

**SHEEP CREEK WATER COMPANY
WATER MASTER PLAN –
2006 UPDATE**

DECEMBER 2006

FINAL DRAFT

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Prepared By: Albert A. Webb Associates, Inc., Riverside, California

ACKNOWLEDGEMENT

This Water Master Plan – 2006 Update Report was prepared with the assistance of the Water Company's manager and his staff. Input from the Board of Directors is gratefully appreciated.

ALBERT A. WEBB ASSOCIATES, INC.


Fred Hans Hanson, Vice President

David M. Algranti, P.E., Principal Engineer



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CHAPTER 1

INTRODUCTION

SHEEP CREEK WATER COMPANY 2006 WATER MASTER PLAN UPDATE

AUTHORIZATION AND SCOPE

As requested by the Company, this December 2006 Final Draft Update of the Company's March 1992 Water Master Plan will address planned growth and the needed water supply for the Company's service area. As required by CDHS, the Company submitted an October 2006 draft copy of this 2006 Water Master Plan update to DHS prior to October 1, 2006. Work to be performed includes the following tasks:

The Master Plan is required to determine existing system inadequacies and to develop a water system plan for the future. Work to be performed includes the following:

- A. Water system service area – Includes a general review of water system service area and service commitments. Company's existing boundary will be the basis of control. Review Company's pertinent records, correspondence and reference data.
- B. Population projections and future water use – Projections will be based on historical information from the Company, including updated data from County Planning Department, to serve as basis for forecasting future populations. Water demand will be broken down by lot counts. The April, 2006 Draft County General Plan (Phelan area) land use zoning designation will be reviewed to update the population projection.
- C. Sources of water supply – Review sources of water supply (well and tunnel facilities and/or imported water) to meet future needs.
- D. Storage requirements – Review the amount of storage facility to optimize pumping requirements and costs, including the cost/benefit of off-peak pumping (with storage) versus on-peak pumping.
- E. Water distribution system – Review computer model data from the Company's March 1992 Water Master Plan. Existing and projected future water distribution piping systems will be reviewed and analyzed concentrating on maximum day demands and fire flows throughout the whole system.
- F. New water system facilities and construction costs – Project a timetable of constructing these new facilities and provide an updated construction cost breakdown. Implementation schedule and financing will be adjusted per discussion with Company and shareholder representatives. Review with

Company staff and summarize all findings and recommendations in the Master Plan Report.

- G. Master Plan Report – A Master Plan Report summarizing the above findings will be provided. For the existing and projected distribution/transmission piping systems, well sites, and storage facilities, information will be presented using maps, tables and figures. Appendices include copies of pertinent reference documents.

GENERAL HISTORY

Sheep Creek Water Company is a Mutual Water Company providing water service in portions of the Phelan area in San Bernardino County, California. Water is delivered to various shareholders of the corporation through a distribution system within the general service area of the Company. Water is obtained from wells and a tunnel constructed in the 1920's underlying a portion of Sheep Creek about four miles southwesterly of the service area. Work on the tunnel was performed in several stages and precipitated extensive litigation, which eventually established certain rights by various parties. Tunnel flows had steadily decreased as years passed until rehabilitation work involving removal of debris was performed during late 1990 and early 1991. Refer to Appendix D for table showing monthly precipitation (Yr 2002-2006) for both the Wrightwood Station and the Pearblossom Station; from Climatological Data publications.

STUDY AREA

The Master Plan study area includes areas in and around the community of Phelan in San Bernardino County as shown in Figure 1-1 (map in pocket in back of report). Sections included within the study areas are Sections 7, 18, 19 of Township 4 North, Range 6 West; and Sections 11, 12, 13, 14, 23, 24 and 25 of Township 4 North, Range 7 West, San Bernardino Base Meridian. Areas outside of Phelan, along State Highways 2 and 138 in Section 26, 34 and 35 of Township 4 North, Range 7 West, San Bernardino Base and Meridian are also included.

SUMMARY AND RECOMMENDATIONS

This paragraph provides a brief summary and recommendation of the entire water master plan. Based on land use and historical patterns of water usage, the existing and future maximum day water demands are estimated at 1,096 GPM and 6,768 GPM respectively. A total of 3,700 connections are anticipated at 100% saturated build-out. At present, the primary source of water supply is groundwater via wells and the tunnel and will continue to be until pumping costs become uneconomical due to lowering of the groundwater table.

At that time, available imported water (State Project Water) could be used to supplement groundwater supplies. New wells may be divided between southern and northern extremes, perhaps even northwest into Los Angeles County; a separate

engineering/economic study is recommended to develop alternative plans and compare the various alternative plans on a present worth (cost/benefit) analysis considering both capital and O&M cost projections. For the selected alternate plan, preparation of a preliminary design report is recommended (prior to final design) to address sizing, alignments, permitting, environmental clearances, cost estimates, funding, scheduling, etc.

For increased system reliability purposes, construction of a permanent two-way flow emergency connection (tank to tank) is recommended between the Company and SBC Zone L systems, to be located at the Company's existing Reservoir No. 6 site.

Proposed improvements to the water system are grouped into two categories:

1. Improvements of existing water facilities to assure adequate levels of service to customers and/
2. Phased improvement of the water system to meet future demands at 100% saturation.

It is recommended that the Company should continue to plan and implement very soon (as a high priority) additional sources of supply for increased system reliability.

It is recommended that the Company should continue to plan and soon implement additional storage facilities for increased system reliability.

It is recommended that the Company plan and implement (utilizing phased scheduling consistent with growth in water demands and various financing programs) over a period of years the proposed upgrading of existing facilities discussed in Chapter 3, along with the construction of proposed new system facilities discussed in Chapter 4.

It is recommended that a separate hydraulic network updated study be performed to resize or verify proposed piping grid comprised of phased improvements as required to ultimately meet a MDD of 6,758 GPM.

It is recommended that the Company considers various financing programs to fund the proposed system improvements, including shareholder assessments, pay-as-you-go financing approach, suitable water connection fee, etc; along with making an application to USDA-Rural Development for possible part-grant and part-low interest loan financial assistance, and investigate the possibility of financial assistance from the State of California. Also, a water feasibility study funded by the developer (cost in the range of \$1,200 to \$2,500 per study) is recommended to be prepared before any proposed major new development is approved.

The estimated project cost to provide service to future development within the Company's service boundaries is \$16,439,848. These improvements are anticipated to be phased during the 20-year or longer planning period.

Chapter 2 projects for the Company's service area a future ultimate build-out population of 10,175 with 3,700 services. The SCAG population forecast data projects for the Company's service area: population of about 4,213 with 1,532 services by about year 2015, and population of about 4,856 with 1,766 services by about year 2025.

Appendix H contains a copy of Webb's fax memo to the Company dated 11-17-06, summarizing our preliminary engineering review and recommendation for the proposed project for early construction of one (1) new 3 MG reservoir located on the Company's office site, together with the early construction of 16,000'± of 12" pipeline (mainly on Riggins Road) to hydraulically reinforce (using side outlets with PRV's) all major pressure zones located northerly thereof all the way to the Company's northerly service boundary. In the future, in the event new sources of supply were utilized from the northern or northwesterly extremes, this proposed project would provide the capability of pumped reverse flow capacity from the northerly end of the 12" pipeline southerly to the new 3 MG reservoir (4315' pressure zone) on the Company's office site. The estimated project cost of \$16,439,848 (on page 4-4 herein) includes the 16,000'-12" and the future 21,200'-16" pipelines shown under Appendix H (proposed early construction project). The estimated project cost of the 3 MG tank, also proposed for early construction, is included on page 4-4 herein.

CHAPTER 2

LAND USE, POPULATION, AND WATER REQUIREMENTS

GENERAL

The socio-economic characteristics of an area largely affect the demand and planning for utilities. To effect better planning for future capacity and sizing of water mains, wells, booster pumps, storage reservoirs and other water system facilities, future water service requirements were determined based on projected populations developed from land use.

POPULATION

The Sheep Creek Water Company (SCWC) is located in unincorporated San Bernardino County, and is situated in the southwest corner of the Phelan/Pinion Hills Community Plan (PPHCP) as defined in the *2006 San Bernardino County General Plan, Final Draft Community Plan, April 2006*. The PPHCP encompasses a total of 134 square miles (85,760 acres). The SCWC service area comprises approximately 8 percent of the total PPHCP land area or 11 square miles (7,000 acres), (refer to Figure 2-1).

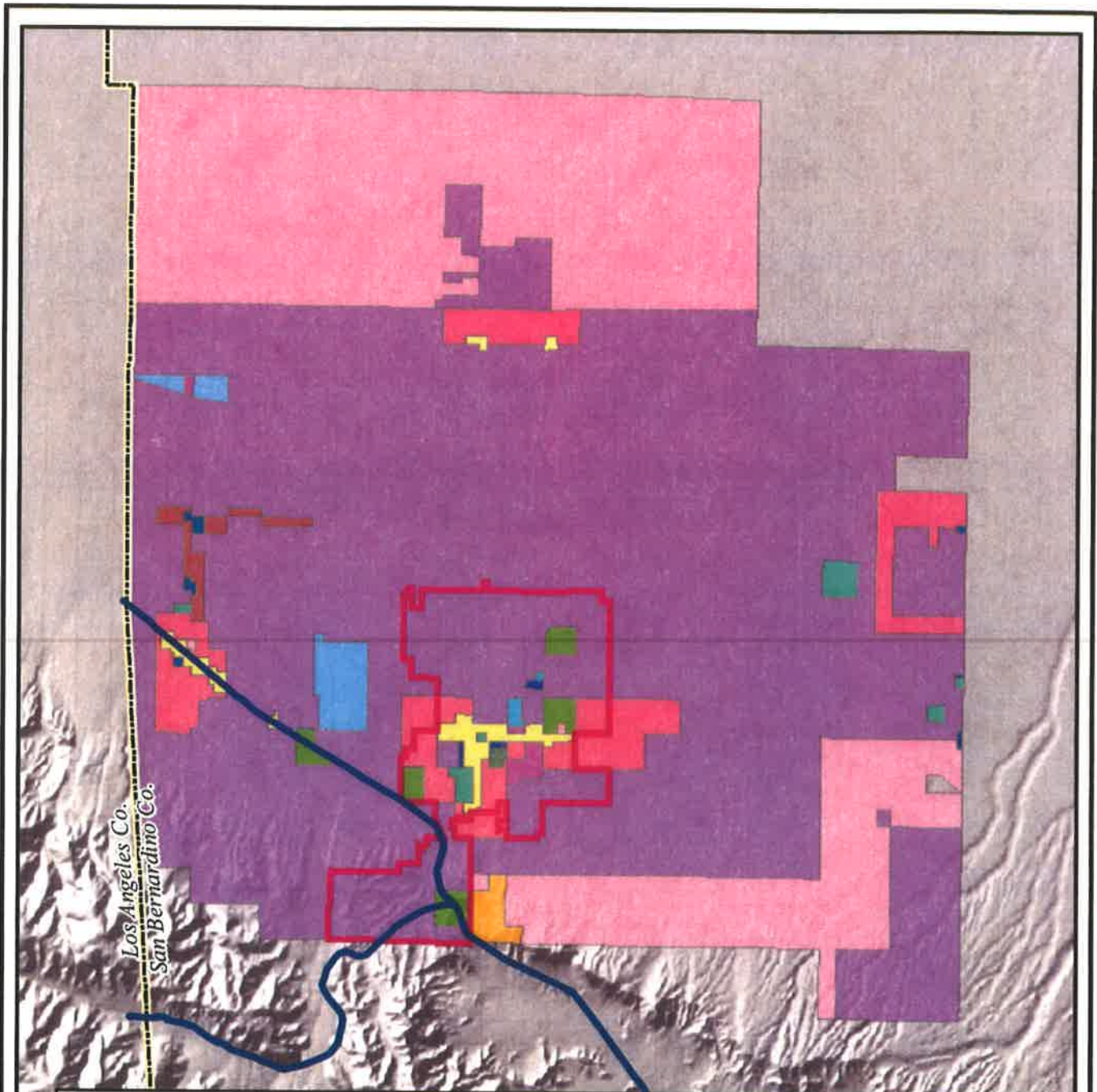
In order to determine the population of the SCWC service area, U.S. Census data, as well as Southern California Association of Governments (SCAG) forecast data from Census 2000 was used. The SCWC service area boundary includes portions of census tracts 91.06, 91.07, and 92.00, of which had a year 2000 population of 3,617; this accounts for approximately 17 percent of the PPHCP area population (refer to Figure 2-2).

The 2000 Census further breaks the tract information into census blocks (refer to Figure 2-2), which give a more precise count of the population within the SCWC service area. A block is the smallest geographic unit for which the Census Bureau tabulates 100-percent data. Many blocks correspond to individual city blocks bounded by streets, but blocks – especially in rural areas – may include many square miles and may have some boundaries that are not streets, for this reason, and the fact that portions of several blocks are only partially within the service area boundary (refer to Figure 2-3), all associated block populations were tallied.

Table 2-1
U.S. Census Bureau 2000 Census Data

	Tract 91.06	Tract 91.07	Tract 92.00	Total
Tract Total	9,276	5,471	6,032	20,779
Block Total¹	3,065	430	122	3,617

¹The block total includes all blocks within each specific census tract, and includes those blocks that are totally or partially within the boundary of the SCWC service area.



LEGEND

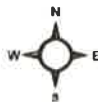
- | | | |
|------------------------------|----------------------------------|----------------------|
| Sheep Creek MWC | Single Residential (RS-18M) | Service Commercial |
| Rural Living | Multiple Residential (7M-RM-2.5) | Community Industrial |
| Rural Living (RL-5) | Multiple Residential (7M-RM) | Institutional |
| Rural Living (RL-2.5) | General Commercial | Planned Development |
| Single Residential (RS-1.25) | Neighborhood Commercial | County Boundary |
| Single Residential (RS-1) | Commercial Office | Highways |

Source: Land Use Services Department,
San Bernardino County, 2006

Figure 2-1



0 5,000 10,000
Feet



Phelan/Pinon Hills Community Plan
Landuse Districts, April 2006

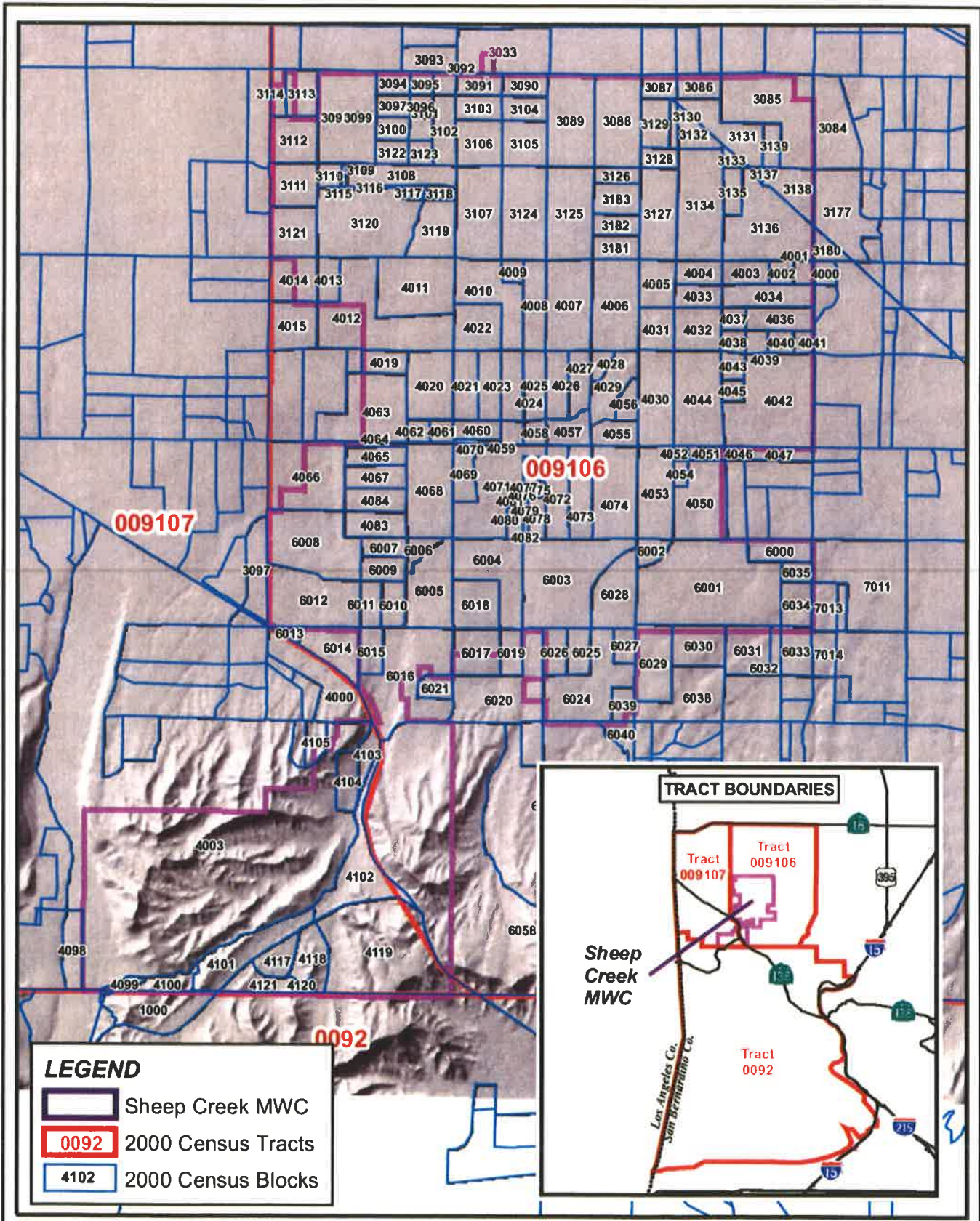
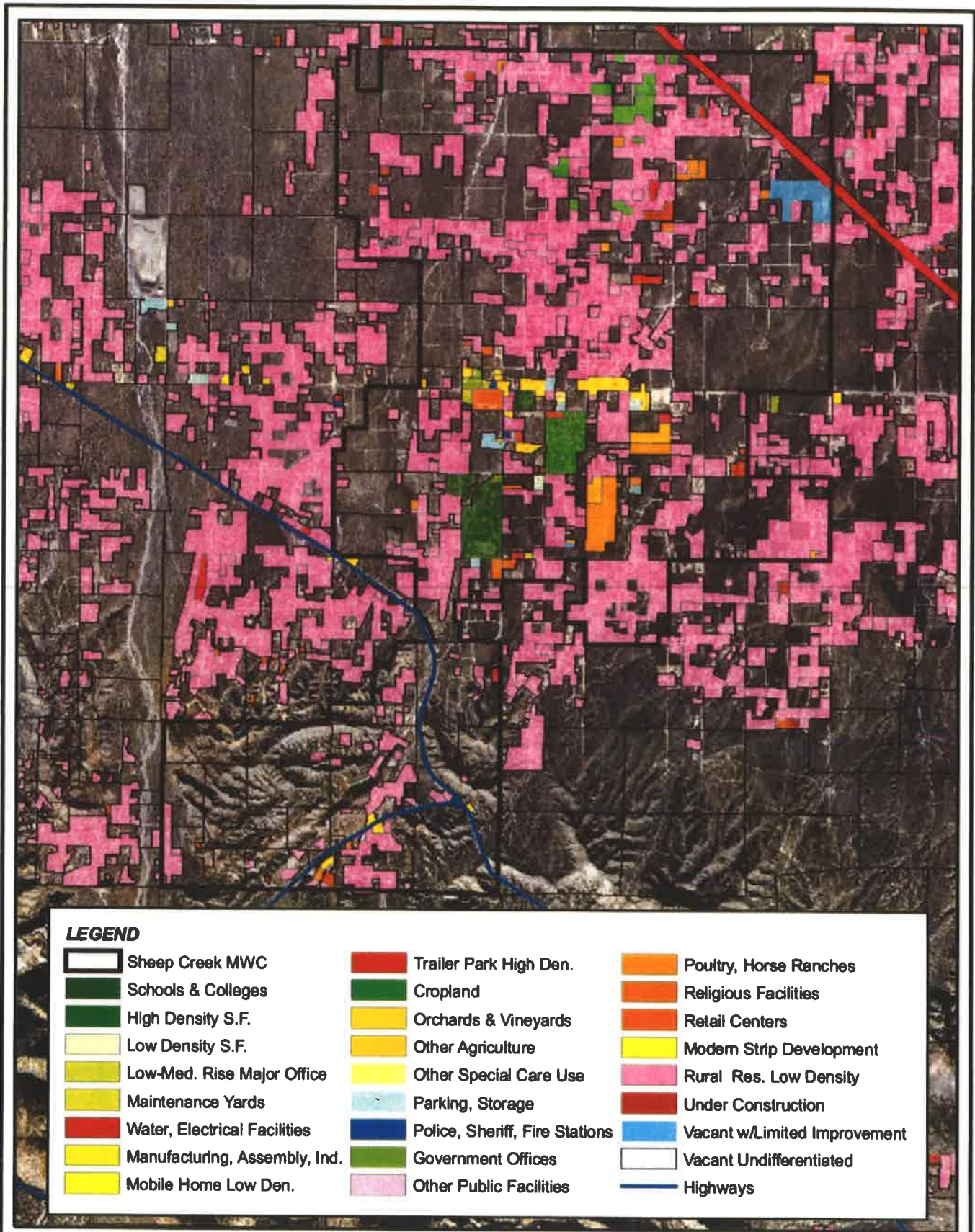


Figure 2-2

2000 Census Tracts and Blocks





Sources: SANBAG; USGS 10m DEM

Figure 2-3

Existing Landuse (2005)



0 2,000 4,000
Feet



SCAG population data is provided for incorporated cities and unincorporated census tracts within the County. SCAG does not provide census data at the block level, thus the population forecast data is not targeted at the block level, and as such will only reflect the total population for census tracts 91.06, 91.07, and 92.00. For year 2000, SCAG indicated an actual census population for the associated tracts of 20,936 persons. Using the SCAG population for 2000, in addition to the *Table 2-1* block population of 3,617, it can be interpolated that the SCWC service area constitutes 17.3 percent of the population of census tracts 91.06, 91.07, and 92.00. Because SCAG does not forecast population at the block level, in order to get forecast population data for the SCWC service area, 17.3 percent of the forecast data SCAG provided for the associated tracts was taken. Table 2-2 indicates a linear growth rate for the SCAG population data, as well as for the SCWC.

**Table 2-2
SCAG Population Forecast Data**

Year	2000	2005	2010	2015	2020	2025	2030
Tract 9106	9,384	9,729	10,011	10,425	11,349	12,209	13,037
Tract 9107	5,536	5,894	6,193	6,303	6,732	7,121	7,497
Tract 9200	6,016	6,894	7,409	8,214	8,768	9,239	9,694
Total Population	20,936	22,517	23,613	24,942	26,849	28,569	30,228
SCWC Portion	3,559	3,827	4,014	4,240	4,564	4,856	5,139

The SCWC Portion value was calculated using the SCAG forecast data for 2000 Census Tracts 91.06, 91.07, and 92.00. The 2000 Census block data indicates that approximately 17 percent of the population was extracted directly from the census data. Therefore, in order to determine the population forecast data specifically for the associated SCWC tracts, 17% of the total population value from the SCAG forecast data was taken to obtain the 2005-2030 SCWC portion values.

**Table 2-3
Phelan/Pinon Hills Community Plan
Land Use Maximum Build-Out Potential**

Land Use Designation	Area (Acres)	Density (D.U. Per Acre)	Max. Policy Map Build-Out (D.U.'s)
Rural Living (RL)	51,472	0.4	20,589
Rural Living (RL-5)	22,045	0.2	4,407
Single Residential (RS-1)	3,478	1.0	3,478
Single Residential (RS-14M)	43	2.42	129
Multiple Residential (RM-7m-2.5)	426	15.56	6,812
Special Development SD-RES)	603	2.0	1,205
TOTAL RESIDENTIAL	78,057		39,064

-San Bernardino County General Plan, 2006 Phelan/Pinon Hills Final Draft Community Plan

**Table 2-4
Sheep Creek Water Company
Service Area Land Use**

Land Use Designation	Area (Acres)	Density (D.U. Per Acre)	Max. Policy Map Build-Out (D.U.'s)
Rural Living (RL)	4,824	0.4	1,930
Single Residential (RS-1)	921	1.0	921
Single Residential (RS-14M)	42	2.42	102
Multiple Residential (RM-7m-2.5)	48	15.56	747
TOTAL RESIDENTIAL	5,835		3,700

Table 2-3, *Phelan/Pinon Hills Community Plan Land Use Maximum Build-Out Potential*, provides the maximum build-out potential for residential development based solely on the counties land use designation. The SCWC service area is approximately 35% to 40% developed, and as indicated in Tables 2-2 through 2-5, the SCWC population is expected to reach approximately 5,139 persons by the year 2030, and ultimate build-out is expected to reach 10,175, assuming no change to the County land use plan.

**Table 2-5
Community Plan and Sheep Creek Water Company
Ultimate Build-Out Potential**

	2000	Projection 2030	Maximum Policy Map Build-Out
Population	16,298	30,434	110,959
SCWC Population ¹	3,617	5,139 ²	10,175

¹The Sheep Creek Water Company population for 2000 is based on U.S. Census data. The projected 2030 population is interpolated from information found in the San Bernardino County General Plan "Land Use Policy Map Maximum Potential Build-Out", as well as Tables 2-1 and 2-2 of this document.

²Value based on SCAG projections and proportion of census tract within the Sheep Creek Water Company service area.

Land Use

Referring to Table 2-6 and 2-7, the Sheep Creek Water Company (SCWC) service area encompasses approximately 8 percent, or 7,000 acres of entire Phelan/Pinon Hills Community Plan (PPHCP) area totaling 80,000 acres. The most prominent land use designations within the PPHCP area are Rural Living (RL), which makes up approximately 92 percent, or 73,517 acres of the land area, and Single Residential (RS) which makes up approximately 4 percent, or 3,521 acres (refer to Table 2-6). The PPHCP area has similar land use characteristics, in the RL and RS constitute the majority of land use in the plan area; 69 percent and 14 percent, respectively (refer to Figure 2-1); this is the land use figure created from SANBAG GIS data and Table 2-2). Slightly higher growth potential is likely to occur in the SCWC service area because of the somewhat higher percentage of RS designated lands, which allows for higher density development, as compared to the community plan as a whole.

**Table 2-6
Phelan/Pinon Hills
Community Plan Land Use**

Land Use Category	Description	Total Acres	(%) of Total Land Area
RL-5	Rural Living 2.5 acre min.	22,045	27.6
RL	Rural Living	51,472	64.4
RS-1	Single Residential, 1.0 acre min.	3,478	4.4
RS-14M	Single Residential, 18,000 sq. ft. min.	43	<1
RM	Multiple Residential, 7,000 sq. ft. min.	426	<1
CO	Commercial Office	26	<1
CN	Neighborhood Commercial	88	<1
CG	General Commercial	651	<1
CS	Service Commercial	167	<1
IN	Institutional	162	<1
Other	Other	1,385	1.7
	TOTAL	79,943	100

Data included in the above table was extracted from the 2006 San Bernardino County General Plan, Phelan/Pinon Hills Community Plan, Final Draft Community Plan, dated April 20, 2006.

**Table 2-7
Sheep Creek Water Company
Service Area Land Use**

Land Use Category	Description	Total Acres	(%) of Total Land Area
RL	Rural Living	4823.85	69
RS-1.25	Single Residential, 1.25 acre min.	63.23	1
RS-1	Single Residential, 1.0 acre min.	857.82	12
RS-14M	Single Residential, 18,000 sq. ft. min.	42.13	<1
RM	Multiple Residential, 7,000 sq. ft. min.	48.25	<1
CO	Commercial Office	10.06	<1
CN	Neighborhood Commercial	0.54	<1
CG	General Commercial	408.16	6
CS	Service Commercial	153.14	2
PD	Planned Development	490.37	7
IN	Institutional	98.10	1
	TOTAL	6995.65	100

Data included in the above table was extracted from the 2006 San Bernardino County General Plan, Phelan/Pinon Hills Community Plan, Final Draft Community Plan, dated April 20, 2006.

The service area has a predominately open, rural character. Ground elevations within the study area range from approximately 5,200 feet above mean sea level (MSL) in the southwest to approximately 3,700 feet above MSL in the northeast.

Population growth constitutes demand for residential and service activities. Population projection for the study area was developed using land-use zoning and an average 2.75 persons per dwelling unit. The saturated population of approximately 10,175 was based on current land-use zoning, as defined by the Phelan Community Plan. Assuming one meter connection per dwelling unit, a total of 3,700 equivalent residential meter connections are anticipated.

The service area of the Company is presently 35% to 40% developed, based upon population values. It is estimated that about 50% of full build-out will occur within the 25-year planned period of this study. The majority of this development will consist of in-fill parcels within existing subdivided areas and continued development along the outer fringes of the Company's service area. Historical records on water production/consumption and meter hook-ups were provided by the Company. Future water requirements were projected using per capita and water-duty methods.

WATER REQUIREMENTS*

Water requirements were estimated from the study area's land-use zoning and daily water requirements based on historical records (Table 2-8).

Prior to July 2004, one share in the Sheep Creek Water Company had a water allocation of 4,000 cu. ft. per month (996 gal/day/service). In response to the then-current state-wide drought conditions, the Board of Directors reduced this allotment to 1,000 cu. ft. per month (249 gal/day/service) in July 2004. The average daily water consumption was approximately 540 gallons per day per active meter connection (196 gppd) during the period of July 2004 through December 2004. Based on the five fiscal years prior to July 2004 the average daily water use per active meter connection was 704 gallons per day (256 gppd). Recognizing the trend that as drought conditions improves, increased water use may occur, and to project conservative future water requirements, an average day water duty of 772 gpd/per average residential meter was used. This adjusted average day water usage will allow for some increase in non-essential uses as current drought conditions lessen, but will maintain conservation measures as compared with previous water duty.

*GPPD - Gallons/person/Day.

TABLE 2-8 (PAGE 1 OF 2)
 WATER USAGE

SHEEPCREEK WATER COMPANY
 WATER SALES REPORT - FISCAL YEAR

MONTH	1994/5	1995/6	1996/7	1997/8	1998/9	1999/2000	2000/01	2001/02
JUL	3,374,300	3,370,100	4,401,900	4,756,700	5,132,700	4,272,600	4,907,600	5,308,500
AUG	3,712,900	4,570,700	4,196,000	4,592,800	4,951,700	4,627,500	5,658,000	5,715,200
SEP	3,163,600	3,411,200	3,644,400	3,988,600	3,499,400	4,666,000	4,146,000	4,240,700
OCT	2,105,200	2,786,300	3,234,100	3,024,600	3,166,500	3,353,400	3,432,900	3,999,100
NOV	1,714,600	2,105,400	1,673,400	2,020,400	1,790,700	2,756,500	2,163,900	2,303,900
DEC	1,271,400	1,570,000	1,493,400	1,323,400	1,849,900	1,792,700	1,852,700	1,654,500
JAN	1,178,700	1,486,100	1,423,300	1,886,600	1,683,100	1,798,200	1,837,800	1,877,600
FEB	1,086,000	1,265,600	1,466,700	1,248,900	1,320,500	1,742,900	1,390,200	1,773,900
MAR	1,243,700	1,498,200	2,378,400	1,312,200	2,041,800	1,759,500	1,664,300	2,223,600
APR	1,681,300	2,463,000	2,956,400	1,999,100	2,040,400	2,574,200	2,255,000	3,101,600
MAY	2,635,400	3,328,300	3,918,300	2,627,400	2,829,500	4,316,500	3,887,800	4,092,800
JUN	2,902,200	3,415,200	3,946,300	3,120,900	4,449,500	4,592,300	4,748,700	4,376,600
TOTAL *	26,069,300	31,270,100	34,732,600	31,901,600	34,755,700	38,252,300	37,944,900	40,668,000
ACRE FT.	598	718	797	732	798	878	871	934
GAL	194,998,364	233,900,348	259,799,848	238,623,968	259,972,636	286,127,204	283,827,852	304,196,640

* = CU.FT.

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TABLE 2-8 (PAGE 2 OF 2)
WATER USAGE

SHEEPCREEK WATER COMPANY
 WATER SALES REPORT - FISCAL YEAR

MONTH	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
JUL	4,272,600	4,907,600	5,308,500	6,007,800	6,193,100	3,918,400	3,946,700	3,934,300
AUG	4,627,500	5,658,000	5,715,200	5,407,000	4,396,700	3,381,800	3,768,200	4,280,900
SEP	4,666,000	4,146,000	4,240,700	4,209,000	4,102,500	3,185,300	3,310,000	
OCT	3,353,400	3,432,900	3,999,100	4,004,200	3,509,200	2,386,000	2,423,300	
NOV	2,756,500	2,163,900	2,303,900	2,174,100	1,819,000	1,760,600	2,191,000	
DEC	1,792,700	1,852,700	1,654,500	2,121,100	2,012,200	1,760,600	1,725,800	
JAN	1,798,200	1,837,800	1,877,600	2,080,600	2,039,000	1,374,600	1,687,800	
FEB	1,742,900	1,390,200	1,773,900	1,507,700	1,592,800	1,294,900	1,691,000	
MAR	1,759,500	1,664,300	2,223,600	1,669,000	2,258,100	1,752,800	1,610,300	
APR	2,574,200	2,255,000	3,101,600	2,515,800	3,040,100	2,142,100	1,622,600	
MAY	4,316,500	3,887,800	4,092,800	3,430,800	3,795,600	2,358,500	3,110,500	
JUN	4,592,300	4,748,700	4,376,600	4,536,100	4,999,400	4,003,600	3,654,300	
TOTAL *	38,252,300	37,944,900	40,668,000	39,663,200	39,757,700	29,319,200	30,741,500	8,215,200
ACRE FT.	878	871	934	911	913	673	706	189
GALL'S	286,127,204	283,827,852	304,196,640	296,680,736	297,387,596	219,307,616	229,946,420	61,449,696
Active Services	926	939	955	987	1,037	1,085	1,114	1,134
* = CU.F.T.								

MSEXCEL/SALES8YRS

Fire Flow Requirements – The current fire flow requirements of 750 gallons per minute (GPM) for two hours for residential zoning and 1500 gpm for three hours for commercial and institutional zoning were used to develop storage requirements.

Fluctuations in Water Use – The hourly and daily fluctuations in water consumption are important factors in the determination of production, storage, and distribution piping system requirements. The ratio of maximum daily demand (mdd) to average daily demand (add) used in the determination of the proposed supply system is as follows:

- Maximum Day – Fluctuations in daily water use within the Company's system are primarily influenced by the weather and rainfall, consequently, water use during hot summer days is considerably higher than the winter months. From past studies for water systems in neighboring areas, the maximum day water consumption is approximately two and one-half times the average daily water consumption. The maximum day demand (100 percent saturated build-out) for Sheep Creek Water Company is estimated at 6,758 GPM (see Table 2-9 for future water demands).
- Operational Storage – The hourly demand for water also fluctuates. Based on data developed in other Southern California communities (including several major water districts in the Victor Valley area), operational storage equal to 30 percent of the average maximum day demand is recommended.
- Emergency Storage – Additional storage is required to maintain continued service during power outages, pump malfunctions, or other emergency situations. An emergency storage of one maximum day demand is used by most communities and water districts within the Victor Valley and surrounding areas and is also recommended as the minimum amount of emergency storage for the Sheep Creek Water Company. A larger amount of emergency storage provides increased system reliability.

The required storage will be the sum total of operational storage plus one maximum day emergency storage at 100 percent build-out for each zone plus fire storage. Table 2-10 summarizes the projected water storage requirement.

**Table 2-9
SCWC Future Water Demand – Ultimate Full Build-Out**

Land Use Code	Water Duty Density	Acres	EDU	Population ¹	ADD ² GPM	MDD ² GPM
PD	1,200 GPD/AC	490	---	---	408	1,020
CO	1,200 GPD/AC	10	---	---	8	20
CS	1,200, GPD/AC	153	---	---	128	320
CG	1,200 GPD/AC	408	---	---	340	850
IN	1,200 GPD/AC	98	---	---	82	205
RS-1.25	1 EDU/1.25 AC	63	50	138	27	67
RS-1.0	1 EDU/1 AC	858	858	2,360	460	1,151
RS-14M	2.42 EDU/AC	42	102	281	55	137
RL	1 EDU/2.5 AC	4,824	1,930	5,308	1,036	2,588
RM	6.22 EDU/AC	48	298	820	160	400
CN	NIL					
TOTALS	---	6,994	3,238	8,907	2,704	6,758

¹8,907 population for residential, plus 1,268 population for institutional, commercial and planned development = 10,175 total full-build-out population.

²Plus allowance for largest well capacity, which may be off-line, per DHS requirements for standby source capacity.

**Table 2-10
SCWC Future Storage – Ultimate Full Build-Out**

OPERATIONAL (0.3 X MDD)	= 0.3 X 9.7 MG	= 2.9 MG
EMERGENCY (1.0 X MDD)	= 1.0 X 9.7 MG	= 9.7 MG
FIRE (1500 GPM X 3 HRS)	= 1500 X 3 X 60/1,000,000	= 0.3 MG
TOTAL FUTURE STORAGE		12.9 MG
		(Say 13 MG)

CHAPTER 3

EXISTING WATER FACILITIES AND SOURCE OF SUPPLY

EXISTING WATER FACILITIES

The Sheep Creek Water Company serves customers in and around the community of Phelan in San Bernardino County. The majority of water service connections are located in a nine-square mile area in Section 7, 18, and 19 of Township 4 North Range 6 West; and Sections 11, 12, 13, 14, 23, 24 and 25 of Township 4 north, Range 7 West, San Bernardino Base and Meridian. The Company also serves additional customers outside of this main area, generally along State Highways 2 and 138 in Sections 26, 34, and 35 of Township 4 North, Range 7 West, San Bernardino Base and Meridian.

The Company's water system is comprised of approximately 335,029 lineal feet of 4-inch through 12-inch diameter water pipeline which distributes water throughout eight pressure zones (see Figure 3-1). The Company's five water storage reservoirs are generally located at the upper end of the water system and distribute water to each pressure zone via pressure reducing valves (PRV's).

EXISTING PIPELINE FACILITIES

2-Inch	4-Inch	6-Inch	8-Inch	10-Inch	12-Inch
Length (ft) 624	133,920	110,786	61,667	24,832	3,200
	Total Length	=	335,029 ft		
	PVC	=	238,286 ft		
	Steel	=	96,743 ft		

The Company's water supply consists of five active existing production wells, excluding Well No. 1, which is currently sealed off with concrete. Wells No. 3 and No. 4 have been replaced with No. 3A and No. 4A respectively, located at the Company's well field in Section 4 of Township 3 North, Range 7 West, San Bernardino Base and Meridian, which fronts State Highway 2. Also at the well field are Wells No. 5 and 8. In addition to the well field, a horizontal tunnel, developed in the 1920's, supplies water to the Company's water system. Water from the tunnel, located to the south of the well field, flows to a water storage reservoir located at the well field property. The water wells are also pumped to this reservoir through a separate inlet, and then water is delivered to the Company's service area via a common reservoir outlet and transmission line. Table 3-1 lists existing sources of supply, including well capacities by SCE Field Pump Tests during 2005 and 11-06, total source capacities per Company records (6-06 monthly average GPM), and total source capacities for CDHS correspondence dated 1-4-06. Table 3-2 lists water well information based upon data provided by the Company, with measurements dated 1-4-06.

**Table 3-1
Existing Sources of Supply**

Source of Supply	Well Capacities SCE Field Pump ¹ Tests During 2005 GPM	Well Capacities SCE Field Pump ¹ Tests During 11-06 GPM	Total Source Capacity per Company Records GPM ³	Total Source Capacity per CDHS Corresp. ² Dated 1-4-06
Well 2	23	262 ^{4,5}	262 ⁴	On
Well 3A	478 (@ 50 Hz.)	1,086 (@ 60 Hz.)	878	On
Well 4A	1,076 (@ 60 Hz.)	1,060 (@ 60 Hz.)	786	On
Well 5	301	311	197	On
Well 8	528 (@ 60 Hz.)	739	558	On
Tunnel	N/A	N/A	660	252 GPM
TOTALS	2,406 GPM	3,458 GPM	3,341 GPM	1,803 GPM Wells Only
	Wells Only -	Wells Only -	Wells +	+252 GPM Tunnel
	Excluding Tunnel	Excluding Tunnel	Tunnel	2,055 Total Source Capacity

¹Refer to Appendix A.

²Refer to Appendix B.

³June, 2006 Monthly Average GPM.

⁴Well 2, New Pump in Operation as of June 2006.

⁵Well 2, Not Tested during 11-06.

**Table 3-2
Water Well Information – Data Provided by the Company**

	WELL NOS.					TOTAL DISCHARGE
	2	3A	4A	5	8	
Date of Measurements	1/05/06	1/05/06	1/05/06	1/05/06	1/05/06	1,695 GPM
Year Drilled	1978	2002	2004	1991	2004	
Total Depth (ft)	357	500	500	495	480	
Diameter of Casing (in)	8	16	16	10	16	
Static Water Level (feet below casing)	223	230	224	233	271	
Discharge (gpm)	23	571	500	301	300	
Pump Level (feet below casing)	233	259	241	253	285	
Specific Yield (gpm/foot drawdown)	2.7	22.3	39.2	12.5	35.7	

EXISTING STORAGE

The existing storage provided by the Company's steel storage reservoirs is as follows:

<u>Reservoir No.</u>	<u>Size (MG)</u>
2	0.428
3	0.210
4	0.428
5	0.141
6	0.912
7	<u>1.000</u>
TOTAL	3.119 Say 3.1 MG

With a maximum day water system requirement of 1,096 gpm (2005 MDD) for Sheep Creek Water Company (or 1.578 million gallons per day), the existing storage provides approximately for 1.4 MDD emergency storage, as shown below.

EXISTING SYSTEM CAPACITY ANALYSIS

The existing water supply and distribution system presently provides 1,111 active connections as of February 21, 2006 (total number of connections is 1,260) with domestic and fire protection water service. Based on the average day water use of 567 gpd/connection for 2005-06, existing system requirements are as follows:

Existing Supply Requirements

Existing Active Connections	=	1,111 Connections
Existing Average Day Demand	=	567 gpm/Connection (2005-06)
Existing System ADD	=	1,111 Conn. X 567 gpd/Conn./1440 = 438 gpm
Existing System MDD	=	2.5 x ADD = 1,096 gpm

Existing Storage Requirements

<u>Minimum Requirement</u>			
Operational (0.3 x MDD)	=	0.3 x 1.6 MG	= 0.5 MG
Emergency (1.0 x MDD)	=	1.4 x 1.6 MG	= 2.3 MG
Fire Storage (1500 x 3 Hrs)	=	<u>1500 x 3 x 60</u> 1,000,000	= <u>0.3 MG</u>
Total Required Storage (Existing)			= 3.1 MG

Per CDHS, the existing total production capacity of 2055 GPM (1,803 GPM wells + 252 GPM tunnel) from the existing sources of supply are sufficient to meet a maximum day demand up to a total of 1,532 connections per CDHS requirements. However, it is

recommended that the Company should continue to plan and implement very soon (as a high priority) additional sources of supply for increased system reliability.

The existing storage capacity of 3.1 million gallons is more than sufficient to satisfy the present storage requirement. However, it is recommended that the Company should continue to plan and soon implement additional storage facilities for increased system reliability.

EXISTING WATER DISTRIBUTION SYSTEM IMPROVEMENTS

Based on previously conducted computer analysis (1992 WMP by Wilson So) the distribution piping system was found to be marginal when providing existing MDD plus fire flow (at adequate pressure) due to the existing 4-inch diameter steel pipe. So's computer analysis showed that with all the 4-inch steel pipe replaced with 8-inch C-900, the system would be capable of delivering the estimated MDD with pressures throughout the majority of the system above 30 pounds per square inch (psi) and residual pressures above 20 psi during residential or commercial fire flows. Proposed improvements primarily are the replacement of the 4-inch diameter steel pipe with new 8-inch diameter piping. Additional shut-off control valves and readjustment of PRV (pressure reducing valves) set pressures are needed to supplement the improvement of the existing facilities (see Appendix C for So's listing of upgraded pipes).

EXISTING FACILITIES IMPROVEMENT COST ESTIMATES

The replacement of undersized distribution piping (per 1992 WMP by Wilson So) as identified in Appendix C will enable the existing water supply and distribution system to improve service to the Company's existing connections by increasing the level of reliability (adequate pressure) and customer satisfaction.

Improvements identified in this Chapter are planned to be constructed in phases over a period of several years. Approximately 27,606 linear feet of the proposed replacement piping will be cost shared by new development, since it has been sized to accommodate future water demands also.

The updated estimated construction costs for improvements to the existing water supply and distribution system are as follows: (estimated costs for pipelines are based upon Company's force account construction and/or local contractor's assistance)

Replace 73,411 L.F. of existing 4-inch and 6-inch piping with new 8-inch piping @ \$30/L.F.	=	\$2,202,330
Replace 2,833 L.F. of 6-inch piping with 10-inch piping @ \$35/L.F.	=	\$99,155
Piping Total	=	\$2,301,485

Allowance for Contingency, Surveying, Engineering, and Administration @ (20%)	=	\$406,297
Total Estimated Existing System Improvement Costs	=	\$2,707,782

As discussed above, a portion of this total cost will be shared by new development as determined below:

24,803 L.F. of 8-inch piping @ \$30 L.F. x 0.50 (new development to receive 50% benefit)	=	\$372,045
2,803 L.F. of 10-inch piping @ \$35 L.F. x 0.50 (new development to receive 50% benefit)	=	\$49,053
Subtotal	=	\$421,098
Allowance for Contingency, Surveying, Engineering, and Administration @ (20%)	=	<u>\$84,220</u>
Total Cost to be Shared by New Developments	=	\$505,318

The estimated total cost for improvements to the existing facilities (less the amount identified for new developments) is \$2,202,464. As previously stated, these facilities are planned to be phased over a period of several years at an estimated annual cost of \$229,000 per year over 10 years (in 2006 dollars). Should the Company decide to complete these facilities over a five year period, the estimated annual cost would be \$458,000 (in 2006 dollars).

In addition to improvements identified in this Chapter, the Company may wish to replace the balance of small diameter piping (4-inch and smaller) to a minimum 8-inch diameter to further enhance the fire fighting capabilities of the system. An annual facilities upgrade and replacement program should be developed to budget funds for such pipeline replacements.

Appendix E contains copies of fire flow test reports at various locations, dated between 2-8-95 and 11-7-06, including calculated fire flows at 20 psi residual pressure.

CHAPTER 4

PROPOSED SYSTEM IMPROVEMENTS

Improvements to the Sheep Creek Water Company's water system are required principally to increase supply reliability and to provide adequate levels of service to both existing and future customers. In developing the proposed supply and distribution system, the following assumptions were made:

Groundwater, from wells and existing tunnel, will continue to be used as the Company's primary source of supply until pumping costs become uneconomical due to lowering of groundwater table. At that time, imported State Aqueduct water (if it is available) will be used to supplement groundwater supplies, or perhaps new wells to the southern and northern extremes, or even northwest into Los Angeles County.

All facilities (upgrading of existing facilities) proposed in Chapter 3 are assumed to have been completed, which increases their capacity in preparation for the proposed future demands.

PROPOSED SUPPLY SYSTEM AND PRESSURE ZONES

The proposed water system will retain the existing eight pressure zones. Each pressure zone will have an operating range from 40 psi (pounds per square inch) to 150 psi. A minimum number of new pressure reducing valve (PRV) stations were employed to connect upper pressure zones to lower zones.

Proposed water supply improvements are anticipated to be constructed on an "as-needed basis" and have been grouped into two categories: (a) replacement of existing facilities and (b) construction of new facilities.

FUTURE WATER SYSTEM IMPROVEMENTS

A transmission/distribution piping grid was developed (1992 WMP by Wilson So) to replace the remaining existing 4-inch diameter steel piping and to complete pipe network loops within the existing system. Preliminary sizing by Wilson So was based on maximum day demand at 100% saturated development (5,784 GPM). The same procedure as discussed in Chapter 3 was used by Wilson So to optimize the future water system pipelines to meet the MDD plus providing fire flow requirements. Appendix F and G contain excerpts from the 1992 WMP by Wilson So, labeled Tables 4-1 and 4-2 and show the additional pipe replacement and proposed new pipes respectively for the future water system.

Since under this WMP-2006 update, the ultimate build-out MDD is 6,758 GPM (rather than 5,784 GPM) it is recommended that a separate hydraulic network updated study be performed to resize or verify proposed piping grid comprised of phased improvements as required to ultimately meet an MDD of 6,758 GPM.

The 1992 WMP by Wilson So indicates that the main gravity line from Reservoir #'s 5 and 7 to the intersection of Sunnyslope and Yuba Roads must be at least 14-inches to meet future water demand at full build-out including fire flow. If the existing 10-inch transmission line remains in fair condition, a parallel 12-inch pipeline would provide the equivalent capacity.

Ultimate improvement of the water system to adequately serve 100% saturation demand at full build-out would require the replacement of all of the remainder 4-inch diameter pipes with 8-inch diameter piping. Replacement of the remainder 4-inch pipes, not specifically identified for replacement in Chapter 3, should be included in an annual facilities upgrade and maintenance program.

Proposed future system improvements (expansion) are briefly summarized herein.

Piping – A total of 210,471 lineal feet of new piping including necessary shut-off control valves, readjustment of PRV set pressure and fire hydrants are proposed (1992 WMP by Wilson So) with the following breakdown.

Additional Pipe Replacement

38,505 L.F. of new 8-inch piping
1,750 L.F. of new 10-inch piping
6,146 L.F. of new 12-inch piping
18,543 L.F. of new 14-inch piping

New Piping

62,560 L.F. of 8-inch piping
1,980 L.F. of 10-inch piping

Pipe replacement consists of replacing the remainder of undersized 4-inch and 6-inch piping with a minimum 8-inch diameter. The lines identified for replacement are only those required to complete piping loops on approximately a half square mile network. This replacement will provide a backbone transmission/distribution piping system capable of supplying the required maximum day demands and fire flows identified in Chapter 2 of the 1992 WMP by Wilson So.

New piping will extend services into areas within the Company boundaries that are not currently serviced. New piping extensions will also create new piping loops, thus eliminating existing system dead-ends.

Supply – As discussed in Chapter 2 of this WMP – 2066 Update, the ultimate (100% build-out) maximum day demand is estimated at 6,758 GPM. The existing supply capacity is 2,055 GPM per CDHS requiring an additional 4,703 gallons per minute of supply capacity to meet ultimate demand (MDD). Using an average well capacity of say 522 gpm, it is estimated that a total of nine new wells will be required to meet the future maximum day demands. For the purpose of this 2006 updated planning study, it is assumed that the Company will be able to successfully acquire/drill the nine new wells. It is further assumed that location of the new wells will be split between southern and northern extremes, maybe even west into Los Angeles County especially as the Company owns property to the northwest.

A new well field in the northern portion will require storage and booster pumping facilities. These facilities will allow pumping from the lower pressure zones to higher zones if supplemental water sources can be purchased from the Mojave Water Agency.

Storage – Existing storage capacity serving the Sheep Creek Water Company is 3.1 million gallons. Ultimately, the total storage requirement is estimated at 13 million gallons, requiring 10 million gallons (in round numbers) of additional storage. Four 2.5-MG reservoirs (or a combination of three 3-MG tanks) are recommended in this 2006 updated Master Plan.

These proposed facilities (piping, supply wells and storage reservoirs) will enable the Company to adequately serve the existing and future customers. The facilities are anticipated to be constructed on a pay-as-you-go basis. For initial budget purposes, the need for new service was assumed to be on a straight-line linear basis. Therefore, the proposed new facilities can be phased as required over the 20-year plan period or longer.

PROPOSED IMPROVEMENT COST ESTIMATES

The following provides a brief summary of the preliminary estimated project costs to fully implement the 100% build-out water system in 2006 dollars. ENR (Engineering News Record) Construction cost index for February 2006 (20 Cities) is 7,688.90. Estimated costs for pipelines are based upon Company's force account construction and/or local contractor's assistance.

Transmission/Distribution Piping Costs (Preliminary)

(Per 1992 WMP by Wilson So)

One new pressure reducing station	=	\$20,000
101,065 L.F. of 8-inch piping @ \$30/L.F.	=	\$3,031,950
3,730 L.F. of 10-inch piping @ \$35/L.F.	=	\$130,550
6,146 L.F. of 12-inch piping @ \$40/L.F.	=	\$245,840
18,543 L.F. of 14-inch piping @ \$45/L.F.	=	\$834,435
Subtotal	=	\$4,262,775

Allowance for Contingency, Surveying, Engineering and Administration (20%)	=	<u>\$852,555</u>
Total Piping Cost	=	\$5,115,330

Supply/Booster Stations Costs (Preliminary)

		<u>Updated Costs</u>
New standby wells, 2 @ 522 gpm @ \$350,000/each	=	\$700,000
9 New 522 gpm wells @ \$350,000/each	=	\$3,150,000
2 Booster stations @ \$250,000/each	=	<u>\$500,000</u>
Subtotal	=	\$4,350,000

Allowance for Contingency, Surveying, Engineering and Administration (20%)	=	<u>\$870,000</u>
Total Supply Cost	=	\$5,220,000

Storage Reservoir Cost (Preliminary)

New reservoirs (3 @ \$800,000/each)	=	\$2,400,000
Site work @ \$100,000/each	=	<u>\$300,000</u>
Subtotal	=	\$2,700,000

Allowance for Contingency, Surveying, Engineering and Administration (20%)	=	<u>\$540,000</u>
Total Reservoir Cost	=	\$3,240,000

Cost Estimate Summary (Preliminary)

Total 12" & 16" Piping Costs (from Appendix H)	=	\$2,359,200 ⁽¹⁾
Total Piping Cost (from Pg. 4-3)	=	\$5,115,330
Total Supply/Booster Station Cost (above)	=	\$5,220,000
New Development Cost Share (Chapter 3)	=	\$505,318
Storage Reservoirs Cost (above)	=	<u>\$3,240,000</u>

Estimated Total Future Water System Improvement Cost (Preliminary) = \$16,439,848

The proposed future water system will continue to provide existing and future customers a reliable and adequately supply of water for domestic, commercial and fire protection needs throughout the service area of the Sheep Creek Water Company.

⁽¹⁾Future 21, 200'-16" Class 150-300 pipeline @ \$55 = \$1,166,000 plus 20% allowance (\$233,200) for Soft Costs.

CHAPTER 5

FINANCING OF THE PROPOSED IMPROVEMENTS

In Chapters 3 and 4, the extent and associated costs of the proposed water system improvements were discussed. Costs for the proposed improvements are summarized below (refer to Chapter 3):

Replace 73,411 L.F. of existing 4-inch and 6-inch piping with new 8-inch piping @ \$30/L.F.	=	\$2,202,330
Replace 2,833 L.F. of 6-inch piping with new 10-inch piping @ \$35/L.F.	=	<u>\$99,155</u>
Subtotal	=	\$2,301,485
Allowance for Contingency, Surveying, Engineering, and Administration (20%)	=	\$406,297
Total Estimated Existing System Improvement Costs	=	<u>\$2,707,782</u>
Less total cost to be shared by new Developers	=	(\$505,318)
Amount of improvements proposed to be financed by adjustment to the water rate structure	=	<u>\$2,202,464</u>

Financing of the \$2,202,464 system upgrading could be spread over a 10-year period as discussed in Chapter 3, or possibly over a 20-year or longer period. The estimated increase in annual O&M expenditures could range from \$114,500 to \$229,000 (in 2006 dollars). This fee structure falls under the existing water facilities replacement account.

For facilities to serve new and future customers, the preliminary estimated project costs (not including financing expenses) are as follows (refer to Chapter 4):

Share of improvements to existing facilities	=	\$505,318
Total 12" & 16" piping costs (from Appendix H)	=	\$2,359,200
Total new piping costs	=	\$5,115,330
Total supply/booster pump station cost	=	\$5,220,000
Total new storage cost	=	\$3,240,000
Estimated total future water system improvement cost	=	\$16,439,848 (Preliminary)

Several of the financing alternatives that are available to County water districts or City water departments, including municipal bonds (assessment districts and Mello-Roos Community facilities act of 1982) will not be available to Sheep Creek Water Company. Revenue bonds to finance capital facilities for new customers are not a fair approach. Therefore, we would recommend the Water Company consider the pay-as-you-go financing approach and adopt a suitable water connection fee to fund a portion of the proposed improvements. However, since the Company is a mutual water company, it is recommended that an application be made to USDA-Rural Development, for possible part-grant and part-low interest loan financial assistance. Also, it is recommended that financial assistance from the State of California should be investigated.

A water feasibility study funded by the developer (cost in the range of \$1,200 to \$2,500 per study) is recommended to be prepared before any proposed major new development is approved. The Company may consider allowing credit towards connection fee for off-site improvements (identified by the Water Master Plan) constructed or funded by a developer.

APPENDIX A

WELL CAPACITIES, SCE FIELD PUMP TESTS DURING 2005 AND DURING 11-06



RECEIVED FEB 02 2005

CONFIDENTIAL/PROPRIETARY INFORMATION

January 24, 2005

CHRIS CUMMINGS
SHEEPCREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329-1820

SUBJECT: HYDRAULIC TEST RESULTS - WELL #3A
3334 PLANT K-7
CUST #: 0-010-1745 - SERV ACCT #: 002-6951-49
DATE OF TEST: January 12, 2005

In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: N/A NO: N/A 100 HP
METER: 0828W-192
HYDRAULIC TEST REFERENCE NUMBER: 13410

TEST RESULTS

Discharge Pressure, PSI 6.4
Standing Water Level, Ft. 277.3
Drawdown, Ft. 31.2
Discharge Head, Ft. 14.8
Pumping Water Level, Ft. 308.5
Total Head, Ft. 323.3
Capacity, GPM 478.0
GPM per Ft. Drawdown 15.3
Acre Ft. Pumped in 24 Hrs. 2.113
kW Input to Motor 48.3
HP Input to Motor 64.8
Motor Load (%) 61.8
Measured Speed of Pump, RPM 1,490
kWh per Acre Ft. 549
Overall Plant Efficiency (%) 60.3
Customer Meter, GPM 478.0

VSD operating @ 50 Hz.

DAN L. JOHNSON
Manager
Hydraulic Services

CONFIDENTIAL/PROPRIETARY INFORMATION

August 15, 2005

CHRIS CUMMINGS
SHEEPCREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

SUBJECT: HYDRAULIC TEST RESULTS - WELL #4A
6666 HWY 2
CUST #: 0-010-1745 - SERV ACCT #: 025-1930-69
DATE OF TEST: August 1, 2005

In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: US NO: N/A 150 HP
METER: 349-12954
HYDRAULIC TEST REFERENCE NUMBER: 27477

TEST RESULTS	TEST 1	TEST 2
Discharge Pressure, PSI	2.3	2.2
Standing Water Level, Ft.	240.0	240.0
Drawdown, Ft.	10.0	40.0
Discharge Head, Ft.	5.3	5.1
Pumping Water Level, Ft.	250.0	280.0
Total Head, Ft.	255.3	285.1
Capacity, GPM	542.0	1,076.0
GPM per Ft. Drawdown	54.2	26.9
Acre Ft. Pumped in 24 Hrs.	2.396	4.756
kW Input to Motor	53.0	107.3
HP Input to Motor	71.1	143.9
Motor Load (%)	45.6	92.3
Measured Speed of Pump, RPM	1,397	1,784
kWh per Acre Ft.	531	542
Overall Plant Efficiency (%)	49.2	53.8
Customer Meter, GPM	647.0	

Test 1 is the operating condition of this pump @ 46 Hz. Test 2 is the operating condition @ 60 Hz. Used the customer's airline to measure water levels.

DAN L. JOHNSON
Manager
Hydraulic Services



CONFIDENTIAL/PROPRIETARY INFORMATION

January 24, 2005

CHRIS CUMMINGS
SHEEPCREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329-1820

SUBJECT: HYDRAULIC TEST RESULTS - WELL #5
6666 HWY 2
CUST #: 0-010-1745 - SERV ACCT #: 001-2503-60
DATE OF TEST: January 12, 2005

In accordance with your request, a test was made on your submersible well pump on the date listed above. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: N/A NO: N/A 40 HP
METER: 0828W-193
HYDRAULIC TEST REFERENCE NUMBER: 14038

TEST RESULTS

Discharge Pressure, PSI	11.4
Standing Water Level, Ft.	267.2
Drawdown, Ft.	6.0
Discharge Head, Ft.	26.3
Pumping Water Level, Ft.	273.2
Total Head, Ft.	299.5
Capacity, GPM	301.0
GPM per Ft. Drawdown	50.2
Acre Ft. Pumped in 24 Hrs.	1.330
kW Input to Motor	37.2
HP Input to Motor	49.9
Motor Load (%)	107.3
kWh per Acre Ft.	671
Overall Plant Efficiency (%)	45.6
Customer Meter, GPM	206.0

DAN L. JOHNSON
Manager
Hydraulic Services

RECEIVED AUG 19 2005

CONFIDENTIAL/PROPRIETARY INFORMATION

August 15, 2005

CHRIS CUMMINGS
SHEEPCREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

SUBJECT: HYDRAULIC TEST RESULTS - WELL #8
6666 HWY 2
CUST #: 0-010-1745 - SERV ACCT #: 025-1930-69
DATE OF TEST: August 1, 2005

In accordance with your request, a test was made on your turbine well pump on the date listed above. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: US NO: N/A 150 HP
METER: 349-12954
HYDRAULIC TEST REFERENCE NUMBER: 27478

TEST RESULTS	TEST 1	TEST 2
Discharge Pressure, PSI	0.7	2.2
Standing Water Level, Ft.	260.6	260.6
Drawdown, Ft.	10.1	17.2
Discharge Head, Ft.	1.6	5.1
Pumping Water Level, Ft.	270.7	277.8
Total Head, Ft.	272.3	282.9
Capacity, GPM	387.0	528.0
GPM per Ft. Drawdown	38.3	30.7
Acre Ft. Pumped in 24 Hrs.	1.711	2.334
kW Input to Motor	39.4	65.1
HP Input to Motor	52.8	87.3
Motor Load (%)	33.7	55.8
Measured Speed of Pump, RPM	1,495	1,792
kWh per Acre Ft.	553	670
Overall Plant Efficiency (%)	50.4	43.2
Customer Meter, GPM	451.0	

At the time of the above test, it was noted by the test crew that there was a considerable amount of air being discharged with the water. Test 1 is the operating condition of this pump @ 50 Hz. Test 2 is the operating condition @ 60 Hz.

DAN L. JOHNSON
Manager
Hydraulic Services

November 27, 2006

CHRIS CUMMINGS
SHEEP CREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

HYDRAULIC TEST RESULTS, Plant: WELL #3A

Location: 6666 HWY 2 HP: 100

Cust. #: 0-010-1745

Serv. Acct. #: 002-6951-49

Meter: O828W-192

Pump Ref #: 13410

In accordance with your request, a test was made on your turbine well pump on November 16, 2006. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

Pump Mfg.: N/A

No.: N/A

Motor Mfg.: US

No.: N/A

RESULTS	<u>Test 1</u>	<u>Test 2</u>	<u>Test 3</u>
Discharge Pressure, PSI	8.9	8.0	7.5
Standing Water Level, Feet	209.8	209.8	209.8
Drawdown, Feet	28.1	18.9	13.6
Discharge Head, Feet	20.6	18.5	17.3
Pumping Water Level, Feet	237.9	228.7	223.4
Total Head, Feet	258.5	247.2	240.7
Capacity, GPM	1,086.0	744.0	523.0
GPM per Foot Drawdown	38.6	39.4	38.5
Acre Feet Pumped in 24 Hours	4.800	3.288	2.312
kW Input to Motor	92.6	54.6	38.4
HP Input to Motor	124.2	73.2	51.5
Motor Load (%)	118.5	69.9	49.1
Measured Speed of Pump, RPM	1,781	1,488	1,338
kWh per Acre Foot:	463	399	399
Overall Plant Efficiency (%)	57.1	63.4	61.7
Customer Meter, GPM	1,039.0		

T#1 VSD is operating @ 60 Hz. T#2 @ 50 Hz. T#3 @ 45 Hz.

DAN L. JOHNSON
Manager
Hydraulic Services



November 27, 2006

CHRIS CUMMINGS
SHEEP CREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

PUMPING COST ANALYSIS, Plant: WELL #3A
Location: 6666 HWY 2 HP: 100
Cust. #: 0-010-1745 Serv. Acct. #: 002-6951-49
Meter: O828W-192 Pump Ref #: 13410

The following analysis is presented as an aid to your cost accounting. This is an estimate based on the conditions present during the Edison pump test performed on November 16, 2006, billing history for the past 12 months, and your current rate of TOU-PA-B.

	<u>Existing</u>
Total kWh	6,384
kW Input	92.6
kWh per Acre Foot	463
Acre Feet per Year	13.8
Average Cost per kWh	\$0.42
Average Cost per Acre Foot	\$192.64
Overall Plant Efficiency (%)	57.1
<hr/>	<hr/>
Total Annual Cost	\$2,655.74

The hydraulic test results indicate that this pump is operating in an efficient manner.

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued. If you have any questions regarding this report, please contact TONY JIMENEZ at (909)820-5629.

DAN L. JOHNSON
Manager
Hydraulic Services

November 27, 2006

CHRIS CUMMINGS
 SHEEP CREEK WTR CO.
 P.O. BOX 291820
 PHELAN, CA 92329

HYDRAULIC TEST RESULTS, Plant: WELL #4A

Location: 6666 HWY 2 HP: 150

Cust. #: 0-010-1745

Serv. Acct. #: 025-1930-69

Meter: 349-12954

Pump Ref #: 27477

In accordance with your request, a test was made on your turbine well pump on November 16, 2006. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

Pump Mfg.: N/A
 Motor Mfg.: US

No.: N/A
 No.: N/A

RESULTS	<u>Test 1</u>	<u>Test 2</u>	<u>Test 3</u>
Discharge Pressure, PSI	5.1	3.8	3.5
Standing Water Level, Feet	217.1	217.1	217.1
Drawdown, Feet	22.3	13.1	6.9
Discharge Head, Feet	11.8	8.8	8.1
Pumping Water Level, Feet	239.4	230.2	224.0
Total Head, Feet	251.2	239.0	232.1
Capacity, GPM	1,060.0	730.0	597.0
GPM per Foot Drawdown	47.5	55.7	86.5
Acre Feet Pumped in 24 Hours	4.685	3.227	2.639
kW Input to Motor	108.0	66.4	52.9
HP Input to Motor	144.8	89.0	70.9
Motor Load (%)	92.9	57.1	45.5
Measured Speed of Pump, RPM	1,787	1,488	1,369
kWh per Acre Foot:	553	494	481
Overall Plant Efficiency (%)	46.4	49.5	49.3
Customer Meter, GPM	1,338.0		

Due to an inadequate water measurement test location, the GPM flow and the resulting overall plant efficiency should be considered approximate, rather than actual. T#1 VSD is operating @ 60 Hz. T#2 @ 50 Hz. T#3 @ 46 Hz.

DAN L. JOHNSON
 Manager
 Hydraulic Services



Save energy,
Save money...
Your test results show that you can!

November 27, 2006

CHRIS CUMMINGS
SHEEP CREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

PUMPING COST ANALYSIS, Plant: WELL #4A
Location: 6666 HWY 2 HP: 150
Cust. #: 0-010-1745 Serv. Acct. #: 025-1930-69
Meter: 349-12954 Pump Ref #: 27477

Dear SCE Customer:

Helping California businesses save energy and money is a major goal at SCE. As you know, our technical specialists performed a free pump-efficiency test on one or more pumps at your facility on November 16, 2006. We thank you for the opportunity to provide this service, and appreciate your interest in the performance of your pumps.

The results of the testing, shown in the table below, indicate that the pump listed above has the potential for improved Overall Plant Efficiency (OPE), lower energy costs, and a cash incentive.

	Plant Efficiency		Savings
	Existing	Improved	
Total kWh	33,720	22,365	11,355
kW Input	108.0	71.6	36.4
kWh per Acre Foot	553	367	186
Acre Feet per Year	60.9		
Average Cost per kWh	\$0.18		
Average Cost per Acre Foot	\$101.81	\$67.53	\$34.29
Overall Plant Efficiency (%)	46.4	70.0	
<hr/> Total Annual Cost	<hr/> \$6,204.48	<hr/> \$4,115.14	<hr/> \$2,089.34
Cash Incentive			\$908.41

Case studies show that repairing, retrofitting, or replacing inefficient pumps can save energy and money, and may even help you avoid serious operational problems. For your business, this could mean the following:

- **Improved Plant Efficiency:** Your OPE can be improved from 46.4% to 70.0%.
- **Lower Energy Costs:** Based on the test data, your past energy usage, and your current rate of PA-2, we estimate that you may save up to 11,355 kWh annually, resulting in energy cost savings of \$2,089.34.
- **Cash Incentive:** Through the retrofit and installation of more energy-efficient equipment, you would receive an incentive of \$0.08 per kWh saved, courtesy of SCE's Agricultural Energy Efficiency Program. Based on your estimated kWh savings, you would be eligible for a potential cash incentive of \$908.41, capped at 50% of your project cost. (See contract for details.)

You may also be eligible for pump motor incentives. For more information about your test results, options, and incentive opportunities, contact **CAROLINE LEE** at (760)951-3210.

We encourage you to review your results and take advantage of SCE's energy efficiency expertise and incentives. Visit www.sce.com/rebatesandsavings, or give us a call and let us know how we can be of further service to you.

Sincerely,

Southern California Edison

Program funded by California utility ratepayers, and administered by Southern California Edison under the auspices of the California Public Utilities Commission.



November 27, 2006

CHRIS CUMMINGS
SHEEP CREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

HYDRAULIC TEST RESULTS, Plant: WELL #5

Location: 6666 HWY 2 HP: 40

Cust. #: 0-010-1745

Serv. Acct. #: 001-2503-60

Meter: O828W-193

Pump Ref #: 14038

In accordance with your request, a test was made on your submersible well pump on November 16, 2006. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

Pump Mfg.: N/A

No.: N/A

Motor Mfg.: N/A

No.: N/A

RESULTS

Discharge Pressure, PSI	10.1
Standing Water Level, Feet	201.0
Drawdown, Feet	3.2
Discharge Head, Feet	23.3
Pumping Water Level, Feet	204.2
Total Head, Feet	227.5
Capacity, GPM	311.0
GPM per Foot Drawdown	97.2
Acre Feet Pumped in 24 Hours	1.375
kW Input to Motor	37.2
HP Input to Motor	49.9
Motor Load (%)	107.3
kWh per Acre Foot:	650
Overall Plant Efficiency (%)	35.8
Customer Meter, GPM	221.0

DAN L. JOHNSON
Manager
Hydraulic Services



Save energy,
Save money...
Your test results show that you can!

November 27, 2006

CHRIS CUMMINGS
SHEEP CREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

PUMPING COST ANALYSIS, Plant: WELL #5
Location: 6666 HWY 2 HP: 40
Cust. #: 0-010-1745 Serv. Acct. #: 001-2503-60
Meter: O828W-193 Pump Ref #: 14038

Dear SCE Customer:

Helping California businesses save energy and money is a major goal at SCE. As you know, our technical specialists performed a free pump-efficiency test on one or more pumps at your facility on November 16, 2006. We thank you for the opportunity to provide this service, and appreciate your interest in the performance of your pumps.

The results of the testing, shown in the table below, indicate that the pump listed above has the potential for improved Overall Plant Efficiency (OPE), lower energy costs, and a cash incentive.

	Plant Efficiency		Savings
	Existing	Improved	
Total kWh	3,552	2,086	1,466
kW Input	37.2	21.8	15.4
kWh per Acre Foot	650	381	268
Acre Feet per Year	5.5		
Average Cost per kWh	\$0.39		
Average Cost per Acre Foot	\$250.10	\$146.84	\$103.25
Overall Plant Efficiency (%)	35.8	61.0	
Total Annual Cost	\$1,367.52	\$802.93	\$564.59
Cash Incentive			\$117.32

Case studies show that repairing, retrofitting, or replacing inefficient pumps can save energy and money, and may even help you avoid serious operational problems. For your business, this could mean the following:

- **Improved Plant Efficiency:** Your OPE can be improved from 35.8% to 61.0%.
- **Lower Energy Costs:** Based on the test data, your past energy usage, and your current rate of PA-2, we estimate that you may save up to 1,466 kWh annually, resulting in **energy cost savings of \$564.59**.
- **Cash Incentive:** Through the retrofit and installation of more energy-efficient equipment, you would receive an incentive of \$0.08 per kWh saved, courtesy of SCE's Agricultural Energy Efficiency Program. Based on your estimated kWh savings, you would be eligible for a potential **cash incentive of \$117.32**, capped at 50% of your project cost. (See contract for details.)

You may also be eligible for pump motor incentives. For more information about your test results, options, and incentive opportunities, **contact CAROLINE LEE at (760)951-3210**.

We encourage you to review your results and take advantage of SCE's energy efficiency expertise and incentives. Visit www.sce.com/rebatesandsavings, or give us a call and let us know how we can be of further service to you.

Sincerely,

Southern California Edison

Program funded by California utility ratepayers, and administered by Southern California Edison under the auspices of the California Public Utilities Commission.

November 27, 2006

CHRIS CUMMINGS
SHEEP CREEK WTR CO.
P.O. BOX 291820
PHELAN, CA 92329

HYDRAULIC TEST RESULTS, Plant: WELL #8

Location: 6666 HWY 2 HP: 150

Cust. #: 0-010-1745

Serv. Acct. #: 025-1930-69

Meter: 349-12954

Pump Ref #: 27478

In accordance with your request, a test was made on your turbine well pump on November 16, 2006. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

Pump Mfg.: N/A

No.: N/A

Motor Mfg.: US

No.: N/A

RESULTS

	<u>Test 1</u>	<u>Test 2</u>	<u>Test 3</u>
Discharge Pressure, PSI	2.4	4.0	1.7
Standing Water Level, Feet	227.4	227.4	227.4
Drawdown, Feet	9.6	6.6	4.9
Discharge Head, Feet	5.5	9.2	3.9
Pumping Water Level, Feet	237.0	234.0	232.3
Total Head, Feet	242.5	243.2	236.2
Capacity, GPM	739.0	503.0	342.0
GPM per Foot Drawdown	77.0	76.2	69.8
Acre Feet Pumped in 24 Hours	3.266	2.223	1.512
kW Input to Motor	65.4	40.4	28.2
HP Input to Motor	87.7	54.2	37.8
Motor Load (%)	56.0	34.6	24.2
Measured Speed of Pump, RPM	1,793	1,493	1,344
kWh per Acre Foot:	481	436	448
Overall Plant Efficiency (%)	51.6	57.0	53.9
Customer Meter, GPM	750.0		

T#1 VSD is operating @ 60 Hz. T#2 @ 50 Hz. T#3 @ 45 Hz.

DAN L. JOHNSON
Manager
Hydraulic Services



Save energy,
 Save money...
 Your test results show that you can!

November 27, 2006

CHRIS CUMMINGS
 SHEEP CREEK WTR CO.
 P.O. BOX 291820
 PHELAN, CA 92329

PUMPING COST ANALYSIS, Plant: WELL #8
 Location: 6666 HWY 2 HP: 150
 Cust. #: 0-010-1745 Serv. Acct. #: 025-1930-69
 Meter: 349-12954 Pump Ref #: 27478

Dear SCE Customer:

Helping California businesses save energy and money is a major goal at SCE. As you know, our technical specialists performed a free pump-efficiency test on one or more pumps at your facility on November 16, 2006. We thank you for the opportunity to provide this service, and appreciate your interest in the performance of your pumps.

The results of the testing, shown in the table below, indicate that the pump listed above has the potential for improved Overall Plant Efficiency (OPE), lower energy costs, and a cash incentive.

	Plant Efficiency		Savings
	Existing	Improved	
Total kWh	20,484	15,100	5,384
kW Input	65.4	48.2	17.2
kWh per Acre Foot	481	354	126
Acre Feet per Year	42.6		
Average Cost per kWh	\$0.18		
Average Cost per Acre Foot	\$88.43	\$65.19	\$23.24
Overall Plant Efficiency (%)	51.6	70.0	
<hr/> Total Annual Cost	<hr/> \$3,769.06	<hr/> \$2,778.36	<hr/> \$990.69
Cash Incentive			\$430.74

Case studies show that repairing, retrofitting, or replacing inefficient pumps can save energy and money, and may even help you avoid serious operational problems. For your business, this could mean the following:

- **Improved Plant Efficiency:** Your OPE can be improved from 51.6% to 70.0%.
- **Lower Energy Costs:** Based on the test data, your past energy usage, and your current rate of PA-2, we estimate that you may save up to 5,384 kWh annually, resulting in **energy cost savings of \$990.69.**
- **Cash Incentive:** Through the retrofit and installation of more energy-efficient equipment, you would receive an incentive of \$0.08 per kWh saved, courtesy of SCE's Agricultural Energy Efficiency Program. Based on your estimated kWh savings, you would be eligible for a potential **cash incentive of \$430.74**, capped at 50% of your project cost. (See contract for details.)

You may also be eligible for pump motor incentives. For more information about your test results, options, and incentive opportunities, **contact CAROLINE LEE at (760)951-3210.**

We encourage you to review your results and take advantage of SCE's energy efficiency expertise and incentives. Visit www.sce.com/rebatesandsavings, or give us a call and let us know how we can be of further service to you.

Sincerely,

Southern California Edison

Program funded by California utility ratepayers, and administered by Southern California Edison under the auspices of the California Public Utilities Commission.

APPENDIX B

TOTAL SOURCE CAPACITY PER CDHS CORRESPONDENCE DATED 1/4/06

State of California—Health and Human Services Agency
Department of Health Services



ARNOLD SCHWARZENEGGER
Governor


California
Department of
Health Services
ANDRA SHEWRY
Director

January 4, 2006

Chris Cummings
General Manager
Sheep Creek Water Company
P.O. Box 291820
Phelan, CA 92329-1820

Subject: Amendment No.1, Compliance Order No. 03-13-04CO-001
Sheep Creek Water Company (System No. 3610109)

Dear Mr. Cummings:

Sheep Creek Water Company (hereinafter "Company") has requested that the Department consider a reevaluation of the service connection moratorium, which was ordered by a Compliance Order No. 03-13-04CO-001 issued to the Company on August 11, 2004. The request is for consideration of the Company's improvements submitted in response to Directive No. 1 of said Compliance Order to increase the number of service connections allowed by the order.

Since the issuance of the Compliance Order, the Department has permitted Well 8 to the system on April 15, 2005 and received reports for the monthly water production for each well, a summary report of the geological and geophysical evaluation, which was conducted by the Geoconsultants, Inc., of the two properties (Wrightwood property and Los Angeles County property) under consideration for additional well construction, and a summary report of the Geoconsultants's hydrogeologic evaluation to assess the long-term potential of the existing well field to provide groundwater in the future. The Department has reviewed these documents in consideration of the Company's requests and the findings of our review are presented in the attachments to this letter.

Based on our review and the information currently available, the Department decides to use the following information to determine the number of service connections allowed:

- Production capacity of the tunnel is 252 gallons per minute (gpm).
- Total capacity of five active wells (Well Nos. 2, 3A, 4A, 5, and 8) is 1,803 gpm.
- The maximum demand for the system is 1.341 gpm per service connection.



Do your part to help California save energy. To learn more about saving energy, visit the following web site:
www.consumerenergycenter.org/flex/index.html

Southern California Drinking Water Field Operations Branch, San Bernardino Region
464 West 4th Street, Suite 437, San Bernardino, CA 92401
Telephone: (909)383-4328 Fax: (909)383-4745
Internet Address: www.dhs.ca.gov/ps/ddwem/

As determined in Attachment No.1, the Company is capable of serving 1,532 service connections assuming the maximum demand per connection is 1.341 gpm per service connection and all sources are operating. Further it has been demonstrated in 2005 that the Company's reduction of the allotted amount from 4,000 ft³ to 1,000 ft³ per month per share has also reduced the demand per connection to 0.869 gpm per service connection. Allowing for the largest source of supply (Well 4A) offline, the Company will have sufficient source capacity to serve 1,532 service connections with the most recent demand per connection data available. With the new sources added and the present allotment per share, the Company has demonstrated that it possesses an adequate and reliable source of supply to serve additional connections to a total of 1,532 connections.

As the Company's service area continues to grow and more service connections are added, the Company should continue to explore additional sources of water supply to meet the present and future needs of its customer and avoid the water outages experienced in Summer 2004. In addition, the Company should address methods to promote water conservation in its service, as water supply may be limited during drought conditions as in 2004.

The Department hereby amends Compliance Order No. 03-13-04CO-001 as follows:

1. The Company's total number of allowed water service connections, including active and inactive, shall be 1,532. No additional service connections above this limit shall be added to the system until the limitation is amended in writing by this Department. The distribution of the permitted additional service connections shall be consistent with the capability of movement of water between pressure zones within their respective storage constrains, and without causing water shortages or pressure losses in any pressure zone.
2. The Department will reevaluate the limitation on number of service connections when a new source of water supply is added to the system.
3. By October 1, 2006, the Company shall update its Water Master Plan developed in March 1992 to address planned growth and the needed water supply for the Company's service area.

Section 116650 (e) (3) of the Health and Safety Code allows the assessment of a civil penalty up to two-hundred dollars (\$200) per day as of the date of violation for failure to comply with each of the requirements of this Order.

By issuance of this amendment, Directive Nos. 1 through 2 of Compliance Order No. 03-13-04CO-001 are rescinded, and replaced by the directives of this amendment. All provisions of Domestic Water Supply Permit No. 78-007 issued by the Department on February 6, 1978, and its amended permits, remain in effect.

Attachment No. 1
Sheep Creek Water Company
Compliance Order No. 03-13-04CO-001
December 23, 2005

HISTORY

The Department issued Compliance Order No. 03-13-04CO-001 to the Company on August 11, 2004, due to insufficient water available from sources and storage to supply adequately, dependably and safely the total requirements of all users under maximum day demand conditions. The requirements of the Order are as follows:

1. Forthwith, cease and desist from adding new service connections to the system until adequate and reliable source(s) are in place and approval to add new service is received from the Department.
2. The Company shall develop a plan to obtain additional reliable source capacity to meet the system demand. This plan shall be submitted to the Department of Health Services by November 1, 2004.

On September 27, 2004, the Department sent a letter to the Company to clarify that the Order would not affect customers who already received a will-serve letter or submitted a permit application for construction prior to August 16, 2004, which was the date that the Company received the Compliance Order. The Company complies with all provisions of the Compliance Order. In September 2004, the Company informed the Department a reduction in allotment from 4,000 ft³ to 1,000 ft³ per share per month and a plan to get additional water supply was submitted. The Company discussed with San Bernardino County Special Districts for an emergency inter-tie with them; but the discussion was unsuccessful.

In January 2005, Geoconsultants, Inc. performed a geological and geophysical evaluation of the two properties under consideration for additional well construction, which are the existing Wrightwood well filed and Los Angeles County property. From this evaluation, ETS-2 of the Wrightwood well field (ETS-2 is located several hundred feet west of the existing wells) and ETS-9 of the Los Angeles County were selected for new wells. These two locations are expected to provide groundwater yield of no less than 450 gpm. The Company plans to drill a new well (Well 9) at the EST-2 site this December. The Company has been in contact with Southern California Water Company to be a partner of a new well project at the EST-9 location.

On March 15, 2005, the Department allowed the Company to add one new service connection, which is Phelan Medical Building, because three reasons (1) this connection would not consume a lot of water, (2) this medical building is a need for the community, and (3) the Building's owner received a will-serve letter but it was expired three days prior to the date the Company received the Compliance Order.

the same well field. Details of the hydrogeologic evaluation are in the **Attachment No. 2**. The hydrogeologic survey was conducted on August 30 and 31, 2005. Results of the evaluation are listed below:

- Water levels in several wells have dropped several feet throughout the summer, but when compared to the summer of 2004, the levels are between 40 and 60 feet higher than last year at that time.
- There is no or little interference of water production of a well on the production of other nearby wells when they are operated simultaneously.
- All active wells can run up to 24 hours before allowing for recovery. Time needed for full recovery was not addressed in the survey; however, Mr. Cummings informed that it takes approximately 5 to 30 minutes for full recovery.
- Total capacity of all active wells is 1,803 gpm.
- Approximately 726 acre-feet of water can safely be extracted from the well field on an annual basis (or roughly 450 gpm on a continuous basis.)

Maximum day demands for the system from 2000 to 2005 are listed in Table 3. Based on this record, the maximum demand of 1.341 gpm per service connection is used for the analysis of service connection limitation for the Company.

Table 3
Maximum Day Demand per Service Connection

Year	MDD	Total (active + inactive Service Connection)	MDD/service connection (gpm/sc)
2000	1.81 MGD (1,257 gpm)	1,086	1.157
2001	1.72 MGD (1,194 gpm)	1,088	1.098
2002	2.15 MGD (1,493 gpm)	1,113	1.341
2003	2.04 MGD (1,417 gpm)	1,180	1.200
2004	1.57 MGD (1,090 gpm)	1,244	0.876
2005	1.58 MGD (1,096 gpm)	1,260	0.869

Average day demands (ADD) for the system from 2000 to 2004 are listed in Table 4. Based on this record, the average day demand is less than half of the maximum day demand.

Table 4
Average Day Demand

Year	Annual consumption	Total (active + inactive Service Connection)	ADD/service connection (gpm/sc)
2000	304.1 MG	1,086	0.533
2001	322.83 MG	1,088	0.565
2002	355.33 MG	1,113	0.607
2003	336.34 MG	1,180	0.542
2004	275.43 MG	1,244	0.421

CONCLUSION

Based on the total capacity of 1,803 gpm of five active wells (Well Nos. 2, 3A, 4A, 5, and 8) and production capacity of 252 gpm for the tunnel (based on the average tunnel production for a period from January 2001 to September 2005), and the maximum demand of 1.341 gpm per service connection (based on the maximum water demand for a five-year period from 2000 to 2004), the Department has determined that the Company is able to serve no more than 1,532 service connections (active and inactive).

APPENDIX C

PIPE REPLACEMENT FOR EXISTING SYSTEM REPLACEMENT (EXCERPT FROM 1992 WMP BY WILSON SO – TABLE 3-2)

TABLE 3-2
PIPE REPLACEMENT FOR EXISTING
SYSTEM IMPROVEMENTS

PIPE #	NODE #	NODE #	LENGTH L.F.	EXISTING DIAMETER	PROPOSED DIAMETER
62*	58	60	1,645	4-INCH	8-INCH PVC
65*	60	62	1,000	4-INCH	8-INCH PVC
66	62	63	917	4-INCH	8-INCH PVC
68	63	65	2,333	4-INCH	8-INCH PVC
71	65	68	625	6-INCH	8-INCH PVC
74	62	71	62	4-INCH	8-INCH PVC
76	71	73	3,271	4-INCH	8-INCH PVC
77	73	74	1,330	4-INCH	8-INCH PVC
79	74	76	958	4-INCH	8-INCH PVC
103	100	101	660	4-INCH	8-INCH PVC
104	101	102	660	6-INCH	8-INCH PVC
105	101	103	1,042	4-INCH	8-INCH PVC
120	116	117	417	4-INCH	8-INCH PVC
128	120	125	70	4-INCH	8-INCH PVC
159	154	155	3,146	4-INCH	8-INCH PVC
164	158	159	3,042	4-INCH	8-INCH PVC
169	159	162	938	4-INCH	8-INCH PVC
41	37	507	344	4-INCH	8-INCH PVC
423	507	39	344	4-INCH	8-INCH PVC
22	20	21	833	4-INCH	8-INCH PVC
189	176	177	2,500	4-INCH	8-INCH PVC
191	177	179	521	4-INCH	8-INCH PVC
194	180	182	979	4-INCH	8-INCH PVC
196	182	184	1,708	4-INCH	8-INCH PVC
410	125	143	1,250	4-INCH	8-INCH PVC
416	155	158	550	4-INCH	8-INCH PVC

* Cost of line to be shared by new development.

TABLE 3-2 (CONTINUED)
PIPE REPLACEMENT FOR EXISTING
SYSTEM IMPROVEMENTS

PIPE #	NODE #	NODE #	LENGTH L.F.	EXISTING DIAMETER	PROPOSED DIAMETER
420	503	43	667	6-INCH	8-INCH PVC
421	505	119	225	6-INCH	8-INCH PVC
272	246	247	3,333	4-INCH	8-INCH PVC
282	255	257	1,417	4-INCH	8-INCH PVC
280	253	255	313	4-INCH	8-INCH PVC
278	251	253	1,000	4-INCH	8-INCH PVC
276	250	251	625	4-INCH	8-INCH PVC
274	247	250	1,208	4-INCH	8-INCH PVC
502*	500	22	2,833	4-INCH	10-INCH PVC
123*	119	120	625	4-INCH	8-INCH PVC
122*	118	119	83	4-INCH	8-INCH PVC
121*	116	118	97	4-INCH	8-INCH PVC
119*	113	116	1,750	4-INCH	8-INCH PVC
115*	113	114	83	4-INCH	8-INCH PVC
117*	114	115	290	4-INCH	8-INCH PVC
118*	115	56	250	4-INCH	8-INCH PVC
59*	56	57	1,938	4-INCH	8-INCH PVC
60*	57	58	167	4-INCH	8-INCH PVC
322	119	142	1,313	4-INCH	8-INCH PVC
144	141	142	187	4-INCH	8-INCH PVC
143	140	141	417	4-INCH	8-INCH PVC
142	137	140	145	4-INCH	8-INCH PVC
139	136	137	542	4-INCH	8-INCH PVC
415	136	169	1,400	4-INCH	8-INCH PVC
223	107	57	583	4-INCH	8-INCH PVC
222	105	107	729	4-INCH	8-INCH PVC

* Cost of line to be shared by new development.

TABLE 3-2 (CONTINUED)
 PIPE REPLACEMENT FOR EXISTING
 SYSTEM IMPROVEMENTS

PIPE #	NODE #	NODE #	LENGTH L.F.	EXISTING DIAMETER	PROPOSED DIAMETER
221*	201	105	583	4-INCH	8-INCH PVC
230*	201	207	688	4-INCH	8-INCH PVC
229*	207	208	333	4-INCH	8-INCH PVC
257	232	207	604	4-INCH	8-INCH PVC
255	231	232	750	4-INCH	8-INCH PVC
210	193	194	125	4-INCH	8-INCH PVC
224	194	203	292	4-INCH	8-INCH PVC
225*	203	204	167	4-INCH	8-INCH PVC
227*	204	206	167	4-INCH	8-INCH PVC
228*	206	207	1,896	4-INCH	8-INCH PVC
231*	208	209	1,583	4-INCH	8-INCH PVC
235*	209	213	771	4-INCH	8-INCH PVC
237	213	215	1,330	4-INCH	8-INCH PVC
179	151	170	1,000	4-INCH	8-INCH PVC
290*	262	284	2,208	4-INCH	8-INCH PVC
314*	282	284	83	4-INCH	8-INCH PVC
312 *	280	282	938	4-INCH	8-INCH PVC
310*	278	280	333	4-INCH	8-INCH PVC
308*	275	278	688	4-INCH	8-INCH PVC
301*	269	275	1,083	4-INCH	8-INCH PVC
300	269	221	1,250	4-INCH	8-INCH PVC
242	218	221	1,333	4-INCH	8-INCH PVC
241	218	88	1,354	4-INCH	8-INCH PVC
218*	199	200	333	4-INCH	8-INCH PVC
219*	200	201	2,167	4-INCH	8-INCH PVC
616*	614	201	1,980	4-INCH	8-INCH PVC

* Cost of line to be shared by new development.

TOTAL 77,404'

APPENDIX D

TABLE SHOWING MONTHLY PRECIPITATION (YR 2002-2006) FOR WRIGHTWOOD AND PEARBLOSSOM STATIONS

W=WRIGHTWOOD, P=PEARBLOSSOM
 *PRECIPITATION (INCHES)

06-314
 9/15/2006

Month	2006		2005		2004		2003		2002	
	W	P	W	P	W	P	W	P	W	P
January	3.05	0.46	15.54	2.45	0.86	0.00	0.00	0.00	1.55	0.22
February	7.15	0.88	10.79	6.15	5.82	2.34	6.33	4.38	0.22	0.03
March	3.82	0.82	1.32	1.00	1.21	0.63	4.11	1.25	0.83	0.04
April			0.90	0.26	1.25	0.10	2.11	0.83	0.13	0.14
May			0.35	0.04	0.00	0.00	3.01	0.23	0.10	0.05
June			0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
July			0.01	0.00	0.00	0.00	0.11	0.13	0.00	0.00
August			0.83	0.37	0.71	0.00	0.46	0.23	0.00	0.00
September			0.94	0.81	0.11	0.00	0.46	0.23	0.00	0.00
October			2.23	1.56	11.66	3.26	0.00	0.00	0.11	0.00
November			0.07	0.00	2.72	1.15	1.74	0.89	1.69	0.15
December			0.80	0.00	7.32	3.40	4.07	0.46	2.62	0.77
Total	14.02	2.16	33.78	12.64	31.74	10.88	22.40	8.63	7.25	1.40

*CLIMATOLOGICAL DATA
 CALIFORNIA

APPENDIX E

FIRE HYDRANT FLOW TEST REPORTS AT VARIOUS LOCATIONS, DATED BETWEEN 2/8/95 AND 11/7/06

**(Including Calculated Fire Flows at 20 PSI
Residual Pressure)**

Water Company

San Bernardino County
Forestry and Fire Warden Department
FIRE HYDRANT INSPECTION/FLOW TEST REPORT

Hydrant Number

Inspection

Flow Test

Blow Off

Date 2-8-95

Time 10:40

Location PHELAN / LEBEC

Manufacturer MULLER Type 3-WAY DB

Hose Nozzle Size 2 1/2 Number _____

Pumper Nozzle Size 4 Number _____ Gate Valve No. _____

Flow Coding GREEN

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____

Pressure

Initial 45 psi
Residual 45 psi
Pitot 46 psi

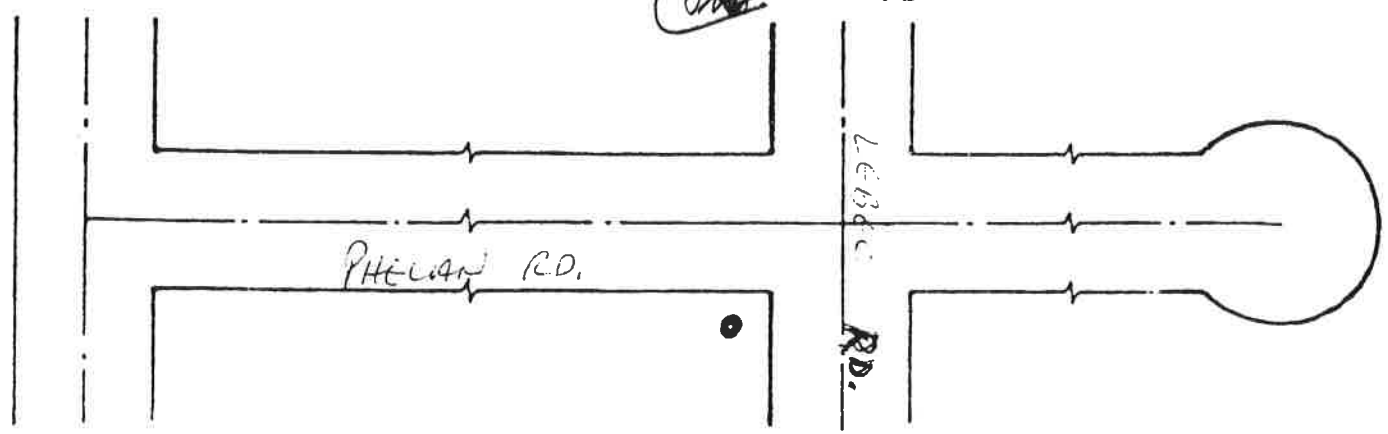
Nozzle

Size 2.5
Flow 1133
@ 20 psi 1,400 GPM CAL

Discharge

Water Used 2266 gal.
Time Flowed 2 min.

SKETCH



By DARREN CHAPMAN Map Update By _____ Date _____

Water Company

San Bernardino County
Forestry and Fire Warden Department
FIRE HYDRANT INSPECTION/FLOW TEST REPORT

Hydrant Number

Inspection

Flow Test

Blow Off

Date 5-12-98

Time 1:25

Location Amador + Riggins

Manufacturer Mueller Type 3way Dry Barrel

Hose Nozzle Size 2.5 Number _____

Pumper Nozzle Size 4 Number _____ Gate Valve No. _____

Flow Coding Orange

Caps	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Chains	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Operating Nut	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Stems	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Packing	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Valve and Seat	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Nozzles	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Drain Plug	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Rep
Paint	<input checked="" type="checkbox"/> Satisfactory	<input type="checkbox"/> Paint Required	<input type="checkbox"/> Rep
Hydrant Marker	<input checked="" type="checkbox"/> Satisfactory	<input type="checkbox"/> Missing/None	<input type="checkbox"/> Rep

Remarks _____

Pressure

Initial 110 psi
Residual 30 psi
Pitot 10 psi

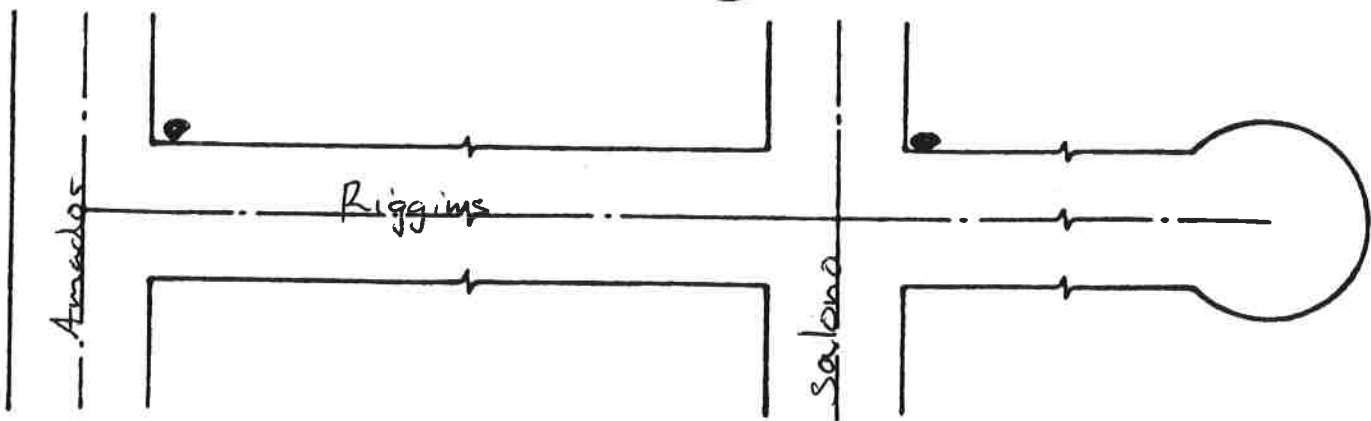
Nozzle

Size 2.5
Flow 530
@ 20 psi 560 GPM CALC

Discharge

Water Used 1060 g
Time Flowed 2 m

SKETCH



By 102/104

Map Update By Chris Cummings

Date 5-12-98

Inspection
 Flow Test
 Blow Off
 Date 11-23-99

Location Brawley Rd. + Sheep Creek Rd
 Time 10:45 Am

Manufacturer Mueller
 Type 3 way Pop Barrel

Hose Nozzle Size 2.5
 Number _____

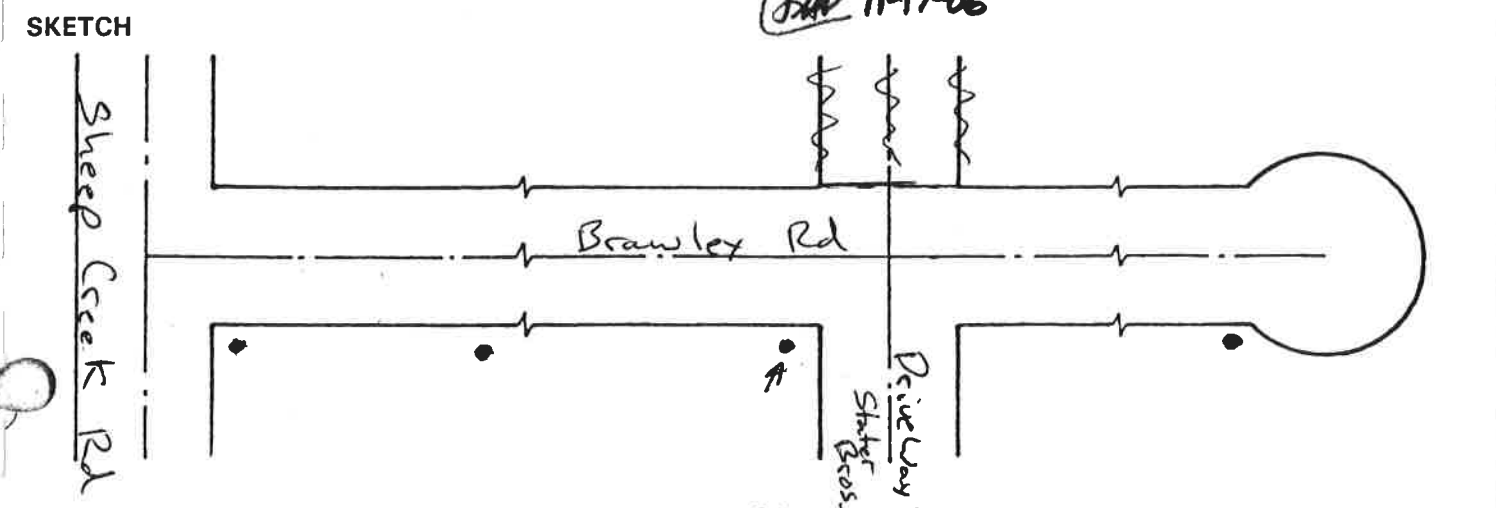
Pumper Nozzle Size 5 1/4
 Number _____
 Gate Valve No. _____

Flow Coding Green

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____

Pressure Initial <u>90</u> psi Residual <u>60</u> psi Pitot <u>60</u> psi	Nozzle Size <u>2.5</u> Flow <u>1445</u> @ 20 psi <u>2,300 GPM CALC</u> <u>FD 11-17-06</u>	Discharge Water Used <u>2890</u> gal. Time Flowed <u>2</u> min.
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By 102/104
 Map Update By Chris Cummings
 Date 11-23-99

Inspection
 Flow Test
 Blow Off
 Date 4-7-00

Location Sheep Creek Rd
 Time 10 05

Manufacturer Mueller
 Type 3 way D- & Russell

Hose Nozzle Size 2.5
 Number _____

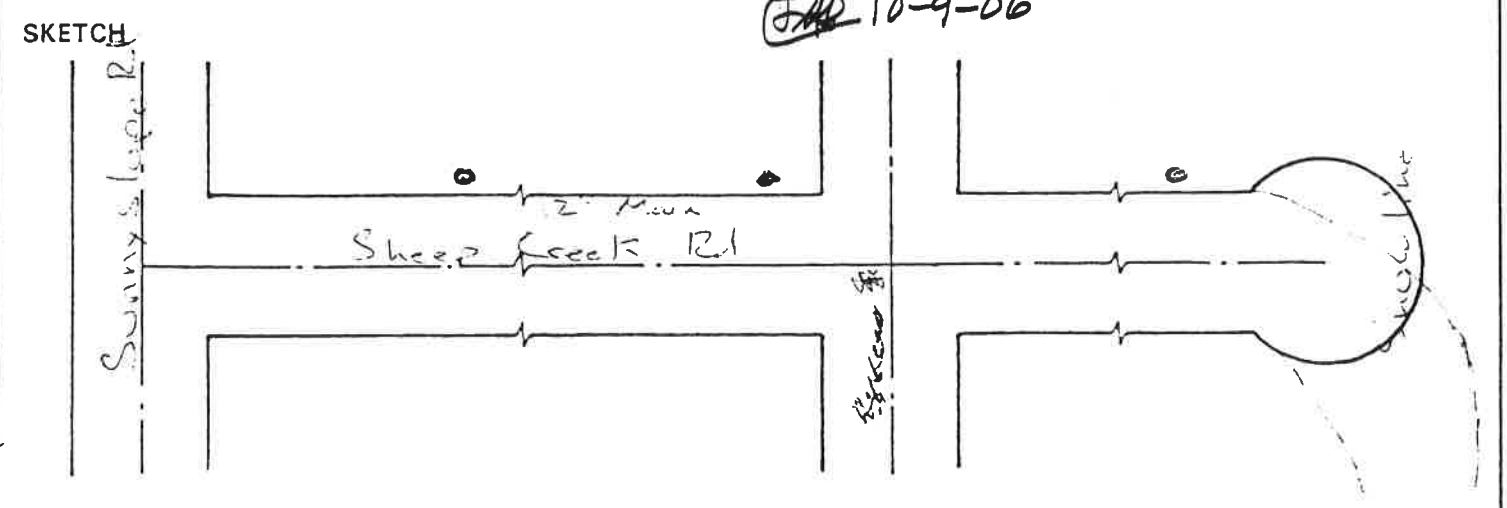
Pumper Nozzle Size 5 1/4
 Number _____
 Gate Valve No. _____

Flow Coding Blue

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____

Pressure Initial <u>115</u> psi Residual <u>100</u> psi Pitot <u>100</u> psi	Nozzle Size <u>2.5</u> Flow <u>1866</u> @ 20 psi <u>5,000 GPM CALC</u>	Discharge Water Used <u>1866</u> gal. Time Flowed <u>1</u> min.
--	--	--



By 102/103
 Map Update By Chris Cummings
 Date 4-7-00

Water Company Sheep Creek Water Co.	San Bernardino County Forestry and Fire Warden Department FIRE HYDRANT INSPECTION/FLOW TEST REPORT	Hydrant Number
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Inspection
 Flow Test
 Blow Off
 Date March 21, 2001

Time 9:00 AM

Location Phelan Rd. & Joshua Ln.

Manufacturer Mueller, Type 3 Way Dry Barrel

Hose Nozzle Size 2½ Number _____

Pumper Nozzle Size 4½ Number _____ Gate Valve No. _____

Flow Coding Green

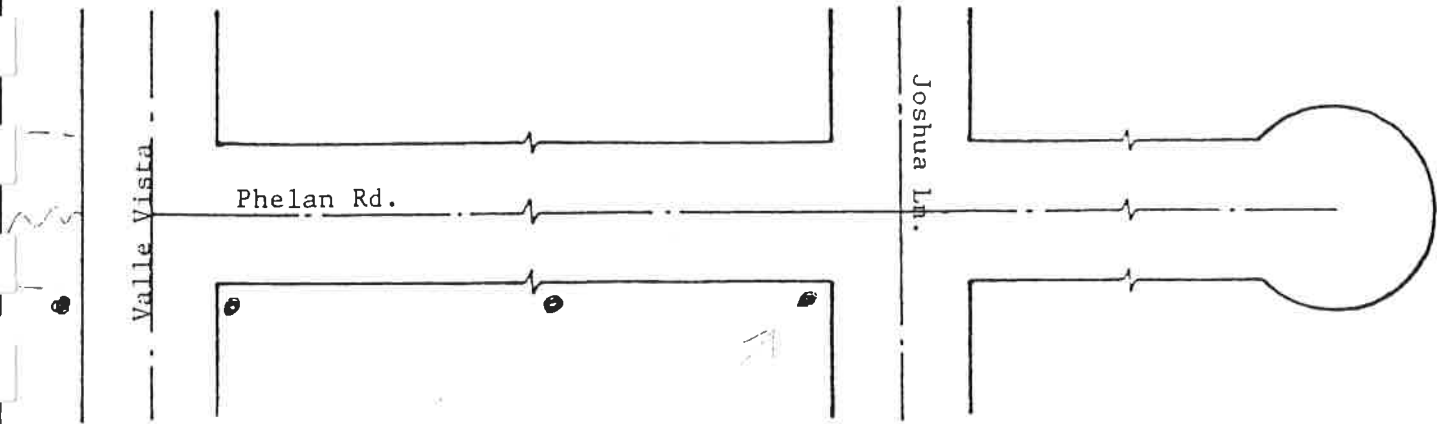
- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____

Pressure	Nozzle	Discharge
Initial <u>105</u> psi	Size <u>2.5</u>	Water Used <u>2418</u> gal.
Residual <u>50</u> psi	Flow <u>1209</u>	Time Flowed <u>2</u> min.
Pitot <u>42</u> psi	@ 20 psi <u>1,550 GPM CALC</u>	

FWR 10-9-06

SKETCH



By 104/105 Map Update By Michael J. Siaz Date 3/21/01

Inspection
 Flow Test
 Blow Off
 Date 7-12-01

Time 1:30 pm

Location El Esteban Rd + Solano Rd

Manufacturer Mueller Type 3 way Dry Barrel

Hose Nozzle Size 2 1/2 Number _____

Pumper Nozzle Size 5 1/4 Number _____ Gate Valve No. _____

Flow Coding Orange

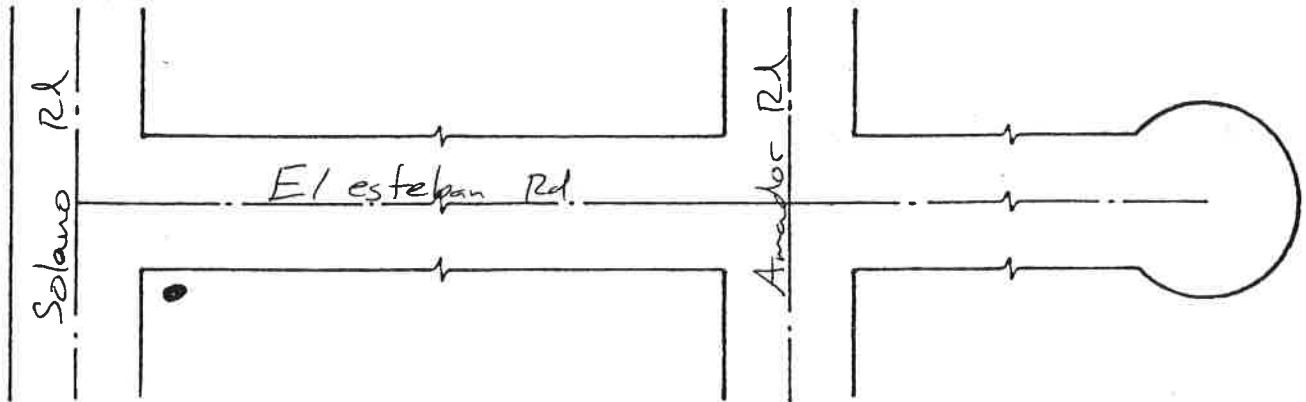
- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____

Pressure	Nozzle	Discharge
Initial <u>92</u> psi	Size <u>2 1/2</u>	Water Used <u>1582</u> gal.
Residual <u>20</u> psi	Flow <u>791</u>	Time Flowed <u>2</u> min.
Pitot <u>18</u> psi	@ 20 psi <u>791 GPM</u>	

JMB 11-17-06

SKETCH



By 102/104 Map Update By Chris Cummings Date _____

Inspection
 Flow Test
 Blow Off
 Date 5-15-02

Location Hwy 2
 Time 11:30 AM

Manufacturer MUELLER
 Type 4 1/2 Dry Barrel 3-way

Hose Nozzle Size 2 1/2
 Number _____

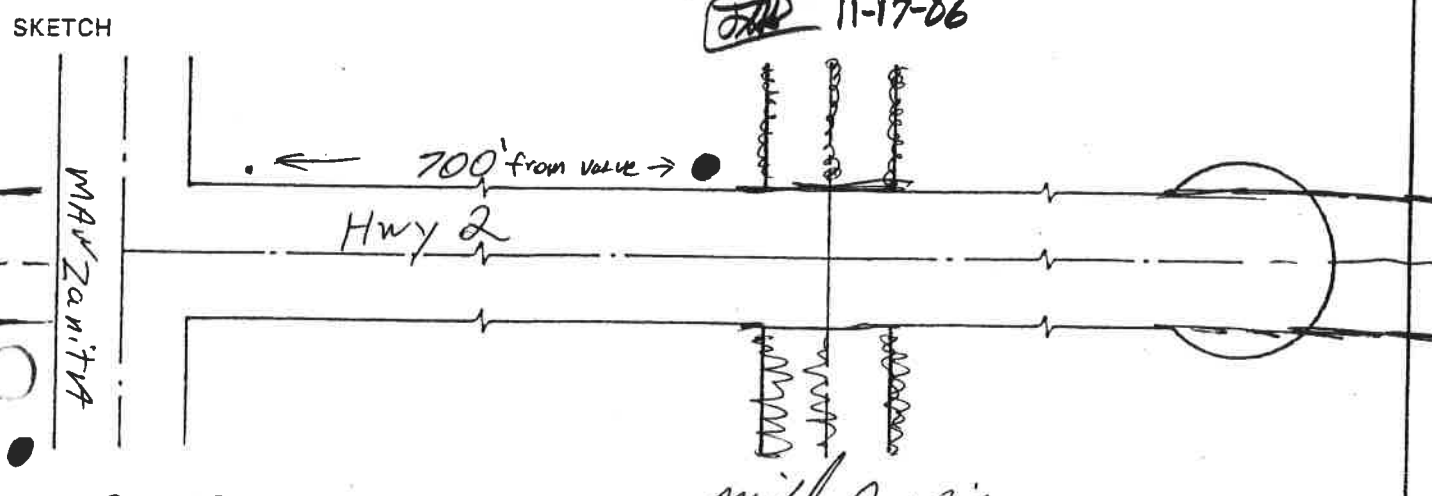
Pumper Nozzle Size 4
 Number _____
 Gate Valve No. _____

Flow Coding Green

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks 1180 GPM
Green

Pressure Initial <u>60</u> psi Residual <u>40</u> psi Pitot <u>40</u> psi	Nozzle Size <u>2.5</u> Flow <u>1180</u> @ 20 psi <u>1,700 GPM CALC</u>	Discharge Water Used <u>2360</u> gal. Time Flowed <u>2</u> min.
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By 102-104-105
 Map Update By Mitchell J. Sij
 Date 5-15-02

Inspection
 Flow Test
 Blow Off
 Date 6-27-02

Location Sheep Creek Rd + Warbler Time 1:20 PM

Manufacturer Moeller Type 3way Dry Barrel

Hose Nozzle Size 2 1/2 Number _____

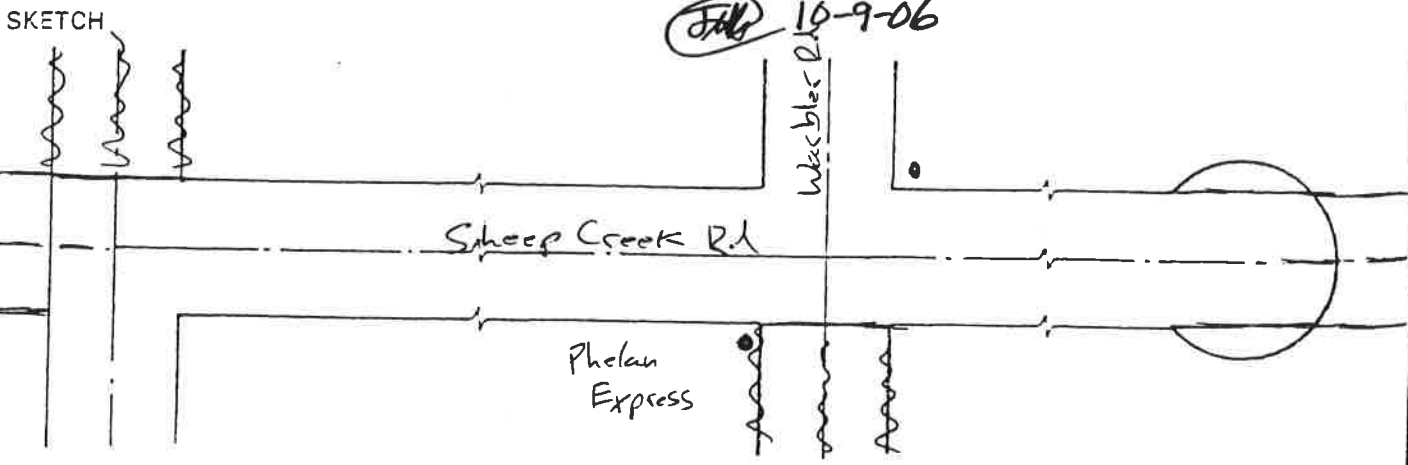
Pumper Nozzle Size 5 1/4 Number _____ Gate Valve No. _____

Flow Coding Green

- | | | | | | | |
|----------------|-------------------------------------|--------------|--------------------------|----------------------|--------------------------|---------|
| Caps | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Chains | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Operating Nut | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Stems | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Packing | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Valve and Seat | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Nozzles | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Drain Plug | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Paint | <input checked="" type="checkbox"/> | Satisfactory | <input type="checkbox"/> | Paint Required | <input type="checkbox"/> | Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> | Satisfactory | <input type="checkbox"/> | Missing/None | <input type="checkbox"/> | Replace |

Remarks _____

Pressure Initial <u>70</u> psi Residual <u>50</u> psi Pitot <u>60</u> psi	Nozzle Size <u>2 1/2</u> Flow <u>1445</u> @ 20 psi <u>2,350 GPM CALC</u>	Discharge Water Used <u>2</u> gal. Time Flowed <u>2890</u> min.
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By 102/104 Map Update By Chris Cummings Date 6-27-02

Inspection
 Flow Test
 Blow Off
 Date 12-17-02

Location Desert Front + HWY 2
 Time 9:30 Am

Manufacturer Moeller
 Type 3 way Dry Barrel

Hose Nozzle Size 2 1/2
 Number _____

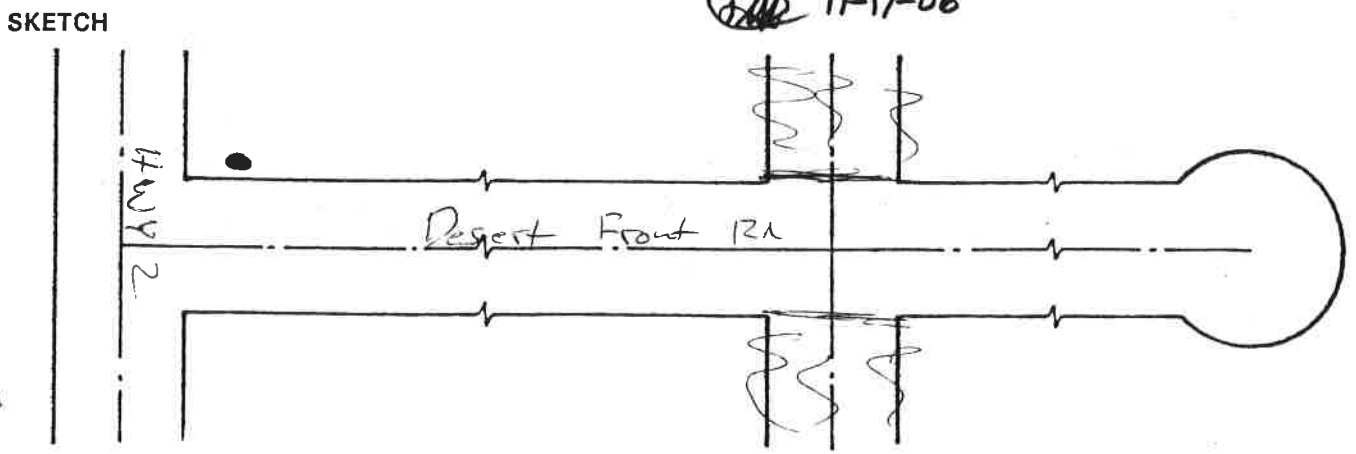
Pumper Nozzle Size 5 1/4
 Number _____
 Gate Valve No. _____

Flow Coding Green

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____

Pressure Initial <u>60</u> psi Residual <u>40</u> psi Pitot <u>46</u> psi	Nozzle Size <u>2 1/2</u> Flow <u>1265</u> @ 20 psi <u>1,840 GPM CALC</u> <u>FAIR 11-17-06</u>	Discharge Water Used <u>2530</u> gal. Time Flowed <u>2</u> min.
---	--	--



By 102/105
 Map Update By Chris Cummings
 Date 12-11-02

Inspection
 Flow Test
 Blow Off
 Date 1-29-03

Location Cambria + Lebec Time 11:00 am

Manufacturer American Pistling Type 3 Way Dry Barrel

Hose Nozzle Size 2 1/2 Number _____

Pumper Nozzle Size .5 1/4 Number _____ Gate Valve No. _____

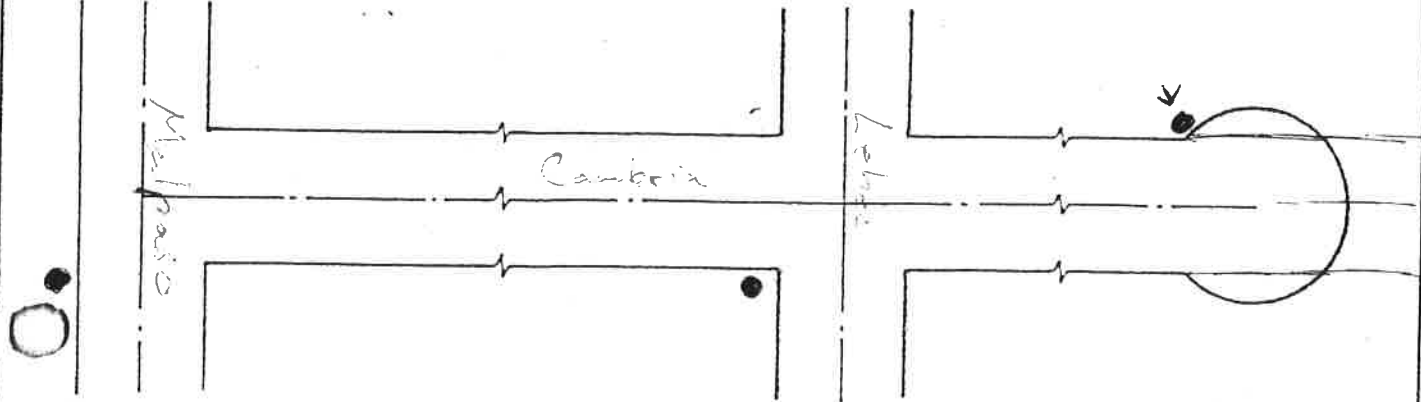
Flow Coding Green

- | | | | | | | |
|----------------|-------------------------------------|--------------|-------------------------------------|----------------------|--------------------------|---------|
| Caps | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Chains | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Operating Nut | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Stems | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Packing | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Valve and Seat | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Nozzles | <input checked="" type="checkbox"/> | Operational | <input type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Drain Plug | <input type="checkbox"/> | Operational | <input checked="" type="checkbox"/> | Maintenance Required | <input type="checkbox"/> | Replace |
| Paint | <input checked="" type="checkbox"/> | Satisfactory | <input type="checkbox"/> | Paint Required | <input type="checkbox"/> | Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> | Satisfactory | <input type="checkbox"/> | Missing/None | <input type="checkbox"/> | Replace |

Remarks _____

Pressure Initial <u>80</u> psi Residual <u>40</u> psi Pitot <u>47</u> psi	Nozzle Size <u>2 1/2</u> Flow <u>1195</u> @ 20 psi 1,490 GPM CALC	Discharge Water Used <u>2390</u> gal. Time Flowed <u>2</u> min.
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SKETCH



By 102/107 Map Update By Chris Cummings Date 1-29-03

10 TESTS REC'D 11-13-06 *JAL*

Water Company	San Bernardino County Forestry and Fire Warden Department	Hydrant Number
FIRE HYDRANT INSPECTION/FLOW TEST REPORT		

Inspection
 Flow Test
 Blow Off
 Date 3-20-03

Location Highway 2 + Rancho
 Time 2:30 pm

Manufacturer Muller
 Type 3-way Dry Barrel

Hose Nozzle Size 2 1/2
 Number _____

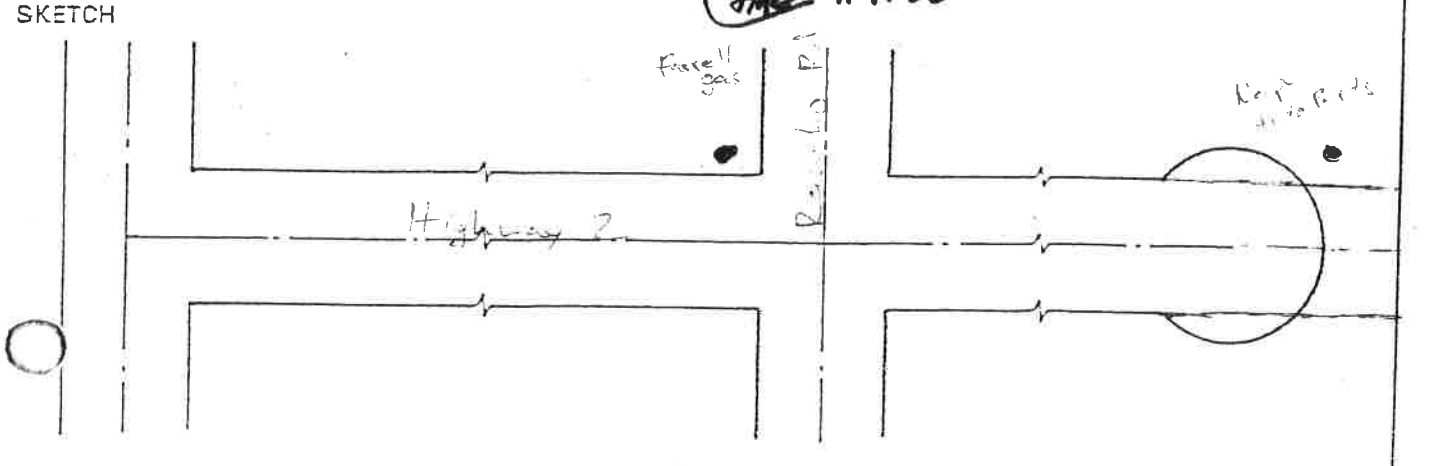
Pumper Nozzle Size 5.4
 Number _____
 Gate Valve No. _____

Flow Coding Orange

Caps	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Chains	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Operating Nut	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Stems	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Packing	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Valve and Seat	<input type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Nozzles	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Drain Plug	<input type="checkbox"/> Operational	<input type="checkbox"/> Maintenance Required	<input type="checkbox"/> Replace
Paint	<input checked="" type="checkbox"/> Satisfactory	<input type="checkbox"/> Paint Required	<input type="checkbox"/> Replace
Hydrant Marker	<input checked="" type="checkbox"/> Satisfactory	<input type="checkbox"/> Missing/None	<input type="checkbox"/> Replace

Remarks _____

Pressure Initial <u>110</u> psi Residual <u>25</u> psi Pitot <u>28</u> psi	Nozzle Size <u>2.5 2.5</u> Flow <u>987</u> gpm @ 20 psi 1,000 GPM CALC JAL 11-17-06	Discharge Water Used <u>1974</u> gal. Time Flowed <u>2</u> min.
--	---	--



By _____
 Map Update By _____
 Date _____

Inspection: Flow Test Blow Off
 Date: 1-23-04

Location: Phelan rd @ Johnson rd
 Time: 10:45 AM

Manufacturer: M&H Type: 3 Way Dry BUBBL

Hose Nozzle Size: 2.50 Number: _____

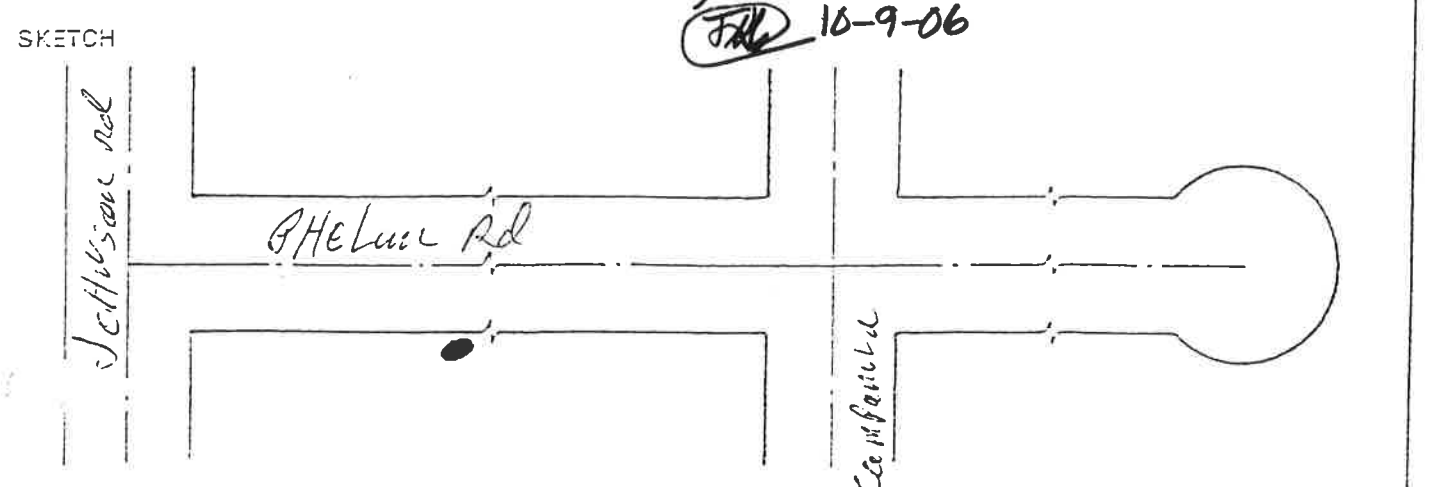
Pumper Nozzle Size: 4.50 Number: _____ Gate Valve No.: _____

Flow Coding: Green

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks: 1396 GPM
GREEN

Pressure: Initial 110 psi, Residual 60 psi, Pitot 56 psi
 Nozzle: Size 2.50, Flow 1396 @ 20 psi
 Discharge: Water Used 2792 gal., Time Flowed 2 min.



RE: APN# 3066 531 12

Water Company
SHEEP CREEK WATER CO
PHELAN, CA 92371

San Bernardino County
Forestry and Fire Warden Department
FIRE HYDRANT INSPECTION/FLOW TEST REPORT

Hydrant No. _____

Inspection

Flow Test

Blow Off

Date **FEBRUARY 18**

Location **JOHNSON ROAD & NIELSEN ROAD**

Time **1:40 PM**

Manufacturer **MUELLER**, Type **3 WAY DRY BARREL**

Hose Nozzle Size **2½** Number _____

Pumper Nozzle Size **4½** Number _____ Gate Valve No. _____

Flow Coding **GREEN**

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks _____
_____ *Copy* _____

Pressure

Initial **110** psi
Residual **33** psi
Pitot **40** psi

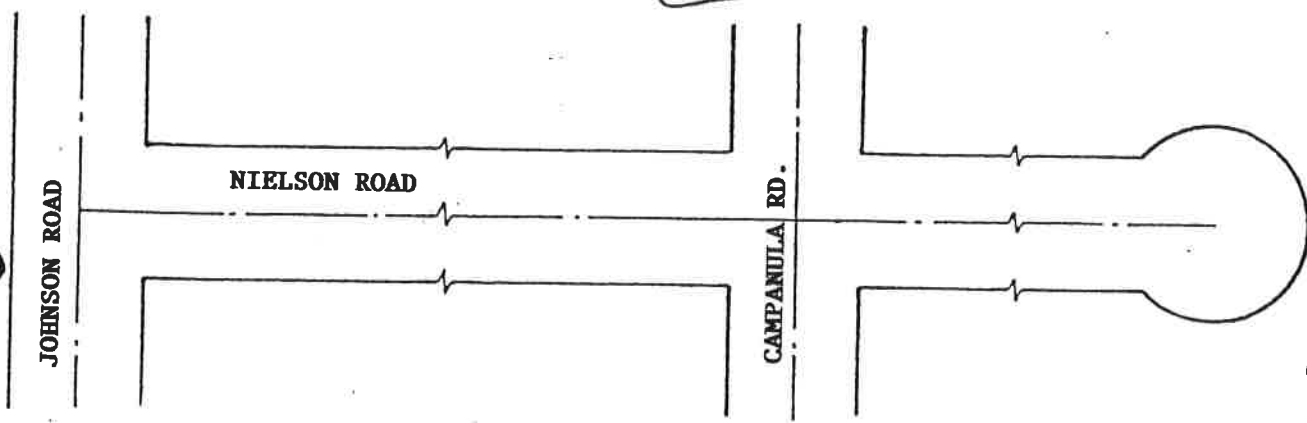
Nozzle

Size **2½**
Flow **1180**
@ 20 psi **1,270 GPM**

Discharge

Water Used **2360** gal.
Time Flowed **2** min.

SKETCH



By **102/104**

Map Update By **C. CUMMINGS**

Date **2/18/04**

Inspection
 Flow Test
 Blow Off
 Date 10-22-01

Location Del Valle & Johnson Rd
 Time 8:15

Manufacturer MVELLE
 Type 3 way Dry Barrel

Hose Nozzle Size 2.50
 Number _____

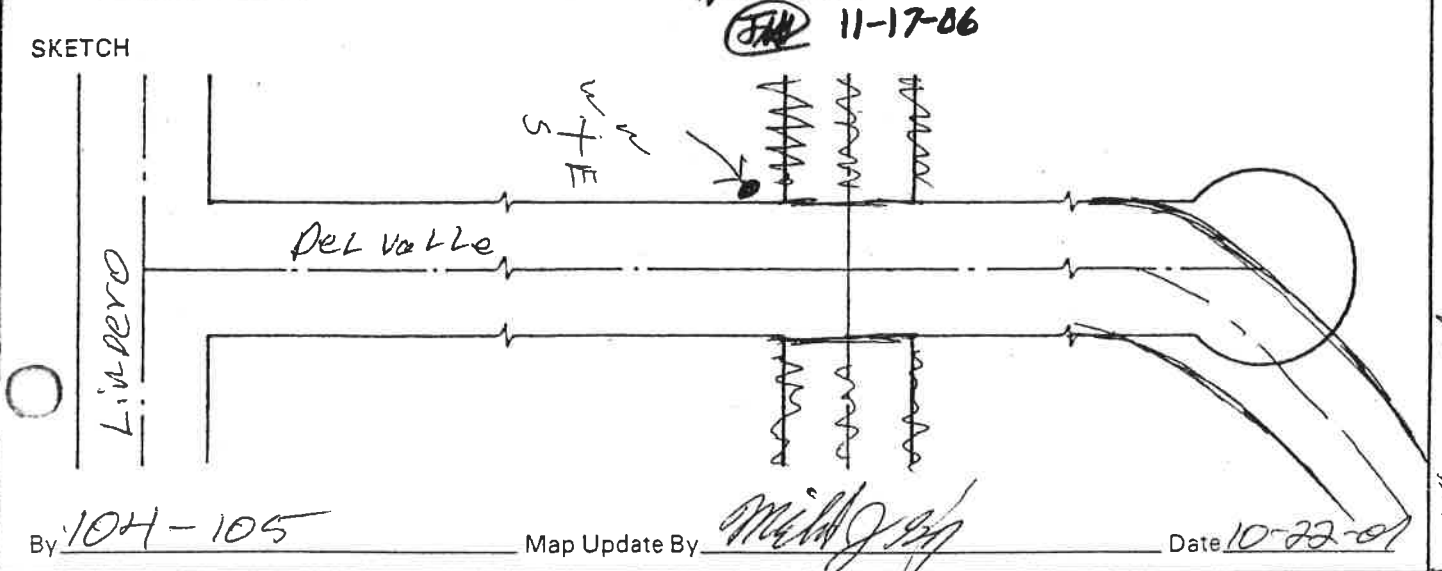
Pumper Nozzle Size 4.50
 Number _____
 Gate Valve No. _____

Flow Coding Green

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

Remarks Flow 1265 GPM
Green

Pressure Initial <u>82</u> psi Residual <u>50</u> psi Pitot <u>46</u> psi	Nozzle Size <u>2.50</u> Flow <u>1265</u> @ 20 psi <u>1,800 GPM CALC</u> <u>FM 11-17-06</u>	Discharge Water Used <u>2530</u> gal. Time Flowed <u>2</u> min.
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Water Company

San Bernardino County
Forestry and Fire Warden Department
FIRE HYDRANT INSPECTION/FLOW TEST REPORT

Hydrant Number

Inspection Flow Test Blow Off

Date 11-7-06

Time 8:30 AM

Location 3939 Arrowhead

Manufacturer MULLER Type 3 way Dry Barrel

Hose Nozzle Size 2.50 Number _____

Pumper Nozzle Size 5 1/4 Number _____ Gate Valve No. _____

Flow Coding ORANGE

- | | | | |
|----------------|--|---|----------------------------------|
| Caps | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Chains | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Operating Nut | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Stems | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Packing | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Valve and Seat | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Nozzles | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Drain Plug | <input checked="" type="checkbox"/> Operational | <input type="checkbox"/> Maintenance Required | <input type="checkbox"/> Replace |
| Paint | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Paint Required | <input type="checkbox"/> Replace |
| Hydrant Marker | <input checked="" type="checkbox"/> Satisfactory | <input type="checkbox"/> Missing/None | <input type="checkbox"/> Replace |

marks 646 GPM

ORANGE

Pressure

Nozzle

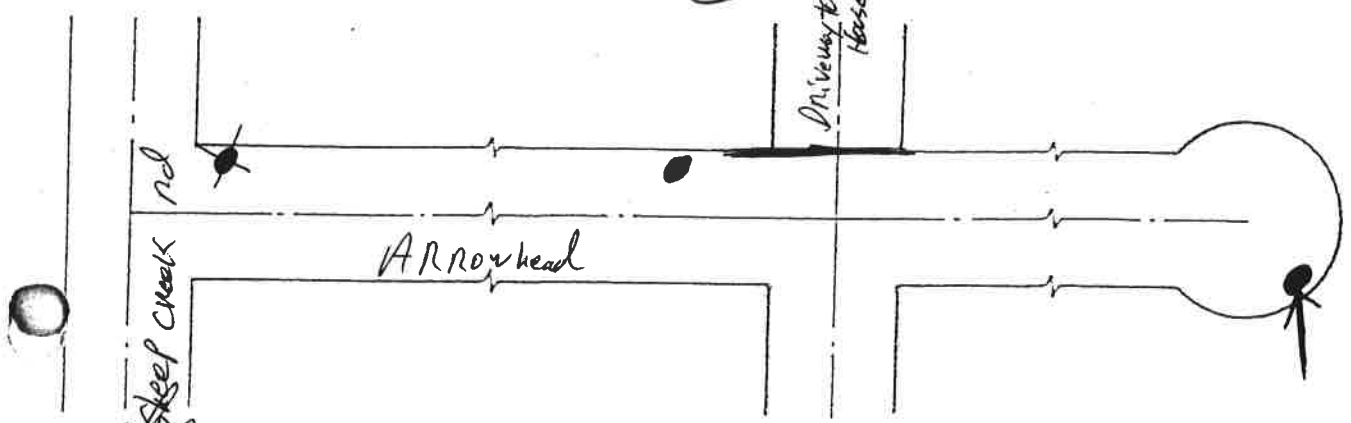
Discharge

Initial 95 psi
Residual 20 psi
Pitot 12 psi

Size 2.50
Flow 646
@ 20 psi 646 GPM

Water Used 1292 gal.
Time Flowed 2 min.

SKETCH



By [Signature]

Map Update By 104

Date 11-7-06

APPENDIX F

ADDITIONAL PIPE REPLACEMENT FOR FUTURE WATER SYSTEM (EXCERPT FROM 1992 WMP BY WILSON SO – TABLE 4-1)

TABLE 4-1
 ADDITIONAL PIPE REPLACEMENT
 FOR FUTURE WATER SYSTEM

PIPE #	EXISTING DIAMETER	PROPOSED DIAMETER	LENGTH L.F.
PIPE #	EXISTING	DIAMETER	LENGTH
2	10-INCH	14-INCH	5,000
5	10-INCH	14-INCH	1,750
7	10-INCH	14-INCH	90
9	10-INCH	14-INCH	90
19	4-INCH	8-INCH	625
20	6-INCH	8-INCH	3,650
24	10-INCH	14-INCH	740
27	10-INCH	14-INCH	40
29	10-INCH	14-INCH	5,000
32	6-INCH	8-INCH	500 ¹⁵
91	4-INCH	8-INCH	625
93	4-INCH	8-INCH	1,208
94	4-INCH	8-INCH	750
97	6-INCH	8-INCH	625
100	6-INCH	8-INCH	986
102	6-INCH	8-INCH	1,854
106	6-INCH	8-INCH	583
107	6-INCH	8-INCH	333
108	6-INCH	8-INCH	1,958
109	4-INCH	8-INCH	2,666
110	6-INCH	8-INCH	208
145	6-INCH	8-INCH	625
146	6-INCH	8-INCH	2,000
147	10-INCH	12-INCH	833
151	6-INCH	8-INCH	500

TABLE 4-1 (CONTINUED)
 ADDITIONAL PIPE REPLACEMENT
 FOR FUTURE WATER SYSTEM

PIPE #	EXISTING DIAMETER	PROPOSED DIAMETER	LENGTH L.F.
154	10-INCH	12-INCH	625
156	6-INCH	8-INCH	667
157	6-INCH	8-INCH	250
158	6-INCH	8-INCH	375
161	6-INCH	8-INCH	625
162	6-INCH	8-INCH	667
166	6-INCH	8-INCH	80
167	6-INCH	8-INCH	625
168	6-INCH	8-INCH	604
174	2-INCH	8-INCH	291
178	10-INCH	12-INCH	4,542
184	10-INCH	12-INCH	146
185	6-INCH	8-INCH	1,354
187	6-INCH	8-INCH	1,021
188	6-INCH	8-INCH	291
198	6-INCH	8-INCH	990
201	4-INCH	8-INCH	540
220	4-INCH	8-INCH	417
226	4-INCH	8-INCH	375
240	2-INCH	8-INCH	333
256	4-INCH	8-INCH	1,896
258	4-INCH	8-INCH	604
259	4-INCH	8-INCH	917
268	6-INCH	8-INCH	333
270	6-INCH	8-INCH	313
271	6-INCH	8-INCH	333

APPENDIX G

PROPOSED NEW PIPELINE SYSTEM IMPROVEMENTS (EXCERPT FROM 1992 WMP BY WILSON SO – TABLE 4-2)

TABLE 4-2
PROPOSED NEW PIPELINE
SYSTEM IMPROVEMENTS

PIPE #	NODE #	NODE #	LENGTH L.F.	PROPOSED DIAMETER
1101	32	400	1,320	8-INCH PVC
1102	32	1,101	700	8-INCH PVC
1103	1,101	512	2,440	8-INCH PVC
1104	621	1,102	330	8-INCH PVC
1105	40	400	1,550	8-INCH PVC
1106	1,102	1,103	1,320	8-INCH PVC
1107	41	44	330	8-INCH PVC
1108	620	1,103	330	8-INCH PVC
1109	1,103	1,104	1,320	8-INCH PVC
1110	45	50	990	8-INCH PVC
1111	50	1,104	1,000	8-INCH PVC
1112	52	59	1,980	8-INCH PVC
1113	58	59	1,320	8-INCH PVC
1114	59	61	1,760	8-INCH PVC
1115	71	1,105	2,640	8-INCH PVC
1116	1,105	1,106	1,980	8-INCH PVC
1117	1,106	1,107	660	8-INCH PVC
1118	1,107	82	2,640	8-INCH PVC
1119	1,109	1,108	990	8-INCH PVC
1120	77	1,107	1,320	8-INCH PVC
1121	1,108	77	1,320	8-INCH PVC
1122	1,108	83	990	8-INCH PVC
1123	62	99	1,320	8-INCH PVC
1124	99	214	850	8-INCH PVC
1125	1,108	91	1,320	8-INCH PVC
1126	91	94	660	8-INCH PVC

APPENDIX H


WEBB'S FAX MEMO TO SHEEP CREEK WATER COMPANY, DATED 11-17-06, PROPOSED ADDITIONS TO COMPANY'S 4315' PRESSURE ZONE

A L B E R T A .
WEBB
A S S O C I A T E S

**Albert A. Webb Associates
Consulting Engineers
3788 McCray Street
Riverside, CA 92506-2973
Telephone (951) 686-1070
FAX (951) 788-1256**

W.O. 06-314

FAX MEMO

TO: Sheep Creek Water Company
ATTENTION: Chris Cummings, General Manager
FAX NUMBER: 760-868-2174
FROM: Fred Hans Hanson, Vice President 
DATE: November 17, 2006
**RE: WMP – 2006 Update; Proposed Project for a 3 MG Tank along
with 16,000' ± of 12" Pipeline, for Addition to the Company's
4315' Pressure Zone**

Per your recent request, via phone, we have made a preliminary engineering review of subject proposed 3 MG tank and 12" pipeline (design pressure Class 150-300 psi) with respect to it being recommended for early construction to hydraulically (directly) reinforce the 4315' Pressure Zone, and to hydraulically reinforce (using side outlets with PRV's) all major pressure zones located northerly thereof all the way to the Company's northerly service boundary.

Webb's 8-½" x 11" worksheet 1" = 2000' scale map (attached) shows the preliminary location of the proposed project facilities. The proposed 3 MG tank is planned to be located on the Company's office site (attached Assessors Map 3066-32). For purposes of this preliminary study, we located the proposed 12" pipeline mainly on Riggins Road.

Including the addition of the proposed 3 MG tank, and with a maximum day water system requirement of 1,096 GPM (2005 MDD) for the Company, the total storage of 6.1 MG would provide approximately 3.3 maximum days of demand for emergency storage, plus 0.5 MG operational and 0.3 MG fire storage; which would greatly increase the system reliability during emergencies.

The construction of the proposed 16,000' ± of 12" pipeline, including side outlets with PRV's, will hydraulically reinforce the source of supply water to all major pressure zones located northerly of the Company's office site. As an example, the 12" pipeline would have the capacity to deliver about 2,500 GPM (7 ft/sec velocity) from storage into the most northerly pressure zone (near the Company's service area boundary) with a residual pressure of about 123 psi; which would greatly increase the overall grid system capacity and reliability during O&M, fire flows and emergencies.

In the future, in the event new sources of supply were utilized from the northern or northwesterly extremes, the proposed 16,000' ± of 12" pipeline would have the pumped reverse flow capacity to deliver 1,750 GPM (5 ft/sec velocity) from the northerly end of the 12" pipeline southerly to the new 3 MG tank, with a pumping pressure of about 267 psi.

Under future ultimate buildout maximum day water demand of 6,758 GPM, and referring to the attached worksheet map, we have also shown future pipelines (21,200' ± of 16" and 5,300' ± of 12") which would create a looped system having proportionally greater capacity approaching 6,758 GPM to hydraulically reinforce the source of supply from storage into all major pressure zones located northerly of the Company's office site. Also, this future looped system of new 16" & 12" pipelines would have the pumped reverse flow capacity to deliver a total of 5,500 GPM from the northerly end of the looped pipeline southerly to the new 3 MG tank site, with a pumping pressure approaching 300 psi. For purposes of this preliminary study, we located the proposed future 16" pipeline mainly on Campanula Road.

Upon reviewing the above, early construction of the proposed project for the new 3 MG tank along with 16,000' ± of 12" pipeline (pressure Class 150-300 psi) is hereby recommended. We summarize below our estimated cost of the proposed improvements for this project, including 20 % for contingency and soft costs.

- One new 3 MG tank, 150 dia. X 24 high, welded steel, including foundation, painting and appurtenances ----- \$850,000
- Site work, including grading and painting and miscellaneous improvements ----- \$70,000
- 16',000' of 12" pipe, pressure Class 150-300 psi @ \$40 ----- \$800,000
- Five Class 150-300 psi pressure stations @ \$25,000 ----- \$125,000
- Subtotal-----\$1,845,000
- Allowance for Contingency, Surveying, Engineering and Administration (20%) ----- \$369,000
- Total ----- \$2,214,000

From an engineering standpoint, the proposed 12" pipe material for pressure Class 150-200 psi could be either PVC-C 900, welded steel – CML/CMC, or ductile iron (CML). The 12" pipe material for pressure Class 250-300 psi could be either welded steel – CML/CMC with lap welded joints, or ductile iron (CML) with megalugs on joints. Sometimes allowing alternate bids using different approved pipe materials can increase competition and lower costs.

Please contact us if you have any questions or comments regarding the proposed early construction and future projects addressed herein.

Enclosures

cc: Dave Algranti, P.E., Principal Engineer

FUTURE INFLOW FROM NEW SOURCES OF SUPPLY

1" = 2,000'

GNDELEV 3800'±

AMADOR ROAD

GNDELEV 3760'±

FUTURE 5,300'± 12"

1,750 GPM ±

3,750 GPM ±

PROPOSED 16,000'± 12"

FUTURE 16" - 21,200'±

RIGGINS ROAD

CAMPANOLA ROAD

SHEEP CREEK WATER CO. BOUNDARY

PROPOSED 3MG TANK ELEV 4315'

SUNNYSLOPE ROAD

WORKSHEET MAP SHEEP CREEK W.C. PROPOSED IMPROVEMENTS 4315' PRESS. ZONE

11-17-06 A.D. WEAR ASSOC. 06-314