

APPENDIX J

RECORDED AND ESTIMATED MONTHLY RUNOFF AT SELECTED STATIONS
IN SAN LUIS OBISPO COUNTY AND VICINITY DURING
16-YEAR BASE PERIOD 1935-36 THROUGH 1950-51

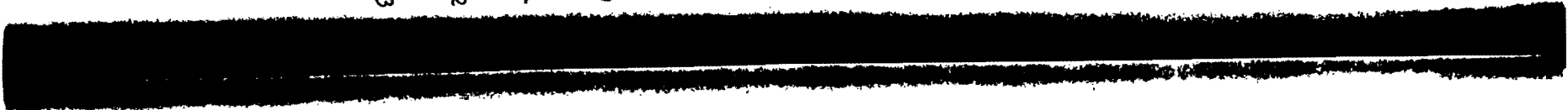
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 IN SAN LUIS OBISPO COUNTY AND VICINITY DURING
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ESTIMATED MONTHLY INFLOW TO SALINAS RESERVOIR

In Acre-Feet

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1935-36	0	30	50	130	23,000	2,150	4,300	360	230	80	0	0	30,330
37	50	90	930	7,300	23,000	16,200	3,200	700	180	30	0	0	51,680
38	0	50	3,600	400	30,000	29,800	2,900	930	180	80	10	0	67,950
39	110	230	310	520	440	520	250	120	0	0	0	0	2,530
40	0	0	210	2,250	3,650	1,900	1,140	180	30	0	0	0	9,360
1940-41	0	0	4,100	7,000	30,100	30,000	23,000	1,900	500	190	40	60	96,890
42	150	160	3,850	2,930	1,930	3,480	5,220	850	310	170	140	130	19,320
43	140	380	350	24,840	3,800	21,200	1,970	570	290	200	150	140	54,030
44	180	250	460	410	9,680	5,150	700	430	160	280	110	100	17,910
45	130	400	330	310	7,600	4,440	880	250	170	90	60	70	14,730
1945-46	90	90	840	240	420	4,570	1,390	190	100	70	50	30	8,080
47	60	2,080	860	430	350	360	210	120	60	30	30	30	4,620
48	40	60	110	100	210	450	480	90	50	20	10	10	1,630
49	20	30	200	160	310	3,230	280	120	70	30	20	20	4,490
50	30	70	410	760	4,330	630	1,230	160	80	40	30	20	7,790
1950-51	90	240	190	770	230	240	180	60	50	20	10	10	2,090
AVERAGE													24,590

J-2

ESTIMATED MONTHLY RUNOFF OF JACK CREEK AT LOWER JACK CREEK DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	0	0	140	1,020	6,970	1,390	860	220	80	20	0	0	10,700
37	0	0	330	470	5,800	4,380	1,010	290	100	20	0	0	12,400
38	0	0	2,440	830	16,490	9,260	1,060	360	120	40	0	0	30,600
39	0	0	160	240	450	920	170	60	0	0	0	0	2,000
40	0	0	0	5,360	6,850	2,250	900	240	80	20	0	0	15,700
J-2 1940-41	0	0	2,270	4,230	10,480	7,770	6,370	570	200	70	20	20	32,000
42	0	0	2,950	3,310	1,800	1,710	2,090	520	170	40	10	0	12,600
43	0	260	490	5,760	1,740	6,400	660	240	90	30	20	10	15,700
44	0	0	120	430	3,930	3,190	430	280	100	30	10	0	8,520
45	0	250	400	230	5,060	2,140	600	180	70	10	0	0	8,960
1945-46	0	0	3,440	570	500	860	680	150	40	0	0	0	6,240
47	0	1,170	380	250	740	440	300	70	0	0	0	0	3,350
48	0	0	0	0	0	620	1,440	270	70	0	0	0	2,400
49	0	0	170	410	930	4,080	340	130	20	0	0	0	6,080
50	0	0	0	1,090	2,280	720	270	80	30	10	0	0	4,480
1950-51	0	1,330	1,560	1,380	450	690	150	120	40	10	0	0	5,730
AVERAGE													11,100

ESTIMATED MONTHLY RUNOFF OF SANTA RITA CREEK AT SANTA RITA DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	0	0	120	910	6,190	1,230	760	200	70	20	0	0	9,500
37	0	0	290	420	5,140	3,880	900	260	90	20	0	0	11,000
38	0	0	2,100	710	14,180	7,960	910	310	100	30	0	0	26,300
39	0	0	150	230	430	870	160	60	0	0	0	0	1,900
40	0	0	0	4,750	6,060	1,990	800	210	70	20	0	0	13,900
1940-41	0	0	1,940	3,620	8,980	6,650	5,450	490	170	60	20	20	27,400
42	0	0	2,620	2,940	1,600	1,520	1,860	460	150	40	10	0	11,200
43	0	230	430	5,100	1,550	5,670	580	210	80	20	20	10	13,900
44	0	0	110	390	3,550	2,880	390	250	90	30	10	0	7,700
45	0	230	360	210	4,600	1,930	540	160	60	10	0	0	8,100
1945-46	0	0	3,090	510	450	770	610	130	40	0	0	0	5,600
47	0	1,080	350	230	690	410	280	60	0	0	0	0	3,100
48	0	0	0	0	0	540	1,260	240	60	0	0	0	2,100
49	0	0	150	370	840	3,690	310	120	20	0	0	0	5,500
50	0	0	0	1,000	2,080	660	250	70	30	10	0	0	4,100
1950-51	0	1,200	1,410	1,250	410	630	140	110	40	10	0	0	5,200
AVERAGE													9,780

J-3

ESTIMATED MONTHLY RUNOFF OF NACIMIENTO RIVER AT SAN MIGUELITO DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept :	Total
1935-36	0	0	370	4,980	33,330	7,030	3,990	700	170	30	0	0	50,600
37	0	0	1,100	1,870	27,130	21,390	4,800	970	220	20	0	0	57,500
38	0	0	11,340	3,510	64,310	38,790	4,790	1,240	270	50	0	0	124,300
39	0	0	500	890	2,030	4,840	530	110	0	0	0	0	8,900
40	0	0	0	25,500	31,660	11,330	4,100	750	150	10	0	0	73,500
J-4 1940-41	0	0	10,600	19,080	42,940	33,240	27,650	2,180	570	110	20	10	136,400
42	10	0	14,760	16,440	8,970	8,560	10,390	2,140	460	60	10	0	61,800
43	10	840	1,930	26,650	8,510	29,640	2,800	780	190	30	10	10	71,400
44	0	0	290	1,680	19,820	16,230	1,740	970	220	40	10	0	41,000
45	0	820	1,570	740	24,940	11,160	2,600	540	120	10	0	0	42,500
1945-46	0	0	18,150	2,540	2,130	4,170	3,120	430	60	0	0	0	30,600
47	0	6,330	1,580	860	3,570	1,890	1,120	150	0	0	0	0	15,500
48	0	0	0	0	0	2,960	8,010	970	160	0	0	0	12,100
49	0	0	500	1,670	4,560	21,150	1,280	320	20	0	0	0	29,500
50	0	0	490	5,960	15,000	2,630	2,410	470	40	0	0	0	27,000
1950-51	0	9,080	8,570	5,630	1,890	3,260	800	720	50	0	0	0	30,000
AVERAGE													50,790

ESTIMATED MONTHLY RUNOFF OF NACIMIENTO RIVER AT JARRETT SHUT-IN DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	0	0	700	9,320	62,310	13,140	7,450	1,310	320	50	0	0	94,600
37	0	0	2,060	3,510	50,800	40,060	8,990	1,820	410	50	0	0	107,700
38	0	0	21,390	6,610	121,330	73,190	9,030	2,350	510	90	0	0	234,500
39	0	0	930	1,660	3,790	9,030	990	200	0	0	0	0	16,600
40	0	0	0	47,820	59,340	21,230	7,690	1,400	290	30	0	0	137,800
J-5 1940-41	0	0	20,010	36,040	81,090	62,780	52,210	4,120	1,080	210	40	20	257,600
42	10	0	27,620	30,750	16,780	16,010	19,440	4,010	870	100	10	0	115,600
43	10	1,580	3,610	49,900	15,940	55,500	5,240	1,460	350	70	30	10	133,700
44	10	10	540	3,140	36,980	30,290	3,240	1,800	410	70	10	0	76,500
45	0	1,520	2,930	1,390	46,540	20,820	4,860	1,000	220	20	0	0	79,300
1945-46	0	0	33,880	4,740	3,970	7,780	5,810	800	120	0	0	0	57,100
47	0	11,770	2,930	1,610	6,630	3,520	2,060	280	0	0	0	0	28,800
48	0	0	0	0	0	5,400	14,630	1,770	300	0	0	0	22,100
49	0	0	930	3,120	8,510	39,520	2,370	610	40	0	0	0	55,100
50	0	0	910	11,090	27,890	4,880	4,480	880	70	0	0	0	50,200
1950-51	0	16,870	15,920	10,450	3,500	6,040	1,490	1,330	100	0	0	0	55,700
AVERAGE													95,180

ESTIMATED MONTHLY INFLOW TO NACIMIENTO RESERVOIR

In Acre-Feet

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1935-36	0	0	1,470	19,660	131,400	27,710	15,720	2,750	690	100	0	0	199,500
37	0	0	4,420	7,560	109,320	86,240	19,350	3,930	880	100	0	0	231,800
38	0	0	48,600	15,030	275,720	166,310	20,500	5,370	1,170	200	0	0	532,900
39	0	0	1,780	3,170	7,230	17,240	1,880	400	0	0	0	0	31,700
40	0	0	0	103,430	128,330	45,900	16,620	3,040	620	60	0	0	298,000
1940-41	0	0	45,740	82,380	185,330	143,510	119,330	9,420	2,460	490	90	50	588,800
42	30	10	59,510	66,300	36,200	34,380	41,890	8,650	1,870	220	30	10	249,100
43	10	3,440	7,840	108,630	34,700	120,780	11,410	3,180	770	150	60	30	291,000
44	20	20	1,130	6,550	77,340	63,350	6,780	3,770	860	160	20	0	160,000
45	0	3,190	6,150	2,910	97,720	43,710	10,210	2,110	470	30	0	0	166,500
1945-46	0	0	69,590	9,740	8,160	15,980	11,930	1,650	250	0	0	0	117,300
47	0	23,450	5,850	3,200	13,220	7,020	4,110	550	0	0	0	0	57,400
48	0	0	0	0	0	10,780	29,200	3,530	590	0	0	0	44,100
49	0	0	1,910	6,420	17,500	81,170	4,870	1,240	90	0	0	0	113,200
50	0	0	1,850	22,500	56,560	9,890	9,070	1,780	150	0	0	0	101,800
1950-51	0	34,520	32,580	21,400	7,170	12,360	3,050	2,720	200	0	0	0	114,000
AVERAGE													206,100

J-6

ESTIMATED MONTHLY RUNOFF OF SAN CARPOFORO CREEK AT BALD TOP DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	0	0	100	1,740	11,770	2,570	1,370	210	40	0	0	0	17,800
37	0	0	340	610	9,760	7,780	1,660	300	50	0	0	0	20,500
38	0	0	3,780	1,100	18,230	12,730	1,520	360	70	10	0	0	37,800
39	0	0	160	300	740	1,900	170	30	0	0	0	0	3,300
40	0	0	0	8,960	11,100	4,050	1,350	210	30	0	0	0	25,700
J-7 1940-41	0	0	3,700	6,560	14,010	11,000	9,570	680	150	30	0	0	45,700
42	0	0	6,270	6,270	3,460	3,330	4,060	760	140	10	0	0	24,300
43	0	250	630	9,570	3,010	10,550	940	190	50	10	0	0	25,200
44	0	0	80	570	7,650	6,230	590	310	60	10	0	0	15,500
45	0	240	510	220	9,450	4,210	900	150	20	0	0	0	15,700
1945-46	0	0	7,220	930	760	1,570	1,180	130	10	0	0	0	11,800
47	0	2,610	610	310	1,450	860	520	40	0	0	0	0	6,400
48	0	0	0	0	0	1,170	3,250	340	40	0	0	0	4,800
49	0	0	150	570	1,670	8,120	420	70	0	0	0	0	11,000
50	0	0	150	2,270	5,970	980	880	140	10	0	0	0	10,400
1950-51	0	3,760	3,950	2,310	610	980	230	250	10	0	0	0	12,100
AVERAGE													18,000

ESTIMATED MONTHLY RUNOFF OF SAN CARPOFORO CREEK AT RAGGED POINT DAM SITE

In Acre-Feet

Season	Oct.:	Nov.:	Dec.:	Jan.:	Feb.:	Mar.:	Apr.:	May:	June:	July:	Aug.:	Sept.:	Total
1935-36	0	0	200	3,430	23,220	5,060	2,690	410	80	10	0	0	35,100
37	0	0	650	1,240	19,820	15,780	3,360	600	110	10	0	0	41,600
38	0	0	7,740	2,260	37,280	26,020	3,100	750	140	10	0	0	77,300
39	0	0	310	590	1,470	3,750	330	50	0	0	0	0	6,500
40	0	0	0	18,050	22,380	8,160	2,720	420	60	10	0	0	51,800
J-8 1940-41	0	0	7,610	13,490	28,800	22,610	19,690	1,410	310	60	10	10	94,000
42	0	0	12,640	12,640	6,980	6,710	8,190	1,530	280	30	0	0	49,000
43	0	510	1,260	19,300	6,060	21,260	1,900	390	90	20	10	0	50,800
44	0	0	150	1,110	15,080	12,250	1,170	610	110	20	0	0	30,500
45	0	480	1,010	440	18,510	8,250	1,770	300	40	0	0	0	30,800
1945-46	0	0	14,070	1,800	1,480	3,070	2,300	250	30	0	0	0	23,000
47	0	4,950	1,150	580	2,750	1,620	980	70	0	0	0	0	12,100
48	0	0	0	0	0	2,220	6,170	640	70	0	0	0	9,100
49	0	0	290	1,120	3,260	15,860	830	130	10	0	0	0	21,500
50	0	0	300	4,430	11,640	1,910	1,720	280	20	0	0	0	20,300
1950-51	0	7,300	7,670	4,490	1,180	1,900	450	490	20	0	0	0	23,500
AVERAGE													36,100

ESTIMATED MONTHLY RUNOFF OF ARROYO DE LA CRUZ AT YELLOW HILL DAM SITE

In Acre-Feet

Season	Oct.:	Nov.:	Dec.:	Jan.:	Feb.:	Mar.:	Apr.:	May:	June:	July:	Aug.:	Sept.:	Total
1935-36	0	0	240	4,200	28,450	6,200	3,300	500	100	10	0	0	43,000
37	0	0	840	1,530	24,500	19,500	4,150	740	130	10	0	0	51,400
38	0	0	11,000	3,210	53,000	37,000	4,410	1,060	200	20	0	0	109,900
39	0	0	300	570	1,420	3,640	320	50	0	0	0	0	6,300
40	0	0	0	23,000	28,500	10,400	3,470	540	80	10	0	0	66,000
J-9 1940-41	0	0	10,440	18,500	39,500	31,000	27,000	1,930	430	80	10	10	128,900
42	0	0	14,500	14,500	8,000	7,700	9,400	1,750	320	30	0	0	56,200
43	0	650	1,600	24,500	7,700	27,000	2,410	490	120	20	10	0	64,500
44	0	0	180	1,300	17,600	14,300	1,360	710	130	20	0	0	35,600
45	0	570	1,200	520	22,000	9,800	2,100	360	50	0	0	0	36,600
1945-46	0	0	15,600	2,000	1,640	3,400	2,550	280	30	0	0	0	25,500
47	0	4,950	1,150	580	2,750	1,620	980	70	0	0	0	0	12,100
48	0	0	0	0	0	2,200	6,100	630	70	0	0	0	9,000
49	0	0	330	1,270	3,700	18,000	940	150	10	0	0	0	24,400
50	0	0	320	4,760	12,500	2,050	1,850	300	20	0	0	0	21,800
1950-51	0*	7,700*	8,090*	4,740*	1,250*	2,000*	480*	520*	20*	0*	0*	0*	24,800*
AVERAGE													44,750

*Recorded.

ESTIMATED MONTHLY RUNOFF OF SAN SIMEON CREEK AT SAN SIMEON DAM SITE

In Acre-Feet

Season	Oct.:	Nov.:	Dec.:	Jan.:	Feb.:	Mar.:	Apr.:	May	June	July	Aug.:	Sept.:	Total
1935-36	0	0	130	2,320	15,760	3,430	1,820	280	50	10	0	0	23,800
37	0	0	460	830	13,400	10,660	2,270	400	70	10	0	0	28,100
38	0	0	5,250	1,520	25,280	17,650	2,100	500	90	10	0	0	52,400
39	0	0	210	390	970	2,480	220	30	0	0	0	0	4,300
40	0	0	0	12,190	15,100	5,510	1,850	290	50	10	0	0	35,000
J-10 1940-41	0	0	5,170	9,150	19,540	15,340	13,360	960	220	40	10	10	63,800
42	0	0	8,530	8,560	4,710	4,530	5,530	1,030	190	20	0	0	33,100
43	0	310	860	13,080	4,110	14,420	1,280	260	60	10	10	0	34,400
44	0	0	100	750	10,190	8,270	790	410	80	10	0	0	20,600
45	0	330	680	300	12,490	5,570	1,190	210	30	0	0	0	20,800
1945-46	0	0	9,480	1,220	990	2,070	1,550	170	20	0	0	0	15,500
47	0	3,360	770	390	1,870	1,100	660	50	0	0	0	0	8,200
48	0	0	0	0	0	1,490	4,120	440	50	0	0	0	6,100
49	0	0	190	750	2,200	10,710	550	90	10	0	0	0	14,500
50	0	0	190	2,970	7,810	1,280	1,150	190	10	0	0	0	13,600
1950-51	0	4,940	5,190	3,040	800	1,280	310	330	10	0	0	0	15,900
AVERAGE													24,400

ESTIMATED MONTHLY RUNOFF OF SANTA ROSA CREEK AT SANTA ROSA DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	20	30	150	1,490	10,050	1,980	2,130	570	280	80	10	10	16,800
37	10	50	360	740	8,150	7,520	2,400	800	300	50	10	10	20,400
38	10	40	3,200	1,100	15,300	12,420	2,220	1,020	400	180	70	40	36,000
39	70	170	270	540	980	1,280	300	140	20	10	10	10	3,800
40	10	10	10	6,460	8,990	5,470	2,330	720	290	70	20	20	24,400
J-11 1940-41	40	70	3,400	5,700	11,400	10,730	4,270	1,930	790	330	170	170	39,000
42	120	100	3,160	5,360	3,660	2,960	4,860	1,660	660	240	70	50	22,900
43	50	430	430	5,770	2,570	6,800	1,530	640	250	100	20	10	18,600
44	20	50	220	540	4,300	5,920	950	620	270	80	20	10	13,000
45	20	320	640	430	8,560	2,880	1,330	560	210	30	10	10	15,000
1945-46	160	270	6,030	1,550	880	990	1,230	410	140	20	10	10	11,700
47	20	1,480	480	350	1,100	800	610	160	60	20	10	10	5,100
48	20	30	70	70	140	840	1,680	540	170	20	10	10	3,600
49	10	20	290	470	640	5,580	800	290	60	20	10	10	8,200
50	10	50	140	1,400	3,700	730	1,000	280	50	20	10	10	7,400
1950-51	30	5,340	3,340	1,750	740	980	410	360	110	20	10	10	13,100
AVERAGE													16,200

ESTIMATED MONTHLY RUNOFF OF OLD CREEK AT WHALE ROCK DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	0	0	80	1,370	9,270	2,010	1,070	160	30	10	0	0	14,000
37	0	0	300	550	8,820	7,020	1,490	260	50	10	0	0	18,500
38	0	0	3,140	910	15,150	10,580	1,260	300	50	10	0	0	31,400
39	0	0	130	240	610	1,560	140	20	0	0	0	0	2,700
40	0	0	0	5,740	7,120	2,600	870	140	20	10	0	0	16,500
J-12 1940-41	0	0	3,040	5,380	11,480	9,020	7,850	560	130	20	10	10	37,500
42	0	0	4,640	4,660	2,560	2,460	3,010	560	100	10	0	0	18,000
43	0	200	510	7,750	2,440	8,540	760	150	30	10	10	0	20,400
44	0	0	60	410	5,590	4,540	430	220	40	10	0	0	11,300
45	0	170	360	160	6,610	2,940	630	110	20	0	0	0	11,000
1945-46	0	0	4,530	580	470	990	740	80	10	0	0	0	7,400
47	0	1,480	340	170	820	480	290	20	0	0	0	0	3,600
48	0	0	0	0	0	610	1,690	180	20	0	0	0	2,500
49	0	0	70	280	820	3,990	200	30	10	0	0	0	5,400
50	0	0	80	1,240	3,270	540	480	80	10	0	0	0	5,700
1950-51	0	2,300	2,420	1,410	370	600	140	150	10	0	0	0	7,400
AVERAGE													13,300

ESTIMATED MONTHLY RUNOFF OF ARROYO GRANDE CREEK AT LOPEZ DAM SITE

In Acre-Feet

Season	Oct.:	Nov. :	Dec. :	Jan. :	Feb. :	Mar. :	Apr. :	May :	June :	July :	Aug. :	Sept.:	Total
1935-36	60	100	100	140-	15,850	1,440	1,380	210	80	60	40	40	19,500
37	70	70	200+	1,540	21,030	8,200	2,300	550	170	70	70	30	34,300
38	40	80	850-	160	18,820	17,090	1,850	810	280	200	80	40	40,300
39	420	520	700	910	1,430	1,180	780	300	120	40	0	0	6,400
40	30	110	210	2,180	4,560	3,760	1,920	360	130	70	30	40	13,400
J-13 1940-41	210	210	540	1,610	13,100	17,720	13,750	3,010	1,240	970	700	640	53,700
42	620	580	2,540	2,510	1,850	2,170	2,740	1,320	800	570	480	520	16,700
43	510	510	580	6,880	2,950	17,180	3,640	1,460	870	800	510	510	36,400
44	650	630	750	890	3,040	3,970	1,140	1,030	580	470	400	350	13,900
45	400-	520	620	610	2,450	2,970	1,390	880	530	350	320	260	11,300
1945-46	460-	550	810	960	1,000	1,510	1,690	980	480	310	270	280	9,300
47	400	640	960	1,000	990	940	630	420	240	100	110	170	6,600
48	440	480	590	390	600	850	950	700	670	190	160	80	6,100
49	210	240	570	650	800	1,580	1,340	1,020	410	120	20	40	7,000
50	110	140	440	560	2,910	1,400	1,280	940	610	370	80	160	9,000
1950-51	230	640	840	1,270	1,380	1,310	1,220	870	520	150	140	130	8,700
AVERAGE													18,300

APPENDIX K
YIELD STUDIES

AM 02493

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TABLE K-1

TABLE K-1

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
SALINAS RESERVOIR ON SALINAS RIVER

Gross Storage Capacity: 26,045 Acre-Feet
Silt Reservation: 1,000 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow Runoff and rainfall	Draft	Spill	Gross evapo- ration	Storage end of March	Inflow Runoff and rainfall	Draft	Spill	Gross evapo- ration	Storage end of September
1934-35										0
1935-36	25,360	2,390	---	240	24,760*	4,970	3,410	2,345	2,525	21,450
37	47,570	2,390	39,805	780	26,045	4,110	3,410	2,530	2,565	21,650
38	63,850	2,390	56,265	800	26,045	4,100	3,410	2,230	2,555	21,950
39	2,160	2,390	---	730	20,990	370	3,410	---	1,990	15,960
40	8,010	2,390	---	670	20,910	1,350	3,410	---	2,080	16,770
1940-41	71,200	2,390	58,765	770	26,045	25,690	3,410	23,270	2,555	22,500
42	12,500	2,390	5,735	830	26,045	6,820	3,410	4,540	2,555	22,360
43	50,710	2,390	43,955	680	26,045	3,320	3,410	1,410	2,445	22,100
44	16,130	2,390	8,945	850	26,045	1,780	3,410	20	2,465	21,930
45	13,210	2,390	5,965	740	26,045	1,520	3,410	150	2,615	21,390
1945-46	6,250	2,390	---	770	24,480	1,830	3,410	---	2,520	20,380
47	4,140	2,390	---	730	21,400	480	3,410	---	2,330	16,140
48	970	2,390	---	670	14,050	660	3,410	---	1,560	9,740
49	3,950	2,390	---	420	10,880	540	3,410	---	1,340	6,670
50	6,230	2,390	---	370	10,140	1,560	3,410	---	1,340	6,950
1950-51	1,760	2,390	---	370	5,950	330	3,410	---	840	2,030
GROSS SAFE SEASONAL YIELD									5,800 Acre-Feet	

* Conservation storage would have been entirely evacuated in December, 1935.

TABLE K-2

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
LOWER JACK RESERVOIR ON JACK CREEK

Gross Storage Capacity: 25,000 Acre-Feet
Silt Reservation: 500 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo- ration	Storage end of March	Inflow	Draft	Spill	Net evapo- ration	Storage end of September
1934-35										0
1935-36	9,520	1,010	---	- 60	10,110*	1,180	5,790	---	790	4,710
37	10,980	1,010	---	-300	14,980	1,420	5,790	---	940	9,670
38	29,020	1,010	13,680	-1,000	25,000	1,580	5,790	380	1,470	18,940
39	1,770	1,010	---	20	19,680	230	5,790	---	1,290	12,830
40	14,460	1,010	1,680	-400	25,000	1,240	5,790	250	1,490	18,710
1940-41	24,750	1,010	18,840	-1,390	25,000	7,250	5,790	5,880	1,300	19,280
42	9,770	1,010	3,450	-410	25,000	2,830	5,790	1,590	1,340	19,110
43	14,650	1,010	8,310	-560	25,000	1,050	5,790	---	1,530	18,730
44	7,670	1,010	690	-300	25,000	850	5,790	---	1,460	18,600
45	8,100	1,010	970	-280	25,000	860	5,790	---	1,550	18,520
1945-46	5,370	1,010	---	-340	23,220	870	5,790	---	1,470	16,830
47	2,980	1,010	---	-100	18,900	370	5,790	---	1,250	12,230
48	620	1,010	---	60	11,780	1,780	5,790	---	740	7,030
49	5,590	1,010	---	-110	11,720	490	5,790	---	850	5,570
50	4,090	1,010	---	- 30	8,680	390	5,790	---	650	2,630
1950-51	5,410	1,010	---	- 30	7,060	320	5,790	---	540	1,050
GROSS SAFE SEASONAL YIELD										6,800 Acre-Feet

* Conservation storage would have been entirely evacuated in October, 1935.

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
SANTA RITA RESERVOIR ON SANTA RITA CREEK

Gross Storage Capacity: 15,000 Acre-Feet
Silt Reservation: 500 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo- ration	Storage end of March	Inflow	Draft	Spill	Net evapo- ration	Storage end of September
1934-35										0
1935-36	8,480	770	---	- 50	9,020*	1,050	4,430	---	750	4,890
37	9,730	770	---	-290	14,140	1,270	4,430	---	1,100	9,880
38	24,950	770	19,930	-870	15,000	1,350	4,430	410	1,010	10,500
39	1,680	770	---	20	11,390	220	4,430	---	870	6,310
40	12,800	770	3,630	-290	15,000	1,100	4,430	310	1,070	10,290
1940-41	21,190	770	16,690	-980	15,000	6,210	4,430	5,070	930	10,780
42	8,680	770	3,970	-280	15,000	2,520	4,430	1,480	940	10,670
43	12,980	770	8,280	-400	15,000	920	4,430	40	1,100	10,350
44	6,930	770	1,710	-200	15,000	770	4,430	---	1,060	10,280
45	7,330	770	2,030	-190	15,000	770	4,430	---	1,120	10,220
1945-46	4,820	770	---	-230	14,500	780	4,430	---	1,110	9,740
47	2,760	770	---	- 20	11,750	340	4,430	---	920	6,740
48	540	770	---	40	6,470	1,560	4,430	---	490	3,110
49	5,050	770	---	- 70	7,460	450	4,430	---	610	2,870
50	3,740	770	---	- 20	5,860	360	4,430	---	450	1,340
1950-51	4,900	770	---	- 10	5,480	300	4,430	---	430	920
GROSS SAFE SEASONAL YIELD										5,200 Acre-Feet

* Conservation storage would have been entirely evacuated in October, 1935.

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TABLE K-4

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
NACIMIENTO RESERVOIR ON NACIMIENTO RIVER

Gross Conservation Storage Capacity: 200,000 Acre-Feet
Silt Reservation: 4,000 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo-ration	Storage end of March	Inflow	Draft	Spill	Net evapo-ration	Storage end of September
1934-35										0
1935-36	180,240	25,840	---	-360	189,030	19,260	71,660	---	11,920	124,710
37	207,540	25,840	109,740	-3,330	200,000	24,260	71,660	9,180	12,580	130,840
38	505,660	25,840	418,560	-7,900	200,000	27,240	71,660	10,600	11,900	133,080
39	29,420	25,840	---	770	135,890	2,280	71,660	---	9,080	57,430
40	277,660	25,840	110,930	-1,680	200,000	20,340	71,660	6,880	12,130	129,670
1940-41	456,960	25,840	369,080	-8,290	200,000	131,840	71,660	110,670	10,820	138,690
42	196,430	25,840	111,070	-1,790	200,000	52,670	71,660	33,150	11,090	136,770
43	275,400	25,840	189,130	-2,800	200,000	15,600	71,660	1,240	12,230	130,470
44	148,410	25,840	54,100	-1,060	200,000	11,590	71,660	---	11,730	128,200
45	153,680	25,840	57,070	-1,030	200,000	12,820	71,660	---	12,430	128,730
1945-46	103,470	25,840	7,800	-1,440	200,000	13,830	71,660	1,610	12,470	128,090
47	52,740	25,840	---	30	154,760	4,660	71,660	---	10,260	77,680
48	10,780	25,840	---	920	61,690	33,320	71,660	---	4,990	18,360
49	107,000	25,840	---	-70	99,590*	6,200	71,660	---	6,910	27,220
50	90,800	25,840	---	250	91,930	11,000	71,660	---	6,500	24,770
1950-51	108,030	25,840	---	-180	107,140	5,970	71,660	---	7,180	34,270
GROSS SAFE SEASONAL YIELD										97,500 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1948.
Note: It is understood from statements of officials of the Monterey County Flood Control and Water Conservation District that approximately 200,000 acre-feet of storage capacity is available.

Note: It is understood from statements of officials of the Monterey County Flood Control and Water Conservation District that approximately 200,000 acre-feet of storage capacity in Macimiento Reservoir will be used for water conservation purposes.

TABLE K-5
SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY
COORDINATED OPERATION OF SAN MIGUELITO AND NACIMIENTO RESERVOIRS ON NACIMIENTO RIVER

In Acre-Feet

Season	San Miguelito Reservoir										Macimiento Reservoir										
	Gross Storage Capacity: 130,000 Acre-Feet					Silt Reservation: 1,000 Acre-Feet					Gross Conservation Storage Capacity: 200,000 Acre-Feet					Silt Reservation: 1,000 Acre-Feet					
	October to March					April to September					October to March					April to September					
	Release to Reservoir	Inflow Macimientos Reservoir	Spill	Net evapo-ration	Storage end of March	Inflow Macimientos Reservoir	Spill	Net evapo-ration	Storage end of September	Inflow below San Miguelito	Draft	Spill	Net evapo-ration	Storage end of March	Inflow below San Miguelito	Draft	Spill	Net evapo-ration	Storage end of September		
1934-35									0										0		
1935-36	45,710	18,460	---	90	46,490*	4,890	---	---	6,080	45,300	134,530	28,370	---	-160	127,780	14,370	86,130	---	8,510	47,510	
37	51,490	---	---	-2,090	98,880	6,010	---	---	9,610	95,280	156,050	28,370	---	-1,690	176,880	18,250	86,130	---	11,370	97,630	
38	117,950	---	89,760	-6,530	130,000	6,350	---	---	4,050	10,230	122,070	28,370	---	-6,750	200,000	20,890	86,130	8,410	11,650	118,750	
39	8,260	---	---	750	129,580	640	---	---	10,890	119,330	21,160	28,370	---	740	110,800	1,640	86,130	---	7,100	19,210	
40	68,490	3,560	56,560	-2,300	130,000	5,010	---	---	3,480	10,530	121,000	209,170	28,370	61,090	-960	200,000	15,330	86,130	4,810	11,890	115,980
1940-41	105,860	---	103,870	-7,010	130,000	30,540	---	---	28,570	9,270	122,700	351,100	28,370	350,670	-8,090	200,000	101,300	86,130	109,470	10,580	123,690
42	48,740	---	43,260	-1,820	130,000	13,060	---	---	11,170	9,550	122,340	147,690	28,370	87,870	-1,600	200,000	39,610	86,130	31,890	10,830	121,930
43	67,580	---	62,280	-2,360	130,000	3,820	---	---	1,840	10,660	121,380	207,820	28,370	166,080	-2,420	200,000	11,780	86,130	---	11,960	115,530
44	38,020	---	30,890	-1,490	130,000	2,980	---	---	1,000	10,290	121,690	110,390	28,370	29,670	-1,230	200,000	8,610	86,130	---	11,350	112,130
45	39,230	---	31,900	-980	130,000	3,270	---	---	1,530	10,800	120,940	114,450	28,370	31,010	-900	200,000	9,550	86,130	---	12,030	112,910
1945-46	26,990	---	19,250	-1,320	130,000	3,610	---	---	2,040	10,860	120,710	76,480	28,370	---	-1,240	181,510	10,220	86,130	---	11,450	96,190
47	14,230	---	4,920	20	130,000	1,270	---	---	10	10,220	121,040	38,510	28,370	---	90	111,160	3,390	86,130	---	310	21,120
48	2,960	7,700	---	1,220	115,080	9,140	57,930	---	---	8,140	58,150	7,820	28,370	---	320	7,950	24,180	86,130	---	930	3,000
49	27,880	18,110	---	260	68,150	1,620	16,550	---	---	7,420	45,800	79,120	28,370	---	200	72,090	4,580	86,130	---	4,090	3,000
50	24,080	18,210	---	260	51,410	2,920	24,940	---	---	6,080	23,310	66,720	28,370	---	50	59,510	8,080	86,130	---	3,400	3,000
1950-51	28,430	12,220	---	110	39,410	1,570	21,770	---	---	5,130	14,080	79,600	28,370	---	20	66,430	4,400	86,130	---	3,470	3,000

COMBINED GROSS SAFE SEASONAL YIELD, SAN MIGUELITO AND NACIMIENTO RESERVOIRS

114,500 Acre-Feet

* Conservation storage would have been entirely evacuated in November, 1935.

Note: It is understood from statements of officials of the Monterey County Flood Control and Water Conservation District that approximately 200,000 acre-feet of storage capacity in Macimiento Reservoir will be used for water conservation purposes.

TABLE E-6
 SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY
 COORDINATED OPERATION OF JARRETT SHUT-IN AND NACIMIENTO RESERVOIRS ON NACIMIENTO RIVER

In Acre-Feet

Season	Jarrett Shut-In Reservoir										Nacimiento Reservoir										
	Gross Storage Capacity: 110,000 Acre-Feet					Silt Reservation: 2,000 Acre-Feet					Gross Conservation Storage Capacity: 200,000 Acre-Feet					Silt Reservation: 2,000 Acre-Feet					
	October to March					April to September					October to March					April to September					
	Release to Inflow Reservoir	to Nacimiento Reservoir	Spill	Net evapo-ration	Storage end of March	Release to Inflow Reservoir	to Nacimiento Reservoir	Spill	Net evapo-ration	Storage end of September	Inflow Jarrett Shut-In	Draft	Spill	Net evapo-ration	Storage end of March	Inflow Jarrett Shut-In	Draft	Spill	Net evapo-ration	Storage end of September	
1934-35										0											0
1935-36	85,470	18,870	---	10	84,910*	9,130	---	---	5,810	88,230	94,770	28,460	---	-2,000	89,180	10,130	86,640	---	5,780	6,890	
37	96,430	12,420	63,880	-1,640	110,000	11,270	---	9,180	6,850	105,240	111,110	28,460	---	-1,260	167,100	12,990	86,640	---	11,030	91,600	
38	222,520	---	222,130	-4,370	110,000	11,980	---	9,930	6,460	105,590	283,140	28,460	375,200	-6,790	200,000	15,260	86,640	8,630	11,640	118,260	
39	15,410	---	10,520	480	110,000	1,190	---	290	6,880	106,020	14,010	28,460	---	740	113,610	1,090	86,640	---	7,270	21,080	
40	128,390	780	123,190	-1,560	110,000	9,410	---	7,700	6,560	105,150	149,270	28,460	67,640	-1,000	200,000	10,930	86,640	5,280	11,670	115,040	
1940-41	199,920	---	199,490	-4,420	110,000	57,680	---	55,530	5,850	106,300	257,040	28,460	351,030	-7,920	200,000	74,160	86,640	109,330	10,830	122,890	
42	91,170	---	88,620	-1,150	110,000	24,430	---	22,590	6,020	105,820	105,260	28,460	89,920	-1,610	200,000	28,240	86,640	31,770	10,840	121,580	
43	126,540	---	124,060	-1,700	110,000	7,160	---	5,030	6,690	105,440	148,860	28,460	168,680	-2,640	200,000	8,440	86,640	---	11,590	115,240	
44	70,970	---	67,200	-790	110,000	5,530	---	3,590	6,510	105,430	77,440	28,460	32,310	-890	200,000	6,060	86,640	---	11,180	111,830	
45	73,200	---	69,270	-640	110,000	6,100	---	4,210	6,840	105,050	80,480	28,460	34,010	-890	200,000	6,720	86,640	---	12,030	114,250	
1945-46	50,370	---	46,250	-830	110,000	6,730	---	5,120	6,860	104,750	53,100	28,460	---	-1,260	184,580	7,100	86,640	---	11,500	98,670	
47	26,460	---	21,200	-10	110,000	2,340	---	1,350	6,900	104,090	26,280	28,460	---	100	118,510	2,320	86,640	---	7,780	27,780	
48	5,400	---	---	720	108,770	16,700	53,880	14,510	5,030	52,050	5,380	28,460	---	470	4,490	16,620	86,640	---	920	2,000	
49	52,080	18,660	---	100	85,570	3,020	40,430	---	5,130	43,030	54,920	28,460	---	-120	47,240	3,180	86,640	---	2,210	2,000	
50	44,770	18,700	---	140	68,960	5,430	46,480	---	3,960	23,950	46,030	28,460	---	30	38,240	5,570	86,640	---	1,650	2,000	
1950-51	52,780	12,300	---	70	64,360	2,920	45,890	---	3,470	17,920	55,540	28,460	---	---	41,380	3,090	86,640	---	1,720	2,000	
COMBINED GROSS SAFE SEASONAL YIELD, JARRETT SHUT-IN AND NACIMIENTO RESERVOIRS																				115,100 Acre-Feet	

* Conservation storage would have been entirely evacuated in November, 1935.

Note: It is understood from statements of officials of the Monterey County Flood Control and Water Conservation District that approximately 200,000 acre-feet of storage capacity in Nacimiento Reservoir will be used for water conservation purposes.

TABLE A-7
 SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY
 COORDINATED OPERATION OF SAN MIGUELITO, JARRETT SHUT-IN,
 AND NACIMIENTO RESERVOIRS ON NACIMIENTO RIVER

In Acre-Feet

Season	San Miguelito and Jarrett Shut-In Reservoirs										Nacimiento Reservoir									
	Combined Gross Storage Capacity: 240,000 Acre-Feet					Silt Reservoir: 2,000 Acre-Feet					Gross Conservation Storage Capacity: 200,000 Acre-Feet					Silt Reservoir: 2,000 Acre-Feet				
	October to March					April to September					October to March					April to September				
Inflow	Release to Nacimiento Reservoir	Spill	Net evaporation	Storage end of March	Inflow	Release to Nacimiento Reservoir	Spill	Net evaporation	Storage end of September	Inflow below Jarrett Shut-In	Draft	Spill	Net evaporation	Storage end of March	Inflow below Jarrett Shut-In	Draft	Spill	Net evaporation	Storage end of September	
1934-35	0																			
1935-36	92,920	20,600	---	130	84,920*	1,680	6,380	---	8,610	79,060	94,770	30,190	---	90	87,270	10,130	96,510	---	5,270	2,000
37	96,430	18,070	---	2,440	159,860	11,270	---	---	13,920	157,210	132,310	30,190	---	-1,440	123,630	12,990	96,510	---	8,220	31,870
38	222,520	---	149,740	-10,010	240,000	11,980	---	7,810	16,870	227,300	283,140	30,190	238,520	-3,490	200,000	15,260	96,510	6,900	11,420	108,240
39	15,440	---	1,480	1,230	240,000	1,190	10,090	---	17,940	213,160	14,010	30,190	---	710	92,830	1,090	96,510	---	5,500	2,000
40	128,390	21,380	83,750	-3,580	240,000	9,440	---	6,670	17,320	225,420	149,270	30,190	26,880	670	200,000	10,930	96,510	3,380	11,730	105,980
1940-41	199,920	---	196,890	-11,550	240,000	57,680	---	54,240	15,250	228,190	257,040	30,190	335,750	-6,030	200,000	74,160	96,510	108,600	10,360	112,930
42	91,170	---	82,330	-2,970	240,000	24,430	---	21,200	15,700	227,530	105,260	30,190	71,820	-1,490	200,000	28,240	96,510	30,970	10,540	111,420
43	126,540	---	118,410	-4,340	240,000	7,160	---	3,660	17,440	226,060	148,860	30,190	151,020	-2,520	200,000	8,440	96,510	---	11,720	103,870
44	70,970	---	59,060	-2,030	240,000	5,530	---	1,320	17,150	227,060	77,440	30,190	10,980	-800	200,000	6,060	96,510	---	11,180	99,690
45	73,200	---	61,870	-1,610	240,000	6,100	---	3,070	17,770	225,260	80,480	30,190	12,620	-770	200,000	6,720	96,510	---	11,750	101,500
1945-46	50,370	---	37,810	-2,180	240,000	6,730	---	4,020	17,860	224,850	53,100	30,190	---	-1,130	163,350	7,100	96,510	---	10,200	67,760
47	26,460	---	11,300	10	240,000	2,340	26,140	220	17,990	197,990	26,280	30,190	---	1,320	73,830	2,320	96,510	---	4,000	2,000
48	5,400	27,360	---	1,840	174,190	16,700	77,960	---	11,180	101,750	5,380	30,190	---	60	4,490	16,620	96,510	---	560	2,000
49	52,080	20,390	---	470	133,910	3,020	50,210	---	10,920	75,800	54,920	30,190	---	120	47,240	3,180	96,510	---	2,120	2,000
50	44,770	20,430	---	290	99,850	5,430	56,260	---	8,470	40,550	46,030	30,190	---	30	38,240	5,570	96,510	---	1,560	2,000
1950-51	52,780	14,030	---	120	79,180	2,920	55,570	---	6,930	19,600	55,540	30,190	---	70	41,450	3,060	96,510	---	1,570	2,000
COMBINED GROSS SAFE SEASONAL YIELD, SAN MIGUELITO, JARRETT SHUT-IN, AND NACIMIENTO RESERVOIRS																			126,700 Acre-Feet	

* Conservation storage would have been entirely evacuated in November, 1935.

Note: It is understood from statements of officials of the Monterey County Flood Control and Water Conservation District that approximately 200,000 acre-feet of storage capacity in Nacimiento Reservoir will be used for water conservation purposes.

TABLE K-8

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
BALD TOP RESERVOIR ON SAN CARPOFORO CREEK

Gross Storage Capacity: 20,000 Acre-Feet
Silt Reservation: 500 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo-ration	Storage end of March	Inflow	Draft	Spill	Net evapo-ration	Storage end of September
1934-35										0
1935-36	16,180	2,210	---	- 40	17,720	1,620	8,190	---	420	10,730
37	18,490	2,210	7,080	- 70	20,000	2,010	8,190	860	460	12,500
38	35,840	2,210	26,210	- 80	20,000	1,960	8,190	720	460	12,590
39	3,100	2,210	---	- 80	13,560	200	8,190	---	350	5,220
40	24,110	2,210	7,200	- 80	20,000	1,590	8,190	550	460	12,390
1940-41	35,270	2,210	25,540	- 90	20,000	10,430	8,190	8,770	460	13,010
42	19,330	2,210	10,230	-100	20,000	4,970	8,190	3,260	460	13,060
43	24,010	2,210	14,950	- 90	20,000	1,190	8,190	140	460	12,400
44	14,530	2,210	4,800	- 80	20,000	970	8,190	---	460	12,320
45	14,630	2,210	4,820	- 80	20,000	1,070	8,190	100	460	12,320
1945-46	10,480	2,210	690	-100	20,000	1,320	8,190	380	460	12,290
47	5,840	2,210	---	- 80	16,000	560	8,190	---	400	7,970
48	1,170	2,210	---	- 60	6,990	3,630	8,190	---	280	2,150
49	10,510	2,210	---	- 30	10,480*	490	8,190	---	300	2,480
50	9,370	2,210	---	- 40	9,680	1,030	8,190	---	290	2,230
1950-51	11,610	2,210	---	-100	11,730	490	8,190	---	320	3,710
GROSS SAFE SEASONAL YIELD										10,400 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1948.

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
UPPER RAGGED POINT RESERVOIR ON SAN CARPOFORO CREEK

Gross Storage Capacity: 30,000 Acre-Feet
Silt Reservations: 500 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net : evapo- : ration	Storage : end of : : March	Inflow	Draft	Spill	Net : evapo- : ration	Storage : end of : : September
1934-35										0
1935-36	31,910	3,690	13,200	- 70	30,000	3,190	13,810	1,360	460	17,560
37	37,490	3,690	21,440	- 80	30,000	4,080	13,810	2,030	460	17,780
38	73,300	3,690	57,480	- 90	30,000	4,000	13,810	1,770	470	17,950
39	6,120	3,690	---	- 70	20,450	380	13,810	---	330	6,690
40	48,590	3,690	21,660	- 70	30,000	3,210	13,810	1,390	460	17,550
1940-41	72,510	3,690	56,560	- 90	30,000	21,490	13,810	18,360	470	18,850
42	38,970	3,690	24,230	-100	30,000	10,030	13,810	6,860	470	18,890
43	48,390	3,690	33,680	- 90	30,000	2,410	13,810	570	460	17,570
44	28,590	3,690	12,550	- 80	30,000	1,910	13,810	---	460	17,640
45	28,690	3,690	12,720	- 80	30,000	2,110	13,810	440	450	17,410
1945-46	20,420	3,690	4,240	-100	30,000	2,580	13,810	970	440	17,360
47	11,050	3,690	---	- 80	24,800	1,050	13,810	---	390	11,650
48	2,220	3,690	---	- 60	10,240	6,880	13,810	---	270	3,040
49	20,530	3,690	---	- 10*	19,890	970	13,810	---	330	6,720
50	18,280	3,690	---	- 60	21,370	2,020	13,810	---	360	9,820
1950-51	22,540	3,690	---	-110	28,180	960	13,810	---	420	14,910
GROSS SAFE SEASONAL YIELD										17,500 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1948.

TABLE K-10
 SEMIANNUAL SUMMARY OF MONTHLY FIELD STUDY
 COORDINATED OPERATION OF BALD TOP AND UPPER RAGGED POINT RESERVOIRS ON CARPOFORD CREEK

In Acre-Feet

Season	Bald Top Reservoir										Upper Ragged Point Reservoir										
	Gross Storage Capacity: 20,000 Acre-Feet					Silt Reservoir: 500 Acre-Feet					Gross Storage Capacity: 30,000 Acre-Feet					Silt Reservoir: 500 Acre-Feet					
	October to March					April to September					October to March					April to September					
	Release to Upper	Inflow Ragged Point	Spill	Net evaporation	Storage end of March	Inflow	Release to Upper Point	Spill	Net evaporation	Storage end of September	Inflow below Bald Top	Draft	Spill	Net evaporation	Storage end of March	Inflow below Bald Top	Draft	Spill	Net evaporation	Storage end of September	
1934-35										0											0
1935-36	16,180	3,590	---	- 30	16,890*	1,620	1,820	---	470	16,220	15,730	4,750	---	- 30	15,100	1,570	17,750	---	240	500	
37	18,490	3,380	11,400	- 70	20,000	2,010	---	1,850	440	19,720	19,000	4,750	---	- 30	29,560	2,070	17,750	1,200	430	14,100	
38	35,840	---	35,660	-100	20,000	1,960	---	1,770	490	19,700	37,460	4,750	52,550	- 80	30,000	2,040	17,750	1,380	430	14,250	
39	3,100	---	2,900	-100	20,000	200	2,400	140	490	17,170	3,320	4,750	---	- 50	15,770	180	17,750	---	240	500	
40	24,110	3,690	17,670	- 80	20,000	1,590	---	1,450	490	19,650	24,480	4,750	11,650	- 60	30,000	1,620	17,750	1,000	430	13,890	
1940-41	35,270	---	35,020	-100	20,000	10,430	---	10,190	490	19,750	37,240	4,750	51,490	- 90	30,000	11,060	17,750	17,970	430	15,100	
42	19,330	---	19,180	-100	20,000	4,970	---	4,750	490	19,730	19,640	4,750	19,270	-100	30,000	5,060	17,750	6,470	430	15,160	
43	24,010	---	23,840	-100	20,000	1,190	---	1,020	490	19,680	24,380	4,750	28,720	- 90	30,000	1,220	17,750	180	430	13,880	
44	14,530	---	14,310	-100	20,000	970	---	790	490	19,690	14,060	4,750	7,560	- 60	30,000	940	17,750	---	430	13,550	
45	14,630	---	14,420	-100	20,000	1,070	---	940	490	19,640	14,060	4,750	7,350	- 70	30,000	1,040	17,750	50	430	13,750	
1945-46	10,480	---	10,220	-100	20,000	1,320	---	1,200	490	19,630	9,940	4,750	---	-110	29,270	1,260	17,750	---	430	13,550	
47	5,840	---	5,570	-100	20,000	560	---	490	490	19,580	5,210	4,750	---	- 80	19,660	490	17,750	---	370	2,570	
48	1,170	2,320	---	-100	18,530	3,630	11,920	2,010	450	7,780	1,050	4,750	---	- 10	1,200	3,250	17,750	---	130	500	
49	10,510	3,560	---	- 60	14,790	490	8,590	---	410	6,280	10,020	4,750	---	- 20	9,350	480	17,750	---	170	500	
50	9,370	3,540	---	- 50	12,160	1,030	9,180	---	360	3,650	8,910	4,750	---	- 40	8,240	990	17,750	---	160	500	
1950-51	11,610	2,260	---	-100	13,100	490	8,940	---	380	4,270	10,930	4,750	---	- 70	9,010	470	17,750	---	170	500	

COMBINED GROSS SAFE SEASONAL YIELD, BALD TOP AND UPPER RAGGED POINT RESERVOIRS

22,500 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1935.

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
YELLOW HILL RESERVOIR ON ARROYO DE LA CRUZ

Gross Storage Capacity: 80,000 Acre-Feet
Silt Reservation: 1,000 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo-ration	Storage end of March	Inflow	Draft	Spill	Net evapo-ration	Storage end of September
1934-35										0
1935-36	39,090	5,840	---	-90	38,900*	3,910	21,860	---	1,040	19,910
37	46,370	5,840	---	-250	60,020	5,030	21,860	---	1,270	41,920
38	104,210	5,840	60,570	-280	80,000	5,690	21,860	2,270	1,450	60,110
39	5,930	5,840	---	-270	60,470	370	21,860	---	1,220	37,760
40	61,900	5,840	14,080	-260	80,000	4,100	21,860	1,330	1,450	59,460
1940-41	99,440	5,840	73,400	-340	80,000	29,460	21,860	24,860	1,470	61,270
42	44,700	5,840	20,450	-320	80,000	11,500	21,860	7,260	1,460	60,920
43	61,450	5,840	36,840	-310	80,000	3,050	21,860	120	1,600	59,470
44	33,380	5,840	7,280	-270	80,000	2,220	21,860	---	1,600	58,760
45	34,090	5,840	7,290	-280	80,000	2,510	21,860	---	1,450	59,200
1945-46	22,640	5,840	---	-310	76,310	2,860	21,860	---	1,420	55,890
47	11,050	5,840	---	-270	61,370	1,050	21,860	---	1,240	39,320
48	2,200	5,840	---	-220	35,900	6,800	21,860	---	1,040	19,800
49	23,300	5,840	---	-150	37,410	1,100	21,860	---	990	15,660
50	19,630	5,840	---	-160	29,610	2,170	21,860	---	880	9,040
1950-51	23,780	5,840	---	-230	27,210	1,020	21,860	---	810	5,560
GROSS SAFE SEASONAL YIELD										27,700 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1935.

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TABLE K-12

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
SAN SIMON RESERVOIR ON SAN SIMON CREEK

Gross Storage Capacity: 60,000 Acre-Feet
Silt Reservoir: 500 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net : evapo- : ration	Storage : end of : March	Inflow	Draft	Spill	Net : evapo- : ration	Storage : end of : September
1934-35										0
1935-36	21,640	3,950	---	- 20	20,840*	2,160	14,750	---	630	7,620
37	25,350	3,950	---	- 90	29,110	2,750	14,750	---	800	16,310
38	49,700	3,950	2,220	-160	60,000	2,700	14,750	640	1,270	46,040
39	4,050	3,950	---	-240	46,380	250	14,750	---	1,330	30,850
40	32,800	3,950	---	-220	59,920	2,200	14,750	310	1,270	45,790
1940-41	49,200	3,950	31,310	-270	60,000	14,600	14,750	11,900	1,280	46,670
42	26,330	3,950	9,330	-280	60,000	6,770	14,750	4,070	1,280	46,670
43	32,780	3,950	15,770	-270	60,000	1,620	14,750	---	1,440	45,430
44	19,310	3,950	1,020	-230	60,000	1,290	14,750	---	1,260	45,280
45	19,370	3,950	950	-250	60,000	1,430	14,750	---	1,260	45,420
1945-46	13,760	3,950	---	-260	55,490	1,740	14,750	---	1,210	41,270
47	7,490	3,950	---	-240	45,050	710	14,750	---	1,030	29,980
48	1,490	3,950	---	-170	27,690	4,610	14,750	---	820	16,730
49	13,850	3,950	---	-110	26,740	650	14,750	---	740	11,900
50	12,250	3,950	---	-110	20,310	1,350	14,750	---	590	6,320
1950-51	15,250	3,950	---	-140	11,760	650	14,750	---	530	3,130
GROSS SAFE SEASONAL YIELD										18,500 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1935.

TABLE K-13

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
SANTA ROSA RESERVOIR ON SANTA ROSA CREEK

Gross Storage Capacity: 35,000 Acre-Feet
Silt Reservation: 500 Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo- ration	Storage end of March	Inflow	Draft	Spill	Net evapo- ration	Storage end of September
1934-35										0
1935-36	13,720	2,470	---	---	14,290	3,080	9,230	---	420	7,720
37	16,830	2,470	---	- 20	22,100	3,570	9,230	---	580	15,860
38	32,070	2,470	10,490	- 30	35,000	3,930	9,230	1,290	790	27,620
39	3,310	2,470	---	- 40	28,500	490	9,230	---	660	19,100
40	20,950	2,470	2,620	- 40	35,000	3,450	9,230	1,400	790	27,030
1940-41	31,340	2,470	20,950	- 50	35,000	7,660	9,230	3,640	800	28,990
42	15,360	2,470	6,930	- 50	35,000	7,540	9,230	3,960	800	28,550
43	16,050	2,470	7,180	- 50	35,000	2,550	9,230	600	780	26,940
44	11,050	2,470	560	- 40	35,000	1,950	9,230	20	770	26,930
45	16,050	2,470	5,560	- 50	35,000	2,550	9,230	600	780	26,940
1945-46	9,880	2,470	---	- 50	34,400	1,820	9,230	---	770	26,220
47	4,230	2,470	---	- 40	28,020	870	9,230	---	660	19,000
48	1,170	2,470	---	- 30	17,730	2,430	9,230	---	480	10,450
49	7,010	2,470	---	- 10	15,000	1,190	9,230	---	420	6,540
50	6,030	2,470	---	- 10	10,110	1,370	9,230	---	320	1,930
1950-51	12,180	2,470	---	- 40	11,680*	920	9,230	---	330	3,040
GROSS SAFE SEASONAL YIELD										11,700 Acre-Feet

* Conservation storage would have been entirely evacuated in October, 1950.

TABLE K-14

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
WHALE ROCK RESERVOIR ON OLD CREEK

Gross Storage Capacity: 40,000 Acre-Feet
Silt Reservation: 500 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo-ration	Storage end of March	Inflow	Draft	Spill	Net evapo-ration	Storage end of September
1934-35										0
1935-36	12,730	1,920	---	70	13,180*	1,270	7,180	---	820	6,450
37	16,690	1,920	---	70	21,150	1,810	7,180	---	1,100	14,680
38	29,780	1,920	2,400	140	40,000	1,620	7,180	460	1,580	32,400
39	2,540	1,920	---	180	32,840	160	7,180	---	1,380	24,440
40	15,460	1,920	---	170	37,810	1,040	7,180	---	1,530	30,140
1940-41	28,920	1,920	16,950	190	40,000	8,580	7,180	7,050	1,590	32,760
42	14,320	1,920	4,980	180	40,000	3,680	7,180	2,210	1,590	32,700
43	19,440	1,920	10,040	180	40,000	960	7,180	---	1,570	32,210
44	10,600	1,920	710	180	40,000	700	7,180	---	1,570	31,950
45	10,240	1,920	90	180	40,000	760	7,180	---	1,570	32,010
1945-46	6,570	1,920	---	180	36,480	830	7,180	---	1,490	28,640
47	3,290	1,920	---	180	29,830	310	7,180	---	1,300	21,660
48	610	1,920	---	160	20,190	1,890	7,180	---	1,060	13,840
49	5,160	1,920	---	130	16,950	240	7,180	---	920	9,090
50	5,130	1,920	---	100	12,200	570	7,180	---	750	4,840
1950-51	7,100	1,920	---	70	9,950	300	7,180	---	630	2,440
GROSS SAFE SEASONAL YIELD										9,200 Acre-Feet

* Conservation storage would have been entirely evacuated in December, 1935.

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TABLE K-15

SEMIANNUAL SUMMARY OF MONTHLY YIELD STUDY,
LOPEZ RESERVOIR ON ARROYO GRANDE CREEK

Gross Storage Capacity: 50,000 Acre-Feet
Silt Reservation: 1,000 Acre-Feet

In Acre-Feet

Season	October to March					April to September				
	Inflow	Draft	Spill	Net evapo- ration	Storage end of March	Inflow	Draft	Spill	Net evapo- ration	Storage end of September
1934-35										0
1935-36	17,690	2,640	---	20	17,900*	1,810	9,870	---	920	8,920
37	31,110	2,640	---	10	37,380	3,190	9,870	---	1,720	28,980
38	37,040	2,640	13,370	10	50,000	3,260	9,870	780	2,120	40,490
39	5,160	2,640	---	40	42,970	1,240	9,870	---	1,860	32,480
40	10,850	2,640	---	30	40,660	2,550	9,870	---	1,830	31,510
1940-41	33,390	2,640	12,240	20	50,000	20,310	9,870	13,730	2,180	44,530
42	10,270	2,640	2,140	20	50,000	6,430	9,870	1,670	2,160	42,730
43	28,610	2,640	18,680	20	50,000	7,790	9,870	2,570	2,160	43,190
44	9,930	2,640	450	30	50,000	3,970	9,870	70	2,140	41,890
45	7,570	2,640	---	40	46,780	3,730	9,870	---	2,020	38,620
1945-46	5,290	2,640	---	30	41,240	4,010	9,870	---	1,850	33,530
47	4,930	2,640	---	20	35,800	1,670	9,870	---	1,610	25,990
48	3,350	2,640	---	30	26,670	2,750	9,870	---	1,280	18,270
49	4,050	2,640	---	20	19,660	2,950	9,870	---	1,000	11,740
50	5,560	2,640	---	10	14,650	3,440	9,870	---	830	7,390
1950-51	5,670	2,640	---	10	10,410	3,030	9,870	---	700	2,870
GROSS SAFE SEASONAL YIELD										12,500 Acre-Feet

* Conservation storage would have been entirely evacuated in January, 1936.

APPENDIX L
ESTIMATES OF COST

AM 02510

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ESTIMATED COST OF RINCONADA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 35,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,195 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 35,000 acre-feet
Elevation of crest of spillway: 1,179 feet	Capacity of spillway with 5-foot freeboard: 10,000 second-feet
Height of dam to spillway crest, above stream bed: 99 feet	

Item	Quantity	Unit price	Cost	
CAPITAL COSTS				
Dam				
Exploration		Lump sum	\$ 15,000	
Diversion of stream and dewatering of foundation		Lump sum	8,000	
Stripping topsoil	13,100 cu.yd.	\$ 0.35	4,600	
Excavation for embankment				
Foundation	23,000 cu.yd.	1.50	34,500	
From borrow pits	173,800 cu.yd.	0.40	69,500	
From stream bed	114,100 cu.yd.	0.35	39,900	
Embankment				
Impervious	147,700 cu.yd.	0.16	23,600	
Pervious	114,100 cu.yd.	0.12	13,700	
Pervious, salvage	73,300 cu.yd.	0.20	14,700	
Rock riprap	9,500 cu.yd.	2.50	23,800	
Drilling grout holes	2,500 lin.ft.	3.00	7,500	
Pressure grouting	1,600 cu.ft.	4.00	6,400	\$ 261,200
Auxiliary Dam				
Stripping	9,000 cu.yd.	0.90	8,100	
Excavation for embankment	74,200 cu.yd.	0.35	26,000	
Embankment, impervious	63,100 cu.yd.	0.20	12,600	
Rock riprap	5,900 cu.yd.	2.50	14,800	61,500
Spillway				
Excavation, rock	70,100 cu.yd.	1.50	105,200	
Concrete				
Weir and cutoff	510 cu.yd.	35.00	17,900	
Floor	620 cu.yd.	30.00	18,600	
Walls	410 cu.yd.	40.00	16,400	
Reinforcing steel	126,800 lbs.	0.15	19,000	177,100
Outlet Works				
Excavation				
Inlet and outlet structures	1,000 cu.yd.	2.00	2,000	
Conduit	3,670 cu.yd.	2.50	9,200	
Backfill	1,520 cu.yd.	1.50	2,300	

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AM 02513

ESTIMATED COST OF RINCONADA DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 35,000 ACRE-FEET
 (continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Concrete			
Conduit and collars	890 cu.yd.	\$50.00	\$ 44,500
Inlet structure	200 cu.yd.	60.00	12,000
Gate chamber and valve house	340 cu.yd.	50.00	17,000
Reinforcing steel	142,700 lbs.	0.15	21,400
Miscellaneous metalwork	11,600 lbs.	0.40	4,600
Steel pipe, 48-inch dia.	43,400 lbs.	0.25	10,800
High pressure slide gate	32,000 lbs.	0.50	16,000
Howell-Bunger valve, 42-inch dia.		lump sum	<u>11,800</u>
			\$ 151,600
Reservoir			
Land and improvements		lump sum	175,000
Clearing reservoir lands	1,840 ac.	50.00	92,000
Relocation of utilities		lump sum	10,000
Road relocation		lump sum	<u>682,000</u>
			962,000
Subtotal			\$1,613,400
Administration and engineering, 10%			\$ 161,300
Contingencies, 15%			242,000
Interest during construction			<u>40,300</u>
			\$2,057,000
TOTAL			
ANNUAL COSTS			
Interest, 3.5%			\$ 72,000
Amortization, 40-year sinking fund at 3.5%			24,300
Operation and maintenance			<u>7,500</u>
			\$ 103,800
TOTAL			

ESTIMATED COST OF RINCONADA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 50,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,204 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 50,000 acre-feet
Elevation of crest of spillway: 1,189 feet	Capacity of spillway with 5-foot freeboard: 6,600 second-feet
Height of dam to spillway crest, above stream bed: 109 feet	

Item	Quantity	Unit price	Unit	Cost
CAPITAL COSTS				
Dam				
Exploration			lump sum	\$ 20,000
Diversions of stream and dewatering of foundation			lump sum	10,000
Stripping topsoil	15,300 cu.yd.	\$ 0.35		5,400
Excavation for embankment				
Foundation	29,100 cu.yd.	1.50		43,600
From borrow pits	217,000 cu.yd.	0.40		86,800
From stream bed	180,500 cu.yd.	0.35		63,200
Embankment				
Impervious	184,500 cu.yd.	0.16		29,500
Pervious	180,500 cu.yd.	0.12		21,700
Pervious, salvage	48,300 cu.yd.	0.20		9,700
Rock riprap	11,100 cu.yd.	2.50		27,800
Drilling grout holes	2,600 lin.ft.	3.00		7,800
Pressure grouting	1,800 cu.ft.	4.00		7,200
				<u>332,700</u>
Auxiliary Dam				
Stripping	18,800 cu.yd.	0.90		16,900
Excavation for embankment	137,200 cu.yd.	0.35		48,000
Embankment	116,600 cu.yd.	0.20		23,300
Rock riprap	8,700 cu.yd.	2.50		21,800
				<u>110,000</u>
Spillway				
Excavation, rock	33,100 cu.yd.	1.50		49,600
Concrete				
Weir and cutoff	320 cu.yd.	35.00		11,200
Floor	390 cu.yd.	30.00		11,700
Walls	410 cu.yd.	40.00		16,400
Reinforcing steel	95,000 lbs.	0.15		14,200
				<u>103,100</u>
Outlet Works				
Excavation				
Inlet and outlet structures	1,000 cu.yd.	2.00		2,000
Conduit	4,330 cu.yd.	2.50		10,800
Backfill	1,770 cu.yd.	1.50		2,700

ESTIMATED COST OF RINCONADA DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 50,000 ACRE-FeET
 (continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Concrete			
Conduit and collars	1,070 cu.yd.	\$50.00	\$ 53,500
Inlet structure	200 cu.yd.	60.00	12,000
Gate chamber and valve house	340 cu.yd.	50.00	17,000
Reinforcing steel	161,000 lbs.	0.15	24,200
Miscellaneous metalwork	12,100 lbs.	0.40	4,800
Steel pipe, 48-inch dia.	51,800 lbs.	0.25	12,900
High pressure slide gate	41,000 lbs.	0.50	20,500
Howell-Bunger valve, 42-inch dia.		lump sum	<u>11,800</u>
			\$ 172,200
Reservoir			
Land and improvements		lump sum	205,000
Clearing reservoir lands	2,160 ac.	50.00	108,000
Relocation of utilities		lump sum	10,000
Road relocation		lump sum	<u>682,000</u>
			1,008,000
Subtotal			\$1,726,000
Administration and engineering, 10%			\$ 172,600
Contingencies, 15%			258,900
Interest during construction			<u>43,200</u>
TOTAL			\$2,200,700
ANNUAL COSTS			
Interest, 3.5%			\$ 77,000
Amortization, 40-year sinking fund at 3.5%			26,000
Operation and maintenance			<u>7,500</u>
TOTAL			\$ 110,500

**ESTIMATED COST OF CANTERA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 35,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,065 feet,
U.S.G.S. datum
Elevation of top of gates: 1,054 feet
Height to top of gates, above stream
bed: 114 feet

Capacity of reservoir to top of
gates: 35,000 acre-feet
Capacity of spillway with 8-foot
freeboard: 17,100 second-feet

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Main Dam			
Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	20,000
Stripping	34,000 cu.yd.	\$ 3.00	102,000
Mass concrete	81,600 cu.yd.	19.00	1,550,400
Cooling concrete	81,600 cu.yd.	0.50	40,800
Parapet wall concrete	170 cu.yd.	40.00	6,800
Drilling grout holes	2,500 lin.ft.	4.00	10,000
Pressure grouting	1,800 cu.ft.	3.00	5,400
Miscellaneous metalwork	62,000 lbs.	0.40	24,800
Reinforcing steel	94,000 lbs.	0.15	24,100
			\$1,789,300
Spillway			
Reinforced concrete			
Walls	630 cu.yd.	35.00	22,000
Piers	300 cu.yd.	40.00	12,000
Gates and hoists	136,000 lbs.	0.50	68,000
Reinforcing steel	93,400 lbs.	0.15	14,000
Bridge		lump sum	7,500
			123,500
Outlet Works (Main Dam)			
Concrete outlet structure	10 cu.yd.	65.00	600
High pressure slide gate and hoist	40,000 lbs.	0.50	20,000
Needle valve, 42-inch dia.		lump sum	21,000
Steel pipe, 48-inch dia.	43,400 lbs.	0.25	10,800
Trash rack steel	12,000 lbs.	0.40	4,800
Reinforcing steel	1,000 lbs.	0.15	200
			57,400
Auxiliary Dam			
Foundation excavation	49,500 cu.yd.	0.90	44,600
Embankment			
Impervious	105,000 cu.yd.	0.45	47,200
Pervious	129,500 cu.yd.	0.42	54,400
Rock riprap	14,600 cu.yd.	2.00	29,200
			175,400

ESTIMATED COST OF CANTERA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 35,000 ACRE-FEET
(continued)

Item	Quantity	Unit	price	Cost
CAPITAL COSTS				
Outlet Works (Auxiliary Dam)				
Excavation	26,000 cu.yd.		\$ 1.00	\$ 26,000
Backfill	13,000 cu.yd.		1.50	19,500
Concrete				
Structure	35 cu.yd.		65.00	2,300
Conduit encasement	200 cu.yd.		45.00	9,000
Reinforcing steel	13,500 lbs.		0.15	2,000
Trash rack steel	2,000 lbs.		0.40	800
Steel pipe, 36-inch dia.	31,200 lbs.		0.25	7,800
Gate valve, 36-inch dia., gate lift, and appurte- nances			lump sum	3,000
Gate valve, 30-inch dia.			lump sum	1,600
				<u>\$ 72,000</u>
Reservoir				
Land and improvements			lump sum	38,100
Clearing reservoir lands	750 ac.		50.00	37,500
Relocation of utilities			lump sum	200,000
Road relocation			lump sum	450,000
				<u>725,600</u>
Subtotal				<u>\$2,943,200</u>
Administration and engineering, 10%				\$ 294,300
Contingencies, 15%				441,500
Interest during construction				<u>147,200</u>
TOTAL				\$3,826,200
ANNUAL COSTS				
Interest, 3.5%				\$ 133,900
Amortization, 40-year sinking fund at 3.5%				45,300
Operation and maintenance				<u>7,000</u>
TOTAL				\$ 186,200

**ESTIMATED COST OF LOWER ATASCADERO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 10,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,145 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 10,000 acre-feet
Elevation of crest of spillway: 1,127 feet	Capacity of spillway with 5-foot freeboard: 15,000 second-feet
Height of dam to spillway crest, above stream bed: 152 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 10,000
Diversion of stream and dewatering of foundation		lump sum	5,000
Stripping topsoil	17,000 cu.yd.	\$ 0.35	6,000
Excavation for embankment			
Foundation	63,000 cu.yd.	0.90	56,700
From borrow pits	283,000 cu.yd.	0.60	169,800
From stream bed	307,000 cu.yd.	0.50	153,500
Embankment			
Impervious	246,000 cu.yd.	0.16	39,400
Random	267,000 cu.yd.	0.12	32,000
Random, salvage	136,000 cu.yd.	0.20	27,200
Rock riprap	15,500 cu.yd.	3.00	46,500
Drilling grout holes	2,880 lin.ft.	3.00	8,600
Pressure grouting	1,920 cu.ft.	4.00	7,700
Gravel drains	7,720 cu.yd.	2.00	<u>15,400</u>
			\$ 577,800
Spillway			
Excavation, unclassified	125,000 cu.yd.	1.00	125,000
Concrete			
Weir and cutoff	570 cu.yd.	35.00	20,000
Floor	740 cu.yd.	30.00	22,200
Walls	550 cu.yd.	40.00	22,000
Reinforcing steel	145,400 lbs.	0.15	<u>21,800</u>
			211,000
Outlet Works			
Excavation	1,600 cu.yd.	2.00	3,200
Backfill	1,000 cu.yd.	1.50	1,500
Concrete			
Inlet structure	70 cu.yd.	60.00	4,200
Pipe encasement	380 cu.yd.	40.00	15,200
Reinforcing steel	45,000 lbs.	0.15	6,800
Miscellaneous metalwork	4,000 lbs.	0.40	1,600
Steel pipe, 30- and 36-inch dia.	78,500 lbs.	0.25	19,600
Howell-Bunger valve, 24-inch dia.		lump sum	7,800

ESTIMATED COST OF LOWER ATASCADERO DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 10,000 ACRE-FEET
 (continued)

Item	Quantity	Unit price	Unit	Cost
CAPITAL COSTS				
Outlet Works (continued)				
Gate valve, 18-inch dia. and actuators	3 each	\$2,000.00	\$	6,000
Control house		lump sum	2,000	\$ 67,900
Reservoir				
Land and improvements		lump sum	48,600	
Relocation of utilities		lump sum	5,000	
Clearing reservoir lands	190 ac.	50.00	9,500	
Road relocation		lump sum	<u>300,000</u>	<u>363,100</u>
Subtotal				\$1,219,800
Administration and engineering, 10%				\$ 122,000
Contingencies, 15%				183,000
Interest during construction				<u>30,500</u>
TOTAL				\$1,555,300
ANNUAL COSTS				
Interest, 3.5%				\$ 54,400
Amortization, 40-year sinking fund at 3.5%				18,400
Operation and maintenance				<u>5,000</u>
TOTAL				\$ 77,800

**ESTIMATED COST OF LOWER ATASCADERO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,168 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 15,000 acre-feet
Elevation of crest of spillway: 1,150 feet	Capacity of spillway with 5-foot freeboard: 15,000 second-feet
Height of dam to spillway crest, above stream bed: 175 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	7,500
Stripping topsoil	23,000 cu.yd.	\$ 0.35	8,000
Excavation for embankment			
Foundation	82,800 cu.yd.	0.90	74,500
From borrow pits	388,000 cu.yd.	0.60	232,800
From stream bed	524,000 cu.yd.	0.50	262,000
Embankment			
Impervious	338,000 cu.yd.	0.16	54,100
Random	456,000 cu.yd.	0.12	54,700
Random, salvage	162,000 cu.yd.	0.20	32,400
Rock riprap	20,200 cu.yd.	3.00	60,600
Drilling grout holes	3,360 lin.ft.	3.00	10,100
Pressure grouting	2,240 cu.ft.	4.00	9,000
Gravel drains	8,450 cu.yd.	2.00	16,900
			<u>\$ 837,600</u>
Spillway			
Excavation, unclassified	138,000 cu.yd.	1.00	138,000
Concrete			
Weir and cutoff	1,020 cu.yd.	35.00	35,700
Floor	860 cu.yd.	30.00	25,800
Walls	630 cu.yd.	40.00	25,200
Reinforcing steel	162,400 lbs.	0.15	24,400
			<u>249,100</u>
Outlet Works			
Excavation	1,990 cu.yd.	2.00	4,000
Backfill	1,200 cu.yd.	1.50	1,800
Concrete			
Inlet structure	110 cu.yd.	60.00	6,600
Pipe encasement	500 cu.yd.	40.00	20,000
Reinforcing steel	60,000 lbs.	0.15	9,000
Miscellaneous metalwork	4,000 lbs.	0.40	1,600
Steel pipe 36- and 40-inch dia.	106,700 lbs.	0.25	26,700
Howell-Bunger valve, 30-inch dia.		lump sum	9,200

ESTIMATED COST OF LOWER ATASCADERO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Gate valve, 18-inch dia. and actuators	4 each	\$2,000.00	\$ 8,000
Control house		lump sum	<u>2,000</u>
			\$ 88,900
Reservoir			
Land and improvements		lump sum	51,900
Relocation of utilities		lump sum	5,000
Clearing reservoir lands	240 ac.	60.00	14,400
Road relocation		lump sum	<u>300,000</u>
			<u>371,300</u>
Subtotal			\$1,546,900
Administration and engineering, 10%			\$ 154,700
Contingencies, 15%			232,000
Interest during construction			<u>38,700</u>
TOTAL			\$1,972,300
ANNUAL COSTS			
Interest, 3.5%			\$ 69,000
Amortization, 40-year sinking fund at 3.5%			23,300
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 97,300

ESTIMATED COST OF DOVER DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 7,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,215 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 7,000 acre-feet
Elevation of crest of spillway: 1,201 feet	Capacity of spillway with 4-foot freeboard: 25,000 second-feet
Height of dam to spillway crest, above stream bed: 101 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 10,000
Diversion of stream and dewatering of foundation		lump sum	5,000
Stripping topsoil	12,000 cu.yd.	\$ 0.35	4,200
Excavation for embankment			
Foundation	40,000 cu.yd.	0.90	36,000
From borrow pits	121,000 cu.yd.	0.50	60,500
From stream bed	208,000 cu.yd.	0.45	93,600
Embankment			
Impervious	105,000 cu.yd.	0.16	16,800
Pervious	181,000 cu.yd.	0.12	21,700
Pervious, salvage	64,000 cu.yd.	0.20	12,800
Rock riprap	13,000 cu.yd.	3.00	39,000
Drilling grout holes	7,680 lin.ft.	3.00	23,000
Pressure grouting	5,100 cu.ft.	4.00	20,400
			<u>\$343,000</u>
Spillway			
Excavation, unclassified	35,000 cu.yd.	1.00	35,000
Concrete			
Weir and cutoff	700 cu.yd.	35.00	24,500
Floor	1,360 cu.yd.	30.00	40,800
Walls	260 cu.yd.	40.00	10,400
Reinforcing steel	169,000 lbs.	0.15	25,400
			<u>136,100</u>
Outlet Works			
Excavation	2,090 cu.yd.	2.00	4,200
Backfill	1,700 cu.yd.	1.50	2,600
Concrete			
Inlet structure	60 cu.yd.	60.00	3,600
Pipe encasement	290 cu.yd.	40.00	11,600
Reinforcing steel	34,500 lbs.	0.15	5,200
Miscellaneous metalwork	4,000 lbs.	0.40	1,600
Steel pipe, 30-inch dia.	51,000 lbs.	0.25	12,800
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Gate valve, 12-inch dia. and actuators	3 each	1,500.00	4,500
Control house		lump sum	<u>1,000</u>
			54,900

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- ESTIMATED COST OF DOVER DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 7,000 ACRE-FEET
(continued)

Item	:	Quantity	:	Unit	:	Price	:	Cost
CAPITAL COSTS								
Reservoir								
Land and improvements				lump sum		\$ 38,300		
Clearing reservoir lands		220 ac.		\$ 150.00		33,000		
Relocation of utilities				lump sum		60,000		
Road relocation				lump sum		<u>50,000</u>		\$181,300
Subtotal								\$715,300
Administration and engineering, 10%								\$ 71,500
Contingencies, 15%								107,300
Interest during construction								<u>17,900</u>
TOTAL								\$912,000
ANNUAL COSTS								
Interest, 3.5%								\$ 31,900
Amortization, 40-year sinking fund at 3.5%								10,800
Operation and maintenance								<u>5,000</u>
TOTAL								\$ 47,700

ESTIMATED COST OF LOWER JACK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FeET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,125 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 15,000 acre-feet
Elevation of crest of spillway: 1,105 feet	Capacity of spillway with 5-foot freeboard: 25,000 second-feet
Height of dam to spillway crest, above stream bed: 115 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 10,000
Diversion of stream and dewatering of foundation		lump sum	3,000
Stripping topsoil	15,600 cu.yd.	\$ 0.40	6,200
Excavation			
Foundation	43,800 cu.yd.	0.90	39,400
From borrow pits	539,800 cu.yd.	0.41	221,300
Embankment			
Impervious	211,500 cu.yd.	0.16	33,800
Pervious	396,000 cu.yd.	0.12	47,500
Rock riprap	18,800 cu.yd.	2.00	37,600
Drilling grout holes	1,650 lin.ft.	3.00	5,000
Pressure grouting	1,100 cu.ft.	4.00	<u>4,400</u>
			\$ 408,200
Spillway			
Excavation, unclassified	124,800 cu.yd.	1.50	187,200
Concrete			
Weir and cutoff	740 cu.yd.	35.00	25,900
Floor	940 cu.yd.	30.00	28,200
Walls	410 cu.yd.	40.00	16,400
Reinforcing steel	163,000 lbs.	0.15	<u>24,500</u>
			282,200
Outlet Works			
Excavation			
Inlet and outlet structures	2,000 cu.yd.	1.50	3,000
Conduit	4,100 cu.yd.	2.00	8,200
Backfill	2,600 cu.yd.	1.50	3,900
Concrete			
Conduit and collars	1,265 cu.yd.	50.00	63,200
Inlet structure	100 cu.yd.	65.00	6,500
Gate chamber and valve house	140 cu.yd.	50.00	7,000
Reinforcing steel	79,000 lbs.	0.15	11,800
Miscellaneous metalwork	9,000 lbs.	0.40	3,600
Steel pipe, 36-inch dia.	41,000 lbs.	0.25	10,200
Gate valve, 24-inch dia.		lump sum	2,400

ESTIMATED COST OF LOWER JACK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
High pressure slide gates		lump sum	\$ 23,500
Howell-Bunger valve, 30-inch dia.		lump sum	<u>7,500</u> \$ 150,800
Reservoir			
Land and improvements		lump sum	73,400
Clearing reservoir lands		lump sum	37,500
Relocation of utilities		lump sum	5,000
Road relocation		lump sum	56,000
Access road		lump sum	<u>10,000</u> 181,900
Subtotal			\$1,023,100
Administration and engineering, 10%			\$ 102,300
Contingencies, 15%			153,500
Interest during construction			<u>25,600</u>
TOTAL			\$1,304,500
ANNUAL COSTS			
Interest, 3.5%			\$ 45,700
Amortization, 40-year sinking fund at 3.5%			15,400
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 66,100

ESTIMATED COST OF LOWER JACK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 25,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,150 feet U.S.G.S. datum	Capacity of reservoir to crest of spillway: 25,000 acre-feet
Elevation of crest of spillway: 1,130 feet	Capacity of spillway with 5-foot freeboard: 25,000 second-feet
Height of dam to spillway crest, above stream bed: 140 feet	

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 10,000
Diversion of stream and dewatering of foundation		lump sum	3,000
Stripping topsoil	21,700 cu.yd.	\$ 0.40	8,700
Excavation			
Foundation	63,400 cu.yd.	0.90	57,100
From borrow pits	953,000 cu.yd.	0.45	428,800
Embankment			
Impervious	331,000 cu.yd.	0.16	53,000
Pervious	645,000 cu.yd.	0.12	77,400
Rock riprap	24,900 cu.yd.	2.00	49,800
Drilling grout holes	2,000 lin.ft.	3.00	6,000
Pressure grouting	1,340 cu.ft.	4.00	5,400
			\$ 699,200
Spillway			
Excavation, unclassified	131,100 cu.yd.	1.50	196,600
Concrete			
Weir and cutoff	750 cu.yd.	35.00	26,200
Floor	1,070 cu.yd.	30.00	32,100
Walls	500 cu.yd.	40.00	20,000
Reinforcing steel	182,000 lbs.	0.15	27,300
			302,200
Outlet Works			
Excavation			
Inlet and outlet structures	2,000 cu.yd.	1.50	3,000
Conduit	4,400 cu.yd.	2.00	8,800
Backfill	3,000 cu.yd.	1.50	4,500
Concrete			
Conduit and collars	1,510 cu.yd.	50.00	75,500
Inlet structure	100 cu.yd.	65.00	6,500
Gate chamber and valve house	150 cu.yd.	50.00	7,500
Reinforcing steel	88,500 lbs.	0.15	13,300
Miscellaneous metalwork	9,600 lbs.	0.40	3,800
Steel pipe, 42-inch dia.	50,400 lbs.	0.25	12,600
Gate valve, 24-inch dia.		lump sum	2,400

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ESTIMATED COST OF LOWER JACK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 25,000 ACRE-FEET
(continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
High pressure slide gates		lump sum	\$ 23,500
Howell-Bunger valve, 36-inch dia.		lump sum	<u>9,000</u> \$ 170,400
Reservoir			
Land and improvements		lump sum	81,500
Clearing reservoir lands		lump sum	48,800
Relocation of utilities		lump sum	5,000
Road relocation		lump sum	56,000
Access road		lump sum	<u>10,000</u> 201,300
Subtotal			\$1,373,100
Administration and engineering, 10%			\$ 137,300
Contingencies, 15%			206,000
Interest during construction			<u>34,300</u>
TOTAL			\$1,750,700
ANNUAL COSTS			
Interest, 3.5%			\$ 61,300
Amortization, 40-year sinking fund at 3.5%			20,700
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 87,000

ESTIMATED COST OF SANTA RITA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 10,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,144 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 10,000 acre-feet
Elevation of crest of spillway: 1,129 feet	Capacity of spillway with 5-foot freeboard: 20,000 second-feet
Height of dam to spillway crest, above stream bed: 124 feet	

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 10,000
Diversion of stream and dewatering of foundation		lump sum	5,000
Stripping topsoil	4,800 cu.yd.	\$ 0.35	1,700
Excavation for embankment			
Foundation	52,000 cu.yd.	0.90	46,800
From borrow pits	174,000 cu.yd.	0.53	92,200
From stream bed	84,000 cu.yd.	0.45	37,800
Embankment			
Impervious	151,000 cu.yd.	0.16	24,200
Random	73,000 cu.yd.	0.12	8,800
Random, salvage	198,000 cu.yd.	0.20	39,600
Rock riprap	9,800 cu.yd.	3.00	29,400
Drilling grout holes	2,580 lin.ft.	3.00	7,700
Pressure grouting	1,720 cu.ft.	4.00	6,900
Gravel drains	6,720 cu.yd.	2.00	<u>13,400</u>
			\$ 323,500
Spillway			
Excavation, unclassified	181,000 cu.yd.	1.00	181,000
Concrete			
Weir and cutoff	710 cu.yd.	35.00	24,800
Floor	1,630 cu.yd.	30.00	48,900
Walls	460 cu.yd.	40.00	18,400
Reinforcing steel	223,900 lbs.	0.15	<u>33,600</u>
			306,700
Outlet Works			
Excavation	1,560 cu.yd.	2.00	3,100
Backfill	900 cu.yd.	1.50	1,400
Concrete			
Outlet structure	70 cu.yd.	60.00	4,200
Pipe encasement	270 cu.yd.	40.00	10,800
Reinforcing steel	34,000 lbs.	0.15	5,100
Miscellaneous metalwork	4,000 lbs.	0.40	1,600
Steel pipe, 30- and 36-inch dia.	59,800 lbs.	0.25	15,000
Howell-Bunger valve, 24-inch dia.		lump sum	7,800

ESTIMATED COST OF SANTA RITA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 10,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Gate valve, 18-inch dia. and actuators	3 each	\$2,000.00	\$ 6,000
Control house		lump sum	<u>2,000</u>
			\$ 57,000
Reservoir			
Land and improvements		lump sum	22,100
Clearing reservoir lands	260 ac.	150.00	39,000
Road relocation		lump sum	<u>120,000</u>
			<u>181,100</u>
Subtotal			\$ 868,300
Administration and engineering, 10%			\$ 86,800
Contingencies, 15%			136,200
Interest during construction			<u>21,700</u>
TOTAL			<u>\$1,107,000</u>
ANNUAL COSTS			
Interest, 3.5%			\$ 38,700
Amortization, 40-year sinking fund at 3.5%			13,100
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 56,800

ESTIMATED COST OF SANTA RITA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,158 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 15,000 acre-feet
Elevation of crest of spillway: 1,143 feet	Capacity of spillway with 5-foot freeboard: 20,000 second-feet
Height of dam to spillway crest, above stream bed: 138 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	7,500
Stripping topsoil	9,000 cu.yd.	\$ 0.35	3,200
Excavation for embankment			
Foundation	69,000 cu.yd.	0.90	62,100
From borrow pits	286,000 cu.yd.	0.53	151,600
From stream bed	332,000 cu.yd.	0.53	176,000
Embankment			
Impervious	249,000 cu.yd.	0.16	39,800
Random	288,000 cu.yd.	0.12	34,600
Random, salvage	129,000 cu.yd.	0.20	25,800
Rock riprap	14,500 cu.yd.	3.00	43,500
Drilling grout holes	3,100 lin.ft.	3.00	9,300
Pressure grouting	2,100 cu.ft.	4.00	8,400
Gravel drains	8,500 cu.yd.	2.00	17,000
			<u>\$ 593,800</u>
Spillway			
Excavation, unclassified	82,500 cu.yd.	1.00	82,500
Concrete			
Weir and cutoff	710 cu.yd.	35.00	24,800
Floor	1,340 cu.yd.	30.00	40,200
Walls	350 cu.yd.	40.00	14,000
Reinforcing steel	189,900 lbs.	0.15	28,500
			<u>190,000</u>
Outlet Works			
Excavation	2,310 cu.yd.	2.00	4,600
Backfill	1,500 cu.yd.	1.50	2,200
Concrete			
Inlet structure	120 cu.yd.	60.00	7,200
Pipe encasement	480 cu.yd.	40.00	19,200
Reinforcing steel	54,000 lbs.	0.15	8,100
Miscellaneous metalwork	4,000 lbs.	0.40	1,600
Steel pipe, 36- and 40-inch dia.	104,700 lbs.	0.25	26,200
Howell-Bunger valve, 30-inch dia.		lump sum	9,200

ESTIMATED COST OF SANTA RITA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Gate valve, 18-inch dia. and actuators	4 each	\$2,000.00	\$ 8,000
Control house		lump sum	<u>2,000</u>
			\$ 88,300
Reservoir			
Land and improvements		lump sum	27,700
Clearing reservoir lands	340 ac.	150.00	51,000
Road relocation		lump sum	<u>150,000</u>
			<u>228,700</u>
Subtotal			\$1,100,800
Administration and engineering, 10%			\$ 110,100
Contingencies, 15%			165,100
Interest during construction			<u>27,500</u>
TOTAL			\$1,403,500
ANNUAL COSTS			
Interest, 3.5%			\$ 49,100
Amortization, 40-year sinking fund at 3.5%			16,600
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 70,700

ESTIMATED COST OF SAN MIGUELITO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 50,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,250 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 50,000 acre-feet
Elevation of crest of spillway: 1,236 feet	Capacity of spillway with 4.5-foot freeboard: 49,000 second-feet
Height of dam to spillway crest, above stream bed: 126 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 25,000
Diversion of stream and dewatering of foundation		lump sum	20,000
Stripping topsoil	71,300 cu.yd.	\$ 0.90	64,200
Excavation for embankment			
Foundation	103,600 cu.yd.	1.30	134,700
From borrow pits	305,300 cu.yd.	0.75	229,000
From stream bed	226,100 cu.yd.	0.45	101,700
Embankment			
Impervious	259,500 cu.yd.	0.16	41,500
Pervious	226,100 cu.yd.	0.12	27,100
Pervious, salvage	139,900 cu.yd.	0.20	28,000
Rock riprap	12,700 cu.yd.	2.50	31,800
Drilling grout holes	6,360 lin.ft.	3.00	19,100
Pressure grouting	4,240 cu.ft.	4.00	17,000
			\$ 739,100
Spillway			
Excavation, unclassified	125,000 cu.yd.	1.00	125,000
Concrete			
Weir and cutoff	2,020 cu.yd.	35.00	70,700
Floor	330 cu.yd.	30.00	9,900
Walls	120 cu.yd.	40.00	4,800
Reinforcing steel	169,600 lbs.	0.15	25,400
			235,800
Outlet Works			
Excavation			
Inlet and outlet structures	1,000 cu.yd.	2.00	2,000
Conduit	3,110 cu.yd.	3.00	9,300
Backfill	610 cu.yd.	1.50	900
Concrete			
Conduit and collars	1,080 cu.yd.	50.00	54,000
Inlet structures	150 cu.yd.	60.00	9,000
Gate chamber and valve house	300 cu.yd.	50.00	15,000
Reinforcing steel	153,000 lbs.	0.15	23,000
Miscellaneous metalwork	11,200 lbs.	0.40	4,500
Steel pipe, 30-inch dia.	45,400 lbs.	0.25	11,400

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ESTIMATED COST OF SAN MIGUELITO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 50,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
High pressure slide gate	20,000 lbs.	\$ 0.50	\$ 10,000
Howell-Bunger valve, 24-inch dia.		lump sum	<u>7,800</u> \$ 146,900
Reservoir			
Land and improvements		lump sum	23,000
Clearing reservoir lands	2,190 ac.	80.00	175,200
Access road		lump sum	<u>40,000</u> 238,200
Subtotal			\$1,360,000
Administration and engineering, 10%			\$ 136,000
Contingencies, 15%			204,000
Interest during construction			<u>34,000</u>
TOTAL			\$1,734,000
ANNUAL COSