocation outlined in the Rules and Regulations.

In FY 2009/10, a total of 5,235 acre-ft of un-produced Overlying water rights from fiscal 2004/05 was allocated to the storage accounts of the Appropriator Parties. The 6,150 acre-ft of un-produced Overlying water rights for the FY 2009/10 period will be allocated to the Appropriator Parties in FY 2014/15.

In FY 2010/11, a total of 5,278 acre-ft of un-produced Overlying water rights from fiscal 2005/06 was allocated. The 6,467 acre-ft of un-produced Overlying water for the FY 2010/11 period will be allocated to the Appropriator Parties in FY 2015/16.

## **3.4 Storage Accounting**

Pursuant to Section 6.7 of the Watermaster Rules and Regulations, Watermaster shall calculate additions, extractions, and losses of all water stored, and any losses of water supplies or safe yield that result from such water stored, and keep and maintain an annual accounting thereof for public record. As of June 30, 2011, the Watermaster has not developed a methodology to estimate losses of water in storage.



Table 7 is a reconciliation of each Appropriator's storage account from FY 2003/04 through FY 2010/11. The groundwater pumping, supplemental water recharge, local water recharge, allocation of unused Overlying water rights, and other transfer activities discussed in the preceding sections of this report are included in the storage accounting contained in Table 7. At the beginning of FY 2009/10, the total volume of water in all storage accounts was 33,847 acre-ft. As of June 30, 2011, the volume of water in all storage accounts is 70,178 acre-ft. No Appropriator Party incurred a replenishment obligation in either FY 2009/10 or FY 2010/11.

### 3.5 Change in Groundwater Levels in the Beaumont Basin

Figure 2 shows the change in groundwater levels observed at 8 wells in the Basin compared against annual production and recharge for the July 1, 2003 through June 30, 2011 period. In general, water levels have declined across the basin. A slight rebound in groundwater elevation was observed at a few wells during FY 2010/11 and may be the result of decreasing production, increasing recharge, or both. Note that in FY 2010/11 the amount of water recharged into the Basin (12,115 acre-ft) was greater than the amount extracted by the Appropriator Producers (11,115 acre-ft). A more detailed assessment of the changes in groundwater elevations and storage will be evaluated in the Watermaster's next Basin Condition (Engineer's) Report.

### 3.6 Recommendations

The Watermaster adopted its original Rules and Regulations in June 2004. The Rules and Regulations were developed as a guiding document for administration of the Judgment and to outline the protocols to be followed by the Parties to assist the Watermaster in the accounting of production, recharge, transfers, and storage. The Rules and Regulations were developed with an understanding that modifications would be considered as necessary. In the preparation of this Combined Seventh and Eighth Annual Report, several situations were identified where the Rules and Regulations were not being implemented by the Watermaster as originally envisioned. It is recommended that the Watermaster revisit the Rules and Regulations in FY 2011/12 to ensure that the document is in sync with the requirements of the Judgment and with the practical aspects of accounting for production, recharge, transfers, and storage in the Basin. The following is a summary of the inconsistencies identified:

- The Watermaster has not prepared a Basin Condition report per the prescribed bi-annual frequency. (Section 2.13)
- The Watermaster has not performed a meter maintenance program to ensure accurate reporting of groundwater production. (Sections 3.1b and 3.1c)
- All Producers are not regularly reporting production to the Watermaster. It is recommended that all Producers producing in excess of 10 acre-ft per year report production on a monthly or quarterly basis to the Watermaster Secretary for use by the Watermaster Engineer, as needed. All Producers producing less than 10 acre-ft per year should report annually. (Section 3.2)



- The Watermaster has yet to develop a methodology for estimating New Yield (stormwater) recharges to the Basin. (Section 4.2)
- The Watermaster has yet to develop a methodology for estimating losses of water in storage. (Section 4.3)
- The Watermaster has not enforced the submittal of applications to recharge supplemental or new yield water in the Basin prior to accounting for said recharges. (Sections 5.0, 5.1, 5.2, and 5.3 and Form 3)
- The Watermaster has not developed and executed Groundwater Storage Agreements per the criteria defined in the Rules and Regulations. (Section 6.4 and Forms 1 and 2)
- The Watermaster has not enforced the submittal of applications for the recapture of water in storage by Appropriators as a means of precluding a replenishment obligation. (Section 6.1 and Form 4)
- The Watermaster has not enforced the submittal of notices of transfers prior to accounting for said transfers. (Sections 7.1, 7.2, 7.3, and 7.4 and Forms 5, 7, and 8)



## Section 4 – References

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- Superior Court of the State of California for the County of Riverside. (2004). *Judgment Pursuant to Stipulation Adjudicating Groundwater Rights in the Beaumont Basin*. Gary Tranbarger, Judge of the Superior Court. Case No. RIC 389197, February 4, 2004.
- Wildermuth Environmental, Inc. (2002). *San Timoteo Watershed Management Program, Final Phase 1 Report*.
- Wildermuth Environmental, Inc. (2005). *Integrated Regional Water Management Program for the San Timoteo Watershed*.
- Wildermuth Environmental, Inc. (2011). *Maximum Benefit Monitoring Program 2010 Annual Report*.



Table 1a  
Appropriator Producer Production Summary for Fiscal Year 2009/10  
(acre-ft)

Well Name	Water Production Reported by Appropriator Producers <sup>1</sup>												Total Production	Share of Operating Safe Yield	Water Eligible for Storage
	July	August	September	October	November	December	January	February	March	April	May	June			
Banning, City of															
Well C2-A	31.3	3.0	36.8	0.5	0.7	1.7	0.5	0.0	2.6	0.3	0.4	0.3	78.0		
Well C3	107.4	90.7	66.0	51.8	61.0	41.6	35.4	127	57.3	49.4	119.2	107.0	751.1		
Well C4	156.1	156.2	96.4	9.3	1.5	6.4	3.4	0.4	2.9	0.6	0.5	0.6	434.2		
Well M3	10.5	73.5	77.0	2.0	2.7	3.3	1.1	0.2	7.3	0.3	0.2	11.4	189.6		
Production from BCWVD <sup>2</sup>	61.6	66.2	64.1	66.8	63.7	66.6	65.8	59.3	17.3	0.0	0.0	0.0	531.5		
<b>Subtotal</b>	<b>366.9</b>	<b>389.7</b>	<b>340.2</b>	<b>130.3</b>	<b>129.6</b>	<b>119.6</b>	<b>106.3</b>	<b>72.6</b>	<b>39.0</b>	<b>50.6</b>	<b>120.2</b>	<b>119.3</b>	<b>1,984.3</b>	<b>5,029</b>	<b>3,044.7</b>
Beaumont-Cherry Valley Water District															
Well 1	123.8	105.8	93.6	68.1	45.5	29.9	36.7	50.6	53.3	48.2	73.9	98.7	828.0		
Well 3	165.7	159.5	133.4	94.0	59.6	38.1	44.3	60.7	57.3	57.2	91.1	116.5	1,077.5		
Well 16	103.9	103.2	100.8	59.8	18.7	0.0	0.3	1.2	0.5	2.6	0.0	0.6	391.4		
Well 21	253.2	208.7	200.5	163.2	113.8	88.4	0.0	0.0	0.0	0.0	0.0	0.0	1,027.8		
Well 22	0.0	0.0	0.0	13.9	50.3	62.2	52.4	43.0	41.6	20.0	6.4	11.3	301.1		
Well 23	0.1	0.0	0.0	0.0	21.6	88.8	96.5	45.7	106.0	156.3	182.2	203.0	900.2		
Well 24	228.5	233.0	221.4	190.4	178.5	127.2	110.2	293.4	148.8	166.2	228.2	216.2	2,343.0		
Well 25	249.1	32.6	17.5	217.5	21.2	25.2	12.5	0.0	25.2	44.1	155.0	191.8	1,187.6		
Well 26	171.9	168.2	162.4	126.2	135.0	20.7	85.9	59.3	69.7	97.2	150.6	144.3	1,391.4		
Well 29	126.8	132.3	117.2	97.1	92.6	51.5	39.1	0.0	0.0	0.0	0.5	86.6	746.6		
Production for Banning <sup>2</sup>	-61.6	-66.2	-64.1	-66.8	-63.7	-66.6	-65.8	-59.3	-17.3	0.0	0.0	0.0	-531.5		
<b>Subtotal</b>	<b>1,361.4</b>	<b>1,076.9</b>	<b>982.8</b>	<b>963.4</b>	<b>869.0</b>	<b>465.3</b>	<b>412.0</b>	<b>494.6</b>	<b>485.1</b>	<b>591.8</b>	<b>885.9</b>	<b>1,075.0</b>	<b>9,663.2</b>	<b>6,802</b>	<b>0.0</b>
South Mesa Water Company															
3rd No. 4 Well	36.8	39.2	46.4	42.6	28.8	20.4	18.1	14.9	16.6	23.0	32.1	52.4	371.2		
<b>Subtotal</b>	<b>36.8</b>	<b>39.2</b>	<b>46.4</b>	<b>42.6</b>	<b>28.8</b>	<b>20.4</b>	<b>18.1</b>	<b>14.9</b>	<b>16.6</b>	<b>23.0</b>	<b>32.1</b>	<b>52.4</b>	<b>371.2</b>	<b>1,996</b>	<b>1,624.8</b>
Yucalpa Valley Water District															
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Well 48	89.3	67.3	76.0	50.6	34.5	10.1	6.4	0.9	21.5	18.0	56.6	84.2	518.3		
<b>Subtotal</b>	<b>89.3</b>	<b>67.3</b>	<b>76.0</b>	<b>50.6</b>	<b>34.5</b>	<b>10.1</b>	<b>6.4</b>	<b>0.9</b>	<b>21.5</b>	<b>18.0</b>	<b>59.6</b>	<b>84.2</b>	<b>518.3</b>	<b>2,173</b>	<b>1,654.8</b>
<b>Total</b>	<b>1,854.3</b>	<b>1,573.1</b>	<b>1,445.4</b>	<b>1,188.9</b>	<b>1,081.9</b>	<b>615.4</b>	<b>542.7</b>	<b>583.0</b>	<b>562.1</b>	<b>683.3</b>	<b>1,097.9</b>	<b>1,331.0</b>	<b>12,537.0</b>	<b>16,000.0</b>	<b>6,324.2</b>

<sup>1</sup> -- All values are rounded and subject to revision based on the receipt of more accurate information.  
<sup>2</sup> -- Pursuant to Part 1, Paragraph 3B of the Judgment, and a separate agreement (a copy of which is on file with the Watermaster)

Table 1b  
Appropriator Producer Production Summary for Fiscal Year 2010/11  
(acre-ft)

Well Name	Water Production Reported by Appropriator Producers <sup>1</sup>												Total Production	Share of Operating Safe Yield	Water Eligible for Storage
	July	August	September	October	November	December	January	February	March	April	May	June			
Banning, City of															
Well C2-A	16	13	96	84	0.9	10	0.4	0.6	1.2	0.3	0.3	12.5	38.0		
Well C3	113.8	120.6	114.8	47.1	76.1	38.1	24.5	24.7	41.9	59.0	107.5	111.8	879.9		
Well C4	3.5	22.3	14.3	0.3	1.6	1.1	0.9	0.9	1.4	1.2	1.0	3.5	51.9		
Well M3	30.5	21.4	1.9	3.5	0.4	1.8	0.5	0.3	0.4	0.3	0.6	10.7	72.2		
Production from BCWVD <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<b>Subtotal</b>	<b>149.3</b>	<b>165.6</b>	<b>140.5</b>	<b>59.3</b>	<b>78.9</b>	<b>42.0</b>	<b>26.3</b>	<b>26.5</b>	<b>45.0</b>	<b>60.7</b>	<b>109.5</b>	<b>138.4</b>	<b>1,042.0</b>	<b>5,029</b>	<b>3,987.0</b>
Beaumont-Cherry Valley Water District															
Well 1	115.0	87.5	116.1	68.5	46.3	14.3	7.1	0.5	20.5	20.8	66.4	75.7	638.7		
Well 3	155.6	119.1	73.7	0.0	0.0	0.0	0.0	6.6	19.6	12.0	70.0	83.6	540.1		
Well 16	2.5	0.5	0.7	1.5	0.7	0.9	1.7	0.0	0.0	0.0	1.3	1.7	11.4		
Well 21	0.0	0.0	7.2	0.0	1.5	0.0	0.0	0.0	0.0	0.0	105.7	156.8	274.2		
Well 22	69.1	42.5	80.4	9.0	4.6	1.4	2.8	0.0	0.0	0.0	5.8	0.0	218.3		
Well 23	271.3	217.3	296.4	146.1	101.6	108.1	84.6	78.2	43.8	6.1	130.7	172.0	1,566.1		
Well 24	243.5	178.7	255.7	88.3	128.1	141.4	206.4	161.6	116.5	167.6	136.2	163.7	1,990.7		
Well 25	250.0	209.1	196.7	138.3	66.8	11.0	0.3	2.7	10.0	116.2	136.1	30.8	1,167.8		
Well 26	159.9	124.0	167.1	66.6	96.8	90.8	127.4	113.1	77.8	108.8	118.7	111.9	1,363.8		
Well 29	165.8	131.7	177.9	92.7	86.9	50.2	0.0	6.8	65.8	91.0	105.9	132.6	1,111.1		
Production for Banning <sup>2</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<b>Subtotal</b>	<b>1,432.7</b>	<b>1,110.3</b>	<b>1,371.8</b>	<b>611.0</b>	<b>533.1</b>	<b>418.1</b>	<b>430.1</b>	<b>369.5</b>	<b>354.0</b>	<b>525.2</b>	<b>884.7</b>	<b>931.7</b>	<b>8,972.1</b>	<b>6,802</b>	<b>0.0</b>
South Mesa Water Company															
3rd No. 4 Well	53.8	58.2	56.5	32.5	32.4	14.5	18.3	16.8	19.9	20.7	30.2	42.5	396.4		
<b>Subtotal</b>	<b>53.8</b>	<b>58.2</b>	<b>56.5</b>	<b>32.5</b>	<b>32.4</b>	<b>14.5</b>	<b>18.3</b>	<b>16.8</b>	<b>19.9</b>	<b>20.7</b>	<b>30.2</b>	<b>42.5</b>	<b>396.4</b>	<b>1,996</b>	<b>1,599.6</b>
Yucalpa Valley Water District															
Well 35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Well 48	127.4	115.6	137.3	43.3	33.6	23.6	27.4	23.4	22.3	33.7	50.2	67.0	704.8		
<b>Subtotal</b>	<b>127.4</b>	<b>115.6</b>	<b>137.3</b>	<b>43.3</b>	<b>33.6</b>	<b>23.6</b>	<b>27.4</b>	<b>23.4</b>	<b>22.3</b>	<b>33.7</b>	<b>50.2</b>	<b>67.0</b>	<b>704.8</b>	<b>2,173</b>	<b>1,465.2</b>
<b>Total</b>	<b>1,763.2</b>	<b>1,449.8</b>	<b>1,706.1</b>	<b>746.1</b>	<b>678.0</b>	<b>498.2</b>	<b>502.1</b>	<b>436.2</b>	<b>441.2</b>	<b>640.3</b>	<b>1,074.6</b>	<b>1,179.7</b>	<b>11,115.3</b>	<b>16,000.0</b>	<b>7,054.8</b>

