FOX CANYON GROUNDWATER MANAGEMENT AGENCY

A STATE OF CALIFORNIA WATER AGENCY

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Fox Canyon Groundwater Management Agency (FCGMA) will hold an **Executive Committee Meeting** from **3:00 p.m. to 5:00 p.m.** on **Friday, October 11, 2013** in the **Public Works Agency Conference Room 346**, **Third Floor** of the Ventura County Government Center, Hall of Administration Building, at **800 South Victoria Avenue, Ventura, California**.

FCGMA EXECUTIVE COMMITTEE MEETING AGENDA
October 11, 2013

Members: Chair Lynn Maulhardt
Co-Chair Charlotte Craven

A. Call to Order

B. Introductions

C. Public Comment – Audience members may speak about FCGMA-related matters not on today's Agenda.

D. Minutes – Approve the minutes from the September 13, 2013 Executive Committee meeting.

E. Consider Las Posas Users Group's (LPUG) Proposed Ordinance Code Change to Chapter 5 – Staff will present its review comments of the proposed Ordinance Code change, and staff will provide recommendations and request feedback.

F. Adjourn the Executive Committee Meeting – Adjourn until the next Executive Committee meeting, to be scheduled at a later date.

NOTICES

The FCGMA Board strives to conduct accessible, orderly, and fair meetings where everyone can be heard on the issues. The Board Chair will conduct the meeting and establish appropriate rules and time limitations for each item. The Board can only act on items designated as Action Items. Action items on the agenda are staff proposals and may be modified by the Board as a result of public comment or Board member input. Additional information about Board meeting procedures is included after the last agenda item.

Administrative Record: *Material presented as part of testimony will be made part of the Agency's record, and 10 copies should be left with the Board Clerk. This includes any photographs, slides, charts, diagrams, etc.*

ADA Accommodations: *Persons who require accommodation for any audio, visual, or other disability in order to review an agenda or to participate in the Board of Directors meeting per the Americans with Disabilities Act (ADA), may request such accommodation in writing addressed to the Clerk of the FCGMA Board, 800 So. Victoria Avenue, Location #1610, Ventura, CA 93009-1610, or via telephone by calling (805) 654-2014. Any such request should be made at least 48 hours prior to the meeting so staff can make the necessary arrangements.*

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Availability of Complete Agenda Package: *A copy of the complete agenda package is available for examination at the FCGMA office during regular working hours (8:00 a.m. to 5:00 p.m. Monday through Friday) beginning five days before the Board meeting. Agenda packet contents are also posted on the FCGMA website as soon as possible, and left there for archival retrieval in case reference is needed on previously considered matters. Questions about specific items on the agenda should be directed to the Agency's Executive Officer.*

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Continuance of Items: *The Board will endeavor to consider all matters listed on this agenda. However, time may not allow the Board to hear all matters listed. Matters not heard at this meeting may be carried over to the next Board meeting or to a future Board meeting. Participating individuals or parties will be notified of the rescheduling of their item prior to the meeting. Please contact the FCGMA staff to find out about rescheduled items.*

***

Electronic Information and Updates*: Our web site address is http://www.fcgma.org. Information available online includes the Board's meeting schedule, a list of the Board members and staff, general information, and various Agency forms. If you would like to speak to a staff member, please contact the FCGMA Clerk of the Board at (805) 654-2014.*

At: Ventura County Government Center Main Entrance Bulletin Board, 800 S. Victoria Avenue, Ventura, CA
At: http://www.fcgma.org

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FOX CANYON GROUNDWATER MANAGEMENT AGENCY

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MINUTES

Minutes of the Fox Canyon Groundwater Management Agency's (FCGMA) Executive Committee meeting held **Friday, September 13, 2013** in the PWA Conference Room 346 at the Ventura County Government Center, Hall of Administration, 800 South Victoria Avenue, Ventura, California.

A. **Call to Order** – The meeting commenced at 2:02 p.m.

B. **Introductions** – In attendance were: (1) Lynn Maulhardt, FCGMA Executive Committee Chair; (2) Charlotte Craven, FCGMA Executive Committee Co-Chair; (3) Jeff Pratt, FCGMA Executive Officer; (4) Gerhardt Hubner, WPD, Deputy Director; (5) Rick Viergutz, Groundwater Manager; (6) Kathleen Riedel, Groundwater Specialist; (7) Jessica Rivera, FCGMA Interim Clerk of the Board; (8) Alberto Boada, Agency Counsel; (9) Tully Clifford, WPD, Director; (10) Martha Navarrete, County of Ventura, IT Services; (11) Tony Stafford, Camrosa; (12) Dave Souza, Pleasant Valley County Water District (PVCWD); (13) Carol Schoen, Zone Mutual Water Company (ZONE); (14) John Mathews, PVCWD; (15) Robert Eranio, Crestview Mutual Water Company (CMWC); (16) Rob Saperstein, representing Oxnard; (17) Mike Solomon, United Water Conservation District (UWCD); and (18) Frank Brommenschenkel.

C. **Public Comments** – None.

D. **Meeting Minutes**

The Executive Committee approved the minutes from the August 12, 2013 meeting.

E. **Consideration of Draft Policies for Transfers of Historic Allocations**

Mr. Rick Viergutz, WPD, Groundwater Manager, introduced this item and provided a brief presentation discussing the background; policy implications; options for the Committee to consider; and possible administrative steps for "unwinding" a transfer agreement. Options for the Committee to consider included: (1) permanently transferring the historical allocation (HA) as requested; (2) permanently transferring the HA as requested, but not allowing an efficiency allocation to be used on any parcel served by the water supplier; (3) leaving the HA with the original water supplier and denying the request, but when a new water supplier begins serving the original water supplier's customers, the HA would then be transferred to the new water supplier; (4) eliminating the HA; and (5) conditionally transferring the HA to the water supplier. A handout detailing the presentation topics was also provided to the Committee and those in attendance. In addition, Ms. Kathleen Riedel, WPD, Groundwater Specialist, provided a report on several examples of permanent historical allocation transfers, noting no 3rd party transfers had been found.

Discussion ensued concerning what the term "unwind" meant; if this policy issue applied only to Municipal & Industrial (M&I) or Agricultural (Ag) users as well; and whether the policy discussion should be Agency-wide or basin-specific. In addition, the Committee discussed whether the Solano Verde transfer request or the Las Posas Users Group's (LPUG) draft, revised Ordinance Code language should be addressed first. After much discussion and deliberation, the Committee recommended Agency staff deal with the LPUG item first, including moving forward with making recommendations to the Board, as it may or may not have an effect on other areas; and, directed Agency staff to schedule another Executive Committee meeting to discuss their findings and recommendations.

F. Solano Verde Mutual Water Company Application for Transfer of Historic Allocation

This item was pulled from the Executive Committee meeting agenda as Agency staff was pending additional information from parties involved.

G. Adjourn the Executive Committee Meeting

Chair Maulhardt adjourned the Executive Committee meeting at 3:40 p.m.

Submitted by:

Jessica L. Rivera
FCGMA Interim Clerk of the Board

ASSESSMENT OF THE PROPOSED TRANSFER OF HISTORICAL ALLOCATION FROM SOLANO VERDE MUTUAL WATER COMPANY TO CRESTVIEW MUTUAL WATER COMPANY VENTURA COUNTY, CALIFORNIA

Prepared For:

Crestview Mutual Water Company
328 Valley Vista Drive
Camarillo, California 93010

Prepared by:

Numeric Solutions LLC
Geoinformation Management

1002 South Seaward Avenue
Ventura, California

October 11, 2013

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TABLE OF CONTENTS

List of Figures

List of Tables

Appendices

1.0 INTRODUCTION

Numeric Solutions, LLC has prepared this report on behalf of Crestview Mutual Water Company (CMWC), Camarillo, California to assess the impact of a proposed transfer of Historical groundwater extraction Allocation (HA) from the Solano Verde Mutual Water Company (SVMWC) to Crestview Mutual Water Company (CMWC). The assessment is performed in accordance with the Fox Canyon Groundwater Management Agency's Ordinance No. 8.5 (Ordinance), Section 5.3 which indicates "transfers of extraction allocation are authorized provided they result in no net detriment to the Basins within the Agency". In accordance with this section of the Ordinance, this report describes the location of the extraction facilities involved in the proposed transfer with respect to geographic location and geologic conditions, describes the aquifers system that would be used as a result of the transfer, summarizes the relevant current and historic extraction data, evaluates the current and historic groundwater quality conditions, and provides an overall assessment of potential cumulative impacts of the transfer with respect to conditions within the area.

The scope of work for this project included:

- Evaluating geologic conditions known to exist in the area. This effort involved a review of documents prepared by the Fox Canyon Groundwater Management Agency (FCGMA), the United Water Conservation District (United), the United States Geologic Survey (USGS), and the Las Posas Basin-Specific Groundwater Management Plan an as well as other regional geologic data;
- Reviewing groundwater extraction and extraction allocation data provided by the FCGMA and CMWC and estimating the potential changes to extraction patterns in the area of the proposed transfer;
- Tabulating and plotting the groundwater chemistry data from the CMWC wells and surrounding wells in the area proposed to receive the transfer to evaluate the potential affects to groundwater quality; and
- Determining whether the cumulative effect of the proposed changes presents an overall detriment to the groundwater basins.

1.1 Description of Parties Involved in Proposed Transfer of Historic Allocation

1.1.1 CMWC

CMWC is a small mutual water company formed in 1950 and its service area is located in the western portion of the Camarillo Hills, which lie in the western portion of the city of Camarillo, California. It covers approximately 900 acres of primarily residential properties on low rolling hills and serves approximately 2,400 persons (Figure 1). There are currently only 20 acres of fallow land within the CMWC service area, and these properties are not currently receiving service by the company. At full buildout, the maximum number of connections would be around 700, which would

likely involve replacement of the fallow lands by infill residential development. There is no anticipation that the extent of the CMWC service area will change in the future[1].

Most of the CMWC delivery area lies in an undesignated area (with respect to a specific groundwater basin) between the West Las Posas Groundwater Basin and the Pleasant Valley Groundwater Basins within the FCGMA Agency Boundary. A small amount of the westernmost portion of the CMWC service area lies within the southwestern corner of the West Las Posas Groundwater Basin. CMWC's groundwater extraction has historically been included with the West Las Posas Basin and CMWC is currently included in the Las Posas Basin Western Management Sub-Area.

CMWC owns 3 active groundwater wells:

- 02N21W22G01S (Crestview #4; here abbreviated CMWC-4)
- 02N21W22A01S (Crestview #5; here abbreviated CMWC-5)
- 02N21W28A02S (Crestview #6; here abbreviated CMWC-6)

Crestview #5 was installed in 1995 to replace 02N21W22E01S (Crestview #3), which had historically delivered poorer quality water and was subsequently destroyed. Crestview #6 was installed in late 2005 and has consistently delivered higher quality water than CMWC's other wells. As such, an increasing share of CMWC's extraction has been drawn from Crestview #6.

CMWC's three wells supply 617 domestic connections, 0 agricultural connections, and 1 permanent Municipal and Industrial (M & I) connection. The sole M & I connection, Las Posas Country Club, is supplied water only on an emergency basis and it typically receives no more than 1 acre-foot[2] of water per year. CMWC receives additional water on a wholesale basis from Calleguas Municipal Water District[1].

CMWC holds two types of FCGMA groundwater extraction allocations:

1. Historical Allocation: 912.142 acre-feet per year (AFY) at full value; Currently reduced to 684.107 AFY (or 75% of full value) per FCGMA Historical Allocation reduction policy; and
2. Baseline Allocation: 70.410 AFY.

Thus, CMWC's total groundwater extraction allocation (remaining reduced Historical Allocation plus Baseline Allocation) under the current FCGMA regulations (i.e. 25% reduction of Historical Allocation) is **754.517 AFY**. Should the allocation transfer be approved, CMWC has indicated it would apply the additional allocation to extraction at wells CMWC-6 and CMWC-4 which produce better quality water[2]. If approved, its total allocation under the current regulations would be **863.268 AFY**.

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[1] R. Eranio (CMWC), 2013. Personal Communication.
[2] 1 acre foot (AF)= 325,851 gallons

1.1.2 SVMWC

SVMWC is a small mutual water company formed in 1981 that is located in an unincorporated portion of Ventura County approximately 2 miles north of Camarillo, California. Its service area covers approximately 922 acres and consists of undeveloped rural land, residential parcels, small ranches, and agricultural land. Of total service area, approximately 533 acres lie within the FCGMA Boundary. The southernmost part of SVMWC lies within the northeastern-most corner of the West Las Posas Groundwater Basin near the northern and eastern boundaries of the basin. Groundwater in this area is known to be of poorer quality than in other parts of the West Las Posas Basin and is vulnerable to depressed groundwater elevations. The recent Las Posas Basin-Specific Groundwater Management Plan (LPBSGMP; LPUG, 2012) indicates the Central Las Posas Fault separates the East and West Las Posas Basins. LPBSGMP authors hypothesize this fault limits recharge from the adjacent East Las Posas Basin thereby resulting in an ovate-shaped region with depressed water levels (a.k.a. "a pumping trough") on the eastern side of the West Las Posas Basin that occurs when pumping exceeds the recharge to the area.

SVMWC formerly operated two wells which supplied water to approximately 38 20-acre agricultural parcels and had 20 additional domestic connections (FCGMA, 2013a). The specific wells were:

- 03N20W32F02S (Solano Verde #1)
- 03N20W32G02 (Solano Verde #2)

In 2005, the wells were destroyed due to poor quality, declining water levels, and increased operating costs. Since that time, the company has operated as a storage and distribution entity that provides imported water, purchased from Calleguas Municipal Water District, to its customers.

SVMWC currently holds two types of FCGMA groundwater extraction allocations:

1. Historical Allocation: 145.001 AFY at full value which is currently reduced to 108.751 AFY (75% of full value) per FCGMA extraction reduction policy. SVMWC originally held 231.794 AFY of Historical Allocation, but made transfers of Historical Allocation to Saticoy Country Club. Two transfers totaling 35 AFY were made in 2006 and a third transfer of 51.793 AFY was made in 2010.
2. Baseline Allocation: 80.100 AFY.

Thus, SVMWC's total groundwater extraction allocation (remaining reduced Historical Allocation plus Baseline Allocation) under the current FCGMA regulations is 179.161 AFY. Should the transfer be approved, SVMWC would retain its 80.10 AFY of Baseline Allocation.

1.2 Description of Proposed Transfer of Historic Allocation

In 2013, SVMWC's Board approved the transfer of its remaining Historical Allocation, 145.001 AFY (108.751 reduced value) to CMWC (Appendix A). The transfer was then brought before FCGMA Staff and the FCGMA Executive Committee. The item was discussed at the FCGMA Executive Committee Meeting on August 12, 2013 and the general practice of Historical Allocation transfer

was discussed at the FCGMA Executive Committee Meeting on September 12, 2013; however, no recommendations have been made regarding this request.

2.0 ANALYSIS OF GEOLOGIC CONDITIONS IN THE AREA OF PROPOSED TRANSFER

2.1 Location of Extraction Facilities and Geologic Conditions in the Area of Proposed Transfer

2.1.1 Location

The CMWC wells (CMWC-4, CMWC-5, and CWMC-6) are located in an undefined area south of the southwestern portion of the West Las Posas Basin and north of the northern portion of the Pleasant Valley Basin (Figure 2). The eastern portion of the Oxnard Plain Basin is located less than 1 mile to the west. Although local groundwater elevations in the lower aquifer system (LAS) have been shown to be below sea level (See Appendix B-Item1), LAS wells in this area have consistently provided a reliable, high quality water supply[3]. The LPBSGMP (LPUG, 2012) indicates that the western portion of the West Las Posas Basin is the recipient of recharge from the Las Posas Hills to the north and the Camarillo Hills to the south, as well as underflow from the Oxnard Plain Basin to the west.

2.1.2 Geologic Conditions

The two most relevant geologic conditions in the location of the proposed transfer are the geologic structures (i.e. folds, faults, and orientation of formations) and the earth materials at the surface and in the subsurface.

2.1.2.1 Geologic Structures

All of the CMWC wells are located north of the Springville Fault, which separates the undefined[4] Camarillo Hills area from the Pleasant Valley Basin (Figure 2). LPUG and references therein suggest the Springville Fault forms a hydraulic boundary between the Las Posas and Pleasant Valley Basins. LPUG (2012; and references therein) have suggested that the uplifted Camarillo Hills are in hydraulic communication with the aquifer materials of the West Las Posas Basin to the north. Hanson et al. (2003) also recognized the Springville fault as a boundary between these two basins and suggested earth movement along the Springville Fault has resulted in the uplift of the Fox Canyon Aquifer materials to, or near to, the surface (See Appendix B – Item 2).

Wells CMWC-4 and CMWC-5 are located on the north-dipping limb of southwesterly-plunging Camarillo Hills Anticline (Dibblee and Ehrenspeck, 1990). CMWC-6 is located on the north dipping limb of a second southwesterly plunging anticline that is subparallel to the Camarillo Hills anticline, which has been identified by the United States Geologic Survey (Tan et al., 2004) as the

[3] R Eranio CMWC, 2013. See also Section 4 of this document.
[4] Refers to assignment of the area to specific groundwater basin.

Springville Anticline. By definition, bedding planes on the limbs of an anticline slope downward at an angle away from the axis of an anticline. In this case, each of the CMWC wells is located on the north side of an anticline in an area where bedding planes have been shown to dip between 2 and 23 degrees to the north or northwest. In such situations, it is reasonable to anticipate that downward percolating water will follow the dip of the bedding planes (in this case to the north and northwest towards the West Las Posas Basin) in areas where permeable beds meet impermeable beds.

2.1.2.2 Surface and Subsurface Earth Materials

Map authors have interpreted surface materials around the CMWC wells slightly differently. Figure 2 presents the interpretation by Dibblee and Ehrenspeck (1990). It indicates that the surface materials at CMWC-4 and CMWC-6 are part of the Quaternary-age Saugus Formation which consists of terrestrial cobbles, pebbles, gravel, sand, and clay and grades downward into the Las Posas Formation. This map also indicates that surface materials at CMWC-5 are part of the Las Posas Formation, the geologic formation that comprises the upper aquifer system (UAS) of the Fox Canyon Aquifer, and are composed of quartz-pebble-gravels grading downward into fine-to medium grained, mollusk-bearing, massively bedded sands. The two formations are considered to be conformable, a term which suggests there was no significant time-gap between their respective depositional events. Tan et al. (2004) have interpreted the area slightly differently and attribute the surficial sediments to the Las Posas Sand to be outcropping in the area of CMWC-4 and CMWC-6 rather than the Saugus Formation (Appendix B – Item 3).

In nearby locations this author has observed that the two formations can be difficult to differentiate. Both have similar grain sizes and there are beds within the Las Posas Sand that were deposited in very near shore or terrestrial conditions that mimic those of the Saugus Formation. While the exact assignment of the surficial materials to a particular formation can be debated, their similarity has significance to the present discussion. Both are primarily composed of coarse-grained materials that allow the permeation of water at the surface and both can act as aquifers in the subsurface.

Subsurface materials at CMWC wells are composed of thick sequences of sands and gravels interbedded with thinner sections of clay, and clay mixed with sands. At well CMWC-6, shells are noted in the upper 360 feet below ground surface (Appendix B – Items 4 and 5). At wells CMWC-3 and CMWC-4, shells are noted in the uppermost 500 feet below ground surface (bgs). At well CMWC-5, shells are noted in the upper 500 feet and again in a thin interval at 1,200 feet bgs.

2.2 Aquifers Utilized

Conceptual cross-sections prepared by United Water Conservation District (United) for CMWC (Appendix B – Item 5) and logs from CMWC-6 suggest that in this portion of the Camarillo Hills, the sandy units of the lower portion of the San Pedro Formation, also known as the Las Posas Sand are in the upper 500 to 600 feet of the subsurface and are probably correlatable to the UAS of the Fox Canyon Aquifer. These logs further suggest that probably only the lowest portion of the UAS was saturated at the time of installation and that wells CMWC-5 and CMWC-6 are screened

significantly deeper than the deepest portion of the apparent UAS. The differentiation between aquifer materials based on logs is less clear at CMWC-4. This well may be partially screened in the lowest portion of the UAS or it may be screened slightly below the UAS. Thus, unlike the central part of the West Las Posas Basin, the UAS is probably not a complete water producing unit throughout the Camarillo Hills area. At some locations, it may either be completely absent or may be present but unsaturated or only partially saturated. As such, groundwater extraction at the CMWC wells is more reasonably attributable to the LAS until further analysis proves otherwise. Section 4.0 of this document provides an analysis of the groundwater geochemistry which supports the assignment of wells CMWC-4 and CMWC-6 to the LAS.

3.0 ANALYSIS OF RECENT GROUNDWATER EXTRACTION

To evaluate the potential impact of the transfer of SVMWC Historical Allocation to CMWC on the basins, groundwater extraction data was evaluated at CMWC wells, SVMWC wells, and at other wells near to CMWC wells. To perform this analysis, annual extraction data for CMWC wells was obtained from CMWC and verified against semi-annual and annual values provided by FCGMA. Semi-annual extraction values for SVMWC and other nearby wells were also provided by FCGMA. Once obtained, the semi-annual extraction data were summed into annual amounts and averaged (i.e. mean) over three different time periods:

1. Period 1 - 1991 through 2012 inclusive: These values represent annual averages for the managed extraction period of the FCGMA. This value is developed as a reference.
2. Period 2 - 1995 through 2006 inclusive: These values represent annual averages while SVMWC wells were still pumping and after CWMC-3 was destroyed. Also, this period is prior to the operation of CMWC-6.
3. Period 3 - 2008-2012: These values represent annual averages for the period after SVMWC wells were destroyed, after CMWC-6 was fully integrated into CMWC's extraction schedule, and after the operation of CWMC-5 was reduced to a minimum level.

Period 2 (1995-2006) represents the conditions that are most representative of extraction patterns prior to the proposed transfer since both SVMWC wells were in operation. Time period 3 (2008-2012) represents the most reasonable conditions to assess the potential impact of additional pumping that is likely to occur as a result of the proposed transfer since the SVMWC wells are gone and only CMWC-4 and CMWC-6 wells are operated at a significant level. The year 2007 was excluded from periods 2 and 3 because CMWC was in the process of evaluating various pumping strategies to develop the most appropriate and cost-effective mix of sources for its customers[5]. CMWC has indicated that in the future it will rely on wells CMWC-4 and CMWC-6 for nearly all of extraction and keep CMWC-5 as a backup well. This extraction strategy is due to the higher

[5] R. Eranio (CMWC), 2013. Personal Communication.

quality water produced at CMWC-4 and CMWC-6 and poorer quality water that is produced at CMWC-5.

3.1 Extraction History of CMWC and SVMWC Wells

3.1.1 CMWC Extraction and Imported Water

A summary of the groundwater extraction by CMWC at its wells is provided in Table 1. This data indicates the following:

- The average annual extraction from 1995-2006: 801 AFY;
- The average annual extraction from 2008-2012: 786 AFY, a change of –15 AFY;
- The average annual imported water from 1995-2006: 178 AFY;
- The average annual imported water from 2008-2012: 220 AFY, a change of +42AFY;
- The average annual total water use from 1995-2006: 979 AFY;
- The average annual total water use from 2008-2012: 1,006 AFY, a change of +26 AF or +2.7%.

Notably, these averages suggest there has been only a modest increase in total water use between the two time periods. By individual year the increase is even less apparent. For example, the annual water use for the each of the years from 2010 through 2012 was less than the annual water use for each year from 2002 through 2009. Further, the cumulative water use has consistently ranged between 900 AFY and 1,200 over the last decade. This data suggests the water demand by CMWC customers has remained relatively constant. CMWC has indicated it does not anticipate a significant increase in its demand for the foreseeable future[6].

3.1.2 SVMWC Extraction

Solano Verde ceased consistent operation of its wells in 2005. A summary of SVMWC's extraction data is presented in Table 2. The data indicates the average annual groundwater extraction from 1995 through 2005 by SVMWC was 236 AFY. Since 2005 there has been no groundwater extracted by SVMWC wells. Water imported by SVMWC was not considered as part of this analysis.

3.2 Extraction History of Nearby Wells

A summary of extraction data for seven nearest known active wells near to CMWC's wells that have the potential to be affected by the transfer and likely increased extraction by CMWC are shown in Table 3 and graphically in Figure 3. While this may not be an exhaustive list of the wells in the vicinity of CMWC, Numeric Solutions attempted to identify all active wells within at least 1 mile of CMWC-4 and CMWC-6 and query FCGMA Staff as to their status and extraction history.

[6] R. Eranio (CMWC), 2013. Personal Communication.

The data indicate that five of the seven wells (28C01, 15M05, 15M04, 20Q05, and 28P07) typically exhibit annual extraction values between 200 and 500 AFY and all five have averaged between 200 and 300 AFY since 2008. One well, 02N21W20R01 (R01), appears to be a domestic well based on its consistently very low extraction value. Only one well, 02N21W34C01 (34C01), has annual extraction values that range from 733 AFY to 3,258 AFY. Its average annual extraction values since 2008 have been 1,820 AFY. Overall, there does not appear to have been much change in this set of wells from Period 2 to Period 3. The net change between these two periods, when all wells are considered, is approximately -46 AFY.

3.3 Estimation of Impact of the Proposed Transfer

The proposed Historical Allocation transfer will likely result in an increase in groundwater extraction at wells CMWC-4 and CMWC-6. Because CMWC's demand is relatively flat, it has indicated it will use the newly acquired allocation to increase extraction at CMWC-6 and to a lesser extent CMWC-4 thereby maintaining the quality of its water and reducing the use of more costly imported water. Because the costs of imported water are rising, CMWC expects to nearly fully use the newly acquired allocation which will result in no significant increase in its accumulation credits. It intends to maintain its credit balance around 2,000 AFY.[7]

Given this approach, the evaluation of the impacts of the proposed transfer is based on how an increase of 108 AFY of groundwater extraction will impact nearby wells and this portion of the West Las Posas Basin. Although a fully developed qualitative groundwater flow model would provide a more rigorous analysis of the anticipated increase, a reasonable estimation can be developed using the data presented herein because the transferred value is proportionally very small and does not represent unprecedented changes to the extraction in the area.

Based on the distance to nearby wells and the modest amount of increase, it is likely there will likely be no significant impacts to nearby wells due to the transfer of Historical Allocation. There are a number of observations that support his conclusion. First, there have actually been measurable declines in extraction in this area since the beginning of 2008. CMWC has decreased its average annual extraction by 15 AFY from Period 1 to Period 2(i.e. -15 AFY change; Table 1). Concurrently, the aggregate change an average annual extraction at nearby wells has also decreased by 46 AFY (-46 AFY change). If the Pleasant Valley Basin wells are excluded, the decline in extraction is even greater, approximately 190 AFY (i.e. -190 AFY change; Table 3). Thus, even if fully used, the increase of 108 AFY that would likely occur as a result of the proposed transfer would not even bring extraction in this area back to 2006 levels. Second, there is considerable distance between CMWC wells and the nearest active pumping wells. The closest active well to CMWC-6, 28C01, is nearly ¾ mile away and located on the opposite side of the Springville Fault. The closest active well to CMWC-4 is nearly 1 mile away. CMWC has noted that

[7] R. Eranio (CMWC), 2013. Personal Communication.

there have been only minor changes in the water levels at its wells since 2006[8]. Given the modest increase in extraction, it seems unlikely that significant changes in water level would be realized at these nearby wells when changes of only a few feet have been observed at the pumping wells themselves.

With respect to the West Las Posas Basin as a whole, it is again apparent that the proposed transfer will likely not impart any significant changes. A number of observations support this conclusion. First, CMWC's anticipated increased extraction, 108 AFY, is far less than SVMWC's average annual extraction, 236 AFY (Table 2). Thus, when the potential extraction of the two M&I operators is considered, there will be net decrease in extraction compared to pre2006 levels when both entities were in operation. Second, the amount of the proposed transfer is very small in proportion to the basin as a whole. CMWC's portion of the basin extraction is relatively small (typically less than 7.5 % for any individual year) and its average share of the extraction has declined from an annual average of 6.8% to approximately 6.4% since well CWMC-6 was introduced (Table 1). Assuming CMWC uses the full value of the transferred Historical Allocation, 108 AF, and extraction within the basin is similar to 2008 through 2012 levels, 12,239 AF, the increase would represent only 0.9% of the basin-wide extraction. Considered collectively, these points indicate there will be no significant increase to West Las Posas Basin extraction as a result of the proposed transfer and thus no net affect or detriment to the basin.

4.0 GROUNDWATER CHEMISTRY

To evaluate the potential impact of the transfer of SVMWC Historical Allocation to CMWC wells on the basins, groundwater chemistry data was evaluated at CMWC wells and at four nearby wells operated by other entities. A summary of the data used for this analysis is provided in Table 4. The spatial distribution of the groundwater chemistry conditions data is presented in Figure 4. Additional plots of groundwater chemistry are provided in Figures 5 through 8.

4.1 General Groundwater Chemistry Conditions

The groundwater chemistry data indicate that in general, groundwater from wells CMWC-4 and CMWC-6 is of high quality with relatively low chloride (less than 80 milligrams per liter [mg/L]), low sodium (less than 150 mg/L), and low total dissolved solids (TDS) values (typically less than 900 mg/L; Table 4). CMWC-5 has similarly low chloride concentrations but elevated TDS (greater than 1,200 mg/l) and sodium concentrations (nearly 300 mg/L). The lower concentrations of dissolved ions make the water from CMWC-4 and CMWC-6 preferable to CMWC-5 as a water source for CMWC.

Of the four nearby wells evaluated, the groundwater chemistry at CMWC-4 and CMWC-6 is most similar to wells 34C01 (Pleasant Valley Basin LAS well), 20Q05 (an Oxnard Plain LAS well), and 15M04 (a West Las Posas Basin well). The similarity in chemistry is apparent in Figure 5 and Figure 6 and indicated by the nearness of both individual results and average values of these wells

[8] CMWC-6 change of -6 feet relative to MSL; CMWC-4 change of +7 feet relative to MSL (Edison Pump Test).

to each other. The inference from these plots is that these wells tap similar water types. This supports the interpretation in Section 2 which indicated that wells CMWC-4 and CMWC-6[9] are screened below the UAS and appear to draw groundwater from the LAS.

Although very similar for the total ions and cations, the small shift of points for well 34C01 towards lower sulfate concentrations in the anion plot (lower right of Figures 5 and 6) suggests it has a slightly different chemistry than CMWC-4, CMWC-6, 20Q05, and 15M04. This is confirmed by the numeric values which indicate 34C01 sulfate concentrations have ranged from 218 mg/L to 280 mg/L whereas sulfate concentrations from CMWC-4, CMWC-6, 20Q05, and 15 M04 have ranged from 290 mg/L to 410 mg/L.

Well 34C01 typically also has exhibited lower TDS values, (747 mg/L to 878 mg/L) than the other four wells (all results but one range from 800 mg/L to 1,061 mg/L). Figures 7 and 8 plot the TDS values graphically on Stiff diagrams. Stiff diagrams allow the comparison of total dissolved ion concentrations (normalized to milliequivalents per liter) from one well to another based on the total area of the plot. Larger plots (or outlined/filled colored areas) indicate higher concentrations of dissolved ions and shapes can be compared to determine relative similarities and differences between wells. In these figures, the Stiff plot for well 34C01, the Pleasant Valley Basin well (grey fill), and 15M04, the West Las Posas Basin well (black outline-no fill), have been overlain onto plots of the remaining evaluated wells. The plots indicated that 34C01 has the lowest dissolved ions (i.e. smallest area) and that CMWC-4 and CMWC-6 lie between the plots from the West Las Posas Basin well, 15M04 (i.e. highest TDS of this set), and 34C01 (Figure 7, see the lower two plots). Figure 8 (top plot) indicates that the Oxnard Plain LAS well, 20Q05[10], is nearly identical to West Las Posas Basin Well 15M04.

Figures 5 and 6 demonstrate that that wells 20M03, an Oxnard Plain UAS well, and CMWC-5 are considerably different that the other wells evaluated. In the uppermost Piper diagram (both figures), 20M03 has considerably higher relative concentrations of chloride, sulfate, calcium, and magnesium compared to the other wells. The individual cation and anion plots further support this observation. Well 20M03 is shifted towards the calcium and magnesium side of the cation plot and towards the high sulfate end of the anion plot. Well CMWC-5 plots towards the lower half of the total ion plot indicating relatively higher concentrations of sodium, potassium, carbonate, and bicarbonate. The cation plot demonstrates the shift towards sodium and potassium in this well. The stiff diagram (Figure 8, bottom) demonstrates that the dissolved ions at CMWC-5 are higher than both the Pleasant Valley Basin well 34C01 and West Las Posas Basin 15M04. Although a Stiff plot was not prepared for Oxnard Plain UAS well 20M03, Table 8 demonstrates that it has considerably higher sodium, calcium, magnesium, chloride, TDS, and nitrate, and thus poorer quality water, compared to the other wells.

[9] Crestview well IDs are abbreviated CV in Figure 5 through Figure 8.

[10] Numeric Solutions has observed that depending on the source, well 20Q05 has been assigned to both the Oxnard Plain and the West Las Posas Basin. VCWPD places this well within the Oxnard Plain Basin. For consistency, this assignment has been retained within this report.

4.2 Stability of Groundwater Chemistry Since the Installation of CMWC-6

Although the date range of groundwater chemistry data is limited and not sufficient for rigorous statistical or long-term trend analysis, it is sufficient to qualitatively evaluate conditions at each of the analyzed wells since the initial operation of CMWC-6 in 2007. In general, the key analytes indicate there has been a high degree of consistency at each well. Concentrations of chloride and TDS and most other analytes show that there has only been about a 20% variation between results from an individual well (e.g. comparing chloride results collected at different times from well 34C01) since 2005 (Table 4). The data further indicate that since the beginning of extraction at CMWC-6 (2007), key analyte concentrations at CMWC-6 have been relatively stable and not exhibited more variation that other wells in the area. The overall stability of the groundwater chemistry indicates that to date, there has been no significant decline in water quality due to the increased extraction at CMWC-6. Given the relatively small increase in extraction that would result if the proposed transfer were approved, it seems unlikely that groundwater chemistry would change significantly. Because of the limited data set available for this analysis, it is recommended that the groundwater chemistry be frequently monitored at wells CMWC-4 and CMWC-6 for the next several years to document and evaluate trends in groundwater chemistry.

5.0 GENERAL CONDITIONS IN AREA OF PROPOSED TRANSFER

The general conditions of the area of the proposed transfer have been developed from reports by FCGMA staff and information presented in this document. In general, groundwater elevations at wells in the southwestern part of the West Las Posas Basin have been relatively stable for several years. Plots by FCGMA staff show that in the area near CMWC, groundwater elevations range from -40 to -80 feet MSL in 2012 (Appendix B – Item 1). FCGMA staff reports also indicated groundwater elevations have declined by 10 to 30 feet in the southwestern part of the West Las Posas Basin (FCGMA, 2013a). CMWC[11] data indicate groundwater levels at CMWC-4 and CMWC-6 have been relatively stable and stayed between -47 to -38 feet MSL over the period since the installation and beginning of operation of well CMWC-6. Thus, in spite of the increased annual average groundwater extraction by approximately 1,700 AF across the entire West Las Posas Basin observed between 2005 and 2012 (Table 1), the groundwater elevations have been relative consistent in the area of the proposed transfer.

As presented in Section 4.0, the groundwater chemistry conditions have also been consistent in the area near the CMWC wells and in the southwest Las Posas Basin. The recent Fox Canyon GMA Basin Management Objectives Report Card (FCGMA, 2013b) for the West Las Posas Basin indicates that chloride and TDS concentrations declined at the one monitored well in 2012 and that the 5 year trend also indicated declining concentrations of the key analytes. Although the data sets are limited, the current data set suggests water quality conditions are stable in the area of the proposed transfer and that they may be stable or improving in other parts of the West Las Posas Basin.

[11] R. Eranio (CMWC), 2013. Personal Communication. Edison Pump Test.

6.0 FINDINGS AND CONCLUSIONS

Based on the information presented in this document Numeric Solutions has made the following findings:

- SVMWC has requested a transfer of its remaining 145.001 AFY of Historical Allocation to CMWC.
- The proposed transfer of FCGMA Historical Allocation from SVMWC to CMWC will result in an increase of 145.001 AFY of allocation by CMWC and a decrease of like amount by SVMWC. Under the current FCGMA rules, CMWC would be able use up to 108.751 AFY of the transferred allocation.
- If the proposed transfer is approved, CMWC will hold approximately 1,127.823 AFY of total allocation (1,057.413 Historical Allocation and 70.410 Baseline Allocation). Under the current FCGMA rules of 25% reduced Historical Allocation, CMWC will be able to utilize up to 863.268 AFY of groundwater extraction allocation (reduced Historical plus Baseline Allocations) without the use of credits or penalties. This amount is less than the average annual extraction by CMWC for either the 1995-2006 or the 2008-2012 time periods. As a result of the proposed transfer SVMWC will retain approximately 80 AFY of Baseline Allocation.
- The geologic analysis of CMWC's wells in the western Camarillo Hills suggests wells CMWC-4 and CMWC-6 are likely installed in aquifer materials correlatable to the LAS and or materials stratigraphically between the UAS and the LAS. Geochemical analysis supports this conclusion and indicates water from CMWC-5 and CMWC-6 is very similar to that of nearby LAS wells.
- Historically, the FCGMA has attributed extraction at CMWC wells to the West Las Posas Basin. LPUG has concluded there is likely a hydraulic connection between this portion of the Camarillo Hills and the West Las Posas Basin. Our preliminary analysis of the geology near the CMWC's wells supports this conclusion.
- CMWC customers have exhibited a relatively stable demand for water over the last 10 years and CMWC does not foresee changes to this demand in the near future. CMWC's groundwater extraction has been relatively stable and has declined slightly (15 AFY) from the 1995-2006 to the 2008-2012 time period. Over this same time period, CMWC's use of imported has increased by approximately 42 AFY. The net change in CMWC's water use is 27 AFY; however, 2010-2012 total annual water use is less than any year between 2002 and 2009.
- The destruction of SVMWC wells in 2005 has resulted in a decline of 236 AFY extraction from the 1995-2006 to the 2008-2012 time period. Overall, M & I extraction in the West Las Posas has declined by about 31 AFY between the two time periods. Total pumping in the West Las Posas Basin has increased since 2006 by about 1,700 AFY.
- Extraction at wells near to CMWC's has been relatively stable since 1995. The aggregate average annual extraction at wells north of the Springville fault has declined by approximately 190 AFY since 2006.
- Groundwater chemistry at wells CMWC-4 and CWMC-6 indicates water quality at these wells is high and very similar to that of surrounding LAS wells. The limited chemistry data set suggests there have been no significant changes in groundwater chemistry in the area of the proposed transfer since operation of CMWC-6 began in 2007. Additional monitoring

is recommended if CMWC intends to increase its extraction as a result of the transfer.

- Although there have been some declines in water levels in the southwestern portion of the West Las Posas Basin, water quality and water availability at LAS wells in the area does not appear to have suffered.
- Water levels in CMWC wells have been relatively stable at least since CMWC-6 was installed late 2005.

Based on these conclusions, Numeric Solutions concludes:

- The net effect of the proposed transfer of 108.751 will likely result in an increase in groundwater extraction by CMWC. This extraction will offset some of CMWC's imported water.
- The small amount of increased extraction, by itself, will likely not produce measurable effects on water levels or groundwater chemistry the area. This is due not only to the relatively small size of the increase but also to the declining extraction by other users in the area.
- Since there will likely be no measurable effect, it can reasonably concluded the proposed transfer presents no net detriment to the area of the transfer or the West Las Posas Basins as a whole. The transfer should increase the ability of CMWC to provide its customers with a cost effective supply of water.

7.0 LIMITATIONS

This report has been prepared for the exclusive use of Crestview Mutual Water Company and its representatives as it pertains to the CMWC wells and service area in and near Camarillo, California by a Professional Geologist as defined in the Registered Geologist Act of the California Code of Regulations. Any interpretations of the data represent our professional opinions, and are based solely on information supplied by the client and other publicly available sources. None of the data presented in this document is self-collected and as such we cannot be responsible for misinterpretations due to erroneous data collection methods or tabulation errors performed by others. The presented opinions and information are based on currently available data and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location.

The data presented in this transmittal are intended only for the purpose, site location, and project indicated. This report is not a definitive study of quantitative local or regional groundwater conditions and should not be interpreted as such. The data reported are limited by the scope of the work as defined by the request of the client, the time, availability of access to the supporting data, and information passed to Numeric Solutions, LLC.

Data collected in response to this work may reflect the conditions at specific locations at a specific point in time and does not reflect subsurface variations that may exist between sampling points.

These variations cannot be anticipated nor can they be entirely accounted for even with exhaustive additional testing. No other interpretations, warranties, guarantees, expressed or implied, are included or intended in the contents of this transmittal.

8.0 REFERENCES

Dibblee, T., and H. E. Ehrenspeck, 1990. *Geologic Map of the Camarillo and Newbury Park Quadrangles, Ventura County, California*. Dibblee Geological Foundation, Santa Barbara, California. 2nd printing.

Dibblee, T., and H. E. Ehrenspeck, 1992. *Geologic Map of the Moorpark, California Quadrangle* Dibblee Geological Foundation, Santa Barbara, California.

Fox Canyon Groundwater Management Agency (FCGMA), 2013a. *Solano Verde Mutual Water Company Application for Transfer of Historical Allocation.* Staff report to FCGMA Executive Committee, Date unspecified.

FCGMA, 2013b. *Las Posas Basin Update.* Staff Report to FCGMA Board of Directors, Item 4 of Regular Board Meeting of June 26, 2013.

Hanson, R. T., P. Martin, and K. M. Kozcot, 2003. *Simulation of Ground-Water/Surface-Water flow in the Santa Clara-Calleguas Ground-Water Basin, Ventura County, California*. United States Geological Surfey Water-Resources Investigations Report 02-3136. Sacramento, California.

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Tan, S. T., K. B. Clahan, and C. S. Hitchcock, 2004. Geologic Map of the Camarillo 7.5' Quadrangle, Ventura County, California, a Digital Database, Version 1.0. California Geologic Survey, Sacramento, California.

Published Data Sources:

Groundwater Extraction Data: FCGMA various years. *Fox Canyon Groundwater Management Agency Annual Reports, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012.* Ventura, CA. Also provided for specific wells by Agency Staff, September and October 2013.

Groundwater Chemistry Data: Ventura County Watershed Protection District. Various years. *Groundwater Quality Reports, 2005/6, 2008, 2009, 2010, 2011, 2012.* Ventura, CA.

Map Shapefiles: Ventura County Watershed Protection District Staff provided by electronic transmittal, October 2013.

FIGURES

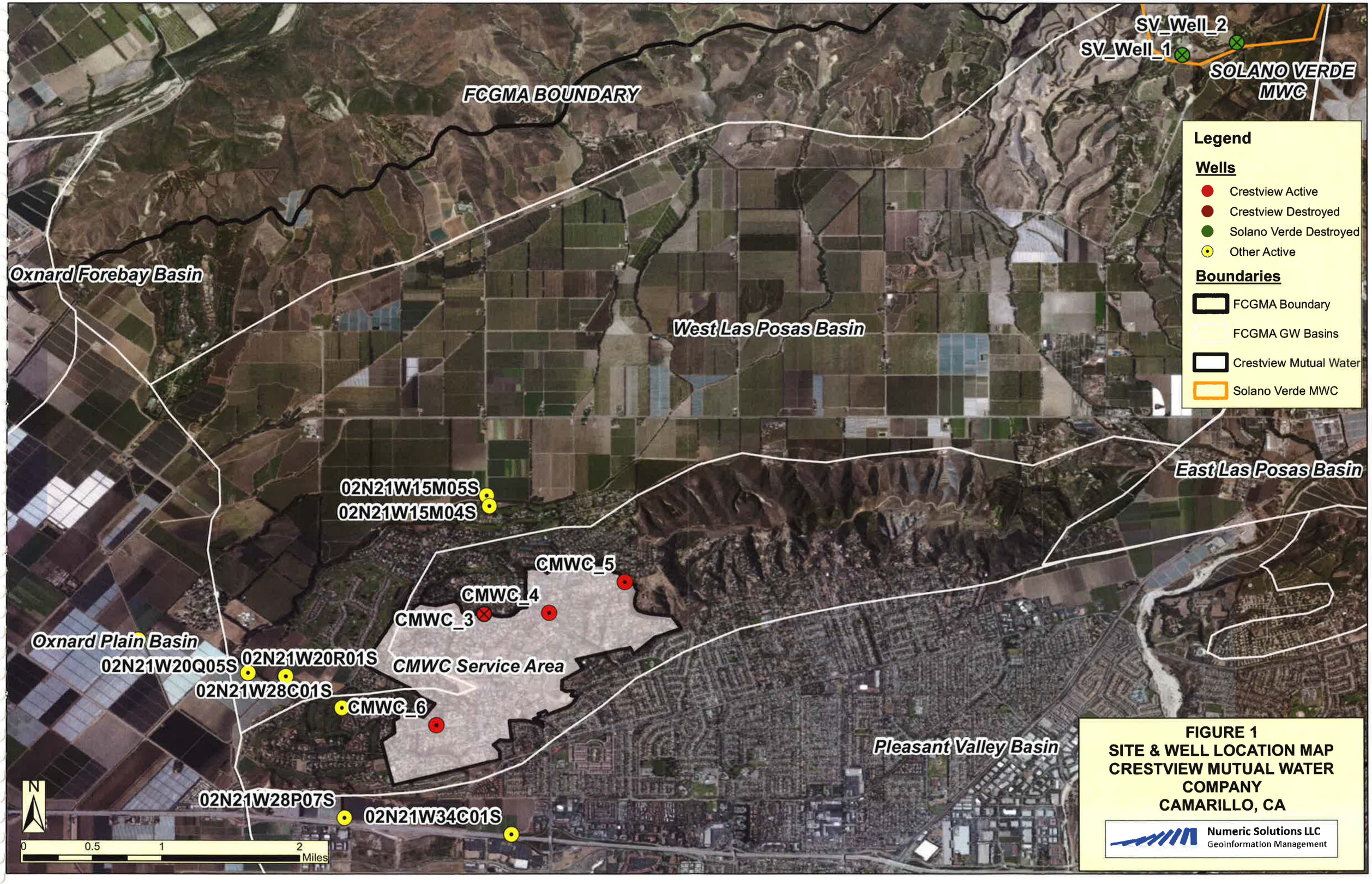
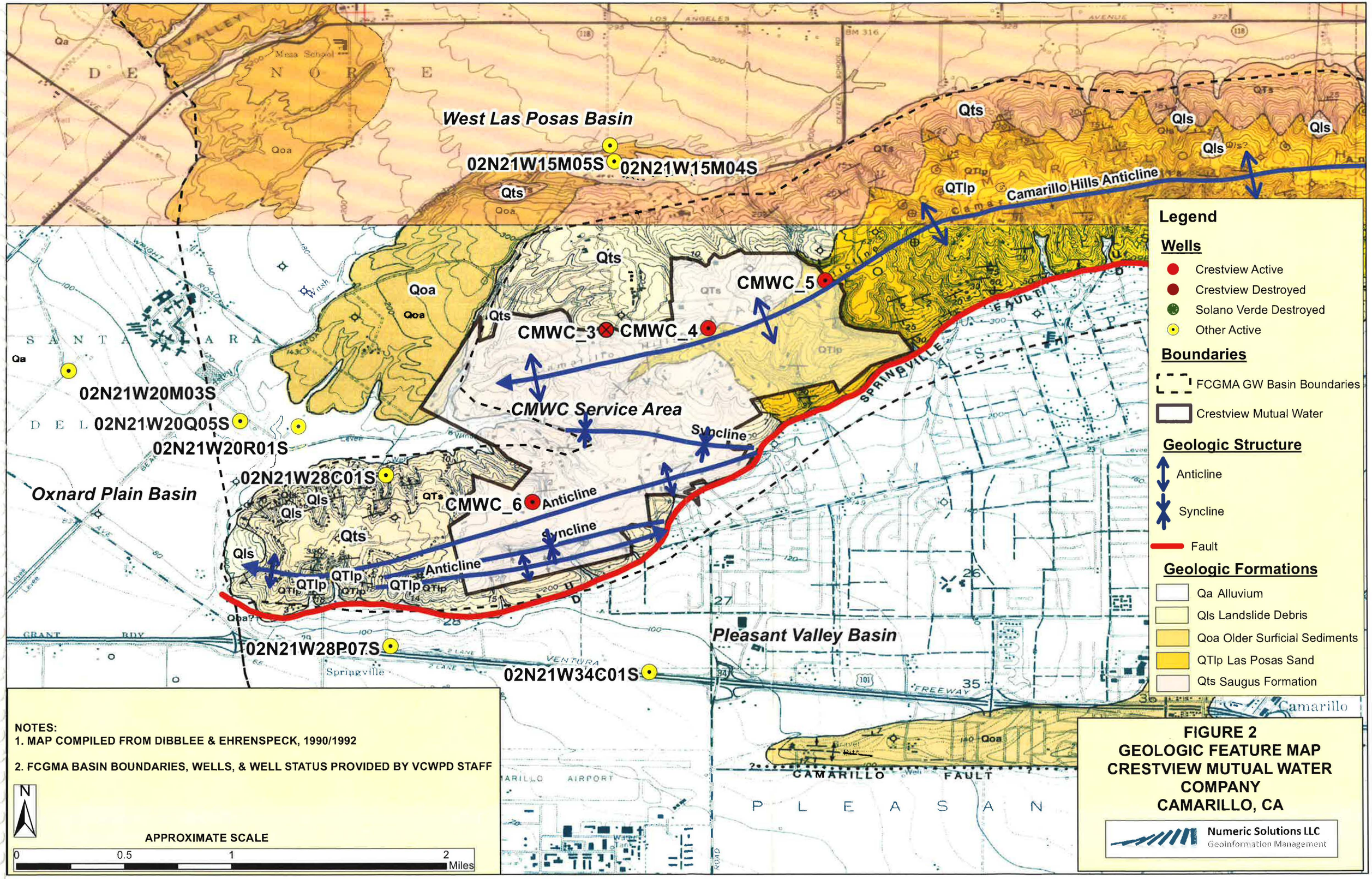


FIGURE 1
SITE & WELL LOCATION MAP
CRESTVIEW MUTUAL WATER COMPANY
CAMARILLO, CA

Numeric Solutions LLC
GeoInformation Management



NOTES:
1. MAP COMPILED FROM DIBBLEE & EHRENSPECK, 1990/1992

2. FCGMA BASIN BOUNDARIES, WELLS, & WELL STATUS PROVIDED BY VCWPD STAFF

N

APPROXIMATE SCALE

0 0.5 1 2 Miles

FIGURE 2
GEOLOGIC FEATURE MAP
CRESTVIEW MUTUAL WATER COMPANY
CAMARILLO, CA

Numeric Solutions LLC
Geoinformation Management

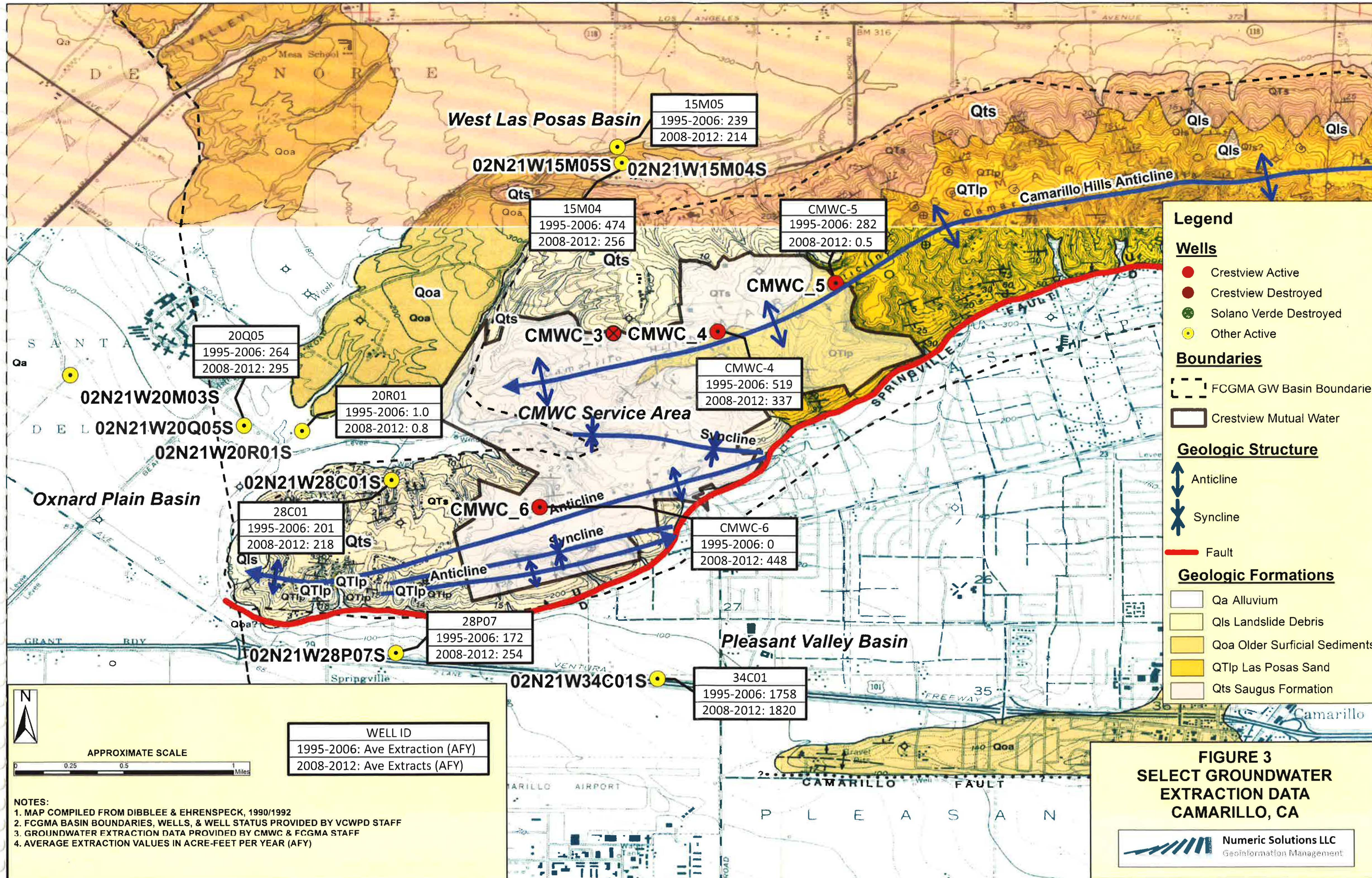
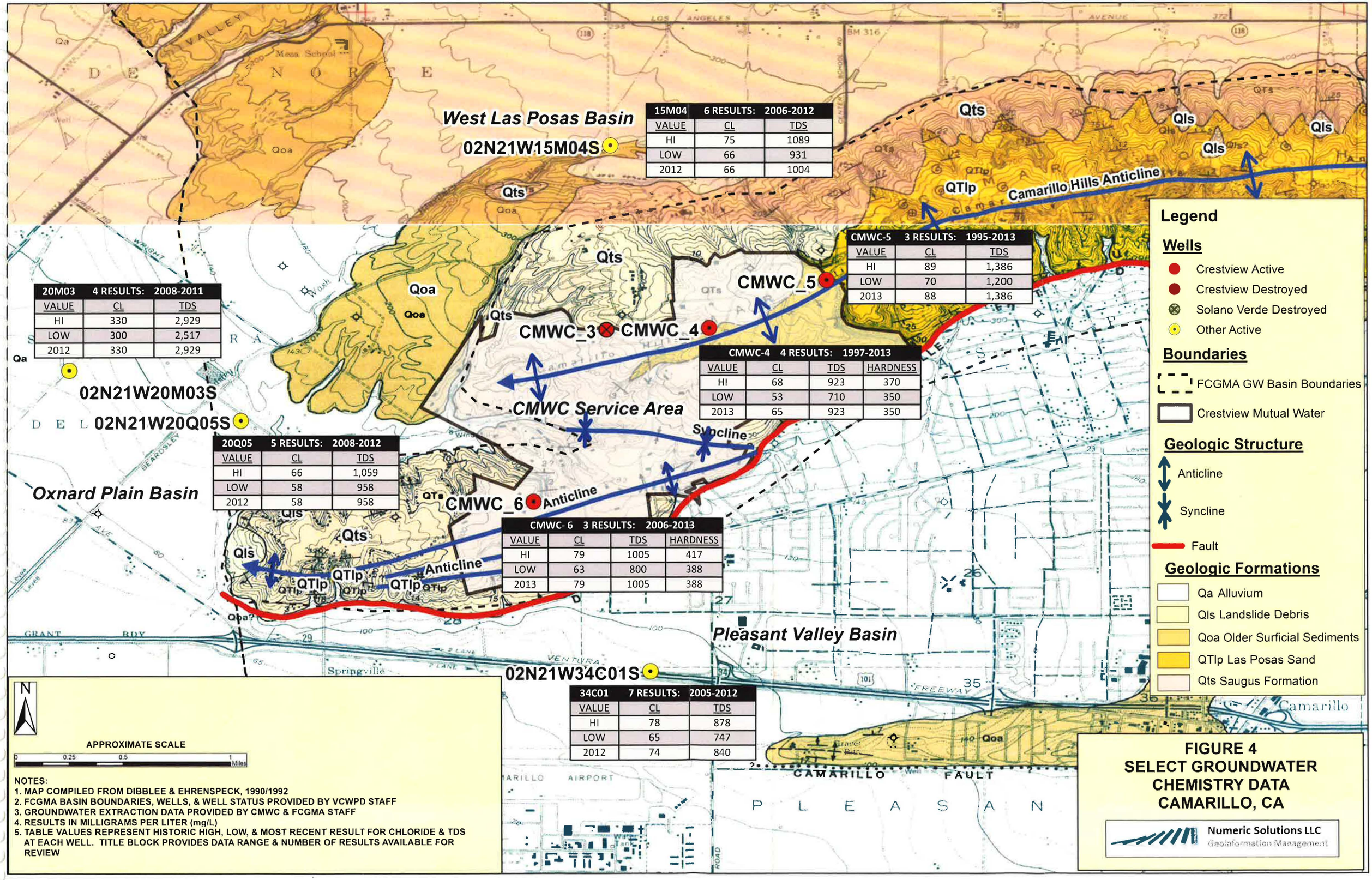

West Las Posas Basin
15M05
1995-2006: 239
2008-2012: 214
02N21W15M05S
02N21W15M04S
15M04
1995-2006: 474
2008-2012: 256
CMWC-5
1995-2006: 282
2008-2012: 0.5
CMWC_5
CMWC_3
CMWC_4
CMWC-4
1995-2006: 519
2008-2012: 337
20Q05
1995-2006: 264
2008-2012: 295
20R01
1995-2006: 1.0
2008-2012: 0.8
02N21W20M03S
02N21W20Q05S
02N21W20R01S
02N21W28C01S
CMWC Service Area
Syncline
Anticline
Camarillo Hills Anticline
Oxnard Plain Basin
28C01
1995-2006: 201
2008-2012: 218
CMWC_6
CMWC-6
1995-2006: 0
2008-2012: 448
28P07
1995-2006: 172
2008-2012: 254
02N21W28P07S
Pleasant Valley Basin
02N21W34C01S
34C01
1995-2006: 1758
2008-2012: 1820
Qts
Qls
QTlp
Qoa
Qa
Springville Fault
Camarillo Fault
Legend
Wells
Crestview Active
Crestview Destroyed
Solano Verde Destroyed
Other Active
Boundaries
FCGMA GW Basin Boundaries
Crestview Mutual Water
Geologic Structure
Anticline
Syncline
Fault
Geologic Formations
Qa Alluvium
Qls Landslide Debris
Qoa Older Surficial Sediments
QTlp Las Posas Sand
Qts Saugus Formation
N
APPROXIMATE SCALE
0 0.25 0.5 1 Miles
WELL ID
1995-2006: Ave Extraction (AFY)
2008-2012: Ave Extracts (AFY)
Numeric Solutions LLC
Geoinformation Management

FIGURE 3
SELECT GROUNDWATER EXTRACTION DATA
CAMARILLO, CA

NOTES:
1. MAP COMPILED FROM DIBBLEE & EHRENSPECK, 1990/1992
2. FCGMA BASIN BOUNDARIES, WELLS, & WELL STATUS PROVIDED BY VCWPD STAFF
3. GROUNDWATER EXTRACTION DATA PROVIDED BY CMWC & FCGMA STAFF
4. AVERAGE EXTRACTION VALUES IN ACRE-FEET PER YEAR (AFY)


West Las Posas Basin
02N21W15M04S
15M04 6 RESULTS: 2006-2012
VALUE CL TDS
HI 75 1089
LOW 66 931
2012 66 1004
CMWC_5
CMWC-5 3 RESULTS: 1995-2013
VALUE CL TDS
HI 89 1,386
LOW 70 1,200
2013 88 1,386
CMWC_3
CMWC_4
CMWC-4 4 RESULTS: 1997-2013
VALUE CL TDS HARDNESS
HI 68 923 370
LOW 53 710 350
2013 65 923 350
CMWC Service Area
Camarillo Hills Anticline
Syncline
20M03 4 RESULTS: 2008-2011
VALUE CL TDS
HI 330 2,929
LOW 300 2,517
2012 330 2,929
02N21W20M03S
02N21W20Q05S
20Q05 5 RESULTS: 2008-2012
VALUE CL TDS
HI 66 1,059
LOW 58 958
2012 58 958
Oxnard Plain Basin
CMWC_6
Anticline
CMWC- 6 3 RESULTS: 2006-2013
VALUE CL TDS HARDNESS
HI 79 1005 417
LOW 63 800 388
2013 79 1005 388
Pleasant Valley Basin
02N21W34C01S
34C01 7 RESULTS: 2005-2012
VALUE CL TDS
HI 78 878
LOW 65 747
2012 74 840
Springville
CAMARILLO AIRPORT
CAMARILLO FAULT
Camarillo
Qa
Qoa
Qts
Qls
QTlp
Legend
Wells
Crestview Active
Crestview Destroyed
Solano Verde Destroyed
Other Active
Boundaries
FCGMA GW Basin Boundaries
Crestview Mutual Water
Geologic Structure
Anticline
Syncline
Fault
Geologic Formations
Qa Alluvium
Qls Landslide Debris
Qoa Older Surficial Sediments
QTlp Las Posas Sand
Qts Saugus Formation
N
APPROXIMATE SCALE
0 0.25 0.5 1 Miles
NOTES:
1. MAP COMPILED FROM DIBBLEE & EHRENSPECK, 1990/1992
2. FCGMA BASIN BOUNDARIES, WELLS, & WELL STATUS PROVIDED BY VCWPD STAFF
3. GROUNDWATER EXTRACTION DATA PROVIDED BY CMWC & FCGMA STAFF
4. RESULTS IN MILLIGRAMS PER LITER (mg/L)
5. TABLE VALUES REPRESENT HISTORIC HIGH, LOW, & MOST RECENT RESULT FOR CHLORIDE & TDS AT EACH WELL. TITLE BLOCK PROVIDES DATA RANGE & NUMBER OF RESULTS AVAILABLE FOR REVIEW
FIGURE 4
SELECT GROUNDWATER CHEMISTRY DATA
CAMARILLO, CA
Numeric Solutions LLC
Geoinformation Management

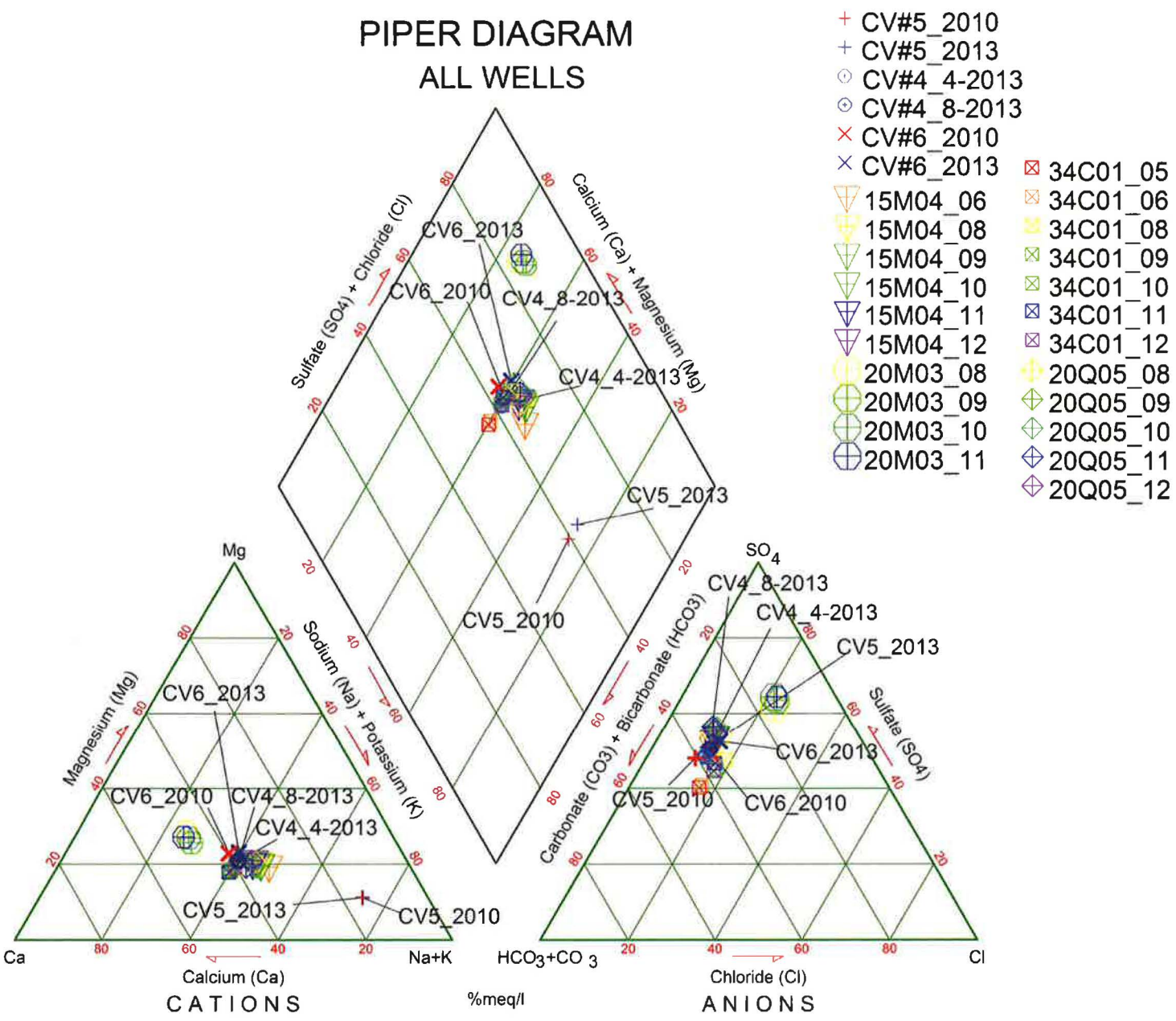


FIGURE 5
PIPER PLOT OF ALL GROUNDWATER CHEMISTRY RESULTS: 2005-2012 CMWC AND NEARBY WELLS

Numeric Solutions LLC
Geoinformation Management

Piper Diagram

Average Values (2005-2012) for Select Wells

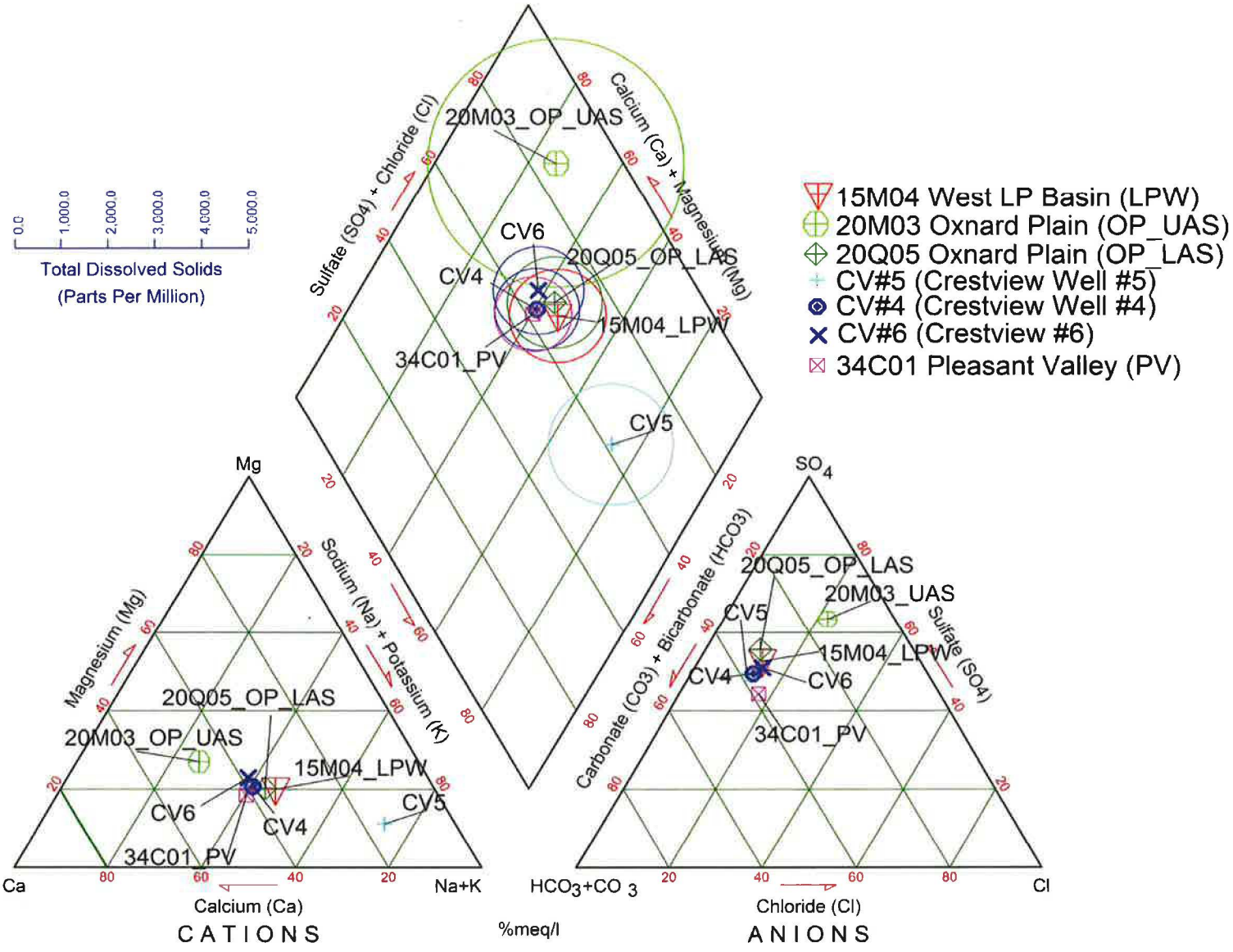


FIGURE 6
PIPER PLOT OF AVERAGE GROUNDWATER CHEMISTRY RESULTS: 2005-2012
CMWC AND NEARBY WELLS

Numeric Solutions LLC
Geoinformation Management

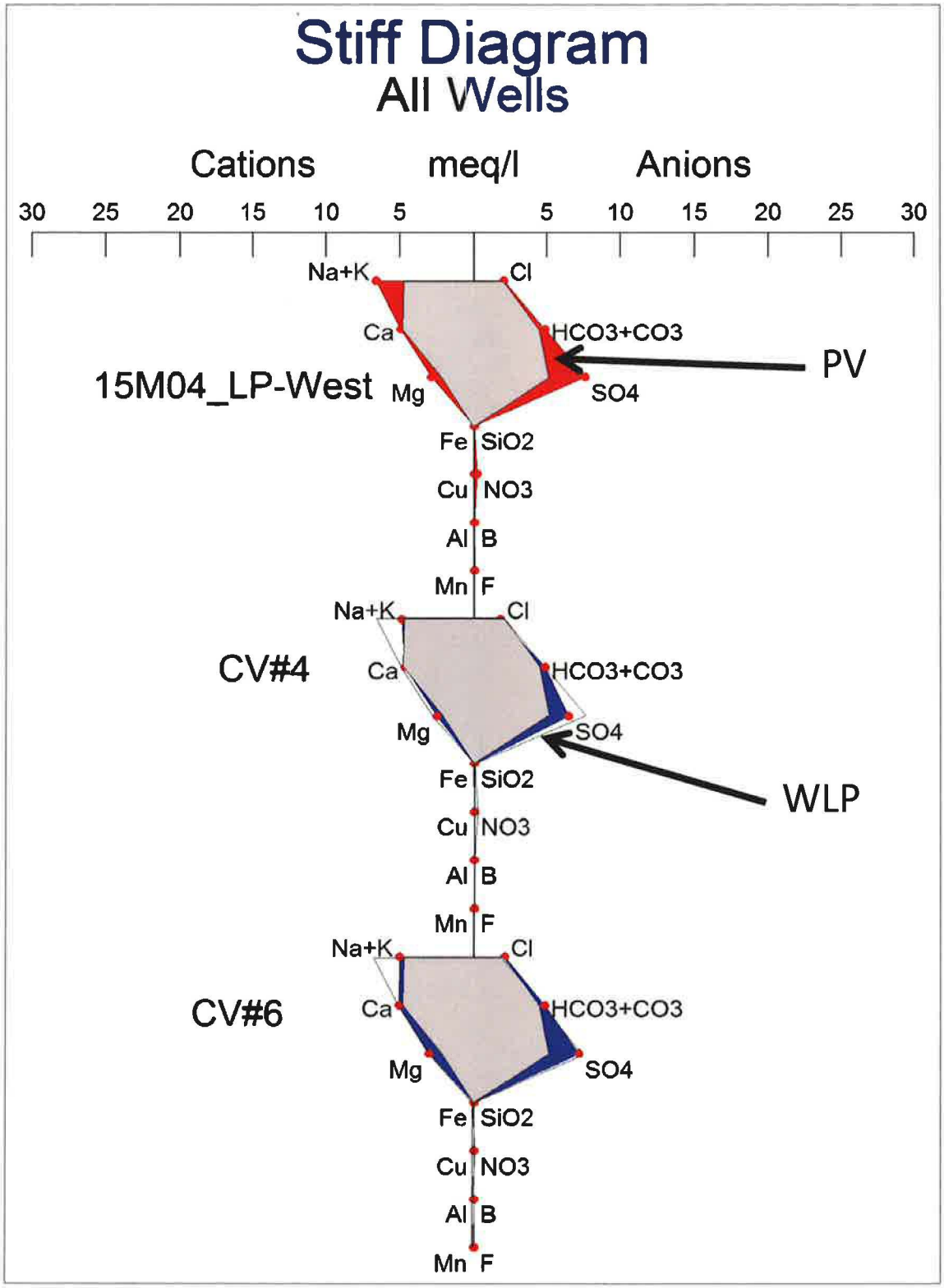


FIGURE 7
STIFF DIAGRAMS COMPARING INDIVIDUAL WELL RESULTS TO PV AND WLP WELLS

PV – Pleasant Valley Basin Well 34C01 (gray infill)
WLP – West Las Posas Basin Well 15M04 (black border, no infill)

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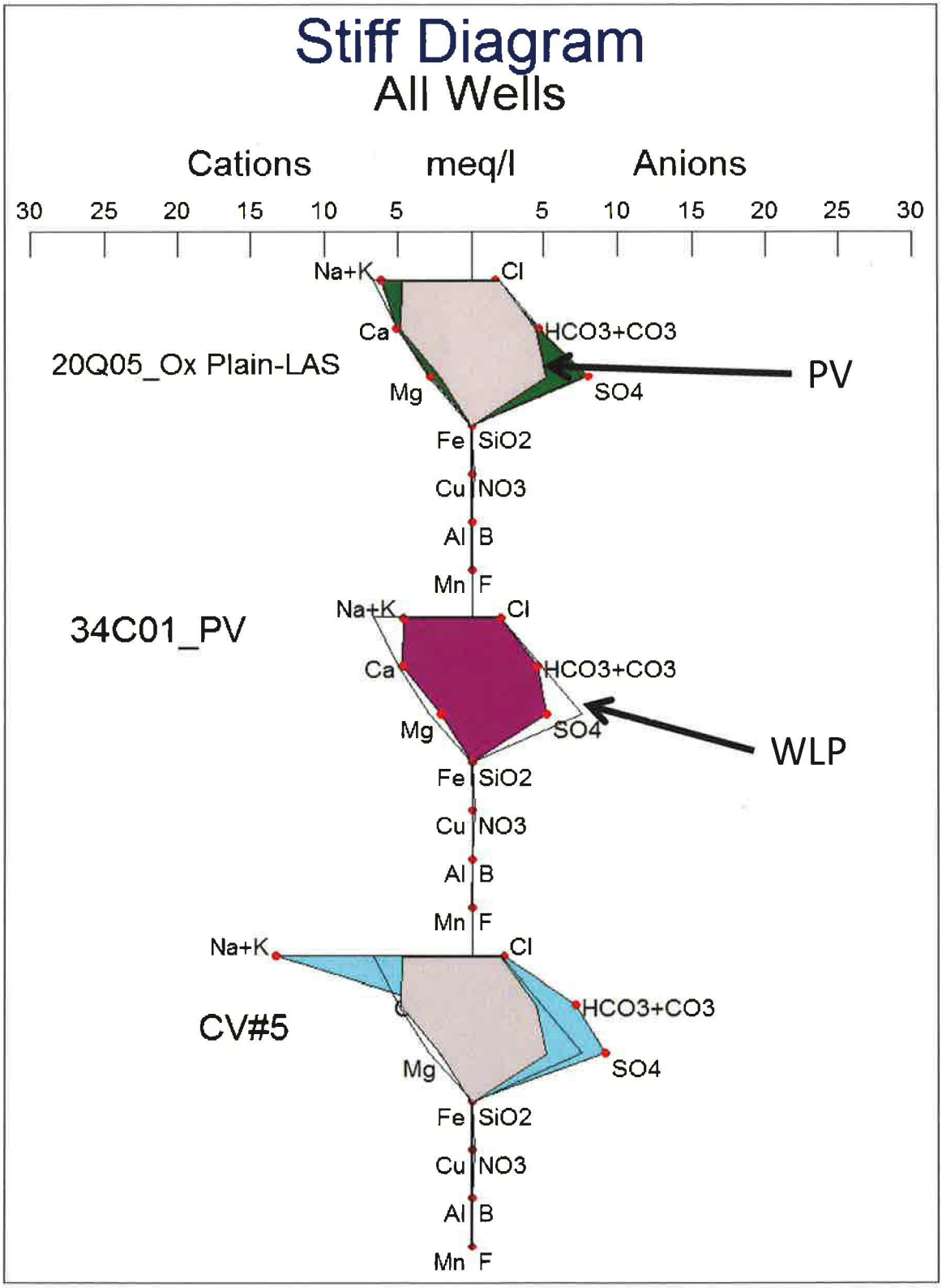


FIGURE 8
STIFF DIAGRAMS COMPARING INDIVIDUAL WELL RESULTS TO PV AND WLP WELLS

PV – Pleasant Valley Basin Well 34C01 (gray infill)
WLP – West Las Posas Basin Well 15M04 (black border, no infill)

Numeric Solutions LLC
Geoinformation Management

TABLES

TABLE 1

SUMMARY OF CRESTVIEW MUTUAL WATER COMPANY WATER SOURCES (GROUNDWATER EXTRACTION AND IMPORTED WATER): 1991-2012

Crestivew Mutual Water Company

Camarillo, CA

YEAR[1]	Cumulative Annual CMWC GW Extraction (AFY)	Cumulative CMWC Water Use (Import+Extract) (AFY)	WELL ID	CMWC Well #3 Annual GW Extraction (AFY)	Imported Water MWD/CAL AM (AFY)	WELL ID	CMWC Well #4 Annual GW Extraction (AFY)	WELL ID	CMWC Well #5 Annual GW Extraction (AFY)	WELL ID	CMWC Well #6 Annual GW Extraction (AFY)	Total West Las Posas Basin GW Extraction (AFY)	Total West Las Posas Basin M&I GW Extraction (AFY)	CMWC % of West Las Posas Basin GW Extraction (AFY)
1991-2	325.974	544.399	CVMC #3	186.969	218.425	CVMC #4	139.005	CVMC #5	NA/NI/D	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1992-2	513.901	868.428	CVMC #3	203.513	354.527	CVMC #4	310.387	CVMC #5	NA/NI/D	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1993-2	355.362	799.780	CVMC #3	0.000	444.418	CVMC #4	355.362	CVMC #5	NA/NI/D	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1994-2	470.939	791.245	CVMC #3	30.161	320.306	CVMC #4	440.778	CVMC #5	NA/NI/D	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1995-2	672.541	813.587	CVMC #3	NA/NI/D	141.046	CVMC #4	453.529	CVMC #5	219.011	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1996-2	890.091	890.766	CVMC #3	NA/NI/D	0.675	CVMC #4	630.230	CVMC #5	259.861	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1997-2	854.679	994.777	CVMC #3	NA/NI/D	140.098	CVMC #4	656.199	CVMC #5	198.480	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1998-2	776.069	777.478	CVMC #3	NA/NI/D	1.409	CVMC #4	548.287	CVMC #5	227.782	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
1999-2	847.860	922.922	CVMC #3	NA/NI/D	75.062	CVMC #4	514.214	CVMC #5	333.646	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
2000-2	667.517	966.789	CVMC #3	NA/NI/D	299.272	CVMC #4	341.718	CVMC #5	325.799	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
2001-2	536.049	908.366	CVMC #3	NA/NI/D	372.317	CVMC #4	399.376	CVMC #5	136.673	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
2002-2	1,101.890	1,115.363	CVMC #3	NA/NI/D	13.472	CVMC #4	779.381	CVMC #5	322.509	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
2003-2	781.041	1,070.655	CVMC #3	NA/NI/D	289.614	CVMC #4	498.350	CVMC #5	282.691	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
2004-2	901.670	1,191.836	CVMC #3	NA/NI/D	290.166	CVMC #4	497.740	CVMC #5	403.930	CVMC #6	NA/NI/D	No Data Avail.	No Data Avail.	No Basin Data
2005-2	771.089	1,042.256	CVMC #3	NA/NI/D	271.167	CVMC #4	415.208	CVMC #5	355.880	CVMC #6	NA/NI/D	10,331.909	2,149.728	7.5%
2006-2	811.448	1,054.482	CVMC #3	NA/NI/D	243.034	CVMC #4	490.414	CVMC #5	321.033	CVMC #6	NA/NI/D	9,273.285	1,750.075	8.8%
2007-2	948.157	1,213.837	CVMC #3	NA/NI/D	265.680	CVMC #4	473.977	CVMC #5	167.574	CVMC #6	306.606	15,867.320	2,243.905	6.0%
2008-2	844.414	1,141.430	CVMC #3	NA/NI/D	297.016	CVMC #4	361.423	CVMC #5	0.215	CVMC #6	482.776	13,244.029	2,182.721	6.4%
2009-2	917.309	1,089.971	CVMC #3	NA/NI/D	172.662	CVMC #4	392.345	CVMC #5	0.104	CVMC #6	524.860	13,309.000	2,224.000	6.9%
2010-2	649.938	879.948	CVMC #3	NA/NI/D	230.010	CVMC #4	283.636	CVMC #5	0.101	CVMC #6	366.201	11,095.000	1,725.000	5.9%
2011-2	699.562	900.629	CVMC #3	NA/NI/D	201.067	CVMC #4	302.706	CVMC #5	0.000	CVMC #6	396.856	12,018.000	1,631.000	5.8%
2012-2	816.303	1,016.063	CVMC #3	NA/NI/D	199.760	CVMC #4	343.814	CVMC #5	1.734	CVMC #6	470.755	11,527.000	1,831.000	7.1%
AVERAGE 1991-2012[2]	734	954		140	220		438		209		425	12,083	1,967	6.8%
AVERAGE 1995-2006[2]	801	979		0	178		519		282		0	9,803	1,950	6.8%
AVERAGE 2008-2012[2]	786	1,006		0	220		337		0.5		448	12,239	1,919	6.4%

NOTES:

All data provided by Crestview Mutual Water Company

All values in acre-feet (325,851 gallons/AF)

NA/NI/D - Well not active, not yet installed, or destroyed

1. Represents FCGMA reporting year. All annual extraction shown in "-2" reporting period.

2. All averages rounded to nearest whole number; Reported in acre feet per year (AFY)

CMWC #3 - State Well No. 02N21W22E01S

CMWC #4 - State Well No. 02N21W22G01S

CMWC #5 - State Well No. 02N21W22A01S

CMWC #6 - State Well No. 02N21W28A01S

TABLE 2

SUMMARY OF SOLANO VERDE MUTUAL WATER COMPANY GROUNDWATER EXTRACTION: 1991-2012
Prepared for Crestivew Mutual Water Company
Camarillo, CA

YEAR[1]	Solano Verde Cumulative Annual GWExtraction (AFY)	Well ID	SV Well #1 Annual Extraction (AFY)	Well ID	SV Well #2 Annual Extraction (AFY)
1984-2	172.500	SV Well #1	172.500	SV Well #2	NA/NI/D
1985-2	337.100	SV Well #1	337.100	SV Well #2	NA/NI/D
1986-2	136.950	SV Well #1	136.950	SV Well #2	NA/NI/D
1987-2	123.809	SV Well #1	123.809	SV Well #2	NA/NI/D
1988-2	496.164	SV Well #1	465.966	SV Well #2	30.198
1989-2	64.946	SV Well #1	3.000	SV Well #2	61.946
1990-2	149.531	SV Well #1	99.900	SV Well #2	49.631
1991-2	112.604	SV Well #1	64.895	SV Well #2	47.709
1992-2	175.333	SV Well #1	102.591	SV Well #2	72.742
1993-2	189.026	SV Well #1	66.451	SV Well #2	122.575
1994-2	199.938	SV Well #1	112.197	SV Well #2	87.741
1995-2	203.784	SV Well #1	202.292	SV Well #2	1.492
1996-2	195.393	SV Well #1	193.814	SV Well #2	1.579
1997-2	281.706	SV Well #1	143.165	SV Well #2	138.541
1998-2	188.986	SV Well #1	166.145	SV Well #2	22.841
1999-2	303.303	SV Well #1	102.782	SV Well #2	200.521
2000-2	280.058	SV Well #1	146.488	SV Well #2	133.57
2001-2	221.368	SV Well #1	117.972	SV Well #2	103.396
2002-2	274.357	SV Well #1	233.158	SV Well #2	41.199
2003-2	235.922	SV Well #1	235.922	SV Well #2	NA/NI/D
2004-2	308.048	SV Well #1	308.048	SV Well #2	NA/NI/D
2005-2	107.540	SV Well #1	107.536	SV Well #2	0.004
2006-2	NA/NI/D	SV Well #1	NA/NI/D	SV Well #2	NA/NI/D
2007-2	0.010	SV Well #1	NA/NI/D	SV Well #2	0.010
2008-2	NA/NI/D	SV Well #1	NA/NI/D	SV Well #2	NA/NI/D
2009-2	NA/NI/D	SV Well #1	NA/NI/D	SV Well #2	NA/NI/D
2010-2	NA/NI/D	SV Well #1	NA/NI/D	SV Well #2	NA/NI/D
2011-2	NA/NI/D	SV Well #1	NA/NI/D	SV Well #2	NA/NI/D
2012-2	NA/NI/D	SV Well #1	NA/NI/D	SV Well #2	NA/NI/D
AVERAGE 1991-2012[2]	159		166		66
AVERAGE 1995-2005[2]	236		178		71
AVERAGE 2008-2012[2]	0		0		0

NOTES:

All data provided by Crestview Mutual Water Company/FCGMA Staff

All values in acre-feet (325,851 gallons/AF)

NA/NI/D - Well not active, not yet installed, or destroyed

1. Represents FCGMA reporting year. All annual extraction shown in "-2" reporting period.
2. All averages rounded to nearest whole number; Reported in acre feet per year (AFY)

SV Well #1 - State Well No. 03N20W32F02

SV Well #2 - State Well No. 03N20W32G02

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W28C01	2003-1	118.057	0.000	0.000		
02N21W28C01	2003-2	206.993	0.000	0.000	325.050	
02N21W28C01	2004-1	216.070	0.000	0.000		
02N21W28C01	2004-2	6.344	0.000	0.000	222.414	
02N21W28C01	2005-1	137.033	0.000	0.000		
02N21W28C01	2005-2	87.773	0.000	0.000	224.806	
02N21W28C01	2006-1	29.882	0.000	0.000		
02N21W28C01	2006-2	0.000	0.000	0.000	29.882	
02N21W28C01	2007-1	160.000	0.000	0.000		
02N21W28C01	2007-2	57.896	0.000	0.000	217.896	
02N21W28C01	2008-1	108.627	0.000	0.000		
02N21W28C01	2008-2	109.320	0.000	0.000	217.947	
02N21W28C01	2009-1	94.437	0.000	0.000		
02N21W28C01	2009-2	124.632	0.000	0.000	219.069	
02N21W28C01	2010-1	182.977	0.000	0.000		
02N21W28C01	2010-2	34.540	0.000	0.000	217.517	
02N21W28C01	2011-1	140.010	0.000	0.000		
02N21W28C01	2011-2	78.010	0.000	0.000	218.020	
02N21W28C01	2012-1	178.875	0.000	0.000		
02N21W28C01	2012-2	37.475	0.000	0.000	216.350	
02N21W28C01	**Average: All Years**				**210.895**	
02N21W28C01	**Average: 1995-2006**				**200.538**	
02N21W28C01	**Average: 2008-2012**				**217.781**	**17.24**
02N21W15M05	1984-1	111.670	136.610	104.300		
02N21W15M05	1984-2	108.830	136.610	104.300	220.500	
02N21W15M05	1985-1	106.780	136.610	104.300		
02N21W15M05	1985-2	112.780	136.610	104.300	219.560	
02N21W15M05	1986-1	30.710	136.610	104.300		
02N21W15M05	1986-2	47.600	136.610	104.300	78.310	
02N21W15M05	1987-1	42.650	136.610	104.300		
02N21W15M05	1987-2	42.710	136.610	104.300	85.360	
02N21W15M05	1988-1	78.080	136.610	104.300		
02N21W15M05	1988-2	46.070	136.610	104.300	124.150	
02N21W15M05	1989-1	70.250	136.610	104.300		
02N21W15M05	1989-2	105.420	136.610	104.300	175.670	
02N21W15M05	1990-1	80.400	136.610	104.300		
02N21W15M05	1990-2	114.340	136.610	104.300	194.740	
02N21W15M05	1991-1	86.680	136.610	104.300		
02N21W15M05	1991-2	141.480	136.610	104.300	228.160	
02N21W15M05	1992-1	94.200	136.610	104.300		
02N21W15M05	1992-2	119.330	136.610	104.300	213.530	
02N21W15M05	1993-1	97.900	136.610	104.300		
02N21W15M05	1993-2	151.900	136.610	104.300	249.800	
02N21W15M05	1994-1	115.870	136.610	104.300		
02N21W15M05	1994-2	110.910	136.610	104.300	226.780	
02N21W15M05	1995-1	97.290	136.610	104.300		
02N21W15M05	1995-2	164.970	136.610	104.300	262.260	
02N21W15M05	1996-1	95.680	136.610	104.300		

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W15M05	1996-2	144.640	136.610	104.300	240.320	
02N21W15M05	1997-1	142.410	136.610	104.300		
02N21W15M05	1997-2	136.212	136.610	104.300	278.622	
02N21W15M05	1998-1	59.515	136.610	104.300		
02N21W15M05	1998-2	118.695	136.610	104.300	178.210	
02N21W15M05	1999-1	81.454	136.610	104.300		
02N21W15M05	1999-2	130.446	136.610	104.300	211.900	
02N21W15M05	2000-1	101.789	136.610	104.300		
02N21W15M05	2000-2	130.379	136.610	104.300	232.168	
02N21W15M05	2001-1	59.536	136.610	104.300		
02N21W15M05	2001-2	124.000	136.610	104.300	183.536	
02N21W15M05	2002-1	116.157	136.610	104.300		
02N21W15M05	2002-2	117.268	136.610	104.300	233.425	
02N21W15M05	2003-1	95.995	136.610	104.300		
02N21W15M05	2003-2	129.025	136.610	104.300	225.020	
02N21W15M05	2004-1	121.829	136.610	104.300		
02N21W15M05	2004-2	108.614	136.610	104.300	230.443	
02N21W15M05	2005-1	162.841	136.610	104.300		
02N21W15M05	2005-2	146.358	136.610	104.300	309.199	
02N21W15M05	2006-1	71.533	136.610	104.300		
02N21W15M05	2006-2	152.131	136.610	104.300	223.664	
02N21W15M05	2007-1	122.504	136.610	104.300		
02N21W15M05	2007-2	151.032	136.610	104.300	273.536	
02N21W15M05	2008-1	131.330	136.610	104.300		
02N21W15M05	2008-2	130.302	136.610	104.300	261.632	
02N21W15M05	2009-1	96.038	136.610	104.300		
02N21W15M05	2009-2	132.287	136.610	104.300	228.325	
02N21W15M05	2010-1	84.051	136.610	104.300		
02N21W15M05	2010-2	103.575	136.610	104.300	187.626	
02N21W15M05	2011-1	71.790	136.610	104.300		
02N21W15M05	2011-2	106.899	136.610	104.300	178.689	
02N21W15M05	2012-1	93.592	136.610	104.300		
02N21W15M05	2012-2	121.669	136.610	104.300	215.261	
02N21W15M05	**Average: All Years**				**212.772**	
02N21W15M05	**Average: 1995-2006**				**234.064**	
02N21W15M05	**Average: 2008-2012**				**214.307**	**-19.76**
02N21W20Q05	2005-1	113.400	0.000	0.000		
02N21W20Q05	2005-2	170.867	0.000	0.000	284.267	
02N21W20Q05	2006-1	114.912	0.000	0.000		
02N21W20Q05	2006-2	128.248	0.000	0.000	243.160	
02N21W20Q05	2007-1	116.912	0.000	0.000		
02N21W20Q05	2007-2	163.750	0.000	0.000	280.662	
02N21W20Q05	2008-1	221.062	0.000	0.000		
02N21W20Q05	2008-2	218.305	0.000	0.000	439.367	
02N21W20Q05	2009-1	137.528	0.000	0.000		
02N21W20Q05	2009-2	171.361	0.000	0.000	308.889	
02N21W20Q05	2010-1	141.716	0.000	0.000		
02N21W20Q05	2010-2	130.572	0.000	0.000	272.288	

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W20Q05	2011-1	112.764	0.000	0.000		
02N21W20Q05	2011-2	127.887	0.000	0.000	240.651	
02N21W20Q05	2012-1	96.980	0.000	0.000		
02N21W20Q05	2012-2	114.934	0.000	0.000	211.914	
02N21W20Q05	**Average: All Years**				**285.150**	
02N21W20Q05	**Average: 1995-2006**				**263.714**	
02N21W20Q05	**Average: 2008-2012**				**294.622**	**30.91**
02N21W20R01	1983-2	0.500	1.000	-1.000	0.500	
02N21W20R01	1984-1	0.500	1.000	-1.000		
02N21W20R01	1984-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1985-1	0.500	1.000	-1.000		
02N21W20R01	1985-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1986-1	0.500	1.000	-1.000		
02N21W20R01	1986-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1987-1	0.500	1.000	-1.000		
02N21W20R01	1987-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1988-1	0.500	1.000	-1.000		
02N21W20R01	1988-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1989-1	0.500	1.000	-1.000		
02N21W20R01	1989-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1990-1	0.500	1.000	-1.000		
02N21W20R01	1990-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1991-1	0.500	1.000	-1.000		
02N21W20R01	1991-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1992-1	0.500	1.000	-1.000		
02N21W20R01	1992-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1993-1	0.500	1.000	-1.000		
02N21W20R01	1993-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1994-1	0.500	1.000	-1.000		
02N21W20R01	1994-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1995-1	0.500	1.000	-1.000		
02N21W20R01	1995-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1996-1	0.500	1.000	-1.000		
02N21W20R01	1996-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1997-1	0.500	1.000	-1.000		
02N21W20R01	1997-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1998-1	0.500	1.000	-1.000		
02N21W20R01	1998-2	0.500	1.000	-1.000	1.000	
02N21W20R01	1999-1	0.500	1.000	-1.000		
02N21W20R01	1999-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2000-1	0.500	1.000	-1.000		
02N21W20R01	2000-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2001-1	0.500	1.000	-1.000		
02N21W20R01	2001-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2002-1	0.500	1.000	-1.000		
02N21W20R01	2002-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2003-1	0.500	1.000	-1.000		
02N21W20R01	2003-2	0.500	1.000	-1.000	1.000	

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W20R01	2004-1	0.500	1.000	-1.000		
02N21W20R01	2004-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2005-1	0.500	1.000	-1.000		
02N21W20R01	2005-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2006-1	0.500	1.000	-1.000		
02N21W20R01	2006-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2007-1	0.500	1.000	-1.000		
02N21W20R01	2007-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2008-1	0.500	1.000	-1.000		
02N21W20R01	2008-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2009-1	0.500	1.000	-1.000		
02N21W20R01	2009-2	0.500	1.000	-1.000	1.000	
02N21W20R01	2010-1	0.500	1.000	-1.000		
02N21W20R01	2010-2	0.000	1.000	-1.000	0.500	
02N21W20R01	2011-1	0.000	1.000	-1.000		
02N21W20R01	2011-2	0.500	1.000	-1.000	0.500	
02N21W20R01	2012-1	0.500	1.000	-1.000		
02N21W20R01	2012-2	0.500	1.000	-1.000	1.000	
02N21W20R01	**Average: All Years**				**0.950**	
02N21W20R01	**Average: 1995-2006**				**1.000**	
02N21W20R01	**Average: 2008-2012**				**0.800**	**-0.20**
02N21W28P07	2003-2	51.580	0.000	0.000	51.580	
02N21W28P07	2004-1	102.890	0.000	0.000		
02N21W28P07	2004-2	136.270	0.000	0.000	239.160	
02N21W28P07	2005-1	113.910	0.000	0.000		
02N21W28P07	2005-2	120.280	0.000	0.000	234.190	
02N21W28P07	2006-1	95.220	0.000	0.000		
02N21W28P07	2006-2	67.510	0.000	0.000	162.730	
02N21W28P07	2007-1	213.920	0.000	0.000		
02N21W28P07	2007-2	129.050	0.000	0.000	342.970	
02N21W28P07	2008-1	190.550	0.000	0.000		
02N21W28P07	2008-2	185.740	0.000	0.000	376.290	
02N21W28P07	2009-1	106.250	0.000	0.000		
02N21W28P07	2009-2	115.020	0.000	0.000	221.270	
02N21W28P07	2010-1	144.820	0.000	0.000		
02N21W28P07	2010-2	107.260	0.000	0.000	252.080	
02N21W28P07	2011-1	80.020	0.000	0.000		
02N21W28P07	2011-2	90.120	0.000	0.000	170.140	
02N21W28P07	2012-1	87.150	0.000	0.000		
02N21W28P07	2012-2	163.530	0.000	0.000	250.680	
02N21W28P07	**Average: All Years**				**230.109**	
02N21W28P07	**Average: 1995-2006**				**171.915**	
02N21W28P07	**Average: 2008-2012**				**254.092**	**82.18**
02N21W34C01	1986-1	411.317	1,526.884	12.105		
02N21W34C01	1986-2	804.183	1,526.884	12.105	1,215.500	
02N21W34C01	1987-1	745.792	1,526.884	12.105		
02N21W34C01	1987-2	545.906	1,526.884	12.105	1,291.698	

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W34C01	1988-1	765.819	1,526.884	12.105		
02N21W34C01	1988-2	1,103.339	1,526.884	12.105	1,869.158	
02N21W34C01	1989-1	2,034.295	1,526.884	12.105		
02N21W34C01	1989-2	1,223.771	1,526.884	12.105	3,258.066	
02N21W34C01	1990-1	849.146	1,526.884	12.105		
02N21W34C01	1990-2	1,162.547	1,526.884	12.105	2,011.693	
02N21W34C01	1991-1	1,016.744	1,526.884	12.105		
02N21W34C01	1991-2	1,138.686	1,526.884	12.105	2,155.430	
02N21W34C01	1992-1	993.792	1,526.884	12.105		
02N21W34C01	1992-2	1,021.964	1,526.884	12.105	2,015.756	
02N21W34C01	1993-1	1,147.586	1,526.884	12.105		
02N21W34C01	1993-2	1,246.011	1,526.884	12.105	2,393.597	
02N21W34C01	1994-1	1,185.373	1,526.884	12.105		
02N21W34C01	1994-2	375.721	1,526.884	12.105	1,561.094	
02N21W34C01	1995-1	75.568	1,526.884	12.105		
02N21W34C01	1995-2	657.598	1,526.884	12.105	733.166	
02N21W34C01	1996-1	637.660	1,526.884	12.105		
02N21W34C01	1996-2	213.159	1,526.884	12.105	850.819	
02N21W34C01	1997-1	1,064.993	1,526.884	12.105		
02N21W34C01	1997-2	1,015.694	1,526.884	12.105	2,080.687	
02N21W34C01	1998-1	422.647	1,526.884	12.105		
02N21W34C01	1998-2	1,161.988	1,526.884	12.105	1,584.635	
02N21W34C01	1999-1	950.523	1,526.884	12.105		
02N21W34C01	1999-2	1,021.206	1,526.884	12.105	1,971.729	
02N21W34C01	2000-1	1,040.506	1,526.884	12.105		
02N21W34C01	2000-2	831.610	1,526.884	12.105	1,872.116	
02N21W34C01	2001-1	940.166	1,526.884	12.105		
02N21W34C01	2001-2	813.332	1,526.884	12.105	1,753.498	
02N21W34C01	2002-1	528.978	1,526.884	12.105		
02N21W34C01	2002-2	1,083.120	1,526.884	12.105	1,612.098	
02N21W34C01	2003-1	1,195.638	1,526.884	12.105		
02N21W34C01	2003-2	1,158.514	1,526.884	12.105	2,354.152	
02N21W34C01	2004-1	1,108.154	1,526.884	12.105		
02N21W34C01	2004-2	1,106.503	1,526.884	12.105	2,214.657	
02N21W34C01	2005-1	954.191	1,526.884	12.105		
02N21W34C01	2005-2	1,173.009	1,526.884	12.105	2,127.200	
02N21W34C01	2006-1	882.185	1,526.884	12.105		
02N21W34C01	2006-2	1,064.833	1,526.884	12.105	1,947.018	
02N21W34C01	2007-1	671.064	1,526.884	12.105		
02N21W34C01	2007-2	786.804	1,526.884	12.105	1,457.868	
02N21W34C01	2008-1	709.877	1,526.884	12.105		
02N21W34C01	2008-2	845.951	1,526.884	12.105	1,555.828	
02N21W34C01	2009-1	910.376	1,526.884	12.105		
02N21W34C01	2009-2	1,051.754	1,526.884	12.105	1,962.130	
02N21W34C01	2010-1	871.991	1,526.884	12.105		
02N21W34C01	2010-2	1,000.209	1,526.884	12.105	1,872.200	
02N21W34C01	2011-1	1,002.474	1,526.884	12.105		
02N21W34C01	2011-2	970.706	1,526.884	12.105	1,973.180	
02N21W34C01	2012-1	912.965	1,526.884	12.105		

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W34C01	2012-2	825.878	1,526.884	12.105	1,738.843	
02N21W34C01	**Average: All Years**				**1,830.882**	
02N21W34C01	**Average: 1995-2006**				**1,758.481**	
02N21W34C01	**Average: 2008-2012**				**1,820.436**	**61.95**
02N21W15M04	1983-2	207.790	160.680	0.000	207.790	
02N21W15M04	1984-1	190.420	160.680	0.000		
02N21W15M04	1984-2	323.890	160.680	0.000	514.310	
02N21W15M04	1985-1	198.700	160.680	0.000		
02N21W15M04	1985-2	112.000	160.680	0.000	310.700	
02N21W15M04	1986-1	63.000	160.680	0.000		
02N21W15M04	1986-2	112.000	160.680	0.000	175.000	
02N21W15M04	1987-1	76.500	160.680	0.000		
02N21W15M04	1987-2	136.000	160.680	0.000	212.500	
02N21W15M04	1988-1	96.000	160.680	0.000		
02N21W15M04	1988-2	9.200	160.680	0.000	105.200	
02N21W15M04	1989-1	0.000	160.680	0.000		
02N21W15M04	1989-2	0.000	160.680	0.000	0.000	
02N21W15M04	1990-1	521.480	160.680	0.000		
02N21W15M04	1990-2	628.820	160.680	0.000	1,150.300	
02N21W15M04	1991-1	358.030	160.680	0.000		
02N21W15M04	1991-2	529.550	160.680	0.000	887.580	
02N21W15M04	1992-1	286.860	160.680	0.000		
02N21W15M04	1992-2	318.600	160.680	0.000	605.460	
02N21W15M04	1993-1	162.000	160.680	0.000		
02N21W15M04	1993-2	240.000	160.680	0.000	402.000	
02N21W15M04	1994-1	309.820	160.680	0.000		
02N21W15M04	1994-2	59.900	160.680	0.000	369.720	
02N21W15M04	1995-1	180.000	160.680	0.000		
02N21W15M04	1995-2	261.000	160.680	0.000	441.000	
02N21W15M04	1996-1	220.050	160.680	0.000		
02N21W15M04	1996-2	365.910	160.680	0.000	585.960	
02N21W15M04	1997-1	261.370	160.680	0.000		
02N21W15M04	1997-2	412.020	160.680	0.000	673.390	
02N21W15M04	1998-1	91.637	160.680	0.000		
02N21W15M04	1998-2	384.034	160.680	0.000	475.671	
02N21W15M04	1999-1	144.882	160.680	0.000		
02N21W15M04	1999-2	359.440	160.680	0.000	504.322	
02N21W15M04	2000-1	284.989	160.680	0.000		
02N21W15M04	2000-2	281.294	160.680	0.000	566.283	
02N21W15M04	2001-1	248.280	160.680	0.000		
02N21W15M04	2001-2	269.037	160.680	0.000	517.317	
02N21W15M04	2002-1	260.468	160.680	0.000		
02N21W15M04	2002-2	300.470	160.680	0.000	560.938	
02N21W15M04	2003-1	0.000	160.680	0.000		
02N21W15M04	2003-2	186.437	160.680	0.000	486.907	
02N21W15M04	2004-1	164.893	160.680	0.000		
02N21W15M04	2004-2	192.791	160.680	0.000	357.684	
02N21W15M04	2005-1	109.366	160.680	0.000		

TABLE 3
Summary of Groundwater Extraction at Wells Near CMWC Wells: 1991-2012
Prepared For Crestview Mutual Water Company
Camarillo, CA

Well	Year_Code	Semi-Annual Extraction (AF)	Historical Allocation (AFY)	Historic Adjustment (AFY)	Total Annual Extraction (AFY)	Difference Between Periods 2 & 3 (AFY)
02N21W15M04	2005-2	146.863	160.680	0.000	256.229	
02N21W15M04	2006-1	108.428	160.680	0.000		
02N21W15M04	2006-2	152.082	160.680	0.000	260.510	
02N21W15M04	2007-1	224.050	160.680	0.000		
02N21W15M04	2007-2	125.248	160.680	0.000	349.298	
02N21W15M04	2008-1	117.264	160.680	0.000		
02N21W15M04	2008-2	176.127	160.680	0.000	293.391	
02N21W15M04	2009-1	109.012	160.680	0.000		
02N21W15M04	2009-2	0.000	160.680	0.000	109.012	
02N21W15M04	2010-1	107.146	160.680	0.000		
02N21W15M04	2010-2	126.213	160.680	0.000	233.359	
02N21W15M04	2011-1	93.807	160.680	0.000		
02N21W15M04	2011-2	98.954	160.680	0.000	192.761	
02N21W15M04	2012-1	157.713	160.680	0.000		
02N21W15M04	2012-2	291.760	160.680	0.000	449.473	
02N21W15M04	**Average: All Years**				**408.469**	
02N21W15M04	**Average: 1995-2006**				**473.851**	
02N21W15M04	**Average: 2008-2012**				**255.599**	**-218.25**

Net change from Period 2 to Period 3:	**-45.93**
Net change for Non-PV wells P2 to P3	**-190.06**

NOTES
All extraction data provided by FCGMA.
Perod 2: 1995-2006
Perod 3: 2008-2012

Well - Basin Assignments
02N21W28C01 - No Basin/West Las Posas
02N21W15M04 - West Las Posas
02N21W15M05 - West Las Posas
02N21W20Q05 - Oxnard Plain/West Las Posas LAS
02N21W20R01 - West Las Posas
02N21W28P07 - Pleasant Valley
02N21W34C01 - Pleasant Valley

TABLE 4

Summary of Select Groundwater Analytical Results: Crestview Mutual Water Company and Nearby Wells

Crestview Mutual Water Company, Camarillo, CA

Well ID	FCGMA GW Basin	Sample Date	Na	K	Ca	Mg	Cl	HCO3	CO3	SO4	Fe	Cu	Al	Mn	NO3	TDS	B	F	Zn	pH	EC umhos/cm	Total Hardness	Total Alkalinity
02N21W15M04S	Las Posas West	8/1/2006	149	6.0	89	32	69	280	10.0	340	0.06	NA	NA	0.04	11.9	987.5	0.4	0.1	NA	7.4	1,340	NA	NA
02N21W15M04S	Las Posas West	7/15/2008	143	5.0	94	34	68	250	5.0	320	ND	ND	NA	0.04	11.3	931.1	0.4	0.4	ND	7.1	1,360	NA	NA
02N21W15M04S	Las Posas West	8/6/2009	149	6.0	102	36	75	300	5.0	400	0.10	ND	NA	0.05	13.4	1,087.2	0.4	0.2	ND	7.6	1,300	NA	NA
02N21W15M04S	Las Posas West	8/13/2010	153	6.0	100	35	74	300	5.0	400	0.20	ND	NA	0.05	15.8	1,089.8	0.4	0.3	ND	7.6	1,340	NA	NA
02N21W15M04S	Las Posas West	9/15/2011	152	6.0	109	37	71	290	5.0	380	0.22	ND	ND	0.10	10.0	1,061.0	0.4	0.3	ND	7.5	1,370	NA	NA
02N21W15M04S	Las Posas West	8/14/2012	147	6.0	103	37	66	280	5.0	350	ND	ND	ND	0.06	10.0	1,004.5	0.4	0.05	ND	7.5	1,310	NA	NA
02N21W20M03S	Ox Plain-UAS	8/12/2008	204	8.0	338	126	300	340	5.0	1,100	0.13	ND	ND	0.34	95.0	2,517.5	0.7	0.3	ND	6.7	3,240	NA	NA
02N21W20M03S	Ox Plain-UAS	8/5/2009	248	10.0	376	125	330	340	5.0	1,260	0.20	ND	0.23	0.40	117.0	2,812.8	0.7	0.30	ND	6.8	3,170	NA	NA
02N21W20M03S	Ox Plain-UAS	9/20/2010	234	9.0	369	129	300	330	5.0	1,220	0.10	ND	NA	0.36	121.0	2,718.8	0.7	0.3	0.1	7.0	3,270	NA	NA
02N21W20M03S	Ox Plain-UAS	8/10/2011	248	10.0	421	145	330	340	5.0	1,310	0.13	ND	ND	0.42	119.0	2,929.7	0.8	0.3	ND	7.0	3,410	NA	NA
02N21W20Q05S	Ox Plain-LAS	8/12/2008	137	5.0	95	34	59	280	5.0	370	0.14	ND	ND	0.07	ND	986.1	0.6	0.3	ND	7.1	1,310	NA	NA
02N21W20Q05S	Ox Plain-LAS	8/5/2009	149	7.0	106	35	66	280	5.0	410	0.50	ND	NA	0.08	ND	1,059.5	0.6	0.3	ND	7.4	1,270	NA	NA
02N21W20Q05S	Ox Plain-LAS	8/17/2010	122	5.0	102	35	59	270	5.0	380	0.40	0.01	NA	0.07	ND	979.4	0.6	0.3	ND	7.4	1,270	NA	NA
02N21W20Q05S	Ox Plain-LAS	8/26/2011	145	6.0	113	35	59	280	5.0	400	0.59	ND	NA	0.08	ND	1,044.5	0.6	0.2	ND	7.5	1,300	NA	NA
02N21W20Q05S	Ox Plain-LAS	8/16/2012	135	6.0	98	35	58	260	5.0	360	0.55	0.01	NA	0.08	ND	958.4	0.6	0.1	ND	7.6	1,290	NA	NA
02N21W22A01S	Crestview_5	7/1/1995	NA	NA	NA	NA	89	NA	NA	NA	0.53	NA	NA	0.03	NA	1,200.0	NA	NA	NA	NA	NA	300	NA
02N21W22A01S	Crestview_5	8/26/2010	302	12.0	56	25	70	420	5.0	400	0.14	ND	ND	0.03	ND	1,291.3	0.9	0.2	ND	7.4	1,640	243	350
02N21W22A01S	Crestview_5	8/14/2013	293	11.0	54	24	88	430	5.0	480	0.11	ND	0.05	0.02	ND	1,386.3	0.9	0.2	0.03	7.8	1,650	233	360
02N21W22G01S	Crestview 4	7/1/1997	NA	NA	NA	NA	68	NA	NA	NA	0.06	NA	NA	0.04	NA	820.0	NA	NA	NA	NA	NA	370	NA
02N21W22G01S	Crestview 4	7/1/2012	NA	NA	NA	NA	53	NA	NA	NA	0.00	NA	NA	0.04	NA	710.0	NA	NA	NA	NA	NA	350	NA
02N21W22G01S	Crestview 4	4/19/2013	112	6.0	97	31	59	280	5.0	290	ND	0.05	ND	0.05	ND	880.6	0.3	0.2	0.03	7.6	1,120	370	230
02N21W22G01S	Crestview 4	8/14/2013	107	5.0	91	30	65	290	5.0	330	ND	ND	ND	0.04	ND	923.6	0.3	0.3	ND	7.5	1,110	350	240
02N21W28A02S	Crestview 6	7/1/2006	NA	NA	NA	NA	63	NA	NA	NA	0.10	NA	NA	0.04	NA	800.0	NA	NA	NA	NA	NA	408	NA
02N21W28A02S	Crestview 6	8/26/2010	111	6.0	106	37	67	280	5.0	310	0.07	0.01	0.02	0.04	ND	922.7	0.3	0.2	ND	7.4	1,210	417	230
02N21W28A02S	Crestview 6	8/14/2013	113	6.0	96	36	79	290	5.0	380	ND	ND	ND	0.04	ND	1,005.6	0.3	0.3	ND	7.6	1,210	388	240
02N21W34C01S	Pleasant Valley	8/1/2005	97	5.0	90	24	65	290	5.0	218	0.25	NA	NA	0.05	0.0	794.3	0.2	0.4	NA	7.6	1,040	NA	NA
02N21W34C01S	Pleasant Valley	8/1/2006	103	5.0	95	26	65	280	5.0	218	0.17	NA	NA	0.05	0.0	797.2	0.3	0.4	NA	7.5	1,050	NA	NA
02N21W34C01S	Pleasant Valley	7/24/2008	100	5.0	88	25	70	210	5.0	243	0.39	ND	NA	0.05	ND	747.2	0.3	0.5	ND	7.2	1,100	NA	NA
02N21W34C01S	Pleasant Valley	8/11/2009	102	5.0	95	25	78	270	5.0	269	0.40	ND	NA	0.05	ND	850.2	0.3	0.4	ND	7.5	1,090	NA	NA
02N21W34C01S	Pleasant Valley	9/1/2010	111	5.0	102	28	72	260	5.0	249	0.40	ND	NA	0.05	ND	833.2	0.3	0.4	ND	7.3	1,090	NA	NA
02N21W34C01S	Pleasant Valley	8/26/2011	111	5.0	105	27	74	270	5.0	280	0.35	ND	NA	0.05	ND	878.0	0.3	0.3	ND	7.4	1,120	NA	NA
02N21W34C01S	Pleasant Valley	8/27/2012	110	5.0	97	28	74	270	5.0	260	0.27	ND	ND	0.05	ND	840.8	0.3	0.2	ND	7.5	1,140	NA	NA

Notes

Crestview well data provided by Crestview Mutual Water Company.

Other well data obtained from VCWPD GrouNDwater Quality Reports (2005/6, 2008, 2009, 2010, 2011, & 2012)

Data based on summaries from sources. Original laboratory reports not available for rewiew.

ND - Analyte not observed above laboratory reporting limits

NA - Not analyzed, not reported or not available from data source

All results except EC in milligrams per liter (mg/L)

Non-detect carbonate results assumed to be 1/2 detection limit.

Na - Sodium
K - Potassium
Ca - Calcium
Mg - Magnesium
Cl - Chloride
HCO3 - Bicarbonate
SO4 - Sulfate
CO3 - Carbonate
Fe - Iron
Cu - Copper
Al - Aluminum
Mn - Manganese
NO3 - Nitrate
TDS - Total Dissolved Solids
B - Boron
F - Flourine
Zn - Zince
EC - Electrical Conductivity in micromohs/centimeter (umhos/cm)

APPENDIX A

Written Consent of the Solano Verde Board of Directors Approving Sale of Historical Allocation to Crestview Mutual Water Company

WRITTEN CONSENT
IN LIEU OF MEETING
OF THE BOARD OF DIRECTORS
OF
Solano Verde Mutual Water Company

The undersigned, being all of the members of the Board of Directors of Solano Verde Mutual Water Company, a non-profit California Corporation (the "Company"), do hereby adopt the following resolution with the same force and effect as though adopted at a special meeting of said Board of Directors duly called and held: WHEREAS, the Company desires to enter into an agreement to sell all of its remaining historical allocations to Crestview Mutual Water Company, as based upon the condition of the underlying groundwater basin based on scientific studies performed by the Fox Canyon GMA, the drop in water levels after pumping now abandoned Solano Verde well #1 and well #2, pumping water in the location of all surface areas overlying the Solano Verde Ranch development is not conducive to a reliable and affordable supply of water now or in the foreseeable future.

NOW THEREFORE, BE IT RESOLVED, that the Company is authorized to make this decision and that Jonathan Bergman as President, and Pete Zinnato, as Secretary are given the authority to sign the agreement to sell all of the Historical Allocations to Crestview Mutual Water Company, as described in the agreement dated May 21, 2013 and to be attached to this consent document.

Signed by:

Directors:

Jonathan Bergman

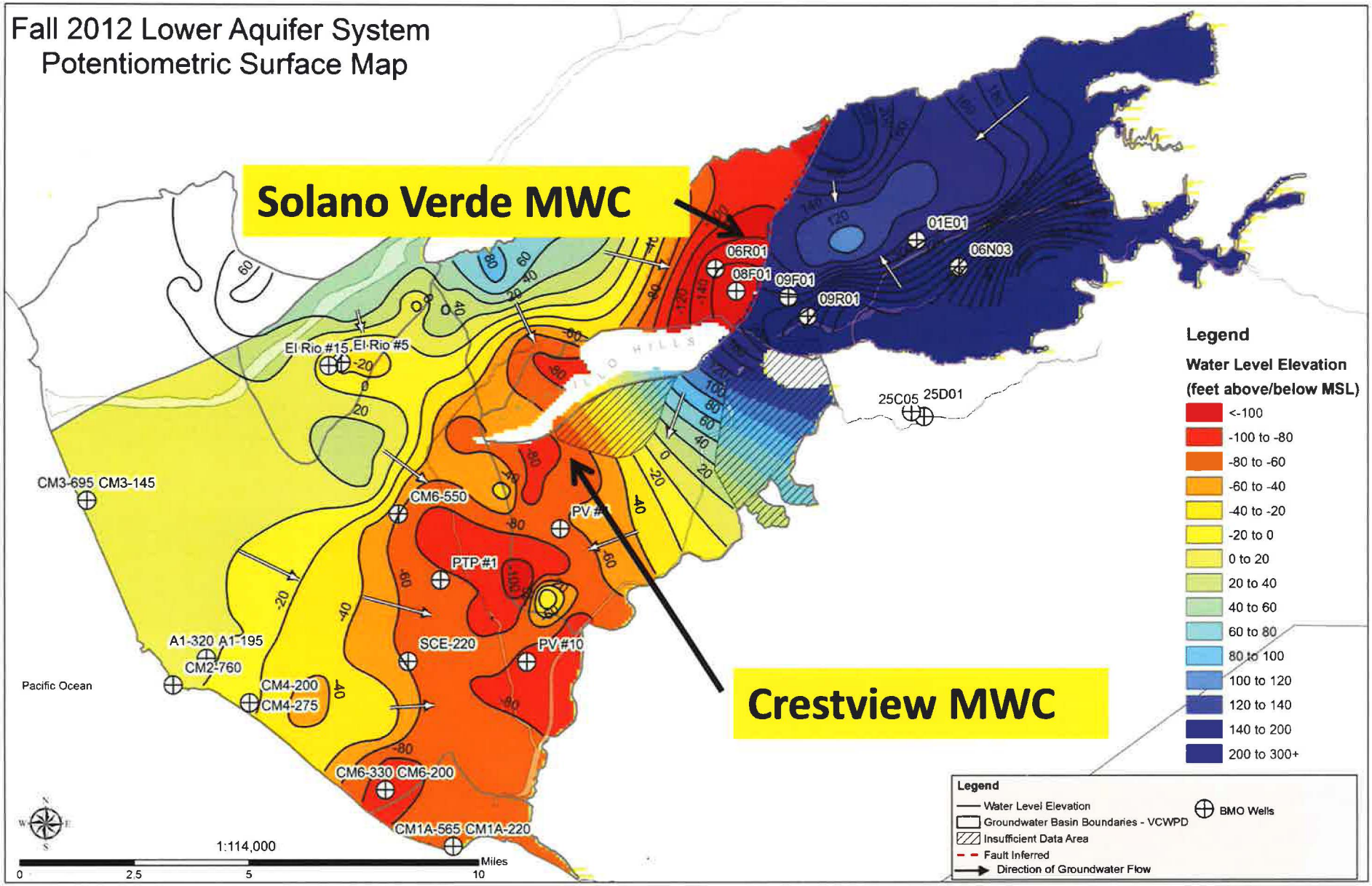
Pete Zinnato

Phil McCall

Tom Godecki

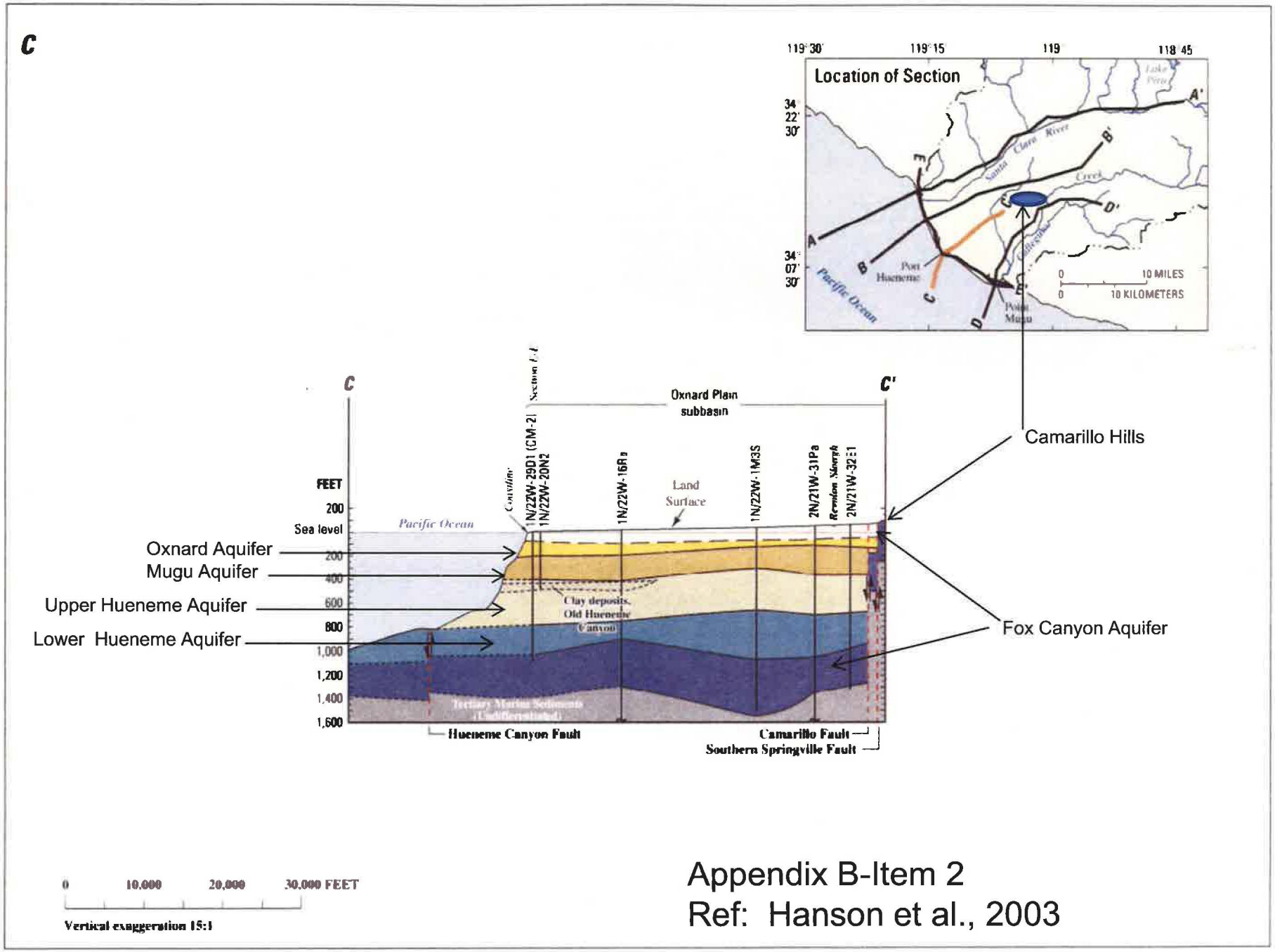
APPENDIX B

Additional Technical Documents

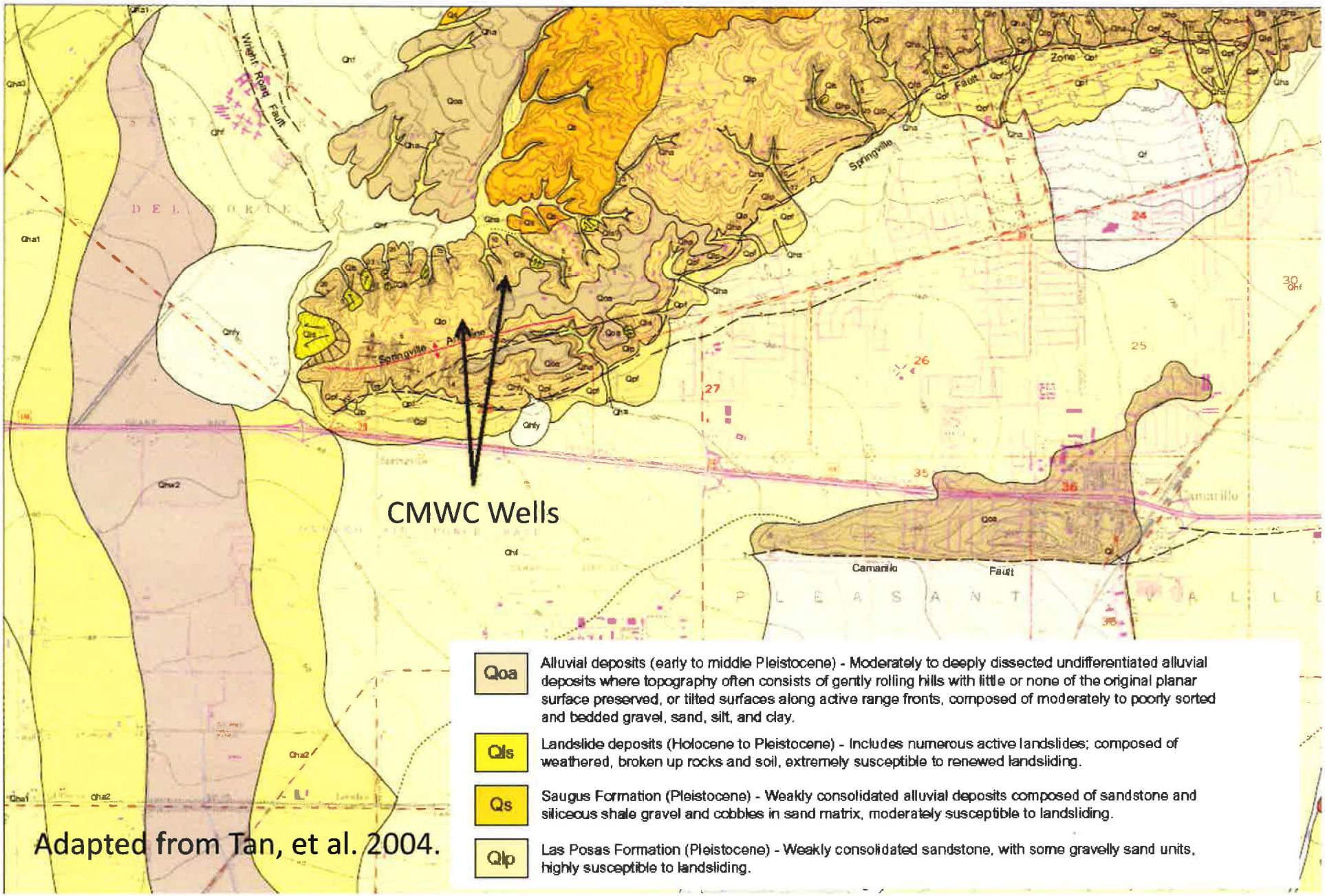


Appendix B-Item 1

Ref: FCMGA, 2013a.



Appendix B-Item 2
Ref: Hanson et al., 2003



Appendix B-Item 3

Driller's Log: CMWC-6

UAS

LAS

Appendix B-Item 4

ORIGINAL
File with DWR
Page 1 of 2
Owner's Well No. 6
Date Work Began 12/13/05 Ended 12/15/05
Local Permit Agency County of Ventura
Permit No. 6177 Permit Date 12/1/05

STATE OF CALIFORNIA
WELL COMPLETION REPORT
No. 034075

DWR USE ONLY — DO NOT FILL IN

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Reverse Rotary FLUID Bentonite

DEPTH FROM SURFACE Ft.	In.	to Ft.	DESCRIPTION (Describe material, grain size, color, etc.)
0		85	Coarse sand, brown silt & pea gravel
85		145	Sea shells, grey clay
145		255	Silt, brown grey
255		300	Pea gravel, large gravel, shells, coarse sand
300		370	Pea gravel & sand, brown silt
370		390	Brown silty clay
390		400	Big gravel & brown silt
400		450	White sand & small gravel
450		480	White sand, small gravel, brown silt
480		505	Large gravel, some sand
505		655	Big gravel & sand
655		680	Black silty clay & gravel some fine sand
680		805	Grey silty clay, pea gravel & sand
805		1060	Grey silt & coarse sand
1060		1140	Large gravel, white coarse sand, some grey silt
1140		1300	Grey silt, coarse sand, some small gravel

TOTAL DEPTH OF BORING 1300 (Feet)
TOTAL DEPTH OF COMPLETED WELL 810 (Feet)

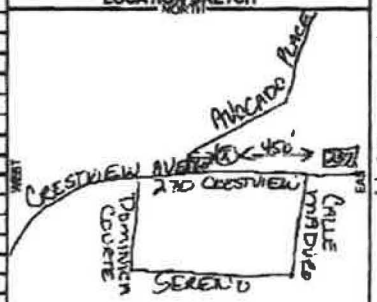
WELL OWNER

Name Crestview Mutual Water Co.
Mailing Address 338 Valley Vista Dr.
Camarillo CA 93010
CITY STATE ZIP

WELL LOCATION

Address 230 Crestview Ave.
City Camarillo
County Ventura
APN Book 152 Page 190 Parcel 285
Township 2N Range 21 W Section 28
Latitude 34 | 13 | 49 NORTH Longitude 119 | 04 | 55 WEST
DEG MIN SEC DEG MIN SEC

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc., and Attach a Map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

X NEW WELL
___ RECONSTRUCTION/REWORK
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedure and Materials Used) (USE ADDITIONAL SHEET IF NECESSARY)

USE (✓)
WATER SUPPLY
X DOMESTIC ___ PUBLIC
___ IRRIGATION ___ INDUSTRIAL
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 313 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 313 (Ft.) & DATE MEASURED 12/15/05
ESTIMATED YIELD 2800 (GPM) & TEST TYPE Pump
TEST LENGTH 12 (Hrs.) TOTAL DRAWDOWN 45 (Ft.)
* May not be representative of a well's long-term yield

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (inches)	CASING (S) TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (inches)
0	60	36			X		Steel	29.25	STD	
0	250	27	X				Steel	15.25	STD	
250	550	27	X				SS 304L	15.25	STD	
550	800	27		X			SS 304L	15.25	XXX	.060
800	810	27	X				SS 304L	15.25	STD	
0	250					X	Steel	4	SCH40	

DEPTH FROM SURFACE Ft.	to Ft.	ANNULAR MATERIAL TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	505	X			
505	810			X	6 x 12

ATTACHMENTS (✓)

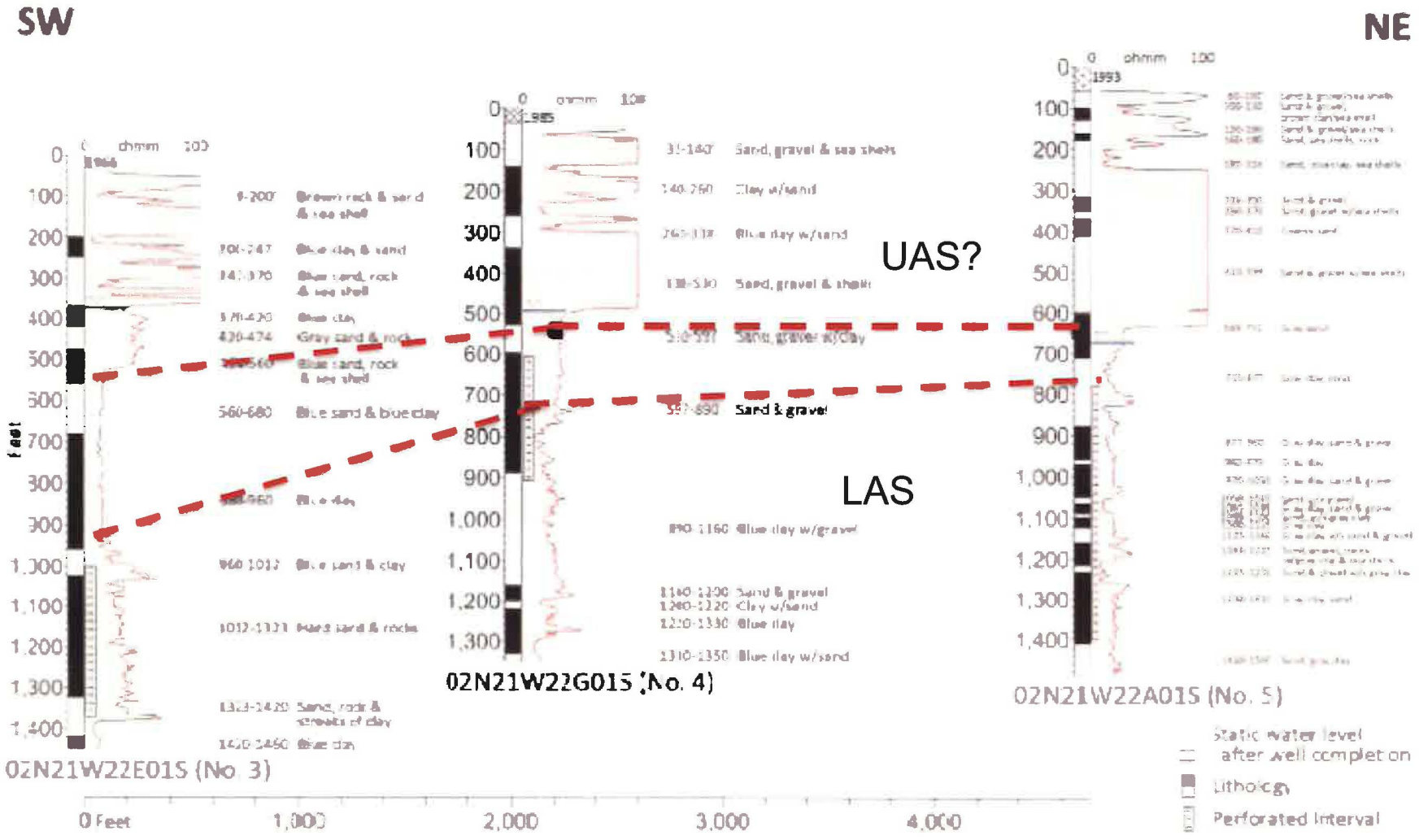
___ Geologic Log
___ Well Construction Diagram
X Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
NAME Barbour Well Surveying Corporation
PERSON, FIRM, OR CORPORATION
934 W. Verdulera St. Camarillo, CA 93010
ADDRESS
Signed Connie L. Barbour 12/27/05
C57 LICENSED WATER WELL CONTRACTOR DATE SIGNED
827335
C57 LICENSE NUMBER

IF ADDITIONAL SPACE IS NEEDED, USE ADDITIONAL FORMS AND CONSECUTIVELY NUMBER ALL
DWR 188 REV. 05-93 (REVISED 05-94 BY www.TheContractorsGroup.com TO BE FILL-IN-ABLE)

Crestview Wells Cross-Section



Appendix B-Item 5

Cross-section prepared by United.
Interpretation by Numeric Solutions,

Executive Committee Meeting
October 11, 2013

SUBJECT: Consider Las Posas Users Group (LPUG) Proposed Ordinance Code Change to Chapter 5.

Specific Request
Staff will present its review comments of the LPUG proposed Ordinance Code change, and staff will provide recommendations and request feedback.

Background:
Via a letter dated July 25, 2013, the Agency received a proposed Ordinance Code change from the LPUG (letter attached). LPUG is concerned about new well permits for parcels normally receiving water from an M&I provider. The parcel owners desire to avoid paying increased Waterworks District rates and therefore have requested a permit to install a well. Under current Agency rules, new well permits are issued to the parcel owner, and in these cases, water is allocated on an efficiency allocation (as these permit requests are primarily for agricultural water use). LPUG finds that without transferring Historical Extraction Allocation (HA) from the M&I provider to the parcel owner as part of the well permit process, "double dipping" may take place.

LPUG believes the Agency is not taking advantage of opportunities to transfer HA from water utilities to the individual pumper. LPUG acknowledges this HA transfer issue may expand to other water utilities, and LPUG also acknowledges that under the current Ordinance Code, allocation transfers are not obligatory but require agreement of both parties. Because of this, HA transfers are not normally made part of the well permitting process. LPUG believes that changes in the Ordinance Code should be made to require the Board consider making HA transfers part of the Agency well permitting process.

Fundamental issues raised are double dipping and expansion of use. LPUG's proposed Ordinance Code change may mitigate this slightly. As drafted, LPUG's proposal would revise Chapter 5 of the Ordinance Code (not Chapter 4) and could be adapted with some text changes to apply anywhere in the Agency.

Staff has reviewed the proposed Ordinance Code language. Because the current well permitting process has many steps (~17), and the proposed Ordinance Code approximately doubles the steps (~31), staff prepared a series of graphics (flow charts) to better describe the current and proposed process.

The "Current Process" flowchart describes the current process including the additional steps for LPUG. The FCGMA Board has determined involving LPUG in the well permitting process is important. The value added by LPUG involvement is communication, but adds weeks or month(s) to the well permitting process.

The "LPUG Proposed Process" flowchart adds the proposed LPUG Ordinance Code Change to the Current Process. It (Section 5.5.1.1) would require the Agency conduct a study of well permits issued in the Las Posas Basin WMSA and EMSA since February 25, 2009. If the

Agency found a well owner has discontinued use from the M&I provider, a new series of steps begins. This new series of steps is the same for well permits moving forward (Section 5.5.1). These steps are described below.

Agency staff would be required to draft Board letters and presentations for the Board. The Board would be asked to consider transferring HA from the M&I provider to the new well owner. Of issue would be calculating how much HA is transferred. There are numerous ways to do this, but no standard method is proposed. Your Committee, and ultimately the Board, may or may not decide to delve into these details, or it may simply require the M&I provider and new well owner agree. It's not clear how the Board would respond if agreement cannot be reached. It's also not clear how to address overlapping water providers, and if this should only apply to M&I providers as proposed. It seems fair it should apply to any water supplier that supplied water (via an HA) to the parcel. Additional staff comments are shown in blue outlined boxes on the sheet following "LPUG Proposed Process".

If your Committee desires moving forward with such an approach, Agency staff recommends it be simplified. The "Staff Proposed Process" flowchart would not require as much staff time or your Board's time in the process. It would require your Board add additional text to Section 5.3 of the Ordinance Code and that text is included in the flowchart. The Board would then adopt a Resolution specifying guidance on HA prorating and when and where it should apply. Doing this in a Resolution provides necessary flexibility. Notice of these changes would be provided to water suppliers as appropriate. If a well permit applicant is within an area where allocation prorating is required staff would notify the applicant and have them work out the HA prorating details with the water supplier(s). If a dispute arose regarding HA prorating, the Board would be advised and may be asked to take action.

It should be stated the Board has the authority to make these transfers of HA without an Ordinance Code change. Other options are: (a) don't change the Ordinance Code; or (b) make these HA transfers only apply to the County Waterworks District.

Conclusion:
The proposal from LPUG is meant to apply to the Las Posas Basins, but could be adapted to apply to the entire Agency. It suggests compelling an HA transfer from an M&I provider to a new well owner, but is silent on if these transfers should apply to any water supplier. Staff believes the LPUG concept has some merit, but it will take even more staff time in an already cumbersome well permitting process, and does not appear to have a significant effect on mitigating increased groundwater extractions. It is a complicated process and doesn't include sufficient detail, meaning, in practice it will be more complicated.

The LPUG proposed Ordinance Code change would not have any effect on the recent proposal from Solano Verde Mutual Water Company to transfer its HA to Crestview Mutual Water Company. However, the LPUG proposal does require your Board consider keeping HA earned on the land served by the M&I provider, on that land.

Recommendations:
Staff does not recommend moving forward with the LPUG proposed Ordinance Code change.

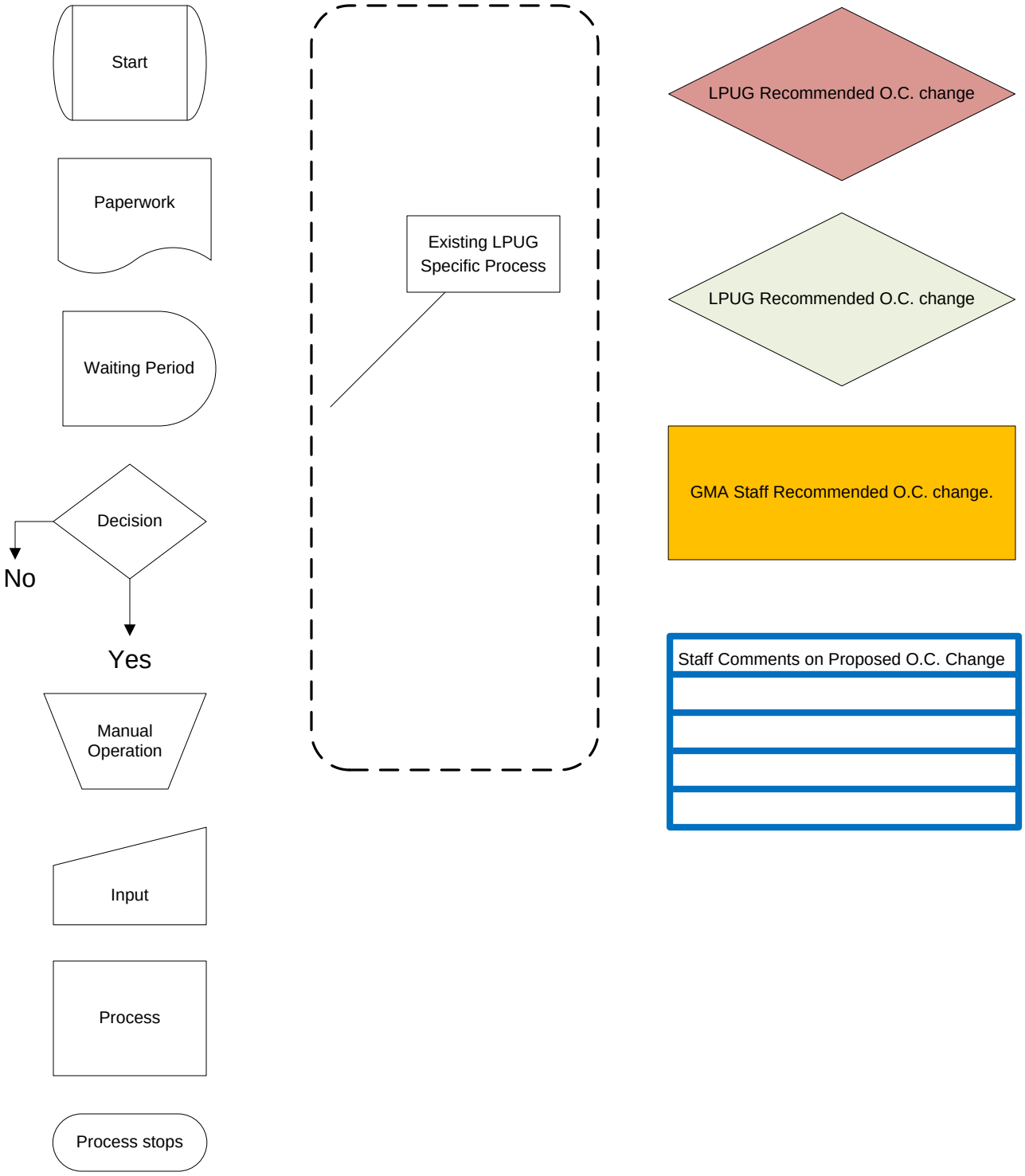
Staff believes that HA transfers can be required without an Ordinance Code change.

Staff feels the essential LPUG goals may be accomplished with the approach detailed in the "Staff Proposed Process" flowchart. If your Committee determines this approach should be further evaluated, we recommend LPUG provide additional feedback on it prior to Agency staff taking further action. The staff approach could also apply in any area of the Agency the Board directs.

Attachments: LPUG Letter and Proposed Ordinance Code change
Flowcharts Describing the Current and Proposed Processes

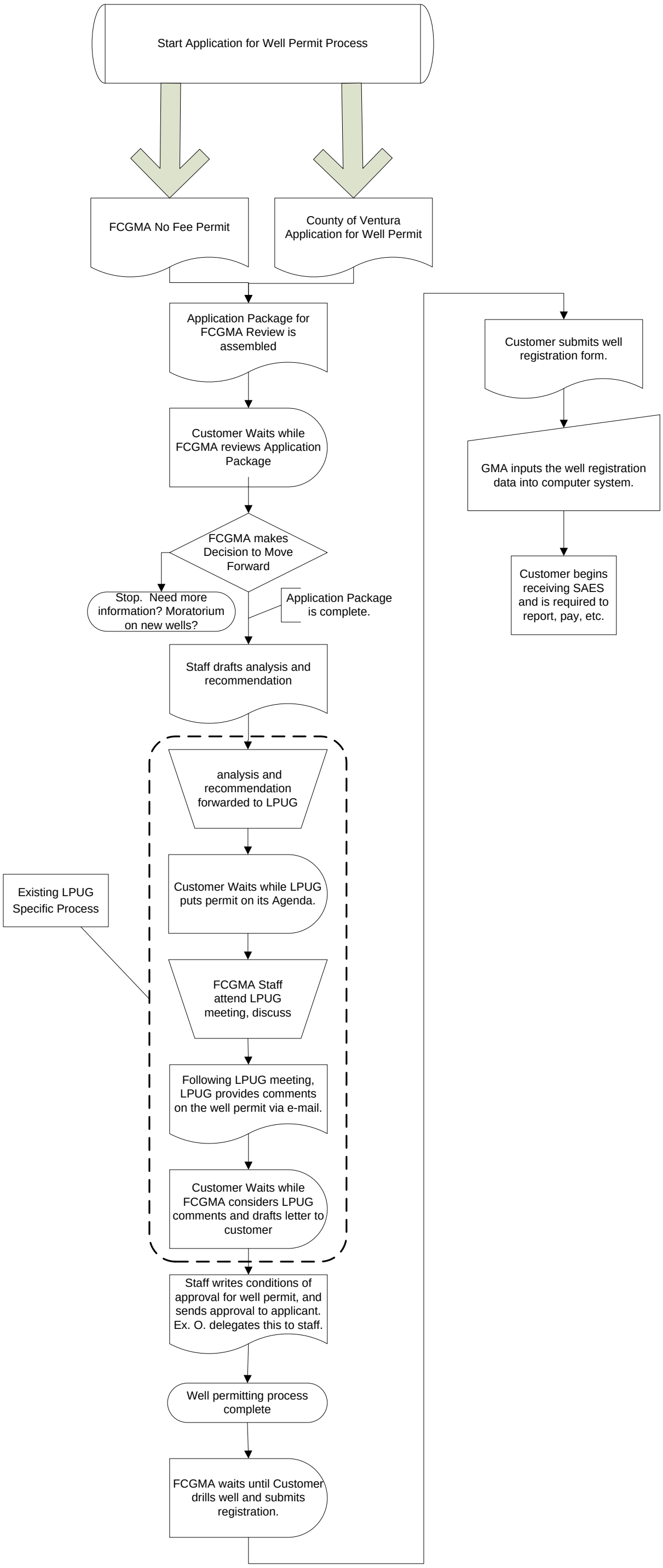
Legend for Flowcharts

10/9/2013



Current Process

10/9/2013



LPUG Proposed Process

10/9/2013

Start Application for Well Permit Process

FCGMA No Fee Permit

County of Ventura Application for Well Permit

Application Package for FCGMA Review is assembled

Customer Waits while FCGMA reviews Application Package

FCGMA makes Decision to Move Forward

Stop. Need more information? Moratorium on new wells?

Application Package complete.

Staff drafts analysis and recommendation

analysis and recommendation forwarded to LPUG

Customer Waits while LPUG puts permit on its Agenda.

FCGMA Staff attend LPUG meeting, discuss

Following LPUG meeting, LPUG provides comments on the well permit via e-mail.

Customer Waits while FCGMA considers LPUG comments and drafts letter to customer

Staff writes conditions of approval for well permit, and sends approval to applicant. Ex. O. delegates this to staff.

Well permitting process complete

FCGMA waits until Customer drills well and submits registration.

Customer submits well registration form.

Start Process for Wells Registered since Feb 25, 2009

5.5.1 Ex. O. determines if Customer has or will be discontinuing or decreasing the volume of service from an M&I Operator.

5.5.1.1 Las Posas WMSA and EMSA. Ex. O. determines if any Customer with well registered since Feb 25, 2009 has or will be discontinuing or decreasing the volume of service from an M&I Operator.

If no discontinuation or decrease, nothing happens

If no discontinuation or decrease, continue to well registration

If yes, service has or will be discontinued or decreased. Ex. O. provides Action Item on a Board meeting agenda prior to completing well registration process. Item provides Board opportunity to transfer allocation per 5.5

Staff drafts Board Letter/ Prepares Action Item with Recommendation for Board, and notifies Customer.

Customer Waits for item to be heard at Board Meeting (Using well is a violation of O.C. as it is not registered).

Board Meeting occurs.

Board determines if it will Adjust the M&I allocation per Section 5.5 of O.C.

Board decides not to transfer allocation.

Board informs Applicant that an allocation transfer will be made from M&I provider to Customer.

Board directs FCGMA staff to make changes in the database to reflect the transfers.

Staff updates database values. Requires moving HA from one of the M&I providers wells to the Customer well. Staff would need to contact M&I provider to verify well.

GMA inputs the well registration data into computer system.

Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.

Customer can move HA back to M&I provider to facilitate temporary water services during unplanned outages or emergencies, at the discretion of the M&I Operator per 5.3.6. Transfer cannot exceed one year

Customer begins receiving SAES and is required to report, pay, etc.

GMA inputs the well registration data into computer system.

Customer begins receiving SAES and is required to report, pay, etc.

LPUG Proposed Process With Staff Comments

10/9/2013

Start Application for Well Permit Process

FCGMA No Fee Permit

County of Ventura Application for Well Permit

Application Package for FCGMA Review is assembled

Customer Waits while FCGMA reviews Application Package

FCGMA makes Decision to Move Forward

Stop. Need more information? Moratorium on new wells?

Application Package complete.

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If no discontinuation or decrease, nothing happens

If no discontinuation or decrease, continue to well registration

What time frame? 12 months, 60 months?

Prospective and/or Retrospective?

Volume of service = imported + local GW?

Only water delivered under HA?

If yes, service has or will be discontinued or decreased. Ex. O. provides Action Item on a Board meeting agenda prior to completing well registration process. Item provides Board opportunity to transfer allocation per 5.5

Includes approximately 12-18 wells.

What time frame? 12 months, 60 months?

Prospective and/or Retrospective?

Volume of service = imported + local GW?

Only water delivered under HA?

Staff drafts Board Letter/ Prepares Action Item with Recommendation for Board, and notifies Customer.

Customer Waits for item to be heard at Board Meeting (Using well is a violation of O.C. as it is not registered).

Board Meeting occurs.

Board determines if it will Adjust the M&I allocation per Section 5.5 of O.C.

No Standard Method to Prorate Allocation

Prorate on base period or current acreage served?

Assumes Customer and M&I Operator agree

Assumes Staff Agrees value is “equitable”

What if provider refuses to make transfer?

Board decides not to transfer allocation.

Board informs Applicant that an allocation transfer will be made from M&I provider to Customer.

GMA inputs the well registration data into computer system.

Board directs FCGMA staff to make changes in the database to reflect the transfers.

Customer begins receiving SAES and is required to report, pay, etc.

Staff updates database values. Requires moving HA from one of the M&I providers wells to the Customer well. Staff would need to contact M&I provider to verify well.

Should be limited to whole year transfers

No intra year or retroactive transfers

GMA inputs the well registration data into computer system.

Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.

Customer can move HA back to M&I provider to facilitate temporary water services during unplanned outages or emergencies, at the discretion of the M&I Operator per 5.3.6. Transfer cannot exceed one year

General Comments

Process should address overlapping providers.

Process should include all types of providers.

Customer begins receiving SAES and is required to report, pay, etc.

Staff Proposed Process

10/9/2013

Start Application for Well Permit Process

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County of Ventura Application for Well Permit

Application Package for FCGMA Review is assembled

Customer Waits while FCGMA reviews Application Package

FCGMA makes Decision to Move Forward

Stop. Need more information? Moratorium on new wells?

Application Package complete.

FCGMA Determines if in area where Board requires Transfer of HA from M&I (and other?) provider to Customer.

No

Yes

Required O.C. change for steps below.
Add sentence to end of O.C. Section 5.3. (not yet sure if applies to only M&I providers, or other providers too)

"If specifically required as part of the well permitting process, the M&I provider (and other?) shall transfer the HA it earned on the parcel receiving the new well. The M&I provider (and other?) and land owner where the new well is placed, shall submit a form letter stating they agree on the amount of transfer."

Making decision requires Board provide specific direction to staff. Board could adopt a Resolution and Map showing areas, and should specify under what conditions it requires the transfer, and when it doesn't. Board provides direction to Water Suppliers to be ready to allocate back HA.

The FCGMA Board would provide guidance on how the HA would be prorated with the understanding that the method may need to be flexible depending on circumstances.

The FCGMA would verify that the proration method followed the Board's guidance, but not dig too deep.

If Customer and M&I provider (and other?) could not agree, then the item goes to the Board and the Board makes a determination.

Staff requires Customer contact M&I (and other?) providers and send them a FCGMA "form" having them allocate HA to customer.

Staff reviews the "form" and includes details in its analysis.

Staff drafts analysis and recommendation

analysis and recommendation forwarded to LPUG

Customer Waits while LPUG puts permit on its Agenda.

FCGMA Staff attend LPUG meeting, discuss

Following LPUG meeting, LPUG provides comments on the well permit via e-mail.

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FCGMA waits until Customer drills well and submits registration.

Customer submits well registration form.

GMA inputs the well registration data into computer system.

FCGMA adds HA into Customer account, and removes HA from supplier's account.

Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.

Customer begins receiving SAES and is required to report, pay, etc.

Executive Committee Meeting
October 11, 2013

SUBJECT: Consider Las Posas Users Group (LPUG) Proposed Ordinance Code Change to Chapter 5.

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Staff will present its review comments of the LPUG proposed Ordinance Code change, and staff will provide recommendations and request feedback.

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If your Committee desires moving forward with such an approach, Agency staff recommends it be simplified. The "Staff Proposed Process" flowchart would not require as much staff time or your Board's time in the process. It would require your Board add additional text to Section 5.3 of the Ordinance Code and that text is included in the flowchart. The Board would then adopt a Resolution specifying guidance on HA prorating and when and where it should apply. Doing this in a Resolution provides necessary flexibility. Notice of these changes would be provided to water suppliers as appropriate. If a well permit applicant is within an area where allocation prorating is required staff would notify the applicant and have them work out the HA prorating details with the water supplier(s). If a dispute arose regarding HA prorating, the Board would be advised and may be asked to take action.

It should be stated the Board has the authority to make these transfers of HA without an Ordinance Code change. Other options are: (a) don't change the Ordinance Code; or (b) make these HA transfers only apply to the County Waterworks District.

Conclusion:
The proposal from LPUG is meant to apply to the Las Posas Basins, but could be adapted to apply to the entire Agency. It suggests compelling an HA transfer from an M&I provider to a new well owner, but is silent on if these transfers should apply to any water supplier. Staff believes the LPUG concept has some merit, but it will take even more staff time in an already cumbersome well permitting process, and does not appear to have a significant effect on mitigating increased groundwater extractions. It is a complicated process and doesn't include sufficient detail, meaning, in practice it will be more complicated.

The LPUG proposed Ordinance Code change would not have any effect on the recent proposal from Solano Verde Mutual Water Company to transfer its HA to Crestview Mutual Water Company. However, the LPUG proposal does require your Board consider keeping HA earned on the land served by the M&I provider, on that land.

Recommendations:
Staff does not recommend moving forward with the LPUG proposed Ordinance Code change.

Staff believes that HA transfers can be required without an Ordinance Code change.

Staff feels the essential LPUG goals may be accomplished with the approach detailed in the "Staff Proposed Process" flowchart. If your Committee determines this approach should be further evaluated, we recommend LPUG provide additional feedback on it prior to Agency staff taking further action. The staff approach could also apply in any area of the Agency the Board directs.

Attachments: LPUG Letter and Proposed Ordinance Code change
Flowcharts Describing the Current and Proposed Processes

July 25, 2013

Jeff Pratt, P.E., Executive Officer
Fox Canyon Groundwater Management Agency
800 South Victoria Ave.
Ventura, CA 93009-1610

Subject: Adjustments to M&I Allocations

Dear Jeff,

As discussed during the April 24, 2013 Las Posas Users Group (LPUG) meeting, and reported to the GMA Board later that same day, the LPUG has noticed that a number of new agricultural wells are being drilled to eliminate or decrease water purchases from Ventura County Waterworks Districts No. 1 and/or 19 (VCWWD). This trend is a potential concern to many members of LPUG because it appears that Fox Canyon Groundwater Management Agency (FCMGA) is not moving historical allocation from the water utility to the individual pumper when the new wells are brought into service. Furthermore, this situation could arise with other water utilities. This situation may represent a potential stumbling block to LPUG as it works on the Las Posas Basin-Specific Groundwater Management Plan.

We believe that Section 5.3.7 of the FCGMA Ordinance Code clearly states that it is the intent of your Board of Directors to ensure that allocations are properly adjusted in the above-described situations. However, as you pointed out during the May 22, 2013 LPUG meeting, the current Ordinance Code language states that such adjustments are not obligatory. Additionally, you indicated that such adjustments are only triggered when a transfer request is made by the water utility and the individual pumper. LPUG recognizes that, under most circumstances, there is no incentive for the water utility or individual pumper to submit an allocation transfer request. So, as a practical matter, there is no expectation that your Board would ever be informed of these situations, let alone have the opportunity to take action pursuant to Section 5.3.7. We do not believe this was the intent of the Board of Directors and we do not believe this is how it should work. To this end, we have prepared the attached proposed changes to the FCGMA Ordinance Code. We request that you please place an item on the September 2013 FCGMA Board of Directors meeting agenda so that your Board may consider our proposed changes.

Sincerely,

Robert Eranio

Robert Eranio
Chair, Las Posas Users Group

cc: FCGMA Board of Directors

Attachment: Recommended changes to the FCGMA Ordinance Code

Attachment: LPUG Recommended changes to the FCGMA Ordinance Code

1. Delete Section 5.3.7

2. Modify Section 5.3.8 as follows: Historical allocation is subject to adjustment as provided in Sections 5.4 and 5.5 below.

3. Add new section 5.5, using text from deleted section 5.3.7, modified as follows:

5.5 Adjustment to M & I Allocations – The Board may adjust the historical allocation of an M & I operator when that operator has supplied groundwater to either an agricultural or M & I user during the historical allocation period and discontinues or decreases the volume of service to that user. This adjustment may be made by transferring the ~~supplied~~ water supplier's allocated portion of the ~~historical allocation from the~~ M & I operator's historical allocation to the new user. This adjustment will avoid increased pumping due to windfall allocations that could otherwise result when the M & I operator discontinues or decreases the volume of service. To avoid retroactive inequities, where an M & I operator has discontinued service to a user prior to July 1, 2005, the amount of the ~~supplied~~ water supplier's allocated portion of the historical allocation may be allocated to both the M & I operator and the user. Following an adjustment made pursuant to this Section, the new user may temporarily assign any transferred historical allocation back to the M & I operator to facilitate temporary water service during unplanned outages or emergencies, at the discretion of the M&I operator and subject to the requirements of Section 5.3.6.

5.5.1 Procedures for Adjustment to M & I Allocations. Following receipt of an Agency extraction facility registration form and prior to completing the registration process, the Executive Officer shall determine if the owner/operator of the extraction facility has or will be discontinuing or decreasing the volume of service from an M & I operator. If the service has or will be discontinued or decreased, the Executive Officer shall provide an Action Item on a Board meeting agenda prior to completing the well registration process. The agenda item shall be written such that it provides the Board with an opportunity to take action pursuant to Section 5.5.

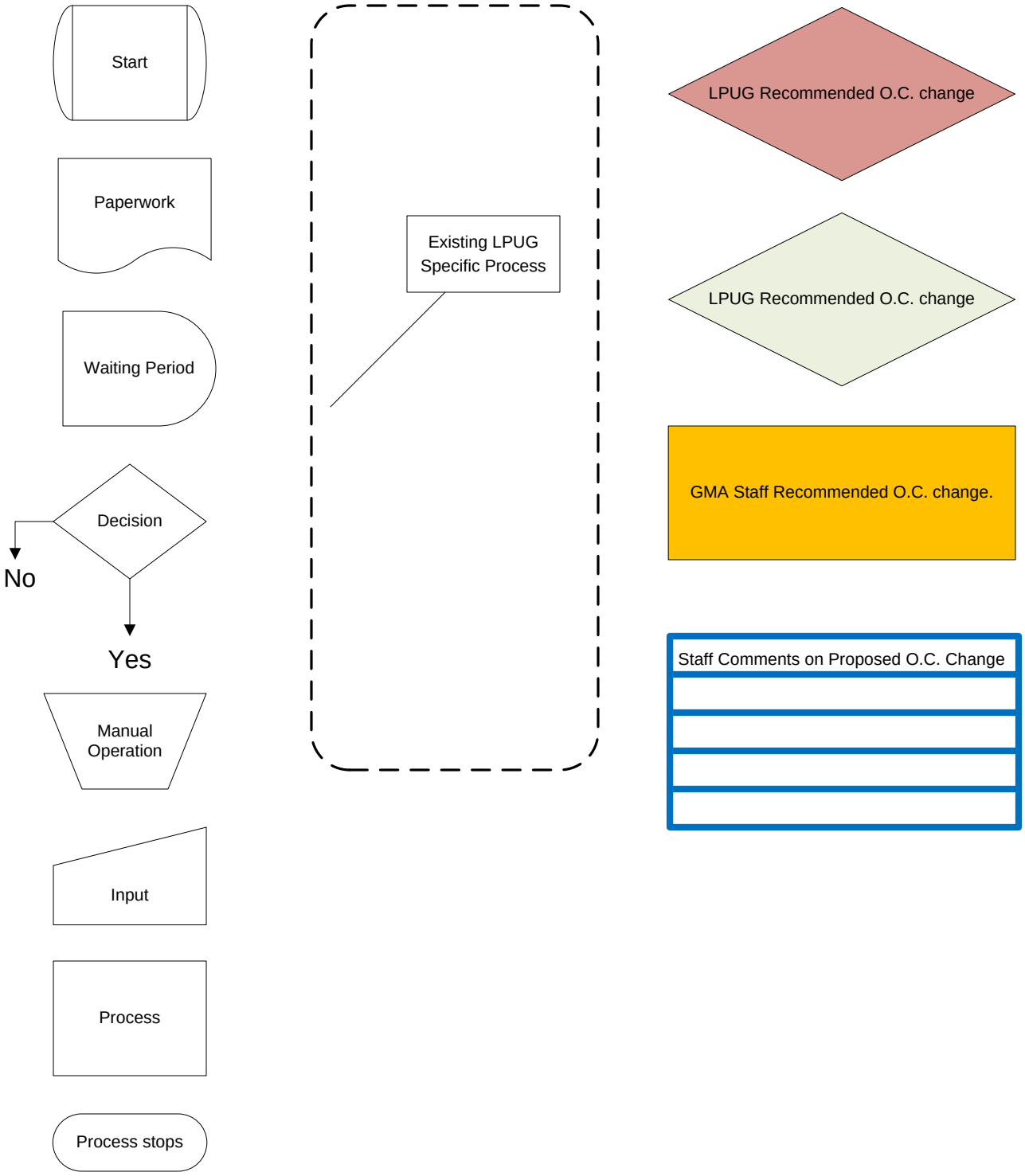
5.5.1.1 Las Posas WMSA and EMSA - The Executive Officer shall review all extraction facilities located in the Las Posas WMSA and EMSA registered after February 25, 2009 to determine if any owners/operators of the extraction facilities have or will be discontinuing or decreasing the volume of service from an M & I operator. If any service has or will be discontinued or decreased, the Executive Officer shall provide an Action Item on a Board meeting agenda no later than December 31, 2013. The agenda item shall be written such that it provides the Board with an opportunity to take action pursuant to Section 5.5.

4. Renumber remaining Section 5 subsections as appropriate.

DRAFT

Legend for Flowcharts

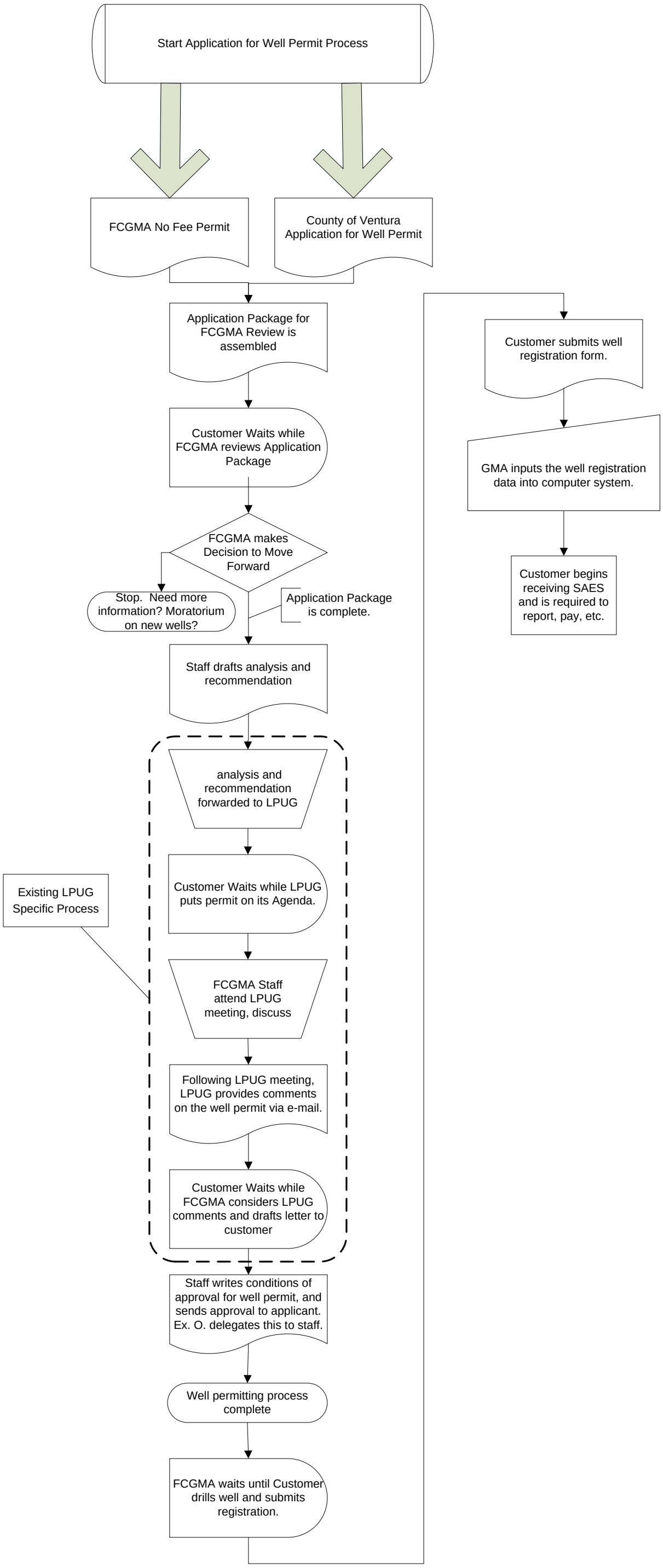
10/9/2013



DRAFT

Current Process

10/9/2013



DRAFT

LPUG Proposed Process

10/9/2013

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FCGMA No Fee Permit

County of Ventura Application for Well Permit

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Stop. Need more information? Moratorium on new wells?

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Well permitting process complete

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Customer submits well registration form.

Start Process for Wells Registered since Feb 25, 2009

5.5.1 Ex. O. determines if Customer has or will be discontinuing or decreasing the volume of service from an M&I Operator.

5.5.1.1 Las Posas WMSA and EMSA. Ex. O. determines if any Customer with well registered since Feb 25, 2009 has or will be discontinuing or decreasing the volume of service from an M&I Operator.

If no discontinuation or decrease, nothing happens

If no discontinuation or decrease, continue to well registration

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Staff drafts Board Letter/ Prepares Action Item with Recommendation for Board, and notifies Customer.

Customer Waits for item to be heard at Board Meeting (Using well is a violation of O.C. as it is not registered).

Board Meeting occurs.

Board determines if it will Adjust the M&I allocation per Section 5.5 of O.C.

Board decides not to transfer allocation.

Board informs Applicant that an allocation transfer will be made from M&I provider to Customer.

Board directs FCGMA staff to make changes in the database to reflect the transfers.

Staff updates database values. Requires moving HA from one of the M&I providers wells to the Customer well. Staff would need to contact M&I provider to verify well.

GMA inputs the well registration data into computer system.

Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.

Customer can move HA back to M&I provider to facilitate temporary water services during unplanned outages or emergencies, at the discretion of the M&I Operator per 5.3.6. Transfer cannot exceed one year

Customer begins receiving SAES and is required to report, pay, etc.

GMA inputs the well registration data into computer system.

Customer begins receiving SAES and is required to report, pay, etc.

DRAFT

LPUG Proposed Process With Staff Comments

10/9/2013

Start Application for Well Permit Process

FCGMA No Fee Permit

County of Ventura Application for Well Permit

Application Package for FCGMA Review is assembled

Customer Waits while FCGMA reviews Application Package

FCGMA makes Decision to Move Forward

Stop. Need more information? Moratorium on new wells?

Application Package complete.

Staff drafts analysis and recommendation

analysis and recommendation forwarded to LPUG

Customer Waits while LPUG puts permit on its Agenda.

FCGMA Staff attend LPUG meeting, discuss

Following LPUG meeting, LPUG provides comments on the well permit via e-mail.

Customer Waits while FCGMA considers LPUG comments and drafts letter to customer

Staff writes conditions of approval for well permit, and sends approval to applicant. Ex. O. delegates this to staff.

Well permitting process complete

FCGMA waits until Customer drills well and submits registration.

Customer submits well registration form.

Start Process for Wells Registered since Feb 25, 2009

5.5.1 Ex. O. determines if Customer has or will be discontinuing or decreasing the volume of service from an M&I Operator.

5.5.1.1 Las Posas WMSA and EMSA. Ex. O. determines if any Customer with well registered since Feb 25, 2009 has or will be discontinuing or decreasing the volume of service from an M&I Operator.

If no discontinuation or decrease, nothing happens

If no discontinuation or decrease, continue to well registration

What time frame? 12 months, 60 months?

Prospective and/or Retrospective?

Volume of service = imported + local GW?

Only water delivered under HA?

If yes, service has or will be discontinued or decreased. Ex. O. provides Action Item on a Board meeting agenda prior to completing well registration process. Item provides Board opportunity to transfer allocation per 5.5

Includes approximately 12-18 wells.

What time frame? 12 months, 60 months?

Prospective and/or Retrospective?

Volume of service = imported + local GW?

Only water delivered under HA?

Staff drafts Board Letter/ Prepares Action Item with Recommendation for Board, and notifies Customer.

Customer Waits for item to be heard at Board Meeting (Using well is a violation of O.C. as it is not registered).

Board Meeting occurs.

Board determines if it will Adjust the M&I allocation per Section 5.5 of O.C.

No Standard Method to Prorate Allocation

Prorate on base period or current acreage served?

Assumes Customer and M&I Operator agree

Assumes Staff Agrees value is "equitable"

What if provider refuses to make transfer?

Board decides not to transfer allocation.

Board informs Applicant that an allocation transfer will be made from M&I provider to Customer.

GMA inputs the well registration data into computer system.

Board directs FCGMA staff to make changes in the database to reflect the transfers.

Customer begins receiving SAES and is required to report, pay, etc.

Staff updates database values. Requires moving HA from one of the M&I providers wells to the Customer well. Staff would need to contact M&I provider to verify well.

Should be limited to whole year transfers

No intra year or retroactive transfers

GMA inputs the well registration data into computer system.

Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.

Customer can move HA back to M&I provider to facilitate temporary water services during unplanned outages or emergencies, at the discretion of the M&I Operator per 5.3.6. Transfer cannot exceed one year

General Comments

Process should address overlapping providers.

Process should include all types of providers.

Customer begins receiving SAES and is required to report, pay, etc.

DRAFT

Staff Proposed Process

10/9/2013

Start Application for Well Permit Process

FCGMA No Fee Permit

County of Ventura Application for Well Permit

Application Package for FCGMA Review is assembled

Customer Waits while FCGMA reviews Application Package

FCGMA makes Decision to Move Forward

Stop. Need more information? Moratorium on new wells?

Application Package complete.

FCGMA Determines if in area where Board requires Transfer of HA from M&I (and other?) provider to Customer.

No

Yes

Required O.C. change for steps below.
Add sentence to end of O.C. Section 5.3. (not yet sure if applies to only M&I providers, or other providers too)

"If specifically required as part of the well permitting process, the M&I provider (and other?) shall transfer the HA it earned on the parcel receiving the new well. The M&I provider (and other?) and land owner where the new well is placed, shall submit a form letter stating they agree on the amount of transfer."

Making decision requires Board provide specific direction to staff. Board could adopt a Resolution and Map showing areas, and should specify under what conditions it requires the transfer, and when it doesn't. Board provides direction to Water Suppliers to be ready to allocate back HA.

The FCGMA Board would provide guidance on how the HA would be prorated with the understanding that the method may need to be flexible depending on circumstances.

The FCGMA would verify that the proration method followed the Board's guidance, but not dig too deep.

If Customer and M&I provider (and other?) could not agree, then the item goes to the Board and the Board makes a determination.

Staff requires Customer contact M&I (and other?) providers and send them a FCGMA "form" having them allocate HA to customer.

Staff reviews the "form" and includes details in its analysis.

Staff drafts analysis and recommendation

analysis and recommendation forwarded to LPUG

Customer Waits while LPUG puts permit on its Agenda.

FCGMA Staff attend LPUG meeting, discuss

Following LPUG meeting, LPUG provides comments on the well permit via e-mail.

Customer Waits while FCGMA considers LPUG comments and drafts letter to customer

Staff writes conditions of approval for well permit, and sends approval to applicant. Ex. O. delegates this to staff.

Well permitting process complete

FCGMA waits until Customer drills well and submits registration.

Customer submits well registration form.

GMA inputs the well registration data into computer system.

FCGMA adds HA into Customer account, and removes HA from supplier's account.

Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.

Customer begins receiving SAES and is required to report, pay, etc.

July 25, 2013

Jeff Pratt, P.E., Executive Officer
Fox Canyon Groundwater Management Agency
800 South Victoria Ave.
Ventura, CA 93009-1610

Subject: Adjustments to M&I Allocations

Dear Jeff,

As discussed during the April 24, 2013 Las Posas Users Group (LPUG) meeting, and reported to the GMA Board later that same day, the LPUG has noticed that a number of new agricultural wells are being drilled to eliminate or decrease water purchases from Ventura County Waterworks Districts No. 1 and/or 19 (VCWWD). This trend is a potential concern to many members of LPUG because it appears that Fox Canyon Groundwater Management Agency (FCMGA) is not moving historical allocation from the water utility to the individual pumper when the new wells are brought into service. Furthermore, this situation could arise with other water utilities. This situation may represent a potential stumbling block to LPUG as it works on the Las Posas Basin-Specific Groundwater Management Plan.

We believe that Section 5.3.7 of the FCGMA Ordinance Code clearly states that it is the intent of your Board of Directors to ensure that allocations are properly adjusted in the above-described situations. However, as you pointed out during the May 22, 2013 LPUG meeting, the current Ordinance Code language states that such adjustments are not obligatory. Additionally, you indicated that such adjustments are only triggered when a transfer request is made by the water utility and the individual pumper. LPUG recognizes that, under most circumstances, there is no incentive for the water utility or individual pumper to submit an allocation transfer request. So, as a practical matter, there is no expectation that your Board would ever be informed of these situations, let alone have the opportunity to take action pursuant to Section 5.3.7. We do not believe this was the intent of the Board of Directors and we do not believe this is how it should work. To this end, we have prepared the attached proposed changes to the FCGMA Ordinance Code. We request that you please place an item on the September 2013 FCGMA Board of Directors meeting agenda so that your Board may consider our proposed changes.

Sincerely,

Robert Eranio

Robert Eranio
Chair, Las Posas Users Group

cc: FCGMA Board of Directors

Attachment: Recommended changes to the FCGMA Ordinance Code

Attachment: LPUG Recommended changes to the FCGMA Ordinance Code

1. Delete Section 5.3.7

2. Modify Section 5.3.8 as follows: Historical allocation is subject to adjustment as provided in Sections 5.4 and 5.5 below.

3. Add new section 5.5, using text from deleted section 5.3.7, modified as follows:

5.5 Adjustment to M & I Allocations – The Board may adjust the historical allocation of an M & I operator when that operator has supplied groundwater to either an agricultural or M & I user during the historical allocation period and discontinues or decreases the volume of service to that user. This adjustment may be made by transferring the ~~supplied~~ water supplier's allocated portion of the ~~historical allocation from the~~ M & I operator's historical allocation to the new user. This adjustment will avoid increased pumping due to windfall allocations that could otherwise result when the M & I operator discontinues or decreases the volume of service. To avoid retroactive inequities, where an M & I operator has discontinued service to a user prior to July 1, 2005, the amount of the ~~supplied~~ water supplier's allocated portion of the historical allocation may be allocated to both the M & I operator and the user. Following an adjustment made pursuant to this Section, the new user may temporarily assign any transferred historical allocation back to the M & I operator to facilitate temporary water service during unplanned outages or emergencies, at the discretion of the M&I operator and subject to the requirements of Section 5.3.6.

5.5.1 Procedures for Adjustment to M & I Allocations. Following receipt of an Agency extraction facility registration form and prior to completing the registration process, the Executive Officer shall determine if the owner/operator of the extraction facility has or will be discontinuing or decreasing the volume of service from an M & I operator. If the service has or will be discontinued or decreased, the Executive Officer shall provide an Action Item on a Board meeting agenda prior to completing the well registration process. The agenda item shall be written such that it provides the Board with an opportunity to take action pursuant to Section 5.5.

5.5.1.1 Las Posas WMSA and EMSA - The Executive Officer shall review all extraction facilities located in the Las Posas WMSA and EMSA registered after February 25, 2009 to determine if any owners/operators of the extraction facilities have or will be discontinuing or decreasing the volume of service from an M & I operator. If any service has or will be discontinued or decreased, the Executive Officer shall provide an Action Item on a Board meeting agenda no later than December 31, 2013. The agenda item shall be written such that it provides the Board with an opportunity to take action pursuant to Section 5.5.

4. Renumber remaining Section 5 subsections as appropriate.

Consider Las Posas Users Group (LPUG) Proposed Ordinance Code Change to Chapter 5.

Executive Committee Meeting
October 11, 2013

Rick Viergutz, CEG
Groundwater Manager
FCGMA

Background

- The Agency received a request (on July 25, 2013) from LPUG to evaluate proposed O.C. Change.
- LPUG is concerned about well permits issued to land owners that normally use M&I provided water for irrigation.
- The GMA receives, evaluates, and approves these well permit requests (with LPUG communication).

Background

- Traditionally, FCGMA conditions of well permit approval for customers without HA:
  - Do not require allocation be transferred from any HA provider.
  - For Ag use, the allocation is an efficiency allocation

- Without transferring some HA from the M&I provider to the new well owner, the M&I provider allocation is not reduced and can be used elsewhere.

Background

- LPUG believes the FCGMA is missing an opportunity (with the well permitting process) to transfer HA from an M&I provider to the new well owner.

- It feels the Board should be made aware and it may desire to make HA transfers part of the well permitting process.

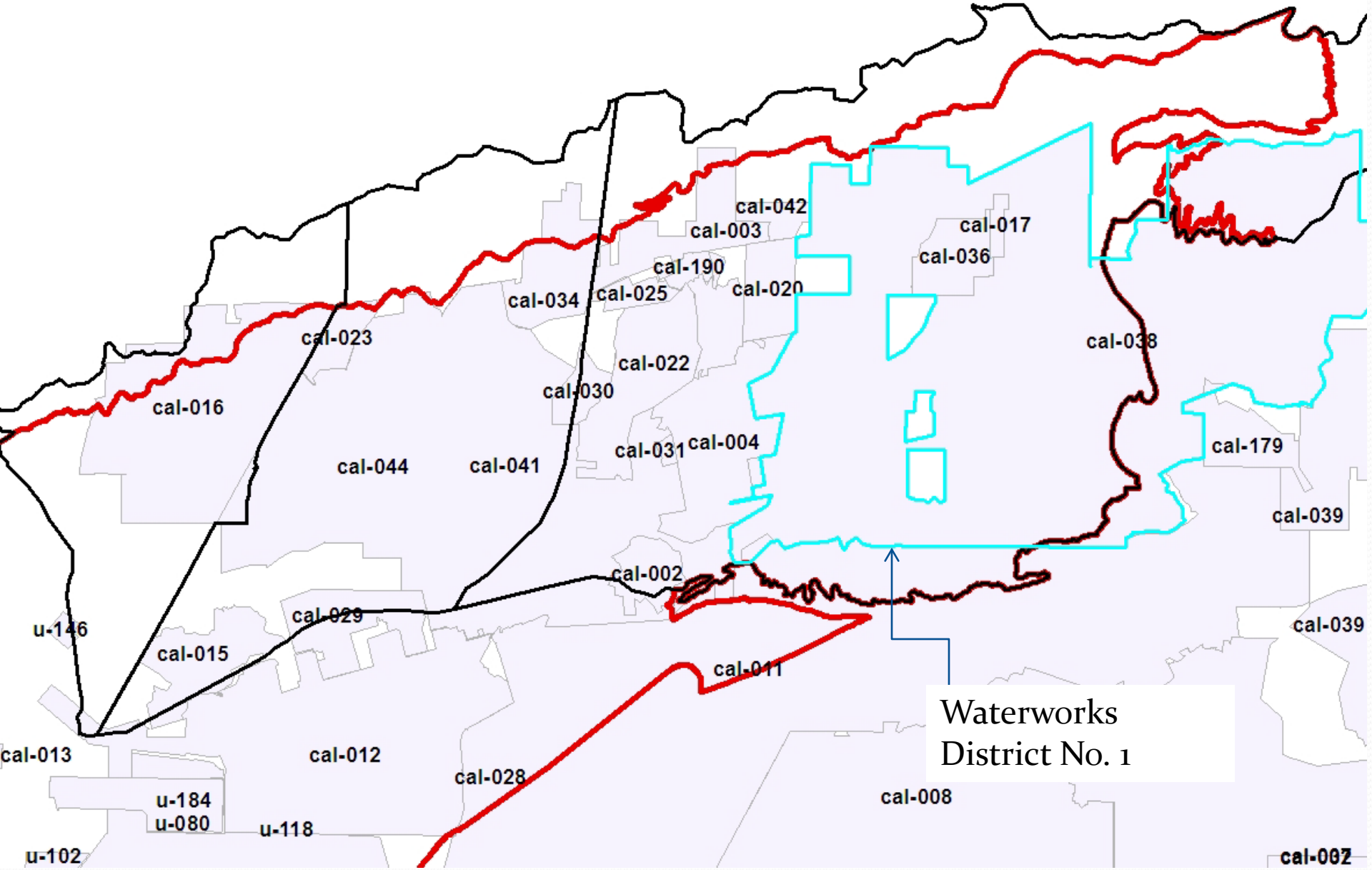
- It also recognizes that compelling HA transfers as part of well permitting could expand to other water suppliers and the entire Agency.

Background

- Issue is expansion of use and double dipping.

- LPUG's proposal as drafted would mitigate expansion of use slightly.
  - The County Waterworks District appears willing to transfer 0.9 AF/acre of HA to new well owner.
  - It would not require other water purveyors (HA providers)in Las Posas to transfer HA.

Water Provider Service Areas



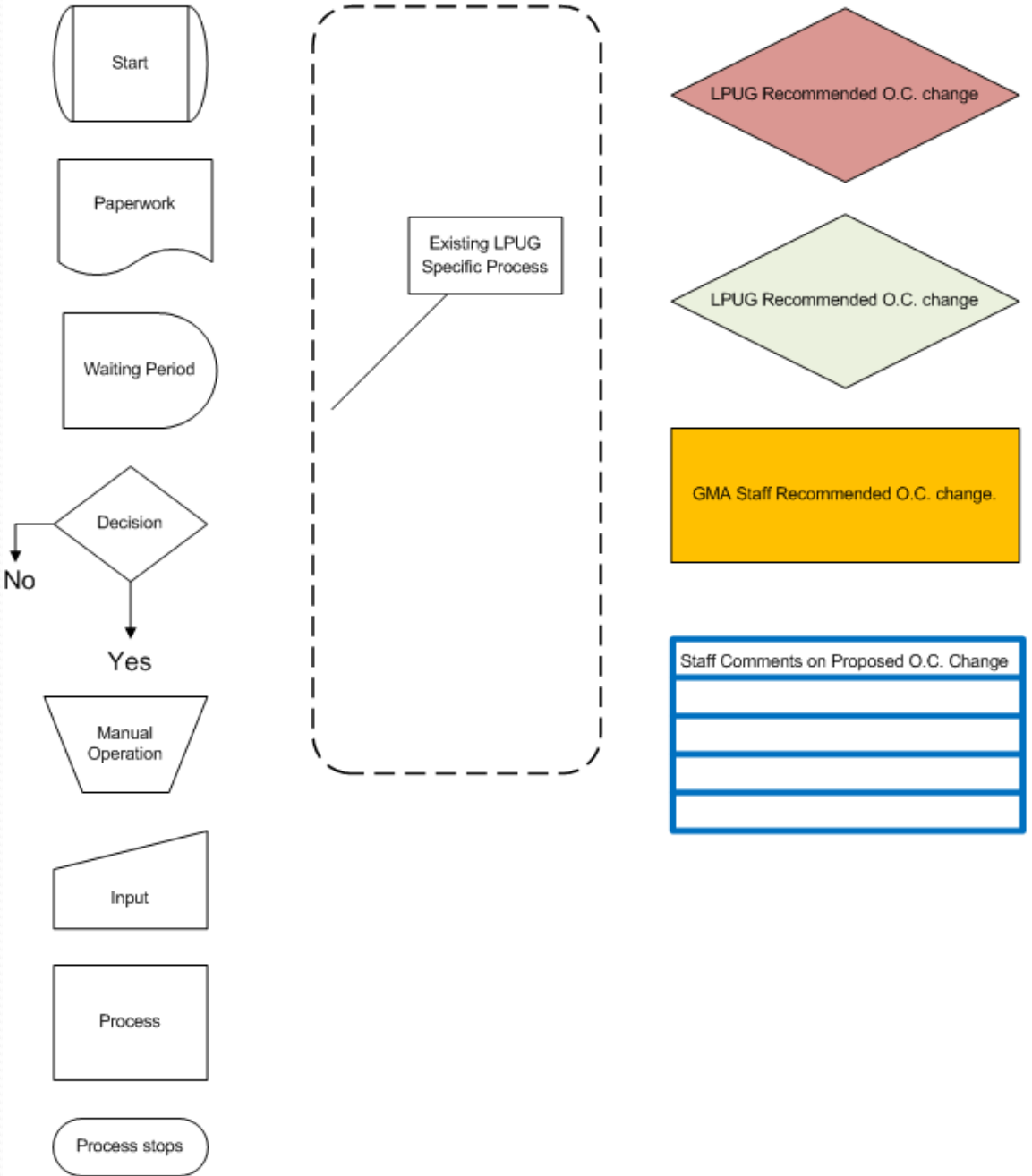
Background

- Permitting process has approximately 17 steps and proposed process has approximately 31 steps

- Current and Proposed well permitting process is best described with flowcharts.

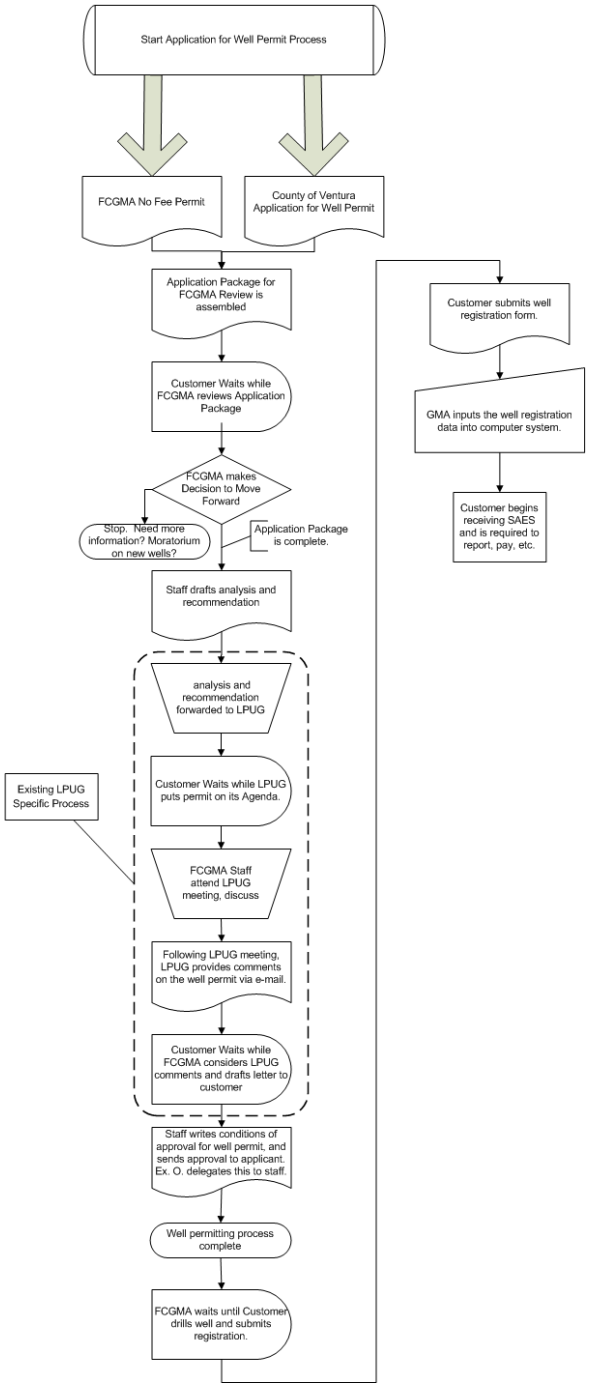
Legend for Flowcharts

10/9/2013



Current Process

10/9/2013



Proposed Process

- Has two related processes
  - One retrospective, on prospective.
  - Both require review to determine if volume of water service to the well permit applicant (Customer) from M&I provider has or will be discontinuing or decreasing.
    - Agency reviews well permits issued since February 25, 2009 (per new process 5.5.1.1)
    - Agency reviews new well permit requests (per 5.5.1)

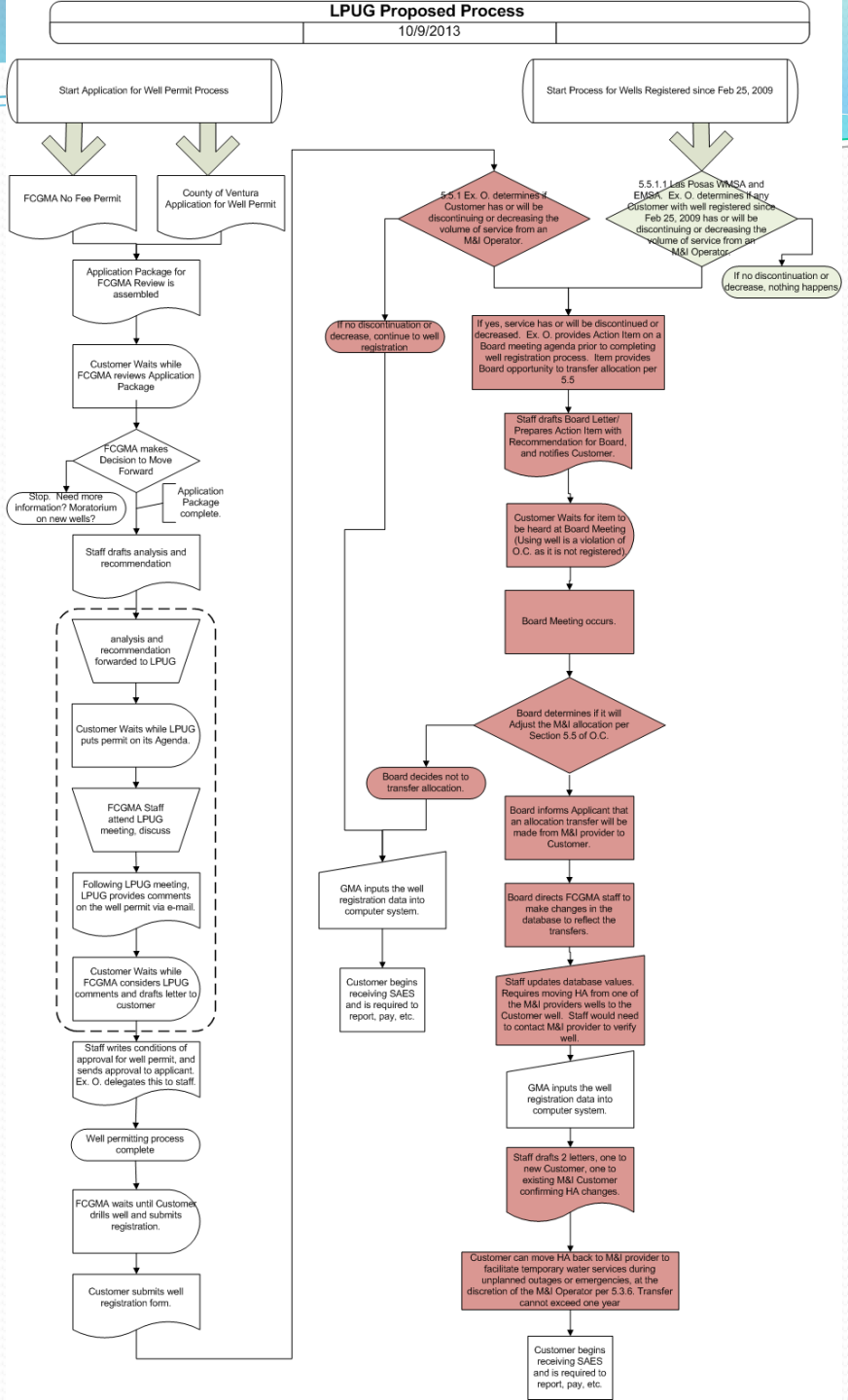
Proposed Process

- Board letter and presentation prepared
  - Applicant and M&I provider would likely attend.
- Board asked to consider transferring HA from M&I provider to Customer.
- Exactly how the HA transfer would be arrived at is not entirely clear.
  - Based only on acres served during HA period
  - Based on current acres served
  - Potentially very time consuming

Proposed Process

- Continued- HA transfer evaluation.
  - Based only on acres served during HA period
  - Based on current acres served
  - Potentially very time consuming
  - The Board may merely require the M&I provider agree.

- If agreement not reached, it's not clear how the Board may respond.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If no discontinuation or decrease, nothing happens
Application Package for FCGMA Review is assembled
If no discontinuation or decrease, continue to well registration
If yes, service has or will be discontinued or decreased. Ex. O. provides Action Item on a Board meeting agenda prior to completing well registration process. Item provides Board opportunity to transfer allocation per 5.5
Customer Waits while FCGMA reviews Application Package
Staff drafts Board Letter/ Prepares Action Item with Recommendation for Board, and notifies Customer.
FCGMA makes Decision to Move Forward
Stop. Need more information? Moratorium on new wells?
Application Package complete.
Customer Waits for item to be heard at Board Meeting (Using well is a violation of O.C. as it is not registered)
Staff drafts analysis and recommendation
Board Meeting occurs.
analysis and recommendation forwarded to LPUG
Board determines if it will Adjust the M&I allocation per Section 5.5 of O.C.
Customer Waits while LPUG puts permit on its Agenda.
Board decides not to transfer allocation.
Board informs Applicant that an allocation transfer will be made from M&I provider to Customer.
FCGMA Staff attend LPUG meeting, discuss
GMA inputs the well registration data into computer system.
Board directs FCGMA staff to make changes in the database to reflect the transfers.
Following LPUG meeting, LPUG provides comments on the well permit via e-mail.
Customer begins receiving SAES and is required to report, pay, etc.
Staff updates database values. Requires moving HA from one of the M&I providers wells to the Customer well. Staff would need to contact M&I provider to verify well.
Customer Waits while FCGMA considers LPUG comments and drafts letter to customer
GMA inputs the well registration data into computer system.
Staff writes conditions of approval for well permit, and sends approval to applicant. Ex. O. delegates this to staff.
Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.
Well permitting process complete
Customer can move HA back to M&I provider to facilitate temporary water services during unplanned outages or emergencies, at the discretion of the M&I Operator per 5.3.6. Transfer cannot exceed one year
FCGMA waits until Customer drills well and submits registration.
Customer begins receiving SAES and is required to report, pay, etc.
Customer submits well registration form.

Proposed Process

- Some questions on specifics.
  - Timeframe of discontinuation or decrease of volume of service.
  - Is change in volume of service retrospective or prospective?
  - Volume of service = imported plus local GW?
  - Volume of service is only delivered under HA?

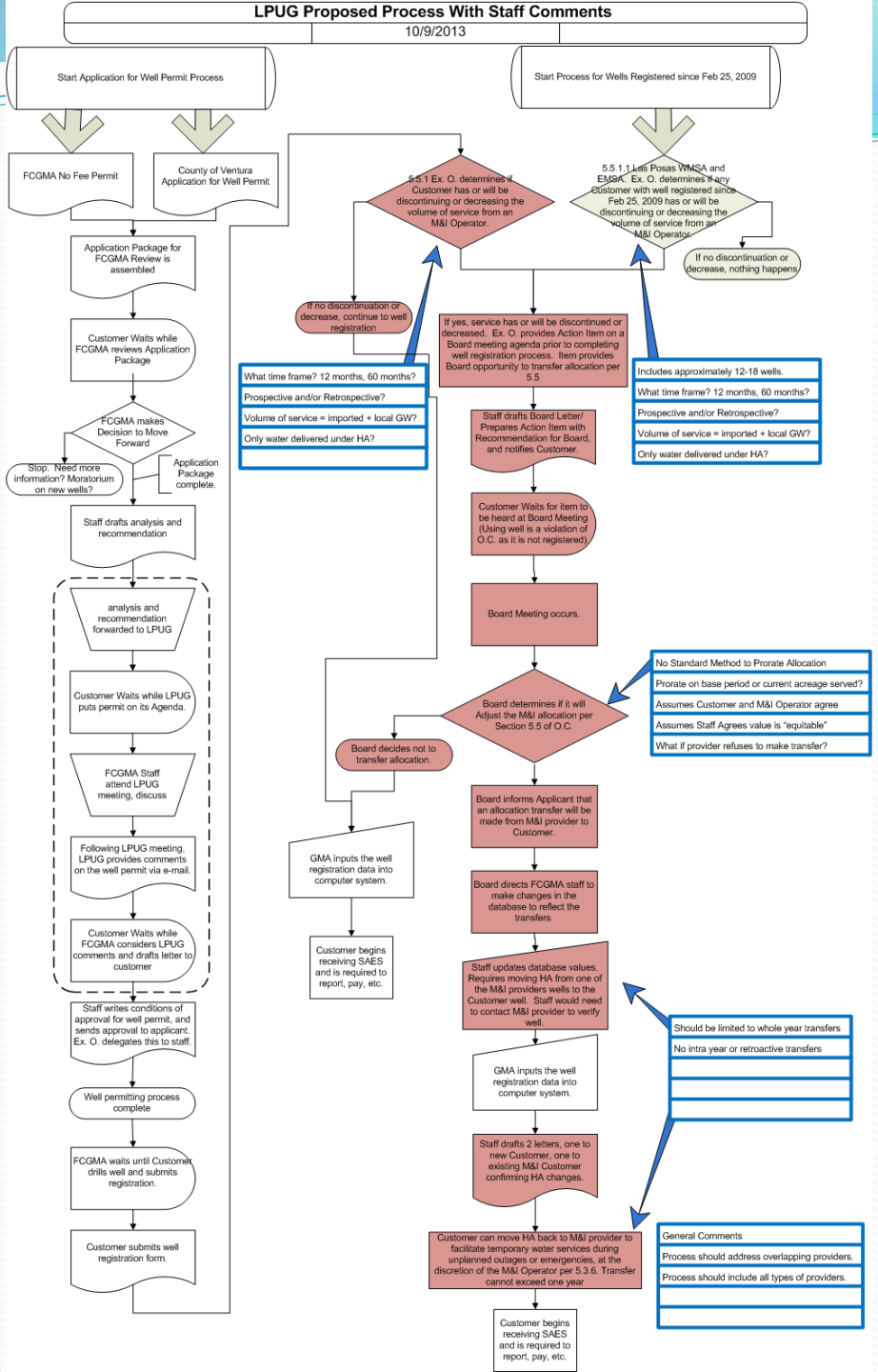
Proposed Process

- Questions on specifics (cont.)
  - No standard method for prorating HA.
  - Based on acreage during base period, or current?
  - Assumes M&I provider and customer agree.
  - Assumes staff agrees value is “equitable”.

- Staff does not recommend we “incentivize” HA transfers back to M&I provider on an ad hoc basis.
  - Limit these to prospective transfers and to whole years.

Proposed Process

- Comments on specifics
- Staff suggests that to be fair the HA transfer should apply to any provider using HA
- Staff suggests overlapping providers need to be included.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What time frame? 12 months, 60 months?
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Includes approximately 12-18 wells.
What time frame? 12 months, 60 months?
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Board Meeting occurs.
No Standard Method to Prorate Allocation
Prorate on base period or current acreage served?
Assumes Customer and M&I Operator agree
Assumes Staff Agrees value is "equitable"
What if provider refuses to make transfer?
Board determines if it will Adjust the M&I allocation per Section 5.5 of O.C.
Board decides not to transfer allocation.
GMA inputs the well registration data into computer system.
Customer begins receiving SAES and is required to report, pay, etc.
Board informs Applicant that an allocation transfer will be made from M&I provider to Customer.
Board directs FCGMA staff to make changes in the database to reflect the transfers.
Staff updates database values. Requires moving HA from one of the M&I providers wells to the Customer well. Staff would need to contact M&I provider to verify well.
Should be limited to whole year transfers
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Staff drafts 2 letters, one to new Customer, one to existing M&I Customer confirming HA changes.
Customer can move HA back to M&I provider to facilitate temporary water services during unplanned outages or emergencies, at the discretion of the M&I Operator per 5.3.6. Transfer cannot exceed one year
General Comments
Process should address overlapping providers.
Process should include all types of providers.
Customer begins receiving SAES and is required to report, pay, etc.

Staff (Alternate) Proposed Process

- If your Committee desires moving forward with such a process, we recommend it be simplified.

- Alternate would require less change to O.C., but require a Resolution.
  - Res. would provide detail on where the HA transfers are required.
  - Res. Would detail out how HA is to be prorated.

- It would require less Staff and Board time, and we think still meets LPUG interest

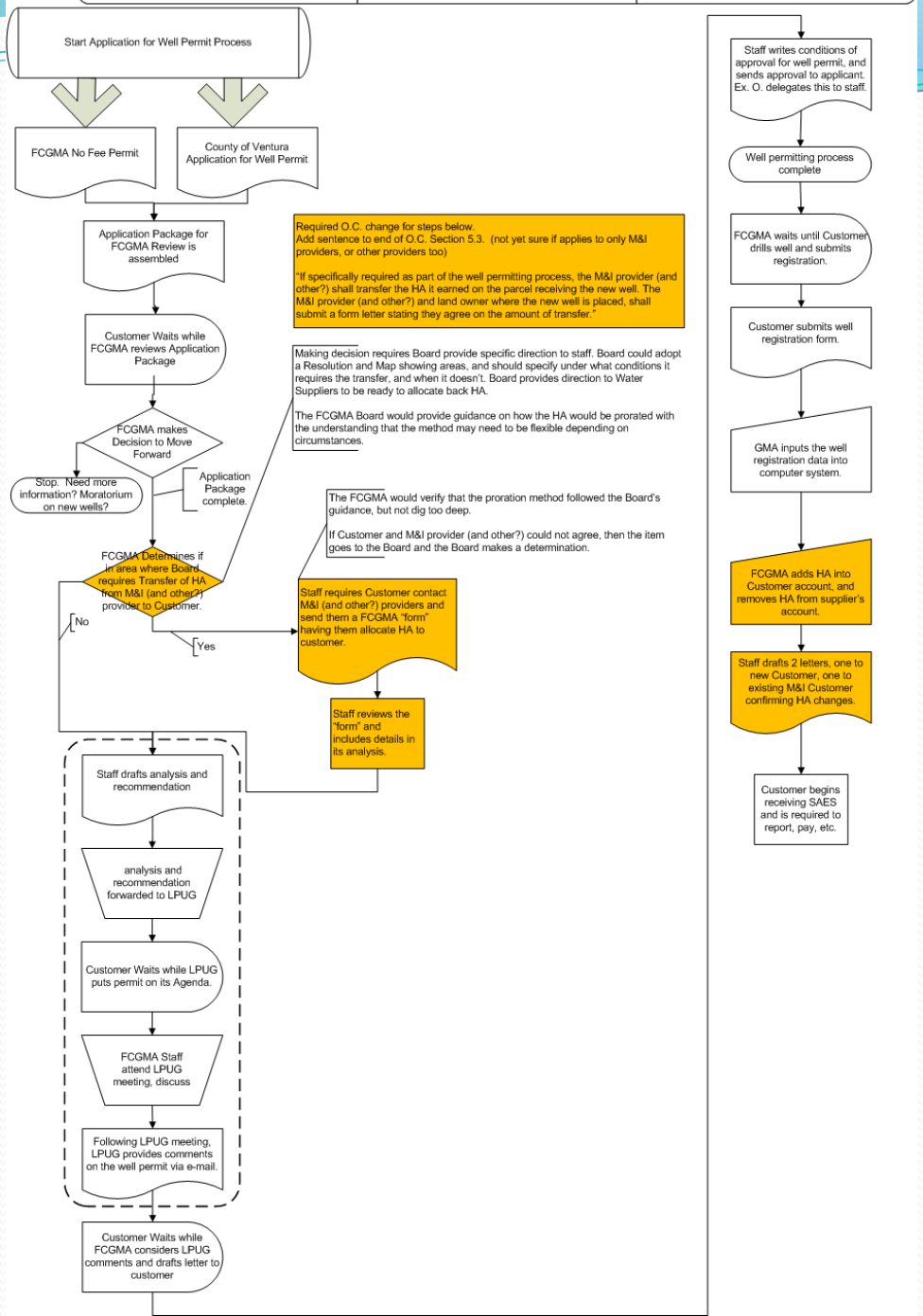
Staff (Alternate) Proposed Process

- These changes would be communicated to water suppliers as part of the O.C. change process.

- During well permitting process
  - Staff would tell the applicant if HA transfer required.
  - Staff would provide a “form” to be jointly signed.
  - If a dispute/disagreement arose, it would come to the Board.

Staff Proposed Process

10/9/2013



Conclusion

- LPUG proposal meant to apply to Las Posas Basins, but could be adapted Agency wide.
- May compel a board approved HA transfer from an M&I provider to Customer.
- Proposal is silent on if this HA transfer should be applied regardless of “type” of HA provider.
- Idea has merit, but very time consuming.
- Doesn’t appear to have significant effect on mitigating expansion of use.
- More specific details would need to be developed.

Conclusion

- LPUG proposal has no bearing on recent Solano Verde MWC proposal to transfer all HA to Crestview MWC.

- LPUG proposal does ask the Board to consider “keeping” HA on the land where it was earned.

Recommendation

- Staff does not recommend moving forward with current LPUG proposal.
- Staff does not recommend the Ordinance Code be changed to require Board consideration of HA transfers.
- If the Committee feels an Ordinance Code change be considered, we recommend we receive feedback from LPUG on staff's proposed method before proceeding further.

Questions?

Consider Las Posas Users Group (LPUG) Proposed Ordinance Code Change to Chapter 5.

Executive Committee Meeting
October 11, 2013

Rick Viergutz, CEG
Groundwater Manager
FCGMA

Introduction

- The following was discussed at the last Executive Committee Meeting :
  - A specific request for a transfer of historic extraction allocation.
  - Current policies, policy implications, and policy ideas.

- Your committee provided direction to staff to follow up on some issues, including:
  - Past Transfers of HA
  - Pumping Trough Pipeline issues

Specific Request

- Staff is seeking direction from the Board on how to process requests for Transfers of Historical Allocation.

- Staff requests feedback on a drat Transfer of HA policy.