SUPPLEMENTAL REPORT

RANCHO MURIETA WATER SUPPLY: PLANNING FOR FUTURE DROUGHTS

APRIL 27, 1990

Prepared By:

GIBERSON & ASSOCIATES
Planning Engineering Project Management
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Table of Contents

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April 27, 1990 84002.1

Mrs. Marion Cravens, Manager
Rancho Murieta CSD
P.O. Box 1050
Rancho Murieta, CA 95683

Re: Supplemental Report
Rancho Murieta Water Supply:
Planning For Future Droughts

Dear Marion:

In accordance with your request we have completed our analysis of the capacity of the District's water supply system under the set of developer assumptions furnished to the District by Mr. Gary Parker of Winncrest Homes. The primary emphasis of these assumptions was focused on reducing the level of ultimate development within the Rancho Murieta Planned Development, eliminating park irrigation during critical drought periods and utilizing the flashboard storage volumes of the District's existing reservoirs.

We understand that the intent of these assumptions was as follows:

1. To reduce the total municipal and industrial (M & I) water demands within the community at full buildout;

2. To reduce the projected supply deficit at full buildout during severe droughts; and,

3. To increase the level of development that can be safely supported by the District's existing water supply system.

You asked that we examine the capacity of the District's existing water supply system using Mr. Parker's assumptions. These assumptions equate to a total a level of development of 5,340 EDU (consisting of approximately 4,728 DU residential and 612 EDU commercial/industrial). The significant difference between Mr. Parker's assumptions and those we utilized in our February 9, 1990

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report titled "Rancho Murieta Water Supply: Planning For Future Droughts" (Report) are summarized as follows:

No.	Description	Report Assumptions	Developer Assumptions	Difference
1.	Future Estate Lots (North)	2,125 DU	1,744 DU	<381 DU>
2.	Future Estate Lots (South)	1,300 DU	1,220 DU	<80 DU>
3.	Parks	80 AC	66 AC	<14 AC>
4.	Light Industry	1,100 Pop.	850 Pop.	<250 Pop.>
5.	Retail Shopping	30% FAR	25% FAR	<5% FAR>
6.	Offices	30% FAR	25% FAR	<5% FAR>
7.	Schools w/o Showers	2,400 Pop.	1,500 Pop.	<900 Pop.>
8.	Schools w/ Showers	2,000 Pop.	0 Pop.	<2,000 Pop.>
9.	Total Community	5,968 EDU	5,340 EDU	<628 EDU>
10.	System Loss	10%	7%	<3%>
11.	Flashboard Volume	0 AF	460 AF	+460 AF
12.	Irrigation of Parks During 100 & 200-Yr. Droughts	YES	NO	N/A

With the exception of the above listed changes in assumptions, all other assumptions and the methodology used herein to analyze the capacity of the District's existing water supply system is identical to that utilized in the preparation of the above referenced report. The total M & I demands of the 5,340 EDU development level, based on the above listed Developer Assumptions, have been estimated at approximately 4,140 acre-feet per year (Table No. 1).

The capacity of the District's existing water supply system was analyzed for the same 10, 25, 100 and 200-Year Droughts studied in the above referenced report. The results of these analyses are included in the attached Tables and Figures.

The following is a summary of the findings of these analyses:

1. AVERAGE DRY YEAR (10-YEAR DROUGHT) AND FULL DEVELOPMENT (5,340 EDU) - NO CONSERVATION

   This analysis contains normal annual consumption and water balance calculations for 5,340 EDU during an average dry year (10-Year Drought) with no conservation (Table No. 2).

   This analysis was used to determine if the flashboard volume in the reservoirs could be relied upon during the 25, 100 and 200-Year Droughts at the level of development envisioned in the Developer Assumptions.

   This analysis indicates that approximately 69% of the water stored in the reservoirs will be consumed during this event (Figure No. 1). The minimum volume in storage will be approximately 1,500 AF during this event. This quantity of reserve capacity appears to be appropriate for this design event.

   This analysis verifies that the reservoirs can be refilled to flashboard capacity during a 10-Year Drought at this level of development. Based on this analysis, it can be reasonably assumed that the flashboard capacity can be relied upon during the 25, 100 and 200-Year droughts at 5,340 EDU level of development.

2. 25-YEAR DROUGHT AND FULL DEVELOPMENT (5,340 EDU) - NO CONSERVATION

   This analysis contains normal annual consumption and water balance calculations for 5,340 EDU during a 25-year Drought with no conservation (Table No. 3).

   This analysis indicates that approximately 74% of the water stored in the reservoirs will be consumed during this event (Figure No. 2). The minimum volume in storage

will be approximately 1,200 AF during this event. This quantity of reserve capacity appears to be appropriate for this design event.

3. 100-YEAR DROUGHT AND FULL DEVELOPMENT (5,340 EDU) - 25% CONSERVATION

This analysis contains normal annual consumption and water balance calculations for 5,340 EDU during a 100-year drought with 25% conservation (Table No. 4).

This analysis indicates that approximately 99% of the all water stored in the reservoirs will be consumed during this event (Figure No. 3). The minimum volume in storage will be approximately 40 AF during this event. While no supply deficit is projected to occur, no reserve capacity will exist during this event.

This is the level of development that the District's existing water supply system can safely support during a 100-Year Drought under these assumptions.

4. 200-YEAR DROUGHT AND FULL DEVELOPMENT (5,340 EDU) - 50% CONSERVATION

This analysis contains normal annual consumption and water balance calculations for 5,340 EDU during a 200-year drought with 50% conservation (Table No. 5).

This analysis indicates that all water stored in the reservoirs will be consumed and that a 700 AF supply shortfall is projected to occur over a four month period during this event (Figure No. 4).

5. 200-YEAR DROUGHT AND PARTIAL DEVELOPMENT (4,790 EDU) - 50% CONSERVATION

This analysis contains normal annual consumption and water balance calculations for 4,790 EDU during a 200-year drought with 50% conservation (Table No. 6).

This analysis indicates that approximately 98% of the water stored in the reservoirs will be consumed during this event (Figure No. 4). The minimum volume in storage will be approximately 100 AF during this event. While no supply deficit is projected to occur, no reserve capacity will exist during this event.

This maximum level of development was determined by trial and error where the resulting M & I demands are in balance with the available supply thereby avoiding a supply deficit. This is the level of development that the District's existing water supply system can safely support during a 200-Year Drought under these assumptions.

6. AVERAGE DRY YEAR (10-YEAR DROUGHT) AND FULL DEVELOPMENT (5,968 EDU) - NO CONSERVATION

This analysis contains normal annual consumption and water balance calculations for 5,968 EDU during a 10-year drought with no conservation (Table No. 7).

This analysis was performed to determine if the flashboard volume in the reservoirs could be relied upon during the 25, 100 and 200-Year Droughts at the higher level of development envisioned in the Report Assumptions (5,968 EDU).

This analysis indicates that approximately 72% of the water stored in the reservoirs will be consumed during this event (Figure No. 1). The minimum volume in storage will be approximately 1,300 AF during this event.

This analysis verifies that the reservoirs cannot be refilled to flashboard capacity during a 10-year Drought at this level of development. Based on this analysis, it is not reasonable to assume that the flashboard capacity can be relied upon during the 25, 100, and 200-year Droughts at 5,968 EDU level of development.

It is interesting to note that the projected total number of EDU that can be safely supported by the District's existing water supply system is significantly larger using the Developer Assumptions than the Report Assumptions (4,730 EDU vs. 3,951 EDU). This may seem a bit unusual since the only way to increase the number of EDU that can be safely supported is by increasing the capacity of the system.

Several of the Developer Assumptions have the effect of increasing the capacity of the system. The significant assumptions are as follows:

1. Reliance on the flashboard capacity of the reservoirs - added storage capacity to serve additional EDU.

2. Elimination of park irrigation during severe droughts - this frees up some capacity to serve additional EDU.

3. Reduction in the allowance for system losses - this frees up some capacity to serve additional EDU.

In addition, the minimum volume of water left in storage in the 4,730 EDU water budget calculation was approximately 80 AF less than the volume left in storage in the 3,951 AF water budget calculation. This had the minor effect of increasing the number of EDU that can be safely supported by the existing system.

Marion, one significant question remains unanswered at this time...

> What binding restriction exists to assure that the level of development within the Rancho Murieta Planned Development will not exceed the 5,340 EDU ceiling sometime in the future?

While none exists at this time, perhaps such a restriction will be forth coming from the development community prior to the District's final action on the proposed District Water Policy. In the absence of such a restriction, it is only prudent and proper that the District's water supply system be designed to meet the maximum level development authorized by the County of Sacramento approved P.D. Ordinance for Rancho Murieta (approximately 5,968 EDU).

We trust that this Supplemental Report answers your questions regarding the capacity of the District's existing water supply system to meet the M & I demands of a 5,340 EDU community at Rancho Murieta.

Please call if we can be of further service.

Sincerely,

Ken Giberson
District Engineer

cc: Mr. Gary Parker, Winncrest Homes
Mr. Lee Lawrence, RMCSD

enclosures

TABLE No.1

ESTIMATED TOTAL MUNICIPAL & INDUSTRIAL DEMANDS
(5,340 EDU)

A. SEASONALLY VARIABLE DEMANDS

TYPE OF USE	NUMBER OF LOTS	CONSUMPTION (GPD/DU)	TOTAL ANNUAL USE (GPD)		TOTAL ANNUAL USE (AC.FT.)
1. RESIDENTIAL					
ESTATE LOTS-NORTH (F):	1,744	750	1,308,000		
ESTATE LOTS-NORTH (E):	494	750	370,500		
ESTATE LOTS-SOUTH (F):	1,220	650	793,000		
COTTAGE LOTS (E):	197	500	98,500		
CIRCLE LOTS (E):	457	550	251,350		
TOWNHOUSE LOTS (E):	389	350	136,150		
MOBILE HOME LOTS (E):	189	200	37,800		
SUB-TOTAL:	4,690		2,995,300		3,355.4
2. COMMERCIAL/INDUSTRIAL					
HOTEL:		N/A	49,000	(1)	
AIRPORT:		N/A	10,000		
FIRE DEPT:		N/A	410		
RMPI FACILITY:		N/A	3,255		
R.M. VILLAGE (CLUBHOUSE):		N/A	1,225		
R.M. VILLAGE (IRRIGATION):		N/A	15,000		
R.M. LODGE:		N/A	15,000		
AUXILIARY GOLF COURSE:		N/A	3,175		
RMA FACILITIES:		N/A	2,000		
PLAZA IRRIGATION (EST.):		N/A	35,000		
SUB-TOTAL:			134,065		150.2
3. PARKS					
66 ACRES (EST.)		N/A	176,751	(2)	
SUB-TOTAL:			176,751		198.0
ESTIMATED TOTAL SEASONALLY VARIABLE DEMANDS:			3,306,116		3,703.6

B. SEASONALLY NON-VARIABLE DEMANDS:

TYPE OF USE	NUMBER OF LOTS	CONSUMPTION (GPD/DU)	TOTAL ANNUAL USE (GPD)	TOTAL ANNUAL USE (AC.FT.)
1. COMMERCIAL/INDUSTRIAL				
LIGHT INDUSTRY:		N/A	17,000 (3)	
RETAIL SHOPPING:		N/A	61,746 (4)	
OFFICES:		N/A	27,443 (5)	
CLUBHOUSE FACILITIES (E) (INCLUDES 38 LODGE UNITS):	38	N/A	25,200	
SUB-TOTAL:	38		131,389	147.2
2. SCHOOLS				
SCHOOLS W/O SHOWERS (EST.):		N/A	22,500 (6)	
SUB-TOTAL:			22,500	18.9
ESTIMATED TOTAL SEASONALLY NON-VARIABLE DEMANDS:			153,889	166.1
ESTIMATED SUB-TOTAL MUNICIPAL & INDUSTRIAL DEMANDS:			3,460,005	3,869.7
+ 07% SYSTEM LOSS			346,001	270.9
ESTIMATED TOTAL MUNICIPAL & INDUSTRIAL DEMANDS	4728		3,806,006	4,140.6

FOOTNOTES:

(1) HOTEL BASED ON 200 ROOMS @ 350 GPD/ROOM AND 70% OCCUPANCY FACTOR
(2) PARK IRRIGATION ASSUMED TO BE 3.0 FEET PER YEAR
(3) INDUSTRIAL BASED ON 850 EMPLOYEES @ 20 GPD/EMPLOYEE
(4) SHOPPING BASED ON 25% FLOOR AREA RATIO YIELDING 343,035 S.F. @ 0.18 GPD/S.F.
(5) OFFICE BASED ON 25% FLOOR AREA RATIO YIELDING 343,035 S.F. @ 0.08 GPD/S.F.
(6) SCHOOLS ARE ASSUMED TO BE IN SESSION 9 MONTHS PER YEAR WITH:
    A. 2 SCHOOLS W/O SHOWERS ASSUMED TO BE 750 STUDENTS/SCHOOL @ 15 GPD/STUDENT
(7) ALL DEMANDS ARE BASED ON METER READING DATABASE EXCEPT AS NOTED OTHERWISE
(8) DEVELOPMENT MIX OF COMMERCIAL LANDS ASSUMED TO BE 50% RETAIL AND 50% OFFICE
(9) (E) = EXISTING
(10) (F) = FUTURE

TABLE No. 2

NORMAL ANNUAL CONSUMPTION
FOR
AVERAGE DRY YEAR AND FULL DEVELOPMENT
(5,340 EDU TOTAL)

SEASONALLY VARIABLE

ESTATE LOTS-NORTH (F):	1,744	LOTS @ 750 GPD =	1,308,000.0	GPD	
ESTATE LOTS-NORTH (E):	494	LOTS @ 750 GPD =	370,500.0	GPD	
ESTATE LOTS-SOUTH (F):	1,220	LOTS @ 650 GPD =	793,000.0	GPD	
COTTAGE LOTS (E):	197	LOTS @ 500 GPD =	98,500.0	GPD	
CIRCLE LOTS (E):	457	LOTS @ 550 GPD =	251,350.0	GPD	
TOWNHOUSE LOTS (E):	389	LOTS @ 350 GPD =	136,150.0	GPD	
MOBIL HOME LOTS (E):	189	LOTS @ 200 GPD =	37,800.0	GPD	
OTHER SEASONAL:			134,065.0	GPD	
PARKS:		66 ACRES =	176,751.0	GPD	
SUB-TOTAL SEASONALLY VARIABLE		=	3,306,116.0	GPD	
		=	3,703.6	A.F./YEAR	

SEASONALLY NON-VARIABLE

SCHOOLS:	18.9	A.F./YEAR
COMMERCIAL-INDUSTRIAL (INCLUDES 38 LODGE UNITS):	147.2	A.F./YEAR
SUB-TOTAL SEASONALLY NON-VARIABLE	166.1	A.F./YEAR

SUB-TOTAL	3,869.7	A.F./YEAR
+07% SYSTEM LOSS	270.9	A.F./YEAR
TOTAL M & I	4,140.6	A.F./YEAR

NOTES:

(1) TOTAL RESIDENTIAL DWELLING UNITS = 4728 DU

(2) (F) = FUTURE

(3) (E) = EXISTING

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: AVERAGE DRY YEAR
DEVELOPMENT LEVEL: 5,340 EDU
LEVEL OF CONSERVATION: NO CONSERVATION

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	498.2	1.6	22.8	9.7	15.3	69.2	29.4	46.5	630.9	630.9	0.0	0.0	0.0	1.4	0.6	0.9	0.0	2.0	2.0	2,215.1	1,235.5	993.5	
JULY	554.2	1.6	20.4	9.7	15.2	63.5	30.6	48.0	680.0	1,310.9	0.0	0.0	0.0	0.6	0.2	0.4	0.0	0.8	2.8	1,535.9	1,235.5	930.7	
AUGUST	542.2	1.4	15.3	9.7	14.8	42.3	26.7	40.9	637.6	1,948.5	0.0	0.0	0.0	1.0	0.4	0.6	0.0	1.4	4.2	899.7	1,235.5	875.6	
SEPTEMBER	436.6	1.2	10.5	9.7	14.4	22.3	20.5	30.5	500.8	2,449.3	0.0	0.0	0.0	3.2	1.3	2.0	0.0	4.9	8.7	494.9	1,144.0	823.7	
OCTOBER	380.6	1.0	7.3	8.9	14.2	11.7	14.2	22.7	423.7	2,873.0	0.0	0.0	0.0	9.7	3.9	6.2	34.4	13.6	22.3	300.0	928.8	827.4	
NOVEMBER	244.7	0.0	(7.2)	8.2	14.5	(5.8)	6.6	11.6	259.5	3,132.5	0.0	0.0	58.8	(24.9)	10.0	15.9	88.4	68.8	91.1	(311.4)	738.2	905.6	
DECEMBER	204.7	0.0	(6.5)	7.8	14.6	(2.6)	3.1	5.8	215.6	3,348.1	0.0	0.0	122.1	(32.4)	12.9	20.6	114.7	135.0	226.1	(334.7)	657.6	907.1	
JANUARY	172.7	0.0	(6.8)	8.1	14.6	(2.7)	3.3	5.8	184.1	3,532.2	0.0	283.0	172.7	(45.0)	18.0	28.6	159.6	473.7	699.8	(370.2)	947.2	907.1	
FEBRUARY	156.4	0.0	9.3	8.9	14.6	7.4	7.1	11.7	189.1	3,721.3	744.5	200.2	156.4	31.6	12.6	20.1	112.1	1,145.3	1,845.1	1,326.4	1,144.0	907.1	
MARCH	208.6	0.0	18.0	9.2	14.6	25.2	12.8	20.4	273.8	3,995.1	900.0	0.0	208.6	23.5	9.4	14.9	83.2	1,141.5	2,986.6	2,194.1	1,144.0	907.1	
APRIL	308.6	0.0	22.9	9.4	15.1	44.9	18.5	29.6	404.3	4,399.4	723.9	(91.5)	308.6	15.5	6.2	9.9	54.9	1,054.2	4,040.8	2,844.0	1,235.5	986.4	
MAY	432.5	0.0	24.0	9.7	15.2	57.8	23.1	38.3	547.1	4,946.5	160.5	31.3	350.0	3.8	1.5	2.4	0.0	547.1	4,587.9	2,844.0	1,235.5	1,054.4	
TOTAL	4,140.0	6.8	150.5	109.0		344.3	195.9		4,946.5		2,528.9	514.5	1,377.2	90.3	77.0			4,587.9					

NOTES:

1. ALL BEGINNING AND ENDING RESERVOIR LEVELS ARE AT FLASHBOARD CAPACITY.

TABLE No. 3

NORMAL ANNUAL CONSUMPTION
FOR
25-YEAR DROUGHT AND FULL DEVELOPMENT
(5,340 EDU TOTAL)

SEASONALLY VARIABLE

ESTATE LOTS-NORTH (F):	1,744	LOTS @ 750 GPD =	1,308,000.0	GPD	
ESTATE LOTS-NORTH (E):	494	LOTS @ 750 GPD =	370,500.0	GPD	
ESTATE LOTS-SOUTH (F):	1,220	LOTS @ 650 GPD =	793,000.0	GPD	
COTTAGE LOTS (E):	197	LOTS @ 500 GPD =	98,500.0	GPD	
CIRCLE LOTS (E):	457	LOTS @ 550 GPD =	251,350.0	GPD	
TOWNHOUSE LOTS (E):	389	LOTS @ 350 GPD =	136,150.0	GPD	
MOBIL HOME LOTS (E):	189	LOTS @ 200 GPD =	37,800.0	GPD	
OTHER SEASONAL:			134,065.0	GPD	
PARKS:		66 ACRES =	176,751.0	GPD	
SUB-TOTAL SEASONALLY VARIABLE		=	3,306,116.0	GPD	
		=	3,703.6	A.F./YEAR	

SEASONALLY NON-VARIABLE

SCHOOLS:	18.9	A.F./YEAR
COMMERCIAL-INDUSTRIAL (INCLUDES 38 LODGE UNITS):	147.2	A.F./YEAR
SUB-TOTAL SEASONALLY NON-VARIABLE	166.1	A.F./YEAR

SUB-TOTAL	3,869.7	A.F./YEAR
+07% SYSTEM LOSS	270.9	A.F./YEAR
TOTAL M & I	4,140.6	A.F./YEAR

NOTES:

(1) TOTAL RESIDENTIAL DWELLING UNITS = 4728 DU

(2) (F) = FUTURE

(3) (E) = EXISTING

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: 25-YEAR DROUGHT
DEVELOPMENT LEVEL: 5,340 EDU
LEVEL OF CONSERVATION: NO CONSERVATION

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	498.2	1.6	22.8	9.7	15.3	69.2	29.4	46.5	630.9	630.9	0.0	0.0	0.0	9.7	3.9	6.1	0.0	13.6	13.6	2,226.7	1,235.5	998.7	
JULY	554.2	1.6	20.4	9.7	15.2	63.5	30.6	48.0	680.0	1,310.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	1,546.7	1,235.5	935.5	
AUGUST	542.2	1.4	15.3	9.7	14.8	42.3	26.7	40.9	637.6	1,948.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	909.1	1,235.5	879.8	
SEPTEMBER	436.6	1.2	10.5	9.7	14.4	22.3	20.5	30.5	500.8	2,449.3	0.0	0.0	0.0	5.3	2.1	3.3	0.0	7.4	21.0	507.2	1,144.0	838.2	
OCTOBER	380.6	1.0	7.3	8.9	14.2	11.7	14.2	22.7	423.7	2,873.0	0.0	0.0	0.0	6.2	2.5	3.9	0.0	8.7	29.7	300.0	936.2	805.2	
NOVEMBER	244.7	0.0	(6.4)	8.2	14.1	(5.1)	6.5	11.3	259.4	3,132.4	0.0	0.0	0.0	(6.7)	2.7	4.2	24.6	2.7	32.4	(295.2)	679.5	808.6	
DECEMBER	204.7	0.0	(6.3)	7.3	14.2	(5.0)	5.8	5.7	217.8	3,350.2	0.0	0.0	14.0	(10.2)	4.1	6.4	37.5	18.1	50.5	(294.1)	479.8	832.6	
JANUARY	172.7	0.0	(6.3)	6.8	14.5	(5.0)	5.4	5.7	184.9	3,535.1	0.0	19.8	172.7	(12.3)	7.7	12.1	71.2	200.2	250.7	(295.1)	495.1	895.7	
FEBRUARY	156.4	0.0	11.1	9.1	14.8	8.9	7.3	11.8	192.8	3,727.9	1,272.4	655.2	156.4	21.5	8.6	13.5	79.3	2,114.1	2,364.8	1,567.5	1,144.0	907.1	
MARCH	208.6	0.0	17.5	9.2	14.6	24.5	12.8	20.4	272.6	4,000.5	0.0	0.0	192.0	12.8	5.1	8.0	47.2	209.9	2,574.7	1,504.8	1,144.0	907.1	
APRIL	308.6	0.0	22.9	9.4	14.6	44.9	18.5	28.6	404.3	4,404.8	1,377.6	91.5	308.6	3.3	1.3	2.1	12.2	1,782.3	4,357.0	2,791.3	1,235.5	878.2	
MAY	432.5	0.0	22.9	9.7	14.3	57.7	23.1	36.1	545.9	4,950.7	0.0	0.0	194.0	0.6	0.3	0.4	0.0	194.9	4,551.9	2,440.3	1,235.5	828.2	
TOTAL	4,140.0	6.8	150.7	107.4		345.0	200.8		4,950.7		2,650.0	766.5	1,037.7	59.4	38.3			4,551.9					

NOTES:

1. ALL BEGINNING RESERVOIR LEVELS ARE AT FLASHBOARD CAPACITY.

TABLE No. 4

NORMAL ANNUAL CONSUMPTION
FOR
100-YEAR DROUGHT AND FULL DEVELOPMENT
(5,340 EDU TOTAL)

SEASONALLY VARIABLE

ESTATE LOTS-NORTH (F):	1,744	LOTS @ 750 GPD =	1,308,000.0	GPD	
ESTATE LOTS-NORTH (E):	494	LOTS @ 750 GPD =	370,500.0	GPD	
ESTATE LOTS-SOUTH (F):	1,220	LOTS @ 650 GPD =	793,000.0	GPD	
COTTAGE LOTS (E):	197	LOTS @ 500 GPD =	98,500.0	GPD	
CIRCLE LOTS (E):	457	LOTS @ 550 GPD =	251,350.0	GPD	
TOWNHOUSE LOTS (E):	389	LOTS @ 350 GPD =	136,150.0	GPD	
MOBIL HOME LOTS (E):	189	LOTS @ 200 GPD =	37,800.0	GPD	
OTHER SEASONAL:			134,065.0	GPD	
PARKS:		66 ACRES =	176,751.0	GPD	
SUB-TOTAL SEASONALLY VARIABLE		=	3,306,116.0	GPD	
		=	3,703.6	A.F./YEAR	

SEASONALLY NON-VARIABLE

SCHOOLS:	18.9	A.F./YEAR
COMMERCIAL-INDUSTRIAL (INCLUDES 38 LODGE UNITS):	147.2	A.F./YEAR
SUB-TOTAL SEASONALLY NON-VARIABLE	166.1	A.F./YEAR

SUB-TOTAL	3,869.7	A.F./YEAR
+07% SYSTEM LOSS	270.9	A.F./YEAR
TOTAL M & I	4,140.6	A.F./YEAR

NOTES:

(1) TOTAL RESIDENTIAL DWELLING UNITS = 4728 DU

(2) (F) = FUTURE

(3) (E) = EXISTING

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: 100-YEAR DROUGHT
DEVELOPMENT LEVEL: 5,340 EDU
LEVEL OF CONSERVATION: 25%

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	498.2	1.6	22.7	9.7	15.6	69.2	29.4	47.5	630.8	630.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,213.2	1,235.5	991.3	
JULY	554.2	1.6	20.0	9.7	15.5	63.3	30.6	49.0	679.4	1,310.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,533.8	1,235.5	926.8	
AUGUST	542.2	1.4	15.2	9.7	14.7	42.0	26.7	31.2	637.2	1,947.4	0.0	0.0	0.0	6.1	2.5	5.4	0.0	8.6	8.6	905.2	1,235.5	886.3	
SEPTEMBER	436.6	1.2	10.5	9.7	14.5	22.3	20.5	30.7	500.8	2,448.2	0.0	0.0	0.0	8.8	3.5	7.7	0.0	12.3	20.9	416.7	1,235.5	848.8	
OCTOBER	380.6	1.0	6.9	9.1	14.2	11.0	14.5	11.4	423.1	2,871.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	300.0	929.1	823.2	
NOVEMBER	244.7	0.0	(6.2)	8.1	14.1	(4.8)	6.5	11.3	259.3	3,130.6	0.0	0.0	12.6	(6.7)	2.7	5.8	0.0	15.3	36.2	(295.7)	685.1	803.6	
DECEMBER	204.7	0.0	(6.2)	7.3	14.1	(2.5)	2.9	5.6	214.9	3,345.5	0.0	0.0	27.0	(6.7)	2.7	5.8	25.0	29.7	65.9	(293.7)	499.9	814.7	
JANUARY	172.7	0.0	(6.2)	6.7	14.2	(2.5)	2.7	5.7	182.1	3,527.6	0.0	0.0	102.6	(14.4)	5.9	12.8	54.0	108.5	174.4	(299.4)	426.3	861.6	
FEBRUARY	156.7	0.0	(6.4)	7.2	14.5	(5.1)	5.8	11.6	169.7	3,697.3	0.0	91.7	156.7	(11.8)	4.7	10.3	44.0	253.1	427.5	(299.7)	509.7	889.8	
MARCH	209.5	0.0	(6.4)	7.6	14.8	(9.0)	10.7	20.7	227.8	3,925.1	0.0	323.3	209.5	(14.4)	5.8	12.6	53.0	538.6	966.1	(298.7)	820.5	919.9	
APRIL	229.4	0.0	(6.2)	8.8	14.8	(12.2)	17.2	29.0	255.4	4,180.5	0.0	312.4	229.4	(3.8)	1.5	3.4	14.0	543.3	1,509.4	(284.1)	1,108.4	893.5	
MAY	277.9	0.0	(7.0)	9.2	14.6	(17.5)	23.1	36.8	310.2	4,490.7	0.0	56.9	277.9	(8.1)	3.2	7.0	30.0	338.0	1,847.4	(267.7)	1,136.2	842.1	
TOTAL	3,907.4	6.8	75.3	102.8		207.8	190.6		4,490.7			784.3	1,015.7	14.9	32.5			1,847.4					

NOTES:

1. ALL BEGINNING RESERVOIR LEVELS ARE AT FLASHBOARD CAPACITY.

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: AVERAGE DRY YEAR FOLLOWING A 100-YEAR DROUGHT
DEVELOPMENT LEVEL: 5,340 EDU
LEVEL OF CONSERVATION: 25%

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	309.7	0.0	(5.8)	9.2	14.1	(16.3)	25.7	43.0	344.6	344.6	0.0	0.0	0.0	(1.4)	0.6	0.9	0.0	0.6	0.6	(247.0)	792.2	785.6	
JULY	346.9	0.0	(5.7)	8.0	13.9	(17.9)	25.4	43.8	380.3	724.9	0.0	0.0	0.0	(0.6)	0.2	0.4	0.0	0.2	0.8	(224.0)	412.1	728.3	
AUGUST	295.6	0.0	(5.3)	7.2	10.2	(14.7)	19.9	28.3	322.7	1,047.6	0.0	0.0	0.0	(1.0)	0.4	0.6	0.0	0.4	1.2	(205.0)	730.2	50.0	
SEPTEMBER	269.3	0.0	(5.1)	7.3	3.4	(10.9)	15.5	7.1	292.1	1,339.7	0.0	0.0	0.0	(3.2)	1.3	2.0	0.0	1.3	2.5	(192.2)	439.4	41.5	
OCTOBER	269.3	0.0	(5.0)	5.5	4.0	(8.0)	8.7	6.4	283.5	1,623.2	0.0	0.0	0.0	(9.7)	3.9	6.2	34.4	3.9	6.4	(188.9)	159.8	71.7	
NOVEMBER	246.5	0.0	(5.1)	3.0	6.2	(4.1)	2.4	5.0	251.9	1,875.1	0.0	0.0	58.8	(24.9)	10.0	15.9	88.4	68.8	75.2	(204.6)	50.0	89.8	
DECEMBER	206.6	0.0	(5.3)	(1.9)	5.9	(2.1)	(0.8)	2.4	206.6	2,081.7	0.0	0.0	122.1	(32.4)	(12.9)	20.6	114.7	122.1	197.3	(229.6)	(60.2)	132.1	
JANUARY	175.3	0.0	(5.8)	4.0	8.4	(2.3)	1.6	3.3	180.9	2,262.6	0.0	286.4	175.3	(45.0)	18.0	28.6	159.6	473.7	671.0	(266.5)	353.0	308.6	
FEBRUARY	161.0	0.0	(6.8)	7.9	10.0	(5.4)	6.3	8.1	175.2	2,437.8	56.0	884.1	161.0	(31.6)	12.6	20.1	112.1	1,113.7	1,784.7	(341.9)	1,235.5	422.7	
MARCH	208.6	0.0	10.3	9.6	11.1	14.4	13.5	15.6	256.4	2,694.2	900.0	0.0	208.6	23.5	9.4	14.9	83.2	1,141.5	2,926.2	1,227.1	1,235.5	494.1	
APRIL	308.6	0.0	18.9	9.6	11.8	37.0	18.9	23.1	393.0	3,087.2	900.0	0.0	308.6	15.5	6.2	9.9	54.9	1,230.3	4,156.5	2,064.6	1,235.5	524.0	
MAY	432.5	0.0	22.6	9.6	11.7	56.9	24.3	29.4	545.9	3,633.3	794.0	0.0	350.0	3.8	1.5	2.4	0.0	1,149.3	5,305.8	2,668.0	1,235.5	485.3	
TOTAL	3,230.1	0.0	51.8	80.9		108.3	162.2		3,633.3		2,650.0	1,164.5	1,384.4	42.8	64.1			5,305.8					

TABLE No. 5

NORMAL ANNUAL CONSUMPTION
FOR
200-YEAR DROUGHT AND FULL DEVELOPMENT
(5,340 EDU TOTAL)

SEASONALLY VARIABLE

ESTATE LOTS-NORTH (F):	1,744	LOTS @ 750 GPD =	1,308,000.0	GPD	
ESTATE LOTS-NORTH (E):	494	LOTS @ 750 GPD =	370,500.0	GPD	
ESTATE LOTS-SOUTH (F):	1,220	LOTS @ 650 GPD =	793,000.0	GPD	
COTTAGE LOTS (E):	197	LOTS @ 500 GPD =	98,500.0	GPD	
CIRCLE LOTS (E):	457	LOTS @ 550 GPD =	251,350.0	GPD	
TOWNHOUSE LOTS (E):	389	LOTS @ 350 GPD =	136,150.0	GPD	
MOBIL HOME LOTS (E):	139	LOTS @ 200 GPD =	37,800.0	GPD	
OTHER SEASONAL:			134,065.0	GPD	
PARKS:		66 ACRES =	176,751.0	GPD	
SUB-TOTAL SEASONALLY VARIABLE		=	3,306,116.0	GPD	
		=	3,703.6	A.F./YEAR	

SEASONALLY NON-VARIABLE

SCHOOLS:	18.9	A.F./YEAR
COMMERCIAL-INDUSTRIAL (INCLUDES 38 LODGE UNITS):	147.2	A.F./YEAR
SUB-TOTAL SEASONALLY NON-VARIABLE	166.1	A.F./YEAR

SUB-TOTAL	3,869.7	A.F./YEAR
+07% SYSTEM LOSS	270.9	A.F./YEAR
TOTAL M & I	4,140.6	A.F./YEAR

NOTES:

(1) TOTAL RESIDENTIAL DWELLING UNITS = 4728 DU

(2) (F) = FUTURE

(3) (E) = EXISTING

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: 200-YEAR DROUGHT
DEVELOPMENT LEVEL: 5,340 EDU
LEVEL OF CONSERVATION: 50%

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	498.2	1.6	22.8	9.7	15.3	69.2	29.4	46.5	630.9	630.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,213.1	1,235.5	992.6	
JULY	554.2	1.6	20.4	9.7	15.2	63.5	30.6	48.0	680.0	1,310.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,533.1	1,235.5	929.4	
AUGUST	542.2	1.4	15.3	9.7	14.8	42.3	26.7	40.9	637.6	1,948.5	0.0	0.0	0.0	6.1	2.5	5.4	0.0	8.6	8.6	904.1	1,235.5	879.1	
SEPTEMBER	436.6	1.2	10.5	9.7	14.4	22.3	20.5	30.5	500.8	2,449.3	0.0	0.0	0.0	8.8	3.5	7.7	0.0	12.3	20.9	507.1	1,144.0	841.9	
OCTOBER	380.6	1.0	7.3	8.9	14.2	11.7	14.2	22.7	423.7	2,873.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	300.0	927.4	805.0	
NOVEMBER	244.7	0.0	(6.4)	8.2	14.1	(5.1)	6.5	11.3	259.4	3,132.4	0.0	0.0	4.0	(6.7)	2.7	5.8	0.0	6.7	27.6	(295.2)	674.7	785.4	
DECEMBER	204.7	0.0	(6.3)	7.2	14.0	(5.0)	2.9	5.6	214.8	3,347.2	0.0	0.0	0.0	(6.7)	2.7	5.8	25.0	2.7	30.3	(290.6)	462.6	796.6	
JANUARY	172.7	0.0	(5.9)	6.1	14.1	(2.4)	2.4	5.7	181.2	3,528.4	0.0	0.0	24.0	(14.7)	5.9	12.8	54.0	29.9	60.2	(297.0)	311.3	843.6	
FEBRUARY	156.4	0.0	(6.2)	6.2	14.4	(2.5)	2.5	5.8	165.1	3,693.5	0.0	74.5	156.4	(11.8)	4.7	10.3	44.0	235.6	295.8	(300.1)	381.8	877.7	
MARCH	160.3	0.0	(6.4)	5.6	14.6	(8.9)	7.9	20.4	173.8	3,867.3	0.0	0.0	0.0	(14.4)	5.8	12.6	53.0	5.8	301.6	(299.2)	213.8	907.1	
APRIL	166.1	0.0	(6.2)	7.1	11.4	(12.2)	14.0	22.3	187.2	4,054.5	0.0	0.0	0.0	(3.8)	1.5	3.4	14.0	1.5	303.1	(284.6)	868.9	50.0	(1)
MAY	175.6	0.0	(6.1)	7.8	3.7	(15.5)	15.3	7.2	198.7	4,253.2	0.0	0.0	18.0	(8.1)	3.2	7.0	30.0	21.2	324.3	(271.1)	691.4	76.1	
TOTAL	3,692.3	6.8	76.3	95.9		209.0	172.9		4,253.2		0.0	74.5	202.4	14.9	32.5			324.3					

NOTES:

1. ALL BEGINNING RESERVOIR LEVELS ARE AT FLASHBOARD CAPACITY.

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: AVERAGE DRY YEAR FOLLOWING A 200-YEAR DROUGHT
DEVELOPMENT LEVEL: 5,340 EDU
LEVEL OF CONSERVATION: 50%

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	177.2	0.0	(5.9)	7.3	4.7	(11.5)	14.4	9.1	198.9	198.9	0.0	0.0	0.0	(1.4)	0.6	0.9	0.0	0.6	0.6	(255.1)	493.1	63.2	
JULY	184.9	0.0	(5.7)	6.1	3.9	(18.1)	19.4	12.4	210.4	409.3	0.0	0.0	0.0	(0.6)	0.2	0.4	0.0	0.2	0.8	(231.9)	282.9	47.3	
AUGUST	183.0	0.0	(5.4)	4.2	3.2	(15.0)	11.5	8.9	198.7	608.0	0.0	0.0	0.0	(1.0)	0.4	0.6	0.0	0.4	1.2	(212.5)	84.6	35.8	
SEPTEMBER	181.4	0.0	(5.2)	2.3	2.9	(14.4)	6.3	8.0	190.0	798.0	0.0	0.0	0.0	(3.2)	1.3	2.0	0.0	1.3	2.5	(196.1)	50.0	26.9	156.7
OCTOBER	177.5	0.0	(5.1)	(1.8)	3.3	(8.1)	(2.8)	5.3	177.5	975.5	0.0	0.0	0.0	(9.7)	(3.9)	6.2	34.4	0.0	2.5	(192.6)	(49.3)	58.9	334.2
NOVEMBER	173.8	0.0	(5.1)	(2.0)	5.9	(4.1)	(1.6)	4.7	173.8	1,149.3	0.0	0.0	58.8	(24.9)	(10.0)	15.9	88.4	58.8	61.3	(208.3)	(55.7)	152.6	508.0
DECEMBER	166.1	0.0	(5.4)	(2.1)	7.9	(2.1)	(0.8)	3.2	166.1	1,315.4	0.0	0.0	122.1	(32.4)	(12.9)	20.6	114.7	122.1	183.4	(233.2)	(65.7)	214.8	
JANUARY	164.1	0.0	(5.7)	4.9	9.5	(2.3)	2.0	3.8	171.0	1,486.4	0.0	291.6	164.1	(45.0)	18.0	28.6	159.6	473.7	657.1	(270.2)	368.4	389.7	
FEBRUARY	156.4	0.0	(6.9)	8.0	10.9	(5.5)	6.4	8.8	170.8	1,657.2	167.3	777.4	156.4	(31.6)	12.6	20.1	112.1	1,113.7	1,770.8	(456.7)	1,144.0	502.2	
MARCH	208.6	0.0	12.5	9.2	12.2	17.5	12.8	17.1	260.6	1,917.8	900.0	0.0	208.6	23.6	9.4	14.9	83.2	1,141.6	2,912.4	1,337.7	1,144.0	571.0	
APRIL	308.6	0.0	19.1	9.5	12.6	37.4	18.7	24.7	393.3	2,311.1	900.0	91.5	308.6	15.5	6.2	9.9	54.9	1,321.8	4,234.2	2,266.2	1,235.5	598.5	
MAY	432.5	0.0	27.7	9.7	12.5	57.2	24.4	31.5	551.5	2,862.6	682.7	0.0	350.0	3.8	1.5	2.4	0.0	1,038.0	5,272.2	2,752.7	1,235.5	556.9	
TOTAL	2,514.1	0.0	59.3	61.2		112.1	115.9		2,862.6		2,650.0	1,160.5	1,368.6	42.9	50.2			5,272.2					

TABLE No. 6

NORMAL ANNUAL CONSUMPTION
FOR
200-YEAR DROUGHT AND PARTIAL DEVELOPMENT
(4,790 EDU TOTAL)

SEASONALLY VARIABLE

ESTATE LOTS-NORTH (F):	1,194	LOTS @ 750 GPD =		895,500.0	GPD
ESTATE LOTS-NORTH (E):	494	LOTS @ 750 GPD =		370,500.0	GPD
ESTATE LOTS-SOUTH (F):	1,220	LOTS @ 650 GPD =		793,000.0	GPD
COTTAGE LOTS (E):	197	LOTS @ 500 GPD =		98,500.0	GPD
CIRCLE LOTS (E):	457	LOTS @ 550 GPD =		251,350.0	GPD
TOWNHOUSE LOTS (E):	389	LOTS @ 350 GPD =		136,150.0	GPD
MOBIL HOME LOTS (E):	189	LOTS @ 200 GPD =		37,800.0	GPD
OTHER SEASONAL:				134,065.0	GPD
PARKS:		66 ACRES =		176,751.0	GPD
SUB-TOTAL SEASONALLY VARIABLE			=	2,893,616.0	GPD
			=	3,241.5	A.F./YEAR

SEASONALLY NON-VARIABLE

SCHOOLS:	18.9	A.F./YEAR
COMMERCIAL-INDUSTRIAL (INCLUDES 38 LODGE UNITS):	147.2	A.F./YEAR
SUB-TOTAL SEASONALLY NON-VARIABLE	166.1	A.F./YEAR

SUB-TOTAL	3,407.6	A.F./YEAR
+07% SYSTEM LOSS	238.5	A.F./YEAR
TOTAL M & I	3,646.1	A.F./YEAR

NOTES:

(1) TOTAL RESIDENTIAL DWELLING UNITS = 4178 DU

(2) (F) = FUTURE

(3) (E) = EXISTING

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: 200-YEAR DROUGHT
DEVELOPMENT LEVEL: 4,790 EDU
LEVEL OF CONSERVATION: 50%

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	438.0	1.6	22.8	9.7	15.3	69.4	29.4	46.5	570.9	570.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,273.1	1,235.5	992.6	
JULY	487.0	1.6	20.5	9.7	15.2	64.9	30.6	48.0	614.3	1,185.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,058.8	1,235.5	929.4	
AUGUST	476.5	1.4	16.8	9.7	14.8	46.4	26.7	40.9	577.5	1,762.7	0.0	0.0	0.0	6.1	2.5	5.4	0.0	8.6	8.6	1,089.9	1,235.5	879.1	
SEPTEMBER	384.1	1.2	12.7	9.5	14.4	26.9	20.5	30.5	454.9	2,217.6	0.0	0.0	0.0	8.8	3.5	7.7	0.0	12.3	20.9	738.8	1,144.0	841.9	
OCTOBER	335.0	1.0	9.3	9.2	14.2	14.8	14.7	22.7	384.0	2,601.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.9	354.8	1,144.0	805.0	
NOVEMBER	216.0	0.0	6.6	9.0	14.1	5.3	7.2	11.3	244.1	2,845.7	0.0	0.0	4.0	6.7	2.7	5.8	0.0	13.4	34.3	300.0	968.1	785.4	
DECEMBER	180.9	0.0	(6.3)	8.4	14.0	(2.5)	3.4	5.6	192.7	3,038.4	0.0	0.0	0.0	(6.7)	2.7	5.8	25.0	2.7	37.0	(297.8)	778.1	796.6	
JANUARY	152.9	0.0	(6.4)	7.8	14.1	(2.6)	3.1	5.7	163.8	3,202.2	0.0	0.0	24.0	(14.7)	5.9	12.8	54.0	29.9	66.9	(303.6)	644.2	843.6	
FEBRUARY	142.4	0.0	(6.3)	7.7	14.4	(5.1)	6.2	5.8	156.3	3,358.5	0.0	88.5	142.4	(11.8)	4.7	10.3	44.0	235.6	302.5	(304.0)	723.5	877.7	
MARCH	141.2	0.0	(6.4)	7.5	14.6	(8.9)	10.6	20.4	159.3	3,517.8	0.0	0.0	0.0	(14.4)	5.8	12.6	53.0	5.8	308.3	(303.1)	570.0	907.1	
APRIL	146.3	0.0	(6.3)	6.8	14.6	(12.3)	13.4	28.8	166.5	3,684.3	0.0	0.0	0.0	(3.8)	1.5	3.4	14.0	1.5	309.8	(288.3)	405.0	881.1	
MAY	154.6	0.0	(6.1)	7.9	11.2	(15.3)	20.0	28.4	182.5	3,866.8	0.0	0.0	18.0	(8.1)	3.2	7.0	30.0	21.2	331.0	(275.0)	1,072.2	50.0	
TOTAL	3,254.9	6.8	88.7	102.9		227.7	185.8		3,866.8		0.0	88.5	188.4	21.6	32.5			331.0					

NOTES:

1. ALL BEGINNING RESERVOIR LEVELS ARE AT FLASHBOARD CAPACITY.

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: AVERAGE DRY YEAR FOLLOWING A 200-YEAR DROUGHT
DEVELOPMENT LEVEL: 4,790 EDU
LEVEL OF CONSERVATION: 50%

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	155.7	0.0	(5.9)	8.6	2.9	(18.0)	26.3	8.9	190.6	190.6	0.0	0.0	0.0	(1.4)	0.6	0.9	0.0	0.6	0.6	(252.5)	882.2	39.1	
JULY	162.4	0.0	(5.6)	8.1	2.8	(17.8)	25.5	9.0	196.0	386.6	0.0	0.0	0.0	(0.6)	0.2	0.4	0.0	0.2	0.8	(229.7)	686.4	27.7	
AUGUST	160.7	0.0	(5.4)	7.3	2.2	(15.0)	20.2	4.6	188.2	574.8	0.0	0.0	0.0	(1.0)	0.4	0.6	0.0	0.4	1.2	(210.3)	498.6	21.5	
SEPTEMBER	159.6	0.0	(5.2)	6.3	2.1	(11.0)	13.3	4.4	179.2	754.0	0.0	0.0	0.0	(3.2)	1.3	2.0	0.0	1.3	2.5	(197.3)	320.7	17.0	
OCTOBER	156.3	0.0	(5.1)	5.0	2.9	(8.2)	8.0	4.7	169.3	923.3	0.0	0.0	0.0	(9.7)	3.9	6.2	34.4	3.9	6.4	(193.7)	155.3	47.9	
NOVEMBER	152.9	0.0	(5.1)	3.0	4.8	(4.1)	2.4	3.9	158.3	1,081.6	0.0	0.0	58.8	(24.9)	10.0	15.9	88.4	68.8	75.2	(209.4)	65.8	143.5	
DECEMBER	146.3	0.0	(5.4)	2.1	7.7	(2.2)	0.8	3.1	149.2	1,230.8	0.0	0.0	122.1	(32.4)	12.9	20.6	114.7	135.0	210.2	(234.2)	50.0	225.1	
JANUARY	144.6	0.0	(5.8)	4.3	9.6	(2.3)	1.7	3.8	150.6	1,381.4	0.0	311.1	144.6	(45.0)	18.0	28.6	159.6	473.7	683.9	(271.1)	373.1	399.9	
FEBRUARY	142.4	0.0	(6.1)	8.0	11.1	(4.9)	6.4	8.9	156.8	1,538.2	186.0	772.7	142.4	(31.6)	12.6	20.1	112.1	1,113.7	1,797.6	(477.7)	1,144.0	512.1	
MARCH	184.5	0.0	13.2	9.2	12.2	18.5	12.8	17.1	238.2	1,776.4	900.0	0.0	184.5	23.6	9.4	14.9	83.2	1,117.5	2,915.1	1,357.0	1,144.0	580.9	
APRIL	272.0	0.0	19.9	9.2	12.8	39.0	18.0	25.0	358.1	2,134.5	900.0	91.5	272.0	15.5	6.2	9.9	54.9	1,285.2	4,200.3	2,284.1	1,235.5	607.9	
MAY	380.6	0.0	22.7	9.7	12.6	57.2	24.4	31.8	494.6	2,629.1	664.0	0.0	350.0	3.8	1.5	2.4	0.0	1,019.3	5,219.6	2,808.8	1,235.5	565.9	
TOTAL	2,218.0	0.0	55.8	80.8		114.7	159.8		2,629.1		2,650.0	1,175.3	1,274.4	42.9	77.0			5,219.6					

TABLE No. 7

NORMAL ANNUAL CONSUMPTION
FOR
AVERAGE DRY YEAR AND FULL DEVELOPMENT
(5,968 EDU TOTAL)

SEASONALLY VARIABLE

ESTATE LOTS-NORTH (F):	2,125	LOTS @ 750 GPD =		1,593,750.0	GPD
ESTATE LOTS-NORTH (E):	494	LOTS @ 750 GPD =		370,500.0	GPD
ESTATE LOTS-SOUTH (F):	1,300	LOTS @ 650 GPD =		845,000.0	GPD
COTTAGE LOTS (E):	197	LOTS @ 500 GPD =		98,500.0	GPD
CIRCLE LOTS (E):	457	LOTS @ 550 GPD =		251,350.0	GPD
TOWNHOUSE LOTS (E):	389	LOTS @ 350 GPD =		136,150.0	GPD
MOBIL HOME LOTS (E):	189	LOTS @ 200 GPD =		37,800.0	GPD
OTHER SEASONAL:				134,065.0	GPD
PARKS:			80 ACRES =	249,951.0	GPD
SUB-TOTAL SEASONALLY VARIABLE			=	3,717,066.0	GPD
			=	4,163.9	A.F./YEAR

SEASONALLY NON-VARIABLE

SCHOOLS:	51.7	A.F./YEAR
COMMERCIAL-INDUSTRIAL (INCLUDES 38 LODGE UNITS):	172.8	A.F./YEAR
SUB-TOTAL SEASONALLY NON-VARIABLE	224.5	A.F./YEAR

SUB-TOTAL	4,388.4	A.F./YEAR
+10% SYSTEM LOSS	438.8	A.F./YEAR
TOTAL M & I	4,827.2	A.F./YEAR

NOTES:

(1) TOTAL RESIDENTIAL DWELLING UNITS = 5189 DU

(2) (F) = FUTURE

(3) (E) = EXISTING.

RANCHO MURIETA COMMUNITY SERVICES DISTRICT
WATER BUDGET WORKSHEET

WATER YEAR: AVERAGE DRY YEAR
DEVELOPMENT LEVEL: 5,968 EDU
LEVEL OF CONSERVATION: 0% CONSERVATION

	RAW WATER DEMANDS (AC.-FT.)										RAW WATER SUPPLY (AC.-FT.)									STORAGE			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			SEEPAGE			EVAPORATION			TOTALS		RIVER DIVERSION			DIRECT RAINFALL			RUNOFF	TOTALS		END OF MONTH BALANCE			
MONTH	DOMESTIC	MISC. IRRIG.	CALERO	CHESBRO	CLEMENTIA	CALERO	CHESBRO	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	DIRECT	CALERO	CHESBRO	CLEMENTIA	CLEMENTIA	MONTH	CUMUL.	CALERO	CHESBRO	CLEMENTIA	CUM. SHRTFAL
JUNE	548.8	1.6	22.8	9.7	15.6	69.2	29.5	47.5	681.6	681.6	0.0	0.0	0.0	1.4	0.6	0.9	0.0	2.0	2.0	2,164.4	1,235.5	992.2	
JULY	610.5	1.6	19.5	9.7	15.2	61.6	30.6	48.0	733.5	1,415.1	0.0	0.0	0.0	0.6	0.2	0.4	0.0	0.8	2.8	1,431.7	1,235.5	929.4	
AUGUST	597.3	1.4	14.2	9.7	14.7	39.3	26.7	40.7	688.6	2,103.7	0.0	0.0	0.0	1.0	0.4	0.6	0.0	1.4	4.2	744.5	1,235.5	874.6	
SEPTEMBER	480.4	1.2	7.9	9.5	14.3	16.8	19.4	30.4	535.2	2,638.9	0.0	0.0	0.0	3.2	1.3	2.0	0.0	4.5	8.7	305.3	1,144.0	831.9	
OCTOBER	418.7	1.0	(6.2)	8.5	14.2	(10.0)	13.5	22.7	441.7	3,080.6	0.0	0.0	0.0	(9.7)	3.9	6.2	34.4	3.9	12.6	(298.9)	711.5	835.6	
NOVEMBER	268.7	0.0	(6.2)	7.3	14.5	(5.0)	5.9	11.6	281.9	3,362.5	0.0	0.0	58.8	(24.9)	10.0	15.9	88.4	68.8	81.4	(312.6)	498.4	907.1	
DECEMBER	224.6	0.0	(6.6)	6.6	14.8	(2.6)	2.6	5.9	233.8	3,596.3	0.0	0.0	122.1	(32.4)	12.9	20.6	114.7	135.0	216.4	(335.8)	399.6	907.1	
JANUARY	189.3	0.0	(6.7)	7.1	14.8	(2.7)	2.8	5.9	199.2	3,795.5	0.0	272.4	183.3	(45.0)	18.0	28.6	159.6	473.7	690.1	(371.4)	674.1	907.1	
FEBRUARY	176.0	0.0	9.0	8.5	14.8	7.2	7.2	11.8	207.9	4,003.4	423.3	501.8	176.0	31.6	12.6	20.1	112.1	1,145.3	1,834.4	794.7	1,144.0	907.1	
MARCH	229.4	0.0	17.3	9.2	14.8	24.3	12.8	20.7	293.0	4,296.4	900.0	0.0	229.4	23.5	9.4	14.7	83.2	1,162.3	2,996.7	1,664.0	1,144.0	907.1	
APRIL	339.3	0.0	21.2	9.5	14.9	41.6	18.8	29.0	430.4	4,726.8	900.0	91.5	339.3	15.5	6.2	9.9	54.9	1,352.5	4,349.2	2,586.1	1,235.5	907.1	
MAY	476.0	0.0	23.1	9.7	14.6	58.3	24.4	36.8	591.5	5,318.3	426.7	0.0	350.0	3.8	1.5	2.4	0.0	782.6	5,131.2	2,776.6	1,235.5	858.1	
TOTAL	4,559.0	6.8	135.0	105.0		318.3	194.2		5,317.9		2,650.0	865.7	1,458.9	80.6	77.0			5,132.2					

NOTES:

1. ALL BEGINNING RESERVOIR LEVELS ARE AT FLASHBOARD CAPACITY.

2. THE ENDING RESERVOIR LEVELS ARE ABOVE SPILLWAY CAPACITY BUT ONLY AT 54% OF FLASHBOARD CAPACITY.

FIGURE No. 1

RESERVOIR STORAGE LEVEL DURING AVERAGE DRY YEAR

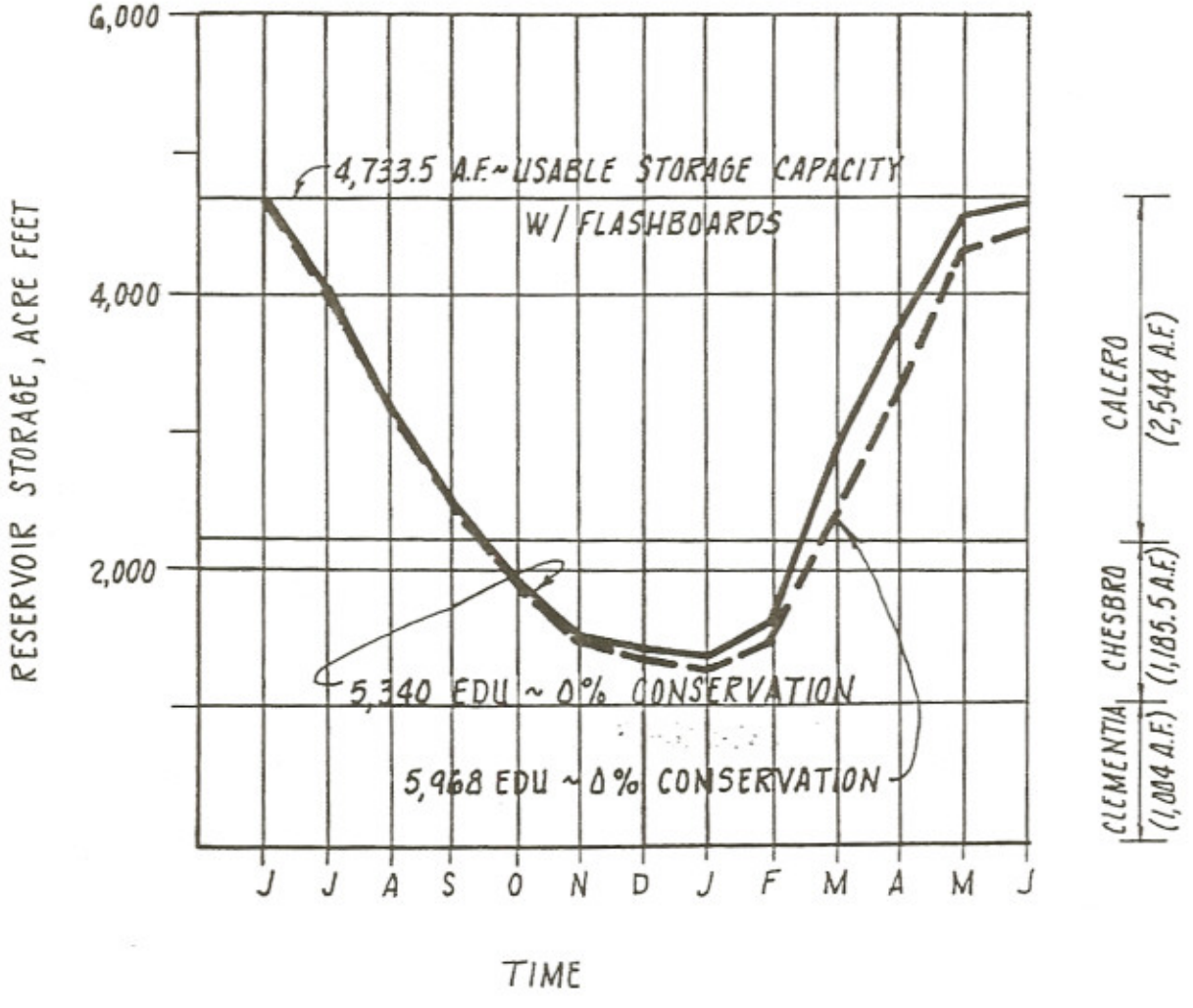

FIGURE No. 2

RESERVOIR STORAGE LEVEL DURING 25-YEAR DROUGHT

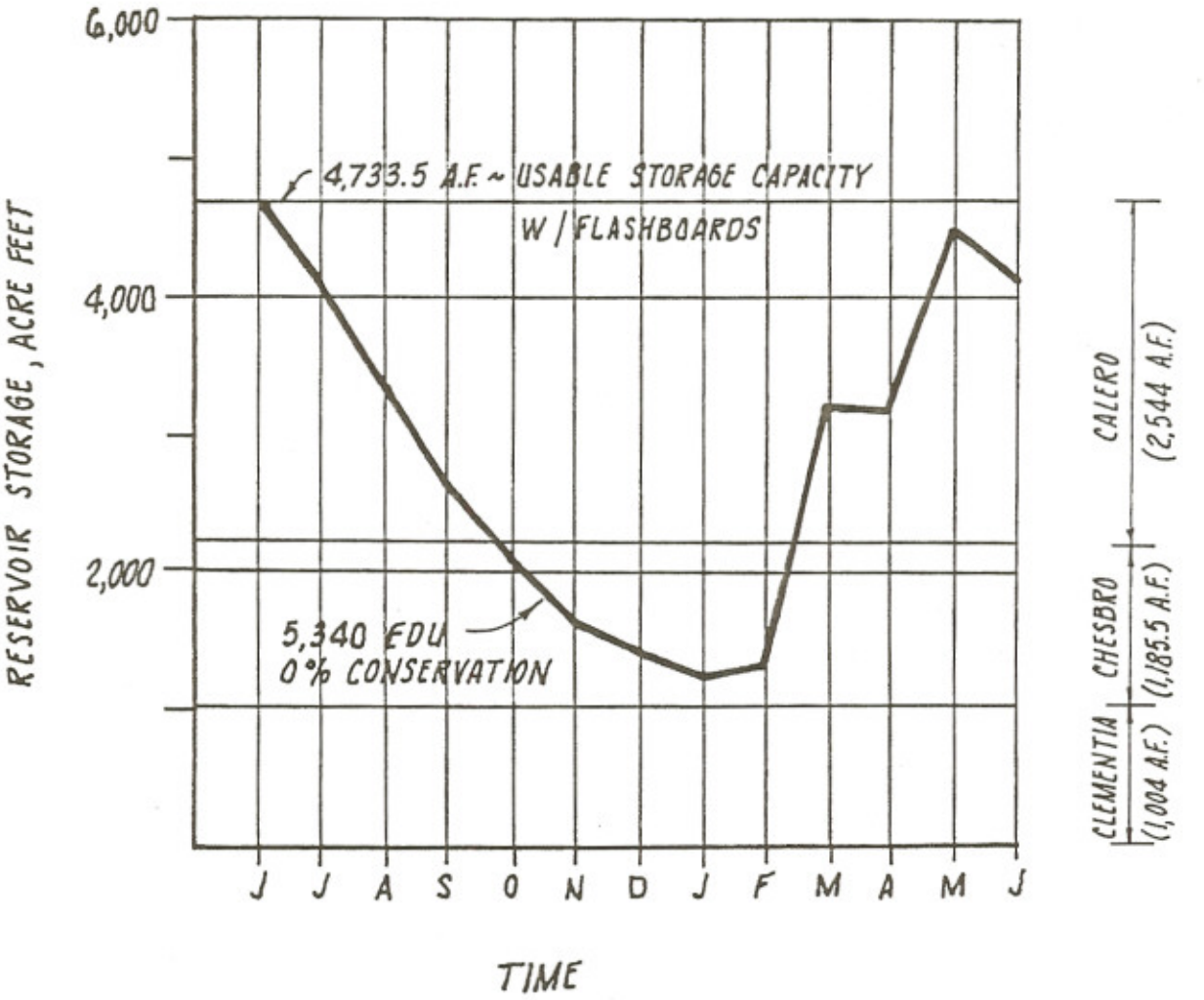

FIGURE No. 3

RESERVOIR STORAGE LEVEL DURING 100-YEAR DROUGHT

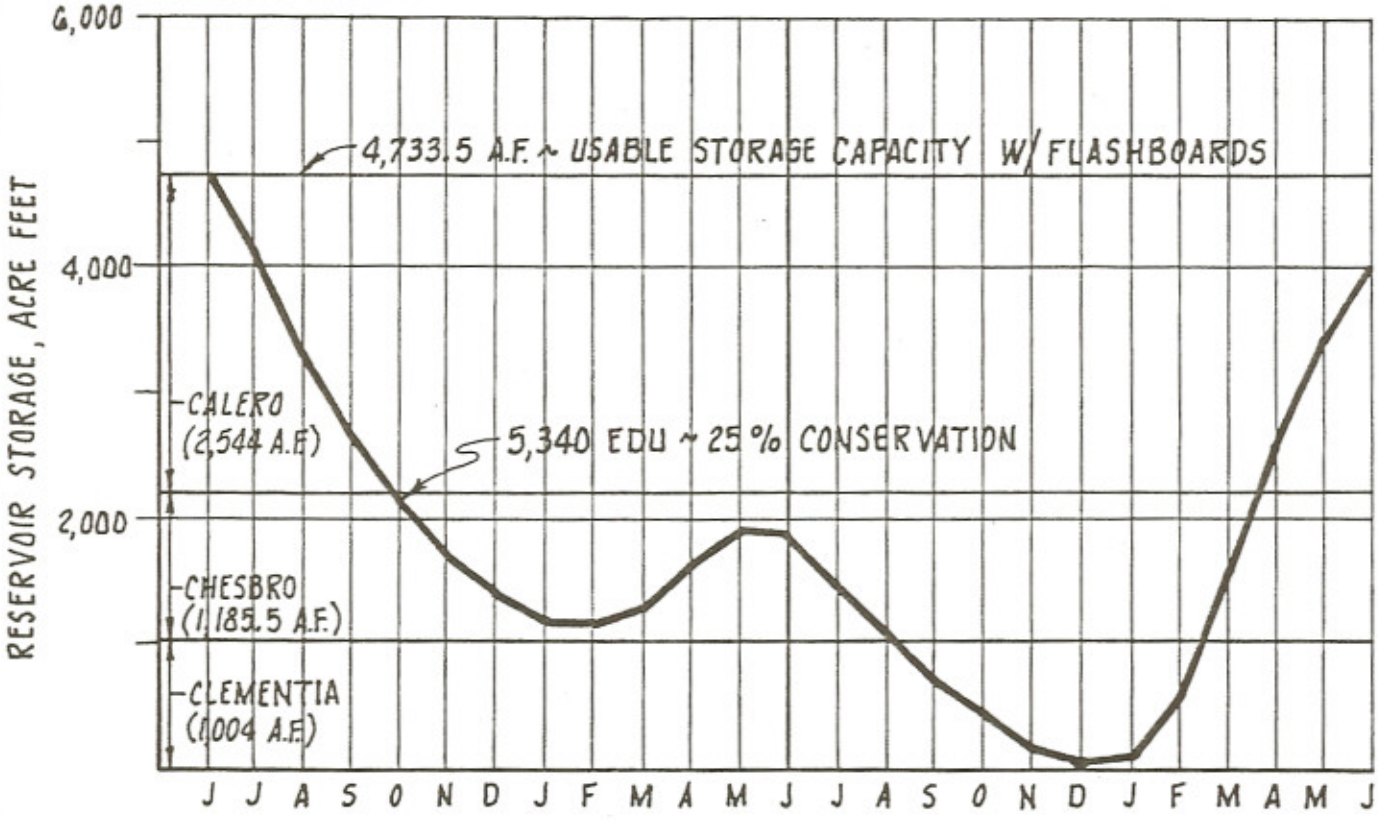

FIGURE No. 4

RESERVOIR STORAGE LEVEL DURING 200-YEAR DROUGHT