<sup>1</sup> -- All values are rounded and subject to revision based on the receipt of more accurate information.  
<sup>2</sup> -- Pursuant to Part 1, Paragraph 3B of the Judgment, and a separate agreement (a copy of which is on file with the Watermaster)

Table 2a  
Overlying Producer Production Summary for Fiscal Year 2009/10  
(cont'd)

Well Name	Metered	Water Production by Overlying Producers <sup>1</sup>												Total Production <sup>2</sup>	Overlying Water Right <sup>3</sup>	Unused Overlying Allocation in 2010 <sup>4</sup>	Five-Year Production Right <sup>5</sup>	Five-Year Total Production
		July	August	September	October	November	December	January	February	March	April	May	June					
Beckman, Walter M.	Yes	1.8	2.2	1.9	0.8	0.8	0.1	0.5	0.1	0.3	0.2	0.9	0.6	10.2	75.6	64.8	376.0	57.9
California Oak Valley Golf and Resort LLC																		
Oak Valley #1	Yes	0.0	0.0	76.8	9.6	49.4	0.0	5.2	7.8	9.5	6.1	57.3	24.6	246.2				
Oak Valley #2 <sup>6</sup>	Yes	108.1	104.7	42.7	43.9	8.1	8.4	13.5	0.0	24.0	15.3	36.5	26.9	432.2				
<b>Subtotal</b>		<b>108.1</b>	<b>104.7</b>	<b>119.5</b>	<b>53.5</b>	<b>57.4</b>	<b>8.4</b>	<b>18.7</b>	<b>7.8</b>	<b>33.5</b>	<b>21.4</b>	<b>93.8</b>	<b>51.5</b>	<b>678.3</b>	<b>950.6</b>	<b>271.7</b>	<b>4,756.0</b>	<b>3,855.7</b>
Merlin Properties	No													1.6	550.6	548.4	2,750.0	8.0
Oak Valley Partners, LP <sup>7</sup>	No																	
Sagehen Ranch #5	Yes													500.0				
San Joaquin Hills #7	Yes													10.0				
Irrigation Stokes	No													0.0				
<b>Subtotal</b>														<b>311.0</b>	<b>1,506.6</b>	<b>1,495.0</b>	<b>9,030.0</b>	<b>1,720.3</b>
Plantation on the Lake LLC <sup>8</sup>	Yes	36.8	34.0	34.0	34.0	34.0	34.0	34.0	12.4	12.4	24.3	25.6	33.2	348.6	581.6	232.4	2,965.0	1,738.3
Rancho Calimesa Mobile Home Park	No													69.3	160.6	80.7	756.0	346.5
Roman Catholic Bishop of San Bernardino <sup>9</sup>	No													0.0	154.6	154.0	776.0	58.3
Shawcross Mesa Owners Association																		
Well No. 2	Yes	8.8	10.2	5.7	8.4	7.0	1.7	0.1	1.5	3.0	3.1	7.4	9.8	70.7				
Well No. 3	Yes	7.8	8.3	5.5	7.4	6.0	4.6	5.1	1.5	2.9	4.9	6.3	7.3	71.0				
<b>Subtotal</b>		<b>16.5</b>	<b>18.5</b>	<b>11.2</b>	<b>15.7</b>	<b>13.0</b>	<b>6.3</b>	<b>5.3</b>	<b>3.1</b>	<b>5.8</b>	<b>8.0</b>	<b>13.7</b>	<b>17.6</b>	<b>141.7</b>	<b>200.6</b>	<b>56.3</b>	<b>1,006.0</b>	<b>883.2</b>
East Valley Golf Club <sup>8</sup>																		
Well A	Yes	13.0	45.0	32.0	24.0	6.0	2.0	23.0	7.8	1.9	3.6	3.0	16.0	175.0				
Well B	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Well C	Yes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Well D	Yes	83.0	155.0	110.0	125.0	69.0	56.0	7.0	16.0	14.0	59.0	55.0	6.0	755.0				
<b>Subtotal</b>		<b>96.0</b>	<b>200.0</b>	<b>142.0</b>	<b>149.0</b>	<b>75.0</b>	<b>58.0</b>	<b>30.0</b>	<b>23.8</b>	<b>15.8</b>	<b>62.6</b>	<b>58.0</b>	<b>22.0</b>	<b>930.0</b>	<b>2,200.6</b>	<b>1,270.0</b>	<b>11,000.0</b>	<b>6,383.1</b>
Sterns, Leonard M. and Dorothy D.	No													0.7	200.6	199.3	1,006.0	5.1
Sunny-Cal Egg and Poultry Company	No													2.6	1,439.5	1,436.9	7,197.5	13.1
Abner Properties III, LP <sup>8</sup>	No													2.3	300.6	297.8	1,500.0	21.9
Nikodimov, Nick	No													0.7	20.6	19.3	100.0	3.6
McAnis, Ronald L.	No													0.5	5.8	4.5	25.0	2.7
Adams, Nicolas and Anaila	No													0.8	7.6	6.2	35.0	4.0
Guilmez, Hector and Luis and Sebastian Monroy	No													1.4	10.8	8.6	56.0	6.9
Darmont, Boris and Millam	No													0.4	2.5	2.2	12.5	1.8
<b>Total</b>														<b>2,000.0</b>	<b>8,450.8</b>	<b>6,160.0</b>	<b>43,328.0</b>	<b>15,193.1</b>

1 -- All values are rounded and subject to revision based on receipt of more accurate information.  
2 -- Five-year production was estimated for Overlying Producers with un-metered wells. Please see Appendix E for a detailed demonstration of the water duty method.  
3 -- Data for Oak Valley #2 was formerly reported as the OYGC Control No. 1. The OYGC Control No. 1 has not been in use since the beginning of the adjudication and all data should have been assigned to Oak Valley #2.  
4 -- Data for Oak Valley #2 was formerly reported as the OYGC Control No. 1. The OYGC Control No. 1 has not been in use since the beginning of the adjudication and all data should have been assigned to Oak Valley #2.  
5 -- Production values were not reported by Oak Valley Partners for 2009/10. For this draft report, the average production for FY 2008/09 through FY 2009/10 was used for the FY 2009/10 and FY 2010/11 values. Information about OYGP is not sufficient for performing the water duty method in Appendix D.  
6 -- Production on the Lake only reported one meter used for the period covering August 2009 through January 2010. The reported production was divided evenly across this six-month period.  
7 -- All structures on the land parcels owned by the Roman Catholic Bishop of San Bernardino have been demolished and the property is vacant.  
8 -- Formerly the Southern California section of the PCA of America  
9 -- Formerly Sunny-Cal North, Madison, Madison & Doran



Table 2b  
Overlying Producer Production Summary for Fiscal Year 2010/11  
(acre-ft)

[illegible]

- 1 All values are rounded up subject to rounding based on the policy of Water security information
- 2 Total production was estimated for Overton with un-measured wells. Please see Appendix E for a detailed demonstration of the water duty method.
- 3 The minor overlying allocation in 10111 will be distributed to the Appropriations storage accounts (Table 2015-16), according to their relative safety yield.
- 4 Only one meter tested in this period covering Dec2010 through Feb2011. Reported production was divided evenly across the three-month period. One meter read for the period covering Mar 2011 through May 2011 was reported; production was divided over all meters read was reported for June 2011.
- 5 Data for Oak Valley DZ was formerly assigned as the OVCV Control Sine. Well OVCV Control Sine has not been used since the beginning of the allocation and all data should have been assigned to Oak Valley #2.
- 6 Production values were not reported for Oak Valley Partners in 2009/10. For this report the average production for FY 2008/07 through FY2009/10 was used for the FY 2009/10 and FY 2010/11 values. Information about OVP is not sufficient for reporting the water duty method (Appendix D).
- 7 All structures on the land parcels owned by the Roman Catholic Bishop of San Bernardino have been demolished and the property is vacant.
- 8 The water rights for the land parcels owned by the Roman Catholic Bishop of San Bernardino have been transferred to the Roman Catholic Bishop of San Bernardino.
- 9 Formerly Supply of North, Morrison, Morgan & Brown.

FOI11107\_ProductionData -- Table2b-FY1011Overlaying

**Table 3**  
**Production Summary for Appropriator and Overlying Producers in the Beaumont Basin**  
**Fiscal Years 2003/04 through 2010/11**  
**(acre-ft)**

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Total Production
<b>Appropriator Parties</b>									
Banning, City of	3,651.2	2,420.3	1,767.8	2,046.1	3,524.4	1,585.1	1,984.3	1,042.0	18,721.2
Beaumont-Cherry Valley Water District	6,204.3	6,386.0	7,624.9	10,455.5	11,429.5	10,711.8	9,663.2	8,972.1	71,447.2
South Mesa Water Company	419.8	558.0	632.4	691.4	576.9	410.9	371.2	366.4	4,057.1
Yucaipa Valley Water District	2,005.1	1,284.5	1,529.7	2,308.7	1,046.6	527.1	518.3	704.8	9,924.7
<b>Subtotal</b>	<b>12,580.4</b>	<b>10,648.8</b>	<b>11,554.8</b>	<b>15,501.7</b>	<b>16,577.4</b>	<b>13,634.8</b>	<b>12,537.0</b>	<b>11,115.3</b>	<b>104,150.2</b>
<b>Overlying Parties</b>									
Beckman, Walter M. <sup>1</sup>	22.0	21.3	14.2	9.3	11.1	13.2	10.2	5.2	106.4
California Oak Valley Golf and Resort LLC	1,227.4	635.0	839.0	767.9	778.0	792.5	678.3	460.7	6,178.9
Merlin Properties <sup>2</sup>	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	12.7
Oak Valley Partners, LP <sup>3</sup>	502.7	399.8	475.7	311.2	311.8	310.5	311.0	311.0	2,933.8
Plantation on the Lake LLC	321.4	312.7	326.8	372.2	332.3	358.4	348.6	329.7	2,702.1
Rancho Calimesa Mobile Home Park <sup>2</sup>	68.3	68.3	68.3	69.3	69.3	69.3	69.3	69.3	551.4
Roman Catholic Bishop of San Bernardino <sup>2</sup>	59.2	56.0	56.2	0.7	0.7	0.7	0.0	0.0	173.5
Sharondale Mesa Owners Association	169.1	162.8	185.8	194.8	171.0	189.9	141.7	130.7	1,345.9
East Valley Golf Club <sup>4</sup>	1,401.0	1,369.0	1,385.0	1,764.1	1,142.1	1,161.9	930.0	866.0	10,019.1
Stearns, Leonard M. and Dorothy D. <sup>2</sup>	1.1	1.1	1.1	1.1	1.1	1.1	0.7	0.7	8.0
Sunny-Cal Egg and Poultry Company <sup>2</sup>	405.0	387.6	2.5	2.7	2.7	2.6	2.6	2.6	808.3
Albor Properties III, LP <sup>2,5</sup>	--	--	12.6	2.4	2.3	2.3	2.3	2.2	24.1
Nikodimov, Nick <sup>2</sup>	--	--	0.7	0.8	0.7	0.7	0.7	0.7	4.3
McAmis, Ronald L. <sup>2</sup>	--	--	0.5	0.6	0.6	0.5	0.5	0.5	3.2
Aldama, Nicolas and Amalia <sup>2</sup>	--	--	0.8	0.9	0.8	0.8	0.8	0.8	4.8
Gutierrez, Hector, Luis Gutierrez and Sebastian Monroy <sup>2</sup>	--	--	1.3	1.4	1.4	1.4	1.4	1.4	8.2
Darmont, Boris and Miriam <sup>2</sup>	--	--	0.4	0.4	0.4	0.4	0.4	0.4	2.1
<b>Subtotal</b>	<b>4,178.9</b>	<b>3,415.2</b>	<b>3,372.3</b>	<b>3,501.3</b>	<b>2,827.9</b>	<b>2,907.6</b>	<b>2,500.0</b>	<b>2,183.4</b>	<b>24,886.6</b>
<b>Total</b>	<b>16,759.3</b>	<b>14,064.0</b>	<b>14,927.2</b>	<b>19,002.9</b>	<b>19,405.3</b>	<b>16,542.5</b>	<b>15,037.0</b>	<b>13,298.7</b>	<b>129,036.8</b>

1 -- Production estimated in 03/04, 04/05, and part of 05/06. Please see Appendix E for a detailed demonstration of the water duty method.

2 -- Production estimated in all years. Please see Appendix E for a detailed demonstration of the water duty method.

3 -- Production estimated in FY 2009/10 and FY 2010/11. The average production for FY 2006/07 through FY2008/09 was used for the FY2009/10 and FY 2010/11 values. Information about OVP is not sufficient for performing water duty method.

4 -- Formerly the Southern California Section of the PGA of America

5 -- Formerly Sunny Cal North - Manheim, Manheim & Berman

20111107\_ProductionData -- Table3--Production Summary11



**Table 4**  
**Annual Supplemental Recharge to the Beaumont Basin**  
**Fiscal Years 2003/04 through 2010/11**

Year	Supplemental Recharge (acre-ft)				Total
	Banning <sup>1</sup>	Beaumont <sup>2</sup>	BCVWD <sup>1</sup>	Pass Agency <sup>3</sup>	
2003/04	0	0	0	557	557
2004/05	0	0	0	517	517
2005/06	0	0	0	1,074	1,074
2006/07	0	0	6,462	556	7,018
2007/08	0	0	3,248	562	3,810
2008/09	1,200	0	2,965	923	5,088
2009/10	1,200	74	5,765	829	7,868
2010/11	1,200	295	8,937	1,683	12,115
<b>Totals</b>	<b>3,600</b>	<b>369</b>	<b>27,376</b>	<b>6,701</b>	<b>18,064</b>

1--SWP water recharged in the BCVWD Noble Creek Recharge Facility

2--Recycled water recharged in the Basin from DP-007 in the unnamed tributary to Marshall Creek. See Appendix E for details.

3--SWP water recharged in the Pass Agency's Little San Geronio Creek Spreading Ponds



20111107\_ProductionData -- Table4-Recharge11

**Table 5**  
**Summary of Unused Overlying Water**  
**Fiscal Years 2003/04 through 2010/11**  
**(acre-ft)**

Watermaster Accounting Year	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Annual Overlying Water Right	8,650	8,650	8,650	8,650	8,650	8,650	8,650	8,650
Annual Overlying Production	4,179	3,415	3,372	3,501	2,828	2,908	2,500	2,183
<b>Unused Overlying Water Right</b>	<b>4,471</b>	<b>5,235</b>	<b>5,278</b>	<b>5,149</b>	<b>5,822</b>	<b>5,742</b>	<b>6,150</b>	<b>6,467</b>

**Table 6**  
**Allocation of Unused Overlying Water**  
**Fiscal Years 2008/09 through 2015/16**  
**(acre-ft)**

Appropriator Party	Share of Safe Yield	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Banning, City of	31.43%	1,405	1,645	1,659	1,618	1,830	1,805	1,933	2,032
Beaumont, City of	0.00%	0	0	0	0	0	0	0	0
Beaumont Cherry Valley Water District	42.51%	1,901	2,225	2,244	2,189	2,475	2,441	2,614	2,749
South Mesa Water Company	12.48%	558	653	659	643	727	717	768	807
Yucaipa Valley Water District	13.58%	607	711	717	699	791	780	835	878
<b>Total</b>	<b>100.00%</b>	<b>4,471</b>	<b>5,235</b>	<b>5,278</b>	<b>5,149</b>	<b>5,822</b>	<b>5,742</b>	<b>6,150</b>	<b>6,467</b>



20111107\_ProductionData -- Table 5\_6--UnusedOverlying11

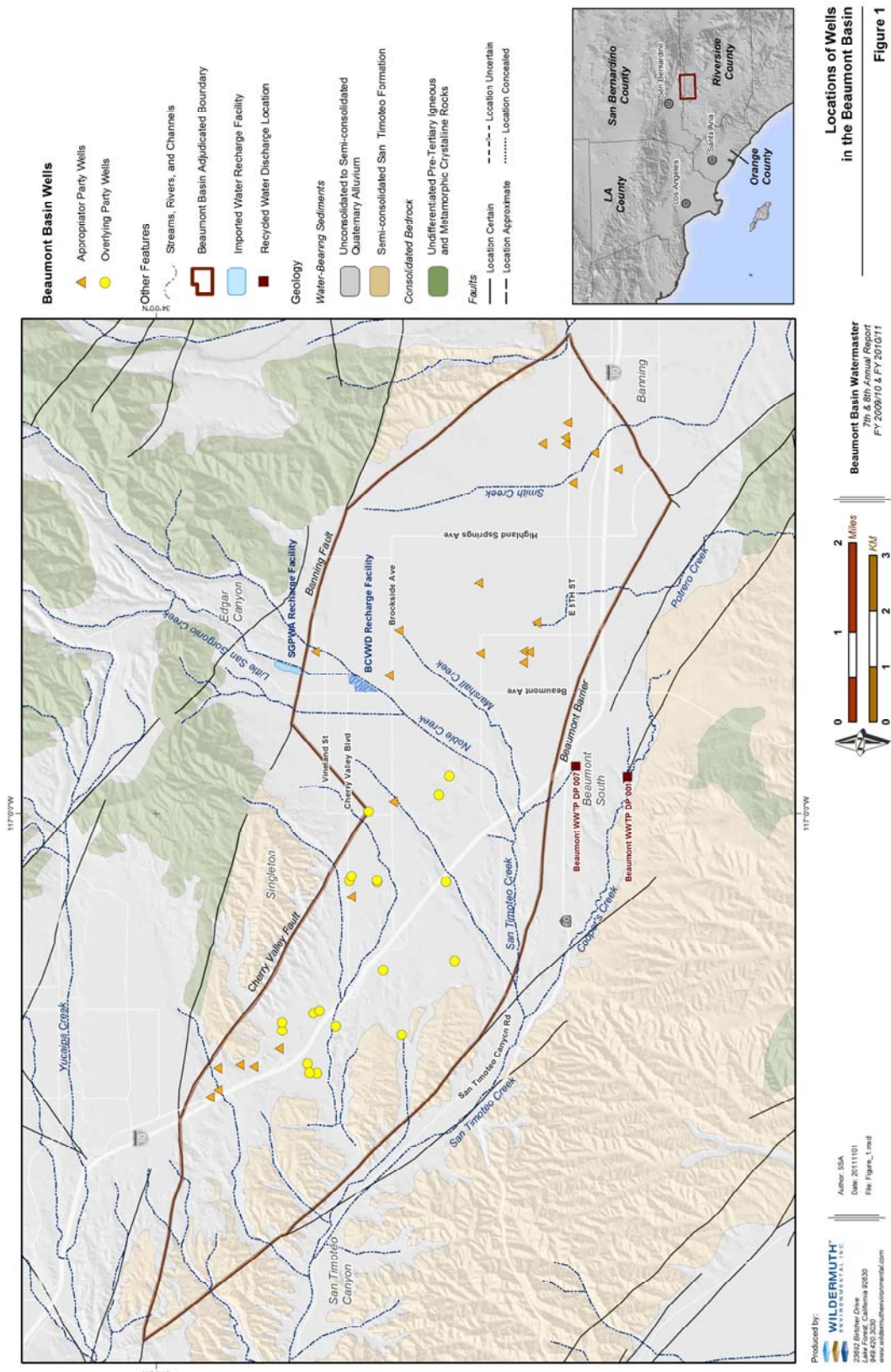
Table 7  
Reconciliation of Appropriator Production and Storage Accounts -- Fiscal Years 2003/04 through 2010/11  
(acre-ft)

Fiscal Year	Storage Account Balance at Beginning of Fiscal Year	Operating Yield	Groundwater Production for Fiscal Year	Under Production <sup>1</sup>	Unused Overlying Production Allocation	Additions to Storage Account				Total Additions to Storage Account	Ending Account Balance	Authorized Storage Account as of June 30, 2011
						Transfers Among Appropriators	SWP Water Recharge	Supplemental Water	Recycled Water/Local Recharge			
<b>Beaumont Cherry Valley Water District</b>												
2003/04	C	6,802	6,204	598	0	0	0	0	0	0	598	598
2004/05	598	6,802	6,386	416	0	0	0	0	0	0	416	1,014
2005/06	1,014	6,802	7,525	-823	0	0	0	0	0	0	-823	191
2006/07 <sup>2</sup>	191	6,802	10,455	-3,653	0	1,500	6,462	0	0	0	4,308	4,496
2007/08 <sup>3</sup>	4,496	6,802	11,429	-4,627	0	2,500	3,248	0	0	0	1,120	5,620
2008/09 <sup>3</sup>	5,620	6,802	10,712	-3,910	1,901	2,000	2,965	0	0	0	2,965	8,575
2009/10	8,575	6,802	9,963	-2,861	2,225	0	5,765	0	0	0	5,129	13,704
2010/11 <sup>3</sup>	13,704	6,802	8,972	-2,170	2,244	3,500	8,937	0	0	0	12,510	26,214
												80,000
<b>City of Banning</b>												
2003/04	C	5,029	3,951	1,078	0	0	0	0	0	0	1,078	1,078
2004/05	1,078	5,029	2,420	2,609	0	0	0	0	0	0	2,609	3,686
2005/06	3,686	5,029	1,768	3,261	0	0	0	0	0	0	3,261	6,948
2006/07 <sup>2</sup>	6,948	5,029	2,046	2,963	0	1,500	0	0	0	0	4,463	11,431
2007/08	11,431	5,029	3,524	1,505	0	0	0	0	0	0	1,505	12,935
2008/09	12,935	5,029	1,985	3,044	1,405	0	1,200	0	0	0	5,649	18,584
2009/10	18,584	5,029	1,984	3,045	1,645	0	1,200	0	0	0	5,890	24,474
2010/11	24,474	5,029	1,042	3,987	1,659	0	1,200	0	0	0	6,846	31,320
												80,000
<b>City of Beaumont</b>												
2003/04	C	0	0	0	0	0	0	0	0	0	0	C
2004/05	C	0	0	0	0	0	0	0	0	0	0	C
2005/06	C	0	0	0	0	0	0	0	0	0	0	C
2006/07	C	0	0	0	0	0	0	0	0	0	0	C
2007/08	C	0	0	0	0	0	0	0	0	0	0	C
2008/09	C	0	0	0	0	0	0	0	0	0	0	C
2009/10	C	0	0	0	0	0	0	0	74	0	74	74
2010/11	74	0	0	0	0	0	0	295	0	0	295	369
												30,000
<b>South Mesa Water Company</b>												
2003/04	C	1,996	420	1,576	0	0	0	0	0	0	1,576	1,576
2004/05	1,576	1,996	558	1,438	0	0	0	0	0	0	1,438	3,014
2005/06	3,014	1,996	532	1,364	0	0	0	0	0	0	1,364	4,378
2006/07 <sup>2</sup>	4,378	1,996	591	1,305	0	-3,000	0	0	0	0	-1,695	2,682
2007/08 <sup>3</sup>	2,682	1,996	577	1,419	0	-2,500	0	0	0	0	-1,081	1,601
2008/09 <sup>3</sup>	1,601	1,996	411	1,585	553	-2,000	0	0	0	0	143	1,745
2009/10	1,745	1,996	371	1,625	653	0	1,625	0	0	0	2,278	4,023
2010/11	4,023	1,996	396	1,600	659	-3,500	0	0	0	0	-1,242	2,781
												20,000

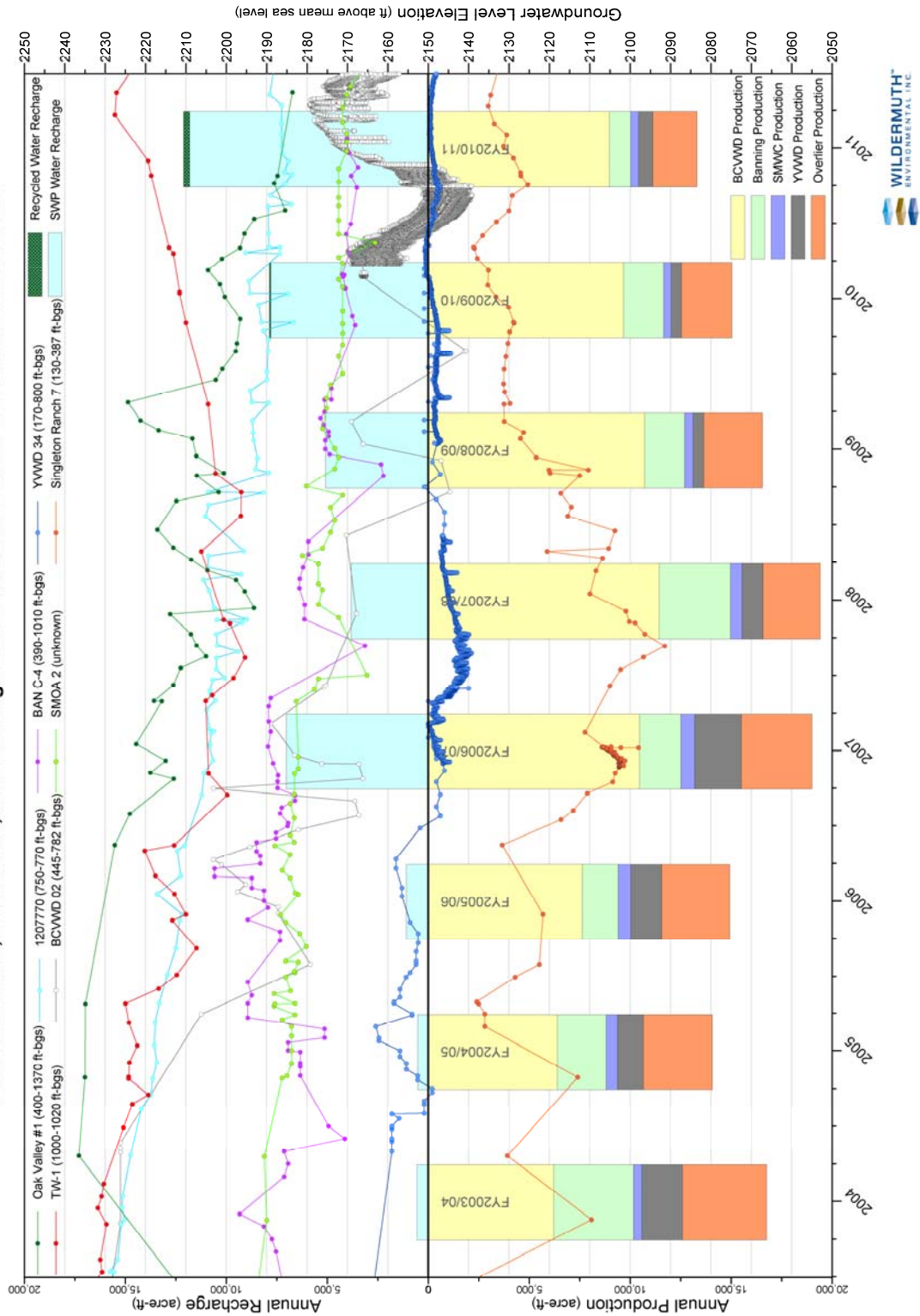
Table 7  
Reconciliation of Appropriator Production and Storage Accounts -- Fiscal Years 2003/04 through 2010/11  
(acre-ft)

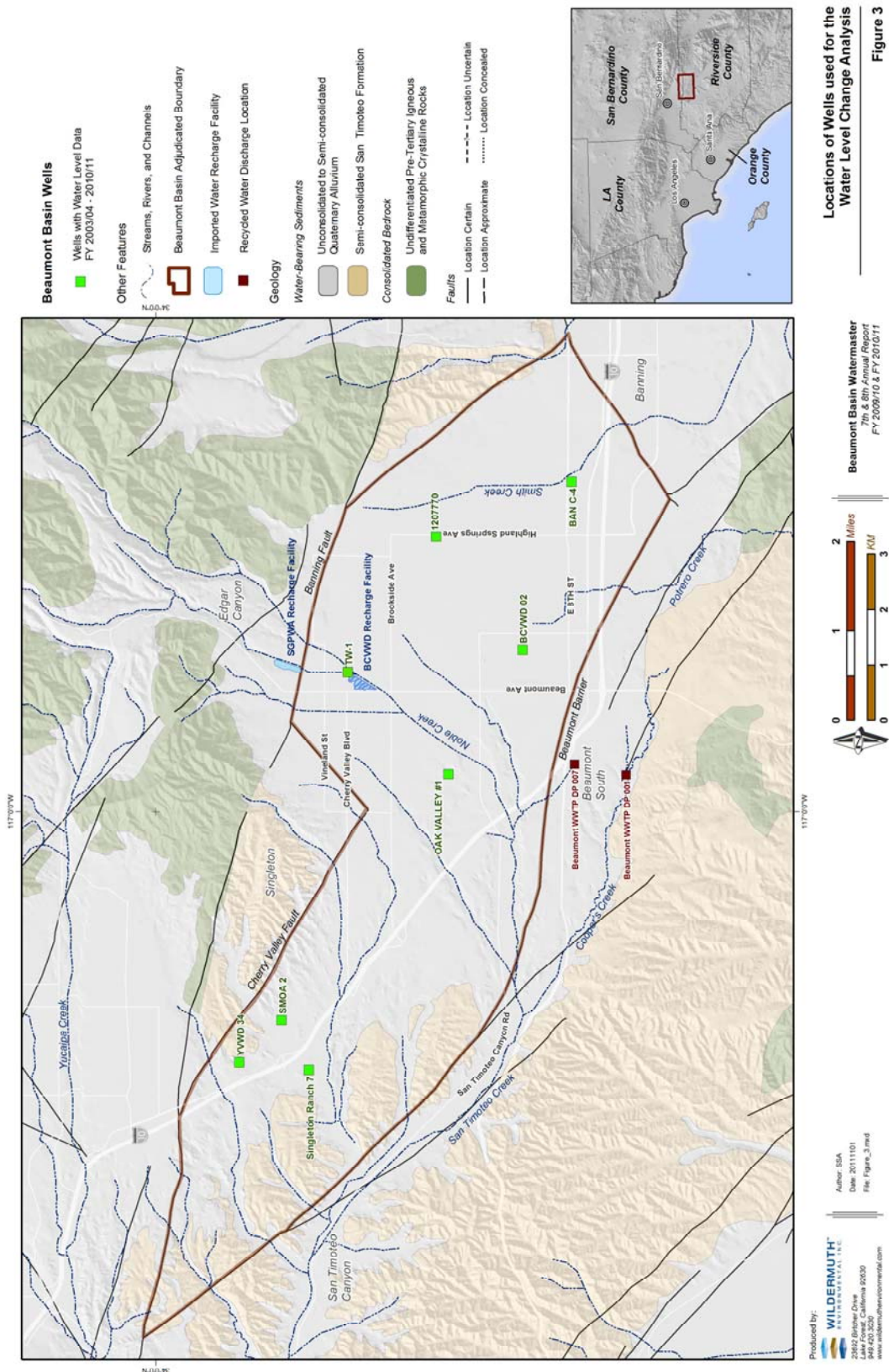
Fiscal Year	Storage Account Balance at Beginning of Fiscal Year	Operating Yield	Groundwater Production for Fiscal Year	Under Production <sup>1</sup>	Unused Overlying Production Allocation	Transfers Among Appropriators	Additions to Storage Account				Total Additions to Storage Account	Ending Account Balance	Authorized Storage Account as of June 30, 2011
							SWP Water Recharge	Recycled Water Recharge	Local Recharge				
Yucapa Valley Water District													
2003/04	C	2,173	2,005	168	0	0	0	0	0	0	168	168	
2004/05	168	2,173	1,284	889	0	0	0	0	0	0	889	1,056	
2005/06	1,056	2,173	1,530	643	0	0	0	0	0	0	643	1,700	
2006/07	1,700	2,173	2,309	-136	0	0	0	0	0	0	-136	1,564	
2007/08	1,564	2,173	1,047	1,126	0	0	0	0	0	0	1,126	2,691	
2008/09	2,691	2,173	527	1,646	607	0	0	0	0	0	2,253	4,944	
2009/10	4,944	2,173	518	1,655	711	0	0	0	0	0	2,366	7,306	
2010/11	7,306	2,173	705	1,468	717	0	0	0	0	0	2,185	9,494	50,000
Totals													
2003/04	C	16,000	12,580	3,420	0	0	0	0	0	0	3,420	3,420	
2004/05	3,420	16,000	10,849	5,351	0	0	0	0	0	0	5,351	8,771	
2005/06	8,771	16,000	11,555	4,445	0	0	0	0	0	0	4,445	13,216	
2006/07	13,216	16,000	15,502	498	0	0	6,462	0	0	0	6,960	20,176	
2007/08	20,176	16,000	16,577	-577	0	0	3,248	0	0	0	2,671	22,847	
2008/09	22,847	16,000	13,535	2,365	4,471	0	4,165	0	0	0	11,001	33,847	
2009/10	33,847	16,000	12,537	3,463	5,235	0	6,965	74	0	0	15,737	49,584	
2010/11	49,584	16,000	11,115	4,885	5,278	0	10,137	295	0	0	20,594	70,178	260,000

1 -- Negative values of under production indicate that the appropriator pumped more than its share of the operating yield.  
2 -- Water in the SMMC storage account was sold to Blanning and the BCWWD. The transfer agreement is on file with the Watermaster.  
3 -- Water in the SMMC storage account was sold to the BCWWD. The transfer agreement is on file with the Watermaster.



**Figure 2**  
**Groundwater Levels, Production, and Recharge in the Beaumont Basin - FY2003/04 to FY2010/11**





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**Appendix A**

FY 2009/10 Audit Letter

FY 2010/11 Audit Letter

# **BEAUMONT BASIN WATERMASTER**

## **Auditors' Report And Financial Statements**

*For the Year Ended  
June 30, 2010*

**SIEBERT BOTKIN HICKEY & ASSOCIATES, LLP**  
*Certified Public Accountants*



***Siebert Botkin Hickey  
& Associates, LLP***

Watermaster Committee  
Beaumont Basin Watermaster  
Yucaipa, CA 92399

**Independent Auditors' Report**

We have audited the accompanying basic financial statements of the Beaumont Basin Watermaster, as of and for the year ended June 30, 2010. These financial statements are the responsibility of the management of Beaumont Basin Watermaster. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Beaumont Basin Watermaster, as of June 30, 2010, and the changes in financial position and cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

The Beaumont Basin Watermaster has not presented the management's discussion and analysis that accounting principles generally accepted in the United States of America require to supplement, although not to be a part of, the basic financial statements.

*Siebert Botkin Hickey & Associates, LLP*

July 16, 2010

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1680 E. 6<sup>th</sup> Street, Suite A, Beaumont, CA 92223

Telephone: (760) 325-2353  
Telephone: (951) 845-2625

Fax: (760) 325-8053  
Fax: (951) 922-6591

**Beaumont Basin Watermaster**

## Statement of Net Assets

As of June 30, 2010

**ASSETS****CURRENT ASSETS**

Cash and Cash Equivalents

\$ 25,152

**LIABILITIES and NET ASSETS****CURRENT LIABILITIES**

Accounts Payable

10,493

**NET ASSETS**

Unrestricted

\$ 14,659

See Auditors' Report

The Notes to Financial Statements Are An Integral Part of This Statement

Page 2 of 6

**Beaumont Basin Watermaster****Statement of Activities**

For the Year Ended June 30, 2010

**REVENUES**

San Timoteo Watershed Management Authority Special Project Funds	\$	33,339
Interest Revenue		6
Total Revenues		<u>33,345</u>

**EXPENSES**

Administrative Expenses		
Chief of Watermaster Services		21,500
Meetings and Miscellaneous		6,815
Acquisition and Computation of Production Data/Annual Report		16,900
General Engineering		10,667
Groundwater Level Water Monitoring Program		9,840
Legal and Professional		6,063
Bank Charges and Miscellaneous		611
Total Expenses		<u>72,396</u>
Change in Net Assets		(39,051)

**NET ASSETS**

Unrestricted Net Assets, Beginning of Year		53,710
Unrestricted Net Assets, End of Year	\$	<u>14,659</u>

See Auditors' Report

The Notes to Financial Statements Are An Integral Part of This Statement

Page 3 of 6

**Beaumont Basin Watermaster**

## Statement of Cash Flows

For the Year Ended June 30, 2010

**Cash Flows From Operating Activities:**

Cash Received from San Timoteo Watershed Management Authority	\$ 33,339
Cash Paid to Vendors for Services and Supplies	(79,894)
Net Cash Used By Operations	<u>(46,555)</u>

**Cash Flows From Investing Activities:**

Interest Earned on Operating Funds	<u>6</u>
Net Cash Provided by Investing Activities	<u>6</u>
Net Decrease in Cash	(46,549)
Cash and Cash Equivalents at Beginning of Year	<u>71,701</u>
Cash and Cash Equivalents at End of Year	<u>\$ 25,152</u>

See Auditors' Report

The Notes to Financial Statements Are An Integral Part of This Statement

Page 4 of 6

**Beaumont Basin Watermaster****Notes to Financial Statements****For the Year Ended June 30, 2010*****NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:*****Description of Operations:**

The Beaumont Basin Watermaster is the entity charged with administering adjudicated water rights and managing groundwater resources within the Beaumont Groundwater Basin. It was created on February 4, 2004 by a Judgment entered in the Superior Court of the State of California for the County of Riverside (Case No. RIC 389197). Pursuant to the Judgment, the Watermaster Committee is comprised of representatives from the City of Banning, the City of Beaumont, the Beaumont-Cherry Valley Water District, the South Mesa Mutual Water Company, and the Yucaipa Valley Water District.

The Watermaster's area of jurisdiction, which is also known as the adjudicated boundary, overlies a portion of the Santa Ana River Watershed. San Timoteo Creek, which is a tributary to the Santa Ana River, is one of the major surface streams traversing the area as well as portions of Little San Geronio Creek and Noble Creek.

**Basis of Presentation:**

The Beaumont Basin Watermaster's financial statements have been prepared in accordance with Accounting Principles Generally Accepted in the United States of America (GAAP) as applied to governmental units. The Governmental Accounting Standards Board (GASB) is the accepted standard setting body for establishing governmental accounting and financial reporting principles.

The Watermaster is considered a single activity special-purpose government. A single proprietary fund is used to report all of the Watermaster's financial activities.

Financial reporting is based upon all Governmental Accounting Standards Board (GASB) pronouncements, as well as the Financial Accounting Standards Board Statements and Interpretations, Accounting Principles Board Opinions, and Accounting Research Bulletins that were issued on or before November 30, 1989 that do not conflict with or contradict GASB pronouncements. FASB pronouncements issued after November 30, 1989 are not followed in the preparation of the accompanying financial statements.

**Basis of Accounting:**

The Beaumont Basin Watermaster uses the accrual method of accounting for financial statement reporting purposes. Under the accrual method revenues are recognized when they are earned, and expenses are recognized when they are incurred.

**Reporting Entity:**

The Watermaster has defined its reporting entity in accordance with GASB Statement No. 14, "The Financial Reporting Entity," which provides guidance for determining which governmental activities, organizations, and functions should be included in its reporting entity. The Watermaster's reporting entity includes all significant operation and revenue sources for which the Watermaster Committee exercises oversight responsibility as determined under the criteria established by the National Council on Governmental Accounting Statement No. 3, as adopted by FASB. Oversight responsibility is determined on the basis of selection of the governing board, designation of management, ability to significantly influence operations, accountability for fiscal matters, and the scope of public service.

**Income Taxes**

The Watermaster is exempt from federal income and state franchise taxes.

**Cash and Cash Equivalents:**

For purposes of the statement of cash flows, cash equivalents includes time deposits, certificates of deposit, and all highly liquid debt instruments with original maturities of three months or less. The Watermaster maintains bank accounts at financial institutions located within the State of California.

See Auditors' Report  
Page 5 of 6

## Beaumont Basin Watermaster

### Notes to Financial Statements

For the Year Ended June 30, 2010

#### **NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued):**

##### **Net Assets/Fund Equity**

The financial statements are presented using the net asset method. Net assets are categorized as invested capital assets (net of related debt), restricted and unrestricted. The Watermaster reports only unrestricted net assets.

- Unrestricted Net Assets – This category represents net assets of the Watermaster not restricted for any project or other purpose.

#### **NOTE 2 – CASH AND INVESTMENTS:**

California law requires banks and savings and loan institutions to pledge government securities with a market value of 110% of the Watermaster's cash on deposits or first trust deed mortgage notes with a value of 150% of the deposit as collateral for all public agency deposits. Under California law this collateral remains with the institution but is held in the Watermaster's name and places the Watermaster ahead of general creditors of the institution.

The Watermaster's cash balances of \$25,152 at June 30, 2010 are held in FDIC insured demand deposit accounts.

The Watermaster's Investment Policy and the California Government Code allow the District to invest in a variety of investment types, provided the credit ratings of the issuers are acceptable to the Watermaster Committee. The following also identifies certain provisions of the Watermaster's Investment Policy and California Government Code that address interest rate risk, credit risk, and concentration of credit risk.

<b>Authorized Investment Type</b>	<b>Maximum Maturity</b>	<b>Minimum Credit Quality</b>	<b>Maximum Percentage of Portfolio</b>	<b>Maximum Investment In One Issuer</b>
U.S. Treasury Obligation	5 years	N/A	100%	No Limit
U.S. Agency Securities	5 years	N/A	100%	No Limit
Bankers Acceptances	180 days	N/A	40%	30%
Commercial Paper	270 days	A-1	25%	10%
Negotiable Certificates of Deposit	5 years	N/A	30%	No Limit
Repurchase Agreements	1 year	N/A	100%	No Limit
Reverse Repurchase Agreements	92 days	N/A	20%	No Limit
Demand Deposits	N/A	Highest Category	20%	10%
Medium Term Notes	5 years	A	30%	No Limit
Money Market Mutual Funds	N/A	Highest Category	20%	10%
Asset-Backed Securities	5 years	AA	20%	No Limit
State of California Obligations	5 years	N/A	100%	No Limit
Local Agency Investment Fund	N/A	N/A	\$40 million account	No Limit

##### **Interest Rate Risk, Credit Risk, and Concentration of Credit Risk**

Interest rate risk is the risk that changes in market rates will adversely affect the fair value of an investment. Generally, the longer the maturity the more sensitive the investment is to market fluctuations. Credit risk is measured by nationally recognized statistical agencies such as Standard & Poor's. Credit risk is simply the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. Concentration of credit risk measures the extent to which the Watermaster's investments are invested in a single issuer. Since the Watermaster's does not have investments and the cash balances are fully insured, the Watermaster is not exposed to interest rate risk, credit risk, or concentration of credit risk.

See Auditors' Report  
Page 6 of 6

**BEAUMONT BASIN WATERMASTER  
INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING  
AGREED-UPON PROCEDURES  
ON THE BEAUMONT BASIN WATERMASTER SCHEDULES**

**OCTOBER 11, 2011**



Vavrinek, Trine, Day & Co., LLP  
Certified Public Accountants

VALUE THE DIFFERENCE

## INDEPENDENT ACCOUNTANTS' REPORT ON APPLYING AGREED-UPON PROCEDURES

Yucaipa Valley Water District as treasurer  
of the Beaumont Basin Watermaster  
Yucaipa, California

We have performed the procedures enumerated below, which were agreed to by the Yucaipa Valley Water District (District), as treasurer of the Beaumont Basin Watermaster (Watermaster), solely to assist the District in evaluating certain amounts reported in the Watermaster Schedules (Schedules), attached as Exhibit A and Exhibit B, on the full accrual basis of accounting. The District and Watermaster is responsible for the accuracy of the Schedules. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of those parties specified in the report. Consequently, we make no representations regarding the sufficiency of the procedures described below, either for the purpose for which this report has been requested or for any other purpose.

Our procedures and findings are as follows:

### 1. Procedure

Agree the opening equity on Exhibit B to the ending equity noted on the trial balance for the fiscal year ended June 30, 2010.

#### Finding

No exceptions were noted as a result of applying the procedure.

### 2. Procedure

Agree the cash balance reported on Exhibit A to the bank reconciliation, bank statement and trial balance. Select all of the deposits in transit and outstanding checks and trace their clearing to the subsequent month's bank statement.

#### Finding

No exceptions were noted as a result of applying the procedure.

### 3. Procedure

Trace all member agency assessments recorded in the schedule to invoices and the bank statements.

#### Finding

No exceptions were noted as a result of applying the procedure.

**4. Procedure**

Compare the ending check number for the fiscal year ended June 30, 2010 to the beginning check number for the period beginning on July 1, 2010. Note any breaks in check sequence for the period of July 1, 2010 through June 30, 2011.

**Finding**

No exceptions were noted as a result of applying the procedure. No breaks in check sequence were noted during the period of July 1, 2010 through June 30, 2011.

**5. Procedure**

Based on the population of checks issued during July 1, 2010 through June 30, 2011, select all payments and trace the check to supporting invoice noting whether the activity pertains to the Watermaster. Agree the dollar amount and vendor on the invoice to the check for accuracy.

**Finding**

No exceptions were noted as a result of applying the procedure.

**6. Procedure**

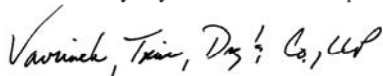
Obtain the general ledger detail for the period of July 1, 2010 to June 30, 2011. Select all journal entries and trace the transaction to an approved journal entry and documentation supporting the nature and rationale of the journal entry.

**Finding**

No exceptions were noted as a result of applying the procedure.

We were not engaged to, and did not conduct an audit, the objective of which would be the expression of an opinion on the schedules of assets, liabilities and equity (Exhibit A) and assessments and expenses (Exhibit B) or the related internal control structure. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the Beaumont Basin Watermaster and the District and is not intended to be and should not be used by anyone other than the specified party.



Rancho Cucamonga, California  
October 11, 2011

**EXHIBIT A**

**BEAUMONT BASIN WATERMASTER  
SCHEDULE OF ASSETS, LIABILITIES AND NET ASSETS  
(UNAUDITED)  
JUNE 30, 2011**

ASSETS	
Cash and Cash Equivalents	<u>\$     40,430</u>
LIABILITIES	
Accounts Payable	<u>                  -</u>
NET ASSETS	
Unrestricted	<u><u>\$     40,430</u></u>

See Independent Accountant's Agreed Upon Procedures Report.

**EXHIBIT B**

**BEAUMONT BASIN WATERMASTER  
SCHEDULE OF ASSESSMENTS AND EXPENSES  
(UNAUDITED)  
FOR THE FISCAL YEAR ENDED JUNE 30, 2011**

<b>REVENUES</b>	
Assessments	\$ 30,000
Interest Revenue	4
Total Revenues	<u>30,004</u>
<b>EXPENSES</b>	
Administrative Expenses:	
Meetings and Miscellaneous	1,297
Legal and Professional	2,525
Bank Charges and Miscellaneous	411
Total Expenses	<u>4,233</u>
Change in Net Assets	25,771
<b>NET ASSETS</b>	
Unrestricted Net Assets, Beginning of Year	<u>14,659</u>
Unrestricted Net Assets, End of Year	<u><u>\$ 40,430</u></u>

See Independent Accountant's Agreed Upon Procedures Report.

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Interested Party  
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## **Appendix C**

**Compact Disc: Groundwater Production and Recharge Database**

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## **Appendix D**

### **Production Estimation Methods for Un-metered Overlying Producers**

## **Appendix D – Production Estimation Methods for Un-metered Overlying Producers**

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### **Introduction**

During FY 2005/06, the Watermaster engineer reported that several of the Overlying Producer's wells were not metered or that their meters may not have been working properly. The Watermaster engineer recommended using a water duty method that is routinely used to estimate production in the absence of metered production. Watermaster accepted the water duty method and the subsequent production estimates that were made in FY 2005/06. This appendix details the updated water duty method used to estimate production for the following un-metered Overlying Parties for FY 2003/04 through FY 2010/11:

- Merlin Properties
- Rancho Calimesa Mobile Home Park
- Roman Catholic Bishop of San Bernardino County
- Leonard M. and Dorothy D. Stearns
- Sunny-Cal Egg and Poultry Company
- Albor Properties III, LP
- Nick Nikodinov
- Ronald L. McAmis
- Nicolas and Amalia Aldama
- Hector Gutierrez, Luis Gutierrez, and Sebastian Monroy
- Boris and Miriam Darmont

### **Water Duty Method**

With the water duty method, the groundwater production of a producer is estimated by estimating the water use volume for each of said producer's water use activities. In the Beaumont Basin, Overlying Producers pump water for indoor, outdoor, and agricultural uses. Information about the water use activities of each producer was obtained during field investigations conducted in 2006, 2008, 2011 and through the examination of springtime air photos of the Beaumont Basin from 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, and 2011. The methods used to estimate groundwater pumping for each water use activity is outlined below.

#### ***Indoor Water Use***

Indoor water use is estimated based on the number of dwelling units (du) on each producer's property.

For a recent study of the impacts of septic system use in the Cherry Valley area, Wildermuth Environmental, Inc. analyzed water sales data in the Beaumont Cherry Valley Water District's service area for the 2000 to 2005 period. In the study, indoor water use for single family dwellings was estimated to be 0.35 acre-ft/du/yr (WEI, 2007).

Accordingly, the indoor water use of each Overlying Producer was calculated by multiplying



the number of dwelling units on each Overlying Producer's property by 0.35 acre-ft. This is an update to the indoor water use component of the water duty method developed in fiscal 2005/06, which applied an indoor water use component of 0.30 acre-ft/du/yr.

### ***Outdoor Water Use***

Outdoor water use is estimated based on the acreage of irrigated landscape on each producer's property. The volume of water pumped for irrigation use is estimated using the Crop Water Requirements approach. This approach uses local climate parameters and crop type to determine the amount of water required by a landscape such that:

$$ET_o \times K_c = ET_c$$

Where,

$ET_o$  = Reference Evapotranspiration: A climate specific parameter based on locally measured meteorological data such as wind speed, humidity, and solar radiation.  $ET_o$  represents the evapotranspiration of a standardized vegetated surface under localized conditions.

$K_c$  = Crop Coefficient: A coefficient used to convert reference evapotranspiration into an estimate of evapotranspiration, based on the type of crop irrigated.

$ET_c$  = Crop Water Requirement: The amount of water required for irrigating a specific type of crop under known climate conditions.

Reference Evapotranspiration ( $ET_o$ ) data were obtained from the California Irrigation Management Information System (CIMIS). Monthly  $ET_o$  measured at CIMIS Station UC Riverside #44 was used as an approximation of the climate in the Beaumont Basin. Field investigations indicated that all irrigation activity was for standard grass landscapes. To estimate the crop water requirements of these standard grass landscapes, a mid-range crop coefficient ( $K_c = 0.70$ ) for warm season grasses was applied (University of Arizona Cooperative Extension, 2000).

The final factor in determining outdoor water use is irrigation efficiency. It is assumed that the efficiency with which an irrigation system delivers water to a landscape is imperfect (less than 100% efficient). For this analysis, an irrigation efficiency of 70% was applied such that (Department of Water Resources, 2008):

$$\text{Outdoor Water Use} = \frac{ET_c}{0.70}$$

### ***Agricultural Water Use***

The only known agricultural water use by un-metered Overlying Producers is for the operations of the former Sunny-Cal Egg and Poultry Company. Water pumped by Sunny-Cal was used for the water consumption of chickens and for washing ranch facilities.

According to the National Research Council Subcommittee on Poultry Nutrition (1994), for hens kept at 21 degrees Celsius, approximately 40 to 80 gallons of water are required per 1,000 birds to meet daily nutritional requirements. For this water duty method, a value in the middle of this range was applied to estimate the daily pumping necessary to meet the nutritional requirements of the chickens at Sunny-Cal. Thus, the volume of water pumped was calculated as follows:



$$\text{Daily Consumptive Water Use} = \frac{\text{Total \#Chickens}}{1,000} \times 60 \text{ gal / day}$$

The volume of water needed to wash the chicken ranch facilities is unknown. Because Sunny-Cal was able to store wash water onsite after use, for this water duty method, it was assumed that the amount of groundwater pumped for washing was equal to the amount of water needed to satisfy the irrigation needs of the property. Accordingly, the groundwater pumped to meet this water use was estimated based on the Crop Water Requirements approach described above.

### **Applying the Water Duty Method to Un-metered Overlying Producers**

To apply the water duty method to each Overlying Producer, it was necessary to obtain the following information about each property:

- Number of dwelling units
- Total area of irrigated land

Initial field investigations were performed in fiscal 2005/06 when the first version of the water duty method was used to estimate the production of Overlying Producers. The information obtained in the FY 2005/06 investigations was verified and/or updated with information obtained from the FY 2010/11 field investigation and through the use of annual springtime aerial photographs from spring 2003 through spring 2011. The aerial photography allowed for an accurate accounting of the number of dwelling units on large properties. The aerial photographs were also used to delineate and calculate the acreage of irrigated land on each property.

A worksheet that details the estimated indoor, outdoor, and agricultural water use of each Overlying Producer is provided in Exhibits D-1 through D-11.

### **References**

- Department of Water Resources. (2008). *Draft White Paper: Evapotranspiration Adjustment Factor*. Available at <http://www.owuc.water.ca.gov/docs/ctWhitePaper.pdf>
- National Research Council Subcommittee on Poultry Nutrition. (1994). *Nutrient requirements of Poultry*. (9th revised ed.). Washington, D.C.: National Academy Press. Available at [www.nap.edu/catalog.php?record\\_id=2114](http://www.nap.edu/catalog.php?record_id=2114)
- University of Arizona Cooperative Extension. (2000). *Converting Reference Evapotranspiration into Turf Water Use*. Turf Irrigation Management Series No. 2. Retrieved from <http://ag.arizona.edu/pubs/water/az1195.pdf>
- Wildermuth Environmental, Inc. (2007). *Water Quality Impacts from On-Site Waste Disposal Systems in the Cherry Valley Community of Interest*.



Exhibit D1  
Estimated Pumping by Merlin Properties -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	48	3	1.05	0.11	0.53	1.58
2004/05	48	3	1.05	0.11	0.50	1.55
2005/06	48	3	1.05	0.11	0.50	1.55
2006/07	48	3	1.05	0.11	0.55	1.60
2007/08	48	3	1.05	0.11	0.54	1.59
2008/09	48	3	1.05	0.11	0.53	1.59
2009/10	48	3	1.05	0.11	0.52	1.57
2010/11	48	3	1.05	0.11	0.51	1.55
<b>Total</b>			<b>6.30</b>		<b>3.17</b>	<b>9.47</b>

Indoor Water Use  
0.35 afdu/year

Dwelling Units	#DU	Indoor Water Use
FY 2003/04	3	1.05
FY 2004/05	3	1.05
FY 2005/06	3	1.05
FY 2006/07	3	1.05
FY 2007/08	3	1.05
FY 2008/09	3	1.05
FY 2009/10	3	1.05
FY 2010/11	3	1.05

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.52	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.81	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.09	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	58.70
FY 2008/09	7.53	7.23	5.76	5.02	3.12	1.89	3.32	2.41	4.62	5.58	6.32	5.37	58.20
FY 2009/10	7.60	6.68	5.86	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.99	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)	Irrigation Requirement (acre-ft/yr)
FY 2003/04	4.90	5.20	3.80	2.80	1.60	1.40	1.70	1.80	3.10	4.10	4.90	4.50	38.40	0.35
FY 2004/05	5.30	4.70	3.70	2.40	1.70	1.60	1.40	1.50	2.40	3.80	4.50	4.50	38.40	0.35
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	38.50	0.35
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30	0.39
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.30	1.60	3.70	4.20	4.40	5.30	41.10	0.38
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.70	3.90	4.40	3.80	40.80	0.37
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80	0.36
FY 2010/11	4.60	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80	0.36

Irr Efficiency 0.7

Outdoor Water Use	(Acre Feet)
FY 2003/04	0.53
FY 2004/05	0.50
FY 2005/06	0.50
FY 2006/07	0.55
FY 2007/08	0.54
FY 2008/09	0.53
FY 2009/10	0.52
FY 2010/11	0.54

NonMeteredPumpingEstimates - Merlin



Exhibit D2  
Estimated Pumping by Rancho Calimesa -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	29	195	68.25	0	0.00	68.25
2004/05	29	195	68.25	0	0.00	68.25
2005/06	29	195	68.25	0	0.00	68.25
2006/07	29	198	69.30	0	0.00	69.30
2007/08	29	198	69.30	0	0.00	69.30
2008/09	29	198	69.30	0	0.00	69.30
2009/10	29	198	69.30	0	0.00	69.30
2010/11	29	198	69.30	0	0.00	69.30
<b>Total</b>			<b>412.65</b>	<b>0.00</b>	<b>0.00</b>	<b>412.65</b>

Indoor Water Use  
0.35 af/dw/yr

Dwelling Units	#DU	Indoor Water Use
FY 2003/04	195	68.25
FY 2004/05	195	68.25
FY 2005/06	195	68.25
FY 2006/07	198	69.3
FY 2007/08	198	69.3
FY 2008/09	198	69.3
FY 2009/10	198	69.3
FY 2010/11	198	69.3

	Irrigated Area (Acres)
FY 2003/04	0
FY 2004/05	0
FY 2005/06	0
FY 2006/07	0
FY 2007/08	0
FY 2008/09	0
FY 2009/10	0
FY 2010/11	0

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	59.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	59.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	39.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	39.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	4.20	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use	(Acre Feet)
FY 2003/04	0.00
FY 2004/05	0.00
FY 2005/06	0.00
FY 2006/07	0.00
FY 2007/08	0.00
FY 2008/09	0.00
FY 2009/10	0.00
FY 2010/11	0.00

NonMeteredPumpingEstimates - Rancho Calimesa



Exhibit D3  
Estimated Pumping by the Roman Catholic Bishop of San Bernardino -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	34	2	0.70	12.1	58.48	59.18
2004/05	34	2	0.70	12.1	55.31	56.01
2005/06	34	2	0.70	12.1	55.46	56.16
2006/07	34	2	0.70	0	0.00	0.70
2007/08	34	2	0.70	0	0.00	0.70
2008/09	34	2	0.70	0	0.00	0.70
2009/10	34	0	0.00	0	0.00	0.00
2010/11	34	0	0.00	0	0.00	0.00
<b>Total</b>			<b>4.20</b>	<b>0</b>	<b>163.26</b>	<b>173.46</b>

Indoor Water Use 0.35 af/dw/year

Dwelling Units	#DU	Indoor Water Use
FY 2003/04	2	0.7
FY 2004/05	2	0.7
FY 2005/06	2	0.7
FY 2006/07	2	0.7
FY 2007/08	2	0.7
FY 2008/09	2	0.7
FY 2009/10	0	0
FY 2010/11	0	0

Irrigated Area (Acres)
FY 2003/04 12.1
FY 2004/05 12.1
FY 2005/06 12.1
FY 2006/07 0
FY 2007/08 0
FY 2008/09 0
FY 2009/10 0
FY 2010/11 0

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	53.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	53.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	38.72
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	39.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	4.20	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use (Acre Feet)
FY 2003/04 58.48
FY 2004/05 55.31
FY 2005/06 55.46
FY 2006/07 0.00
FY 2007/08 0.00
FY 2008/09 0.00
FY 2009/10 0.00
FY 2010/11 0.00

NonMeteredPumpingEstimates - RomanCatholicBishop



Exhibit D4  
Estimated Pumping by Leonard Stearns -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	51	3	1.05	0	0.00	1.05
2004/05	51	3	1.05	0	0.00	1.05
2005/06	51	3	1.05	0	0.00	1.05
2006/07	51	3	1.05	0	0.00	1.05
2007/08	51	3	1.05	0	0.00	1.05
2008/09	51	3	1.05	0	0.00	1.05
2009/10	51	2	0.70	0	0.00	0.70
2010/11	51	2	0.70	0	0.00	0.70
<b>Total</b>			<b>6.30</b>	<b>0</b>	<b>0.00</b>	<b>6.30</b>

Indoor Water Use  
0.35 af/dw/year

Dwelling Units	#DU	Indoor Water Use
FY 2003/04	3	1.05
FY 2004/05	3	1.05
FY 2005/06	3	1.05
FY 2006/07	3	1.05
FY 2007/08	3	1.05
FY 2008/09	3	1.05
FY 2009/10	2	0.7
FY 2010/11	2	0.7

Irrigated Area (Acres)	
FY 2003/04	0
FY 2004/05	0
FY 2005/06	0
FY 2006/07	0
FY 2007/08	0
FY 2008/09	0
FY 2009/10	0
FY 2010/11	0

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	59.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	59.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	33.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	33.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	4.20	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use	(Acre Feet)
FY 2003/04	0.00
FY 2004/05	0.00
FY 2005/06	0.00
FY 2006/07	0.00
FY 2007/08	0.00
FY 2008/09	0.00
FY 2009/10	0.00
FY 2010/11	0.00

NonMeteredPumpingEstimates -- Stearns



Exhibit D5  
Estimated Pumping by Sunny Cal -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Number of Chickens	Chickens Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	200	10	3.50	1,200,000	81	66.40	320.9	405.03
2004/05	200	10	3.50	1,200,000	81	66.40	303.5	387.64
2005/06	185	2	0.70	0	0	0.40	1.83	2.53
2006/07	185	2	0.70	0	0	0.40	2.01	2.71
2007/08	185	2	0.70	0	0	0.70	1.68	2.38
2008/09	185	2	0.70	0	0	0.70	1.84	2.54
2009/10	185	2	0.70	0	0	0.70	1.90	2.60
2010/11	185	2	0.70	0	0	0.70	1.85	2.55
<b>Total</b>			<b>8.80</b>		<b>161.20</b>	<b>171.00</b>	<b>6.30</b>	<b>405.6</b>

Indoor Water Use 0.35 afdu/year

Year	Dwelling Units	Indoor Water Use (acre-ft)	Chickens Water Use (acre-ft)	Chickens	Water Use (acre-ft)
FY 2003/04	10	3.5	80.6	1200000	80.6
FY 2004/05	10	3.5	80.6	1200000	80.6
FY 2005/06	2	0.7	0	0	0
FY 2006/07	2	0.7	0	0	0
FY 2007/08	2	0.7	0	0	0
FY 2008/09	2	0.7	0	0	0
FY 2009/10	2	0.7	0	0	0
FY 2010/11	2	0.7	0	0	0

Year	Dwelling Units	Indoor Water Use (acre-ft)	Chickens Water Use (acre-ft)	Chickens	Water Use (acre-ft)
FY 2003/04	10	3.5	80.6	1200000	80.6
FY 2004/05	10	3.5	80.6	1200000	80.6
FY 2005/06	2	0.7	0	0	0
FY 2006/07	2	0.7	0	0	0
FY 2007/08	2	0.7	0	0	0
FY 2008/09	2	0.7	0	0	0
FY 2009/10	2	0.7	0	0	0
FY 2010/11	2	0.7	0	0	0

Crop Coefficient (Warm Season Bermuda Grass)

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Kc	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.52	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.09	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	58.70
FY 2008/09	7.53	7.23	5.76	5.02	3.12	1.89	3.32	2.41	4.62	5.58	6.32	5.37	56.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.99	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	4.90	3.80	2.90	1.60	1.60	1.60	1.60	3.40	4.10	5.00	4.60	38.40
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	38.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	38.40
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.30	1.60	3.70	4.20	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.60	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Year	Outdoor Water Use (Acre Feet)	Irrigation Requirement
FY 2003/04	320.93	458.62
FY 2004/05	303.54	433.63
FY 2005/06	1.83	2.62
FY 2006/07	2.01	2.87
FY 2007/08	1.96	2.80
FY 2008/09	1.94	2.77
FY 2009/10	1.85	2.64
FY 2010/11	1.85	2.64

NonMetresPumpingEstimates - SunnyCal



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## **Appendix B**

### **Active and Interested Party List**

Exhibit D6  
Estimated Pumping by Albor Properties -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	0	0	0.00	0	0.00	0.00
2004/05	0	0	0.00	0	0.00	0.00
2005/06	122	2	0.70	2.6	11.92	12.62
2006/07	122	1	0.35	0.4	2.01	2.36
2007/08	122	1	0.35	0.4	1.96	2.31
2008/09	122	1	0.35	0.4	1.94	2.29
2009/10	122	1	0.35	0.4	1.90	2.25
2010/11	122	1	0.35	0.4	1.85	2.20
<b>Total</b>			<b>1.75</b>		<b>17.83</b>	<b>19.58</b>

Indoor  
Water Use  
0.35 af/dw/year

Dwelling Units	#DU	Indoor Water Use	Irrigated Area (Acres)
FY 2003/04	0	0	0
FY 2004/05	0	0	0
FY 2005/06	2	0.7	2.6
FY 2006/07	1	0.35	0.4
FY 2007/08	1	0.35	0.4
FY 2008/09	1	0.35	0.4
FY 2009/10	1	0.35	0.4
FY 2010/11	1	0.35	0.4

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	59.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	59.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	33.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	33.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	4.20	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use (Acre Feet)	
FY 2003/04	0.00
FY 2004/05	0.00
FY 2005/06	11.92
FY 2006/07	2.01
FY 2007/08	1.96
FY 2008/09	1.94
FY 2009/10	1.90
FY 2010/11	1.85

NonMeteredPumpingEstimates - Albor



Exhibit D7  
Estimated Pumping by Nikolov -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	0	0	0.00	0	0	0.00
2004/05	0	0	0.00	0	0	0.00
2005/06	10	1	0.35	0.08	0.37	0.72
2006/07	10	1	0.35	0.08	0.40	0.75
2007/08	10	1	0.35	0.08	0.39	0.74
2008/09	10	1	0.35	0.08	0.39	0.74
2009/10	10	1	0.35	0.08	0.38	0.73
2010/11	10	1	0.35	0.08	0.37	0.72
<b>Total</b>			<b>1.40</b>		<b>1.55</b>	<b>2.95</b>

Indoor Water Use  
0.35 af/dw/year

Dwelling Units	#DU	Indoor Water Use
FY 2003/04	0	0
FY 2004/05	0	0
FY 2005/06	1	0.35
FY 2006/07	1	0.35
FY 2007/08	1	0.35
FY 2008/09	1	0.35
FY 2009/10	1	0.35
FY 2010/11	1	0.35

	Irrigated Area (Acres)
FY 2003/04	0
FY 2004/05	0
FY 2005/06	0.08
FY 2006/07	0.08
FY 2007/08	0.08
FY 2008/09	0.08
FY 2009/10	0.08
FY 2010/11	0.08

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	59.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	59.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	33.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	33.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	3.70	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use	(Acres Feet)
FY 2003/04	0.00
FY 2004/05	0.00
FY 2005/06	0.37
FY 2006/07	0.40
FY 2007/08	0.39
FY 2008/09	0.39
FY 2009/10	0.38
FY 2010/11	0.37

NonMeteredPumpingEstimates -- Nikolov



Exhibit D8  
Estimated Pumping by McAnis -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	0	0	0.00	0	0	0.00
2004/05	0	0	0.00	0	0	0.00
2005/06	0.9	1	0.35	0.04	0.18	0.53
2006/07	0.9	1	0.35	0.04	0.20	0.55
2007/08	0.9	1	0.35	0.04	0.20	0.55
2008/09	0.9	1	0.35	0.04	0.19	0.54
2009/10	0.9	1	0.35	0.04	0.19	0.54
2010/11	0.9	1	0.35	0.04	0.18	0.53
<b>Total</b>			<b>1.40</b>		<b>0.77</b>	<b>2.17</b>

Indoor  
Water Use  
0.35 af/dw/year

Dwelling Units	#DU	Indoor Water Use	Irrigated Area (Acres)
FY 2003/04	0	0	FY 2003/04
FY 2004/05	0	0	FY 2004/05
FY 2005/06	1	0.35	0.04
FY 2006/07	1	0.35	0.04
FY 2007/08	1	0.35	0.04
FY 2008/09	1	0.35	0.04
FY 2009/10	1	0.35	0.04
FY 2010/11	1	0.35	0.04

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	59.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	59.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	33.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	33.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	3.70	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use (Acre Feet)	
FY 2003/04	0.00
FY 2004/05	0.00
FY 2005/06	0.18
FY 2006/07	0.20
FY 2007/08	0.20
FY 2008/09	0.19
FY 2009/10	0.19
FY 2010/11	0.18

NonMeteredPumpingEstimates -- McAnis



Exhibit D9  
Estimated Pumping by Aldama -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	0	0	0.00	0	0	0.00
2004/05	0	0	0.00	0	0	0.00
2005/06	1.4	1	0.35	0.1	0.46	0.81
2006/07	1.4	1	0.35	0.1	0.50	0.85
2007/08	1.4	1	0.35	0.1	0.50	0.85
2008/09	1.4	1	0.35	0.1	0.49	0.84
2009/10	1.4	1	0.35	0.1	0.47	0.82
2010/11	1.4	1	0.35	0.1	0.46	0.81
<b>Total</b>			<b>1.40</b>		<b>1.84</b>	<b>3.34</b>

Indoor Water Use  
0.35 afdu/year

Dwelling Units	#DU	Indoor Water Use	Irrigated Area (Acres)
FY 2003/04	0	0	FY 2003/04 0
FY 2004/05	0	0	FY 2004/05 0
FY 2005/06	1	0.35	FY 2005/06 0.1
FY 2006/07	1	0.35	FY 2006/07 0.1
FY 2007/08	1	0.35	FY 2007/08 0.1
FY 2008/09	1	0.35	FY 2008/09 0.1
FY 2009/10	1	0.35	FY 2009/10 0.1
FY 2010/11	1	0.35	FY 2010/11 0.1

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.52	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.09	5.44	4.34	2.81	2.24	1.59	2.31	5.30	6.04	6.28	7.59	56.70
FY 2008/09	7.53	7.23	5.76	5.02	3.12	1.89	3.32	2.41	4.62	5.58	6.32	5.37	56.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.99	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)	Irrigation Requirement (acre-ft/yr)
FY 2003/04	4.90	4.90	3.80	2.90	1.60	1.60	1.70	1.80	2.40	4.10	5.00	4.60	28.00	0.00
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	38.40	0.00
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	38.50	0.32
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30	0.35
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.30	1.60	3.70	4.20	4.40	5.30	41.10	0.34
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80	0.34
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80	0.33
FY 2010/11	4.60	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80	0.32

Irr Efficiency 0.7

Outdoor Water Use (Acre Feet)
FY 2003/04 0.00
FY 2004/05 0.00
FY 2005/06 0.46
FY 2006/07 0.50
FY 2007/08 0.49
FY 2008/09 0.49
FY 2009/10 0.47
FY 2010/11 0.46

NonMetresPumpingEstimates - Aldama



Exhibit D10  
Estimated Pumping by Gutierrez -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	0	0	0.00	0	0	0.00
2004/05	0	0	0.00	0	0	0.00
2005/06	2	2	0.70	0.14	0.64	1.34
2006/07	2	2	0.70	0.14	0.71	1.41
2007/08	2	2	0.70	0.14	0.69	1.39
2008/09	2	2	0.70	0.14	0.68	1.38
2009/10	2	2	0.70	0.14	0.66	1.36
2010/11	2	2	0.70	0.14	0.65	1.35
<b>Total</b>			<b>2.80</b>		<b>2.71</b>	<b>5.51</b>

Indoor  
Water Use  
0.35 af/dw/yr

Dwelling Units	#DU	Indoor Water Use
FY 2003/04	0	0
FY 2004/05	0	0
FY 2005/06	2	0.7
FY 2006/07	2	0.7
FY 2007/08	2	0.7
FY 2008/09	2	0.7
FY 2009/10	2	0.7
FY 2010/11	2	0.7

Irrigated Area (Acres)	0
FY 2003/04	0
FY 2004/05	0
FY 2005/06	0.14
FY 2006/07	0.14
FY 2007/08	0.14
FY 2008/09	0.14
FY 2009/10	0.14
FY 2010/11	0.14

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ET (in)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.46	5.54	4.08	2.23	2.07	2.49	2.76	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.92	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.06	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	59.70
FY 2008/09	7.53	7.23	5.79	5.02	3.12	1.89	3.32	2.41	4.62	5.53	6.32	5.37	59.20
FY 2009/10	7.60	6.68	5.89	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.96	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	4.90	5.20	3.90	2.90	1.60	1.40	1.70	1.90	3.40	4.10	5.00	4.60	40.60
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.50	2.80	3.80	4.50	4.50	33.40
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	33.50
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.20	1.60	3.70	3.70	4.40	5.30	41.10
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80
FY 2010/11	4.50	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80

Irr Efficiency 0.7

Outdoor Water Use (Acre Feet)	
FY 2003/04	0.00
FY 2004/05	0.00
FY 2005/06	0.54
FY 2006/07	0.71
FY 2007/08	0.59
FY 2008/09	0.58
FY 2009/10	0.56
FY 2010/11	0.55

NonMeteredPumpingEstimates - Gutierrez



Exhibit D11  
Estimated Pumping by Darnont -- FY 2003/04 through FY 2010/11

Year	Parcel Size (acres)	Dwelling Units	Indoor Water Use (acre-ft)	Irrigated Area (acres)	Outdoor Water Use (acre-ft)	Total Use (acre-ft)
2003/04	0	0	0.00	0	0	0.00
2004/05	0	0	0.00	0	0	0.00
2005/06	0.5	1	0.35	0	0.00	0.35
2006/07	0.5	1	0.35	0	0.00	0.35
2007/08	0.5	1	0.35	0	0.00	0.35
2008/09	0.5	1	0.35	0	0.00	0.35
2009/10	0.5	1	0.35	0	0.00	0.35
2010/11	0.5	1	0.35	0	0.00	0.35
<b>Total</b>			<b>1.40</b>		<b>0.00</b>	<b>1.40</b>

Indoor Water Use 0.35 afdu/year

Dwelling Units	#DU	Indoor Water Use	Irrigated Area (Acres)
FY 2003/04	0	0	FY 2003/04 0
FY 2004/05	0	0	FY 2004/05 0
FY 2005/06	1	0.35	FY 2005/06 0
FY 2006/07	1	0.35	FY 2006/07 0
FY 2007/08	1	0.35	FY 2007/08 0
FY 2008/09	1	0.35	FY 2008/09 0
FY 2009/10	1	0.35	FY 2009/10 0
FY 2010/11	1	0.35	FY 2010/11 0

Crop Coefficient (Warm Season Bermuda Grass)

Kc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)
FY 2003/04	7.05	7.48	5.54	4.08	2.23	2.07	2.49	2.78	4.81	5.90	7.10	6.50	57.99
FY 2004/05	7.55	6.81	5.83	3.39	2.44	2.30	2.02	2.21	3.93	5.41	6.47	6.49	54.85
FY 2005/06	7.28	6.68	5.32	3.65	2.84	2.15	2.52	3.35	3.42	4.26	6.02	7.16	55.05
FY 2006/07	7.74	7.20	5.70	3.95	3.14	2.94	3.28	2.91	5.02	5.04	6.47	7.16	60.55
FY 2007/08	7.57	7.09	5.44	4.34	2.81	2.24	1.69	2.31	5.30	6.04	6.28	7.59	58.70
FY 2008/09	7.53	7.23	5.76	5.02	3.12	1.89	3.32	2.41	4.62	5.58	6.32	5.37	58.20
FY 2009/10	7.60	6.68	5.86	4.40	3.18	2.08	2.35	2.44	4.67	5.11	6.18	6.25	56.83
FY 2010/11	6.57	6.99	5.45	2.10	3.22	1.78	2.91	2.91	4.22	5.57	6.67	6.95	55.34

ETc	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (in/yr)	Irrigation Requirement (acre-ft/yr)
FY 2003/04	4.80	5.95	3.80	2.80	1.60	1.40	1.60	1.80	3.40	4.10	5.00	4.50	28.00	0.00
FY 2004/05	5.30	4.80	4.10	2.40	1.70	1.60	1.40	1.80	2.80	3.80	4.50	4.50	38.40	0.00
FY 2005/06	5.10	4.70	3.70	2.60	2.00	1.50	2.00	2.30	2.40	3.00	4.20	5.00	38.50	0.00
FY 2006/07	5.40	5.00	4.00	2.80	2.20	2.10	2.30	2.00	3.50	3.50	4.50	5.00	42.30	0.00
FY 2007/08	5.30	5.00	3.80	3.00	2.00	1.60	1.30	1.60	3.70	4.20	4.40	5.30	41.10	0.00
FY 2008/09	5.30	5.10	4.10	3.50	2.20	1.30	2.30	1.70	3.20	3.90	4.40	3.80	40.80	0.00
FY 2009/10	5.30	4.70	4.10	3.10	2.20	1.50	1.60	1.70	3.30	3.60	4.30	4.40	39.80	0.00
FY 2010/11	4.80	4.90	3.80	1.50	2.30	1.20	2.00	2.00	3.00	3.90	4.70	4.90	38.80	0.00

Irr Efficiency 0.7

Outdoor Water Use (Acre Feet)
FY 2003/04 0.00
FY 2004/05 0.00
FY 2005/06 0.00
FY 2006/07 0.00
FY 2007/08 0.00
FY 2008/09 0.00
FY 2009/10 0.00
FY 2010/11 0.00

NonMeteredPumpingEstimates - Darnont



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## **Appendix E**

### **Estimation of Recycled Water Recharge by the City of Beaumont**

## **Appendix E – Estimation of Recycled Water Recharge by the City of Beaumont**

### **Background**

The City of Beaumont (City) owns and operates Wastewater Treatment Plant No. 1 (WWTP). Historically, all of the tertiary-treated wastewater (recycled water) from the City's WWTP has been discharged to Cooper's Creek at Discharge Point (DP) 001. Cooper's Creek is a tributary of San Timoteo Creek, which overlies the San Timoteo Management Zone (STMZ). The City's discharge to Cooper's Creek completely infiltrates the San Timoteo Creek streambed and recharges the STMZ. As part of the Maximum Benefit Commitments made by the City to the Santa Ana Regional Water Quality Control Board (Regional Board), and reflected in their Waste Discharge Permit (R8-2009-0002), the City must reduce their recycled water discharge to DP-001 down to 1.8 million gallons per day (mgd) to minimize the impact of the recycled water on the TDS and nitrate concentrations of the STMZ. While the Regional Board would like to see the discharge at DP-001 completely eliminated, 1.8 mgd is the amount of water that the U.S. Department of Fish and Wildlife has mandated the City continue to discharge at DP-001 to protect endangered plant and animal species which depend upon a three-mile stretch of riparian habitat in Cooper's Creek.

In March 2010, pursuant to their NPDES/Waste Discharge permit with the Regional Board (R8-2009-0002), the City began discharging all recycled water over 1.8 mgd to DP-007, located in an unnamed creek (hereafter referred to as "the Creek") that is tributary to Marshall Creek and then tributary to San Timoteo Creek (see Figure 1 of the Annual Report). The City's discharge to DP-007 completely infiltrates the Creek and recharges both the Beaumont South Groundwater Basin (Beaumont South) and the Beaumont Basin. Pursuant to the Storage Agreement on file with the Watermaster, the City has requested that Watermaster credit their storage account with the recharge that occurred in the Beaumont Basin. The following describes the method used by Watermaster's Engineer to estimate the recycled water recharge to the Beaumont Basin.

### **Assumptions**

#### ***Surface Flow into the Beaumont Basin***

To ensure compliance with their Maximum Benefit Commitment to reduce recycled water discharges to the STMZ, the City began tracking how far recycled water discharged at DP-007 would flow before it completely infiltrated the Creek. As part of the City's bi-weekly surface water monitoring events in the Beaumont Management Zone, a GPS coordinate of the terminus of surface-flow in the Creek generated by discharge to DP-007 was recorded from April 2010 through June 2011. The coordinate data was then plotted on a map (see Exhibit E1) to estimate the average terminus of flow in the Creek. Based on the GPS data and field notes provided by the City, the terminus of the surface-flow generated by recycled water discharge at DP-007 is, on average, at the confluence of the Creek with the main stem of Marshall Creek (see terminus point for 7/15/10 on Exhibit E1).

Using aerial imagery and a measurement tool in ArcMap, a geographical information system



(GIS), the distance travelled by the surface-flow in the Creek from DP-007 to the confluence with Marshall Creek was estimated. The recycled water flows for about 4,500 feet: 2,500 feet over Beaumont South and 2,000 feet over the Beaumont Basin.

### ***Infiltration Rates***

The infiltration rate of the unnamed tributary to Marshall Creek is unknown. To date, the flow-rate of the recycled water flowing in the Creek has been too small for the City to measure with a pygmy meter in the field and thus no data is available to estimate the infiltration rate. Thus, To compute the amount of surface-flow that infiltrates the Creek in Beaumont South and the Beaumont Basin, this analysis assumes a constant infiltration rate from the point of discharge to the average terminus of recycled water flow. Thus, 44 percent of the recycled water discharged at DP-007 infiltrates the Creek in the Beaumont Basin (2,000 feet of flow in the Beaumont Basin divided by the total distance travelled of 4,500 feet = 0.44).

### ***Evapotranspiration Losses***

Some volume of the recycled water that infiltrates the Creek in the Beaumont Basin will be consumed by riparian vegetation. Water consumed by evapotranspiration can be estimated similar to the method used for computing outdoor water use in the Watermaster's water duty method (see Appendix D). For this analysis, the volume of water consumed by riparian vegetation is estimated using the Crop Water Requirements approach. This approach uses local climate parameters and "crop" type to determine the amount of water required by a landscape such that:

$$ET_o \times K_c = ET_c$$

Where,

$ET_o$  = Reference Evapotranspiration: A climate specific parameter based on locally measured meteorological data such as wind speed, humidity, and solar radiation.  $ET_o$  represents the evapotranspiration of a standardized vegetated surface under localized conditions.

$K_c$  = Crop Coefficient: A coefficient used to convert reference evapotranspiration into an estimate of evapotranspiration, based on the type of crop.

$ET_c$  = Crop Water Requirement: The amount of water required for irrigating a specific type of crop under known climate conditions.

Reference Evapotranspiration ( $ET_o$ ) data were obtained from the California Irrigation Management Information System (CIMIS). Monthly  $ET_o$  measured at CIMIS Station UC Riverside #44 was used as an approximation of the climate in the Beaumont Basin.

To estimate the  $K_c$ , the type of the riparian community needs to be identified. As part of the plan to discharge recycled water at DP-007, the City proposed a habitat restoration project for the unnamed tributary to Marshall Creek. The restoration proposal is described in City of Beaumont (2009) and Harmsworth Associates (2009) and provides a brief description of the riparian vegetation along the Creek. The section of the Creek that overlies the Beaumont Basin is described as a wide, sandy, un-vegetated channel that is highly incised with steep banks. The vegetation community that exists along the banks of the channel is composed of



non-native grasslands and scrub habitats. A recent study completed for the Chino Basin (near Ontario, CA) estimated evapotranspiration for a variety of plant communities in the Prado Basin section of the Santa Ana River (Merkel & Associates, 2009). Of the communities identified and evaluated in Merkel & Associates, the Southern Willow Scrub community most closely matches the vegetation identified along the Creek. The landscape coefficient developed by Merkel & Associates for the Southern Willow Scrub community will be used in this analysis to estimate the evapotranspiration losses in the Beaumont Basin:

- $K_c = 1.17$  for the growing season (March to October)
- $K_c = 0.15$  for the non-growing season (November to February)

The final factor needed to estimate evapotranspiration is the acreage of riparian landscape, such that:

$$ET = ET_c \times Area$$

This area was computed using aerial imagery in a GIS. Aerial imagery from Spring 2011 confirms that the Creek abuts a very steep bank to the west and supports an assumption that little to no riparian vegetation occurs on the west bank of the Creek. The aerial imagery shows similarly steep banks along some areas on the eastern edge of the Creek, but does indicate that some riparian habitat does exist within and alongside the eastern bank of the channel. The estimated area of riparian vegetation is 4.74 acres, and is shown in Exhibit F2.

#### ***Underflow from Beaumont South to Beaumont Basin***

Some volume of the recycled water that infiltrates the Creek in Beaumont South may recharge the Beaumont Basin as underground flow across the Beaumont Barrier. A detailed modeling analysis would be required to estimate the increase in underflow across this boundary that results from the recycled water discharge at DP-007. A numerical model developed for the Basin in 2006 is available, but updating this model to make such an estimation is outside the scope of work for this Annual Report.

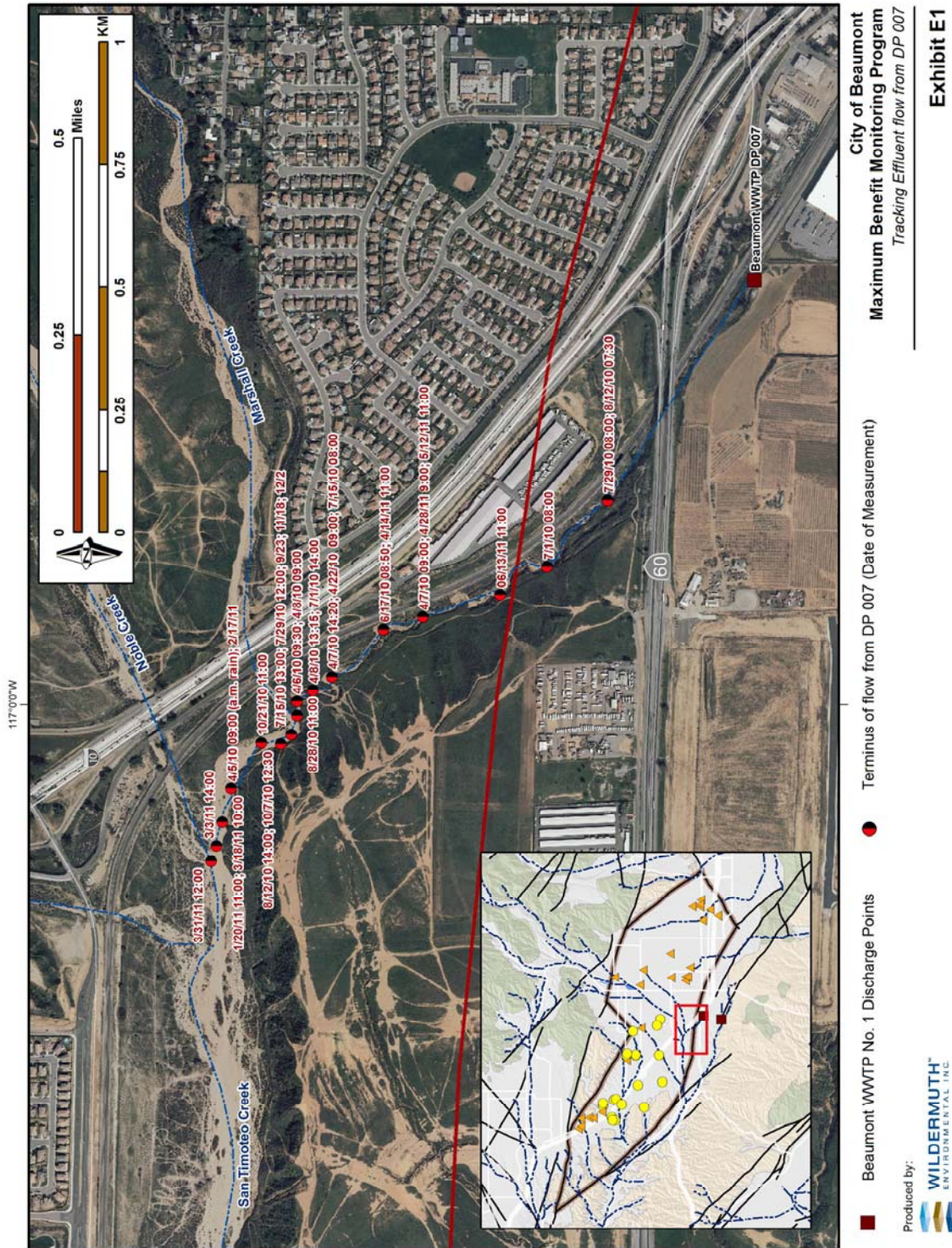
### **Estimation of Recycled Water Recharge to the Beaumont Basin**

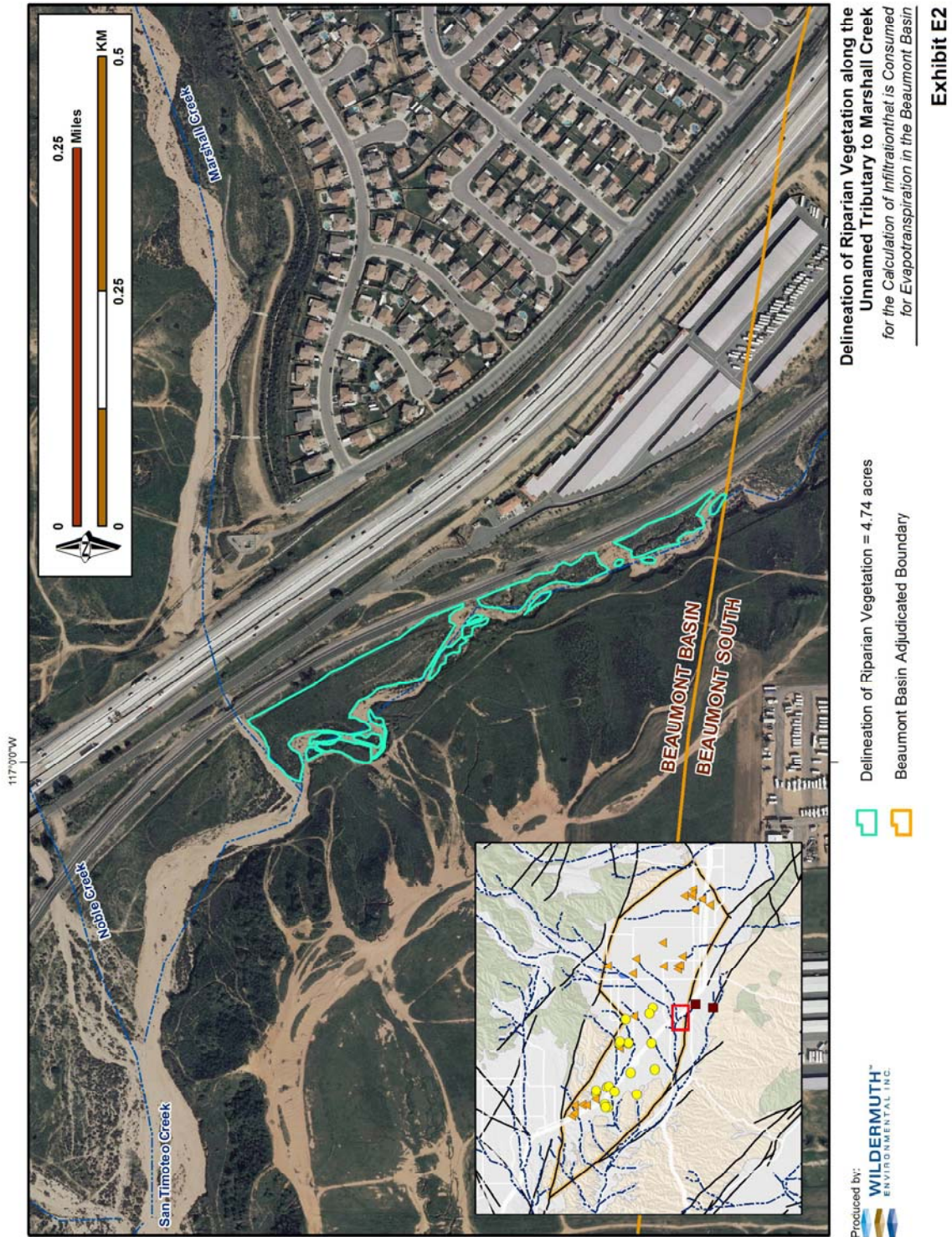
The City reported daily recycled water discharge volumes for DP-007 to the Watermaster. Exhibit E3 shows the detailed calculation of the recharge in the Beaumont Basin that resulted from recycled water discharge at DP-007. An estimated 367 acre-ft of water has been recharged in the basin since March 2010: 72 acre-ft in FY 2009/10 and 295 acre-ft in FY 2010/11.

### **References**

- City of Beaumont. (2009). *Initial Study/Negative Declaration for Stream Restoration Project for an Unnamed Tributary of Marshall Creek Located in the City of Beaumont*.
- Harmsworth Associates. (2009). *Stream Restoration Project For an Unnamed Tributary of Marshall Creek Located in the City of Beaumont*. Prepared for the City of Beaumont.
- Merkel & Associates, Inc. (2007). *Evapotranspiration Analysis of the Prado Basin, Santa Ana River, California*. Prepared for the Wildermuth Environmental Inc.







**Exhibit E3**  
**Estimated Recharge of Recycled Water in the Beaumont Basin -- FY 2009/10 through FY 2010/11**

**RW<sub>r</sub> : Total Recycled Water Discharge by City of Beaumont at DP-007 (acre-ft)**

ET(o) feet	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
FY 2009/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.52	62.13	54.40	64.46	187.50
FY 2010/11	66.55	66.08	63.52	66.59	61.34	62.09	62.79	54.46	60.40	58.19	55.32	41.59	718.93

**RW<sub>i</sub> = (0.44 x RW<sub>r</sub>) : Recycled Water Discharge that Infiltrates the unnamed tributary of Marshall Creek in Beaumont Basin (acre-ft)**

ET(o) feet	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
FY 2009/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.87	27.34	23.93	28.36	82.50
FY 2010/11	29.28	29.08	27.95	29.30	26.99	27.32	27.63	23.96	26.58	25.60	24.34	18.30	316.33

**Kc = "Crop Coefficient" for Southern Cottonwood Willow Riparian Forest and Scrub**

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Kc	1.17	1.17	1.17	1.17	0.15	0.15	0.15	0.15	1.17	1.17	1.17	1.17

**ET(o) = Reference Evapotranspiration as Measured at CIMIS Station #44 - UC Riverside**

ET(o) feet	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
FY 2009/10	0.63	0.56	0.49	0.37	0.27	0.17	0.20	0.20	0.39	0.43	0.52	0.52	4.74
FY 2010/11	0.55	0.58	0.45	0.18	0.27	0.15	0.24	0.24	0.35	0.46	0.56	0.58	4.61

**ETc = (ET(o) x Kc) : "Crop" Water Requirement**

ETc (feet-month)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
FY 2009/10	0.74	0.65	0.57	0.43	0.04	0.03	0.03	0.03	0.46	0.50	0.60	0.61	4.69
FY 2010/11	0.64	0.68	0.53	0.20	0.04	0.02	0.04	0.04	0.41	0.54	0.65	0.68	4.48

**Area of Riparian Vegetation**      **4.74 acres**

**ET = (ETc x Area) : Evapotranspiration along the unnamed tributary to Marshall Creek that Overlies the Beaumont Basin (acre-ft)**

ET (acre-ft)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
FY 2009/10	3.51	3.09	2.72	2.03	0.19	0.12	0.14	0.14	2.16	2.36	2.86	2.89	22.21
FY 2010/11	3.04	3.23	2.52	0.97	0.19	0.11	0.17	0.17	1.95	2.57	3.08	3.21	21.22

**RW<sub>BB</sub> = (RW<sub>i</sub> - ET) : Recycled Water Recharge Credited to City of Beaumont**

ET(o) feet	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
FY 2009/10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	24.98	21.08	25.47	72.24
FY 2010/11	26.25	25.85	25.43	28.33	26.80	27.22	27.45	23.79	24.63	23.03	21.26	15.09	295.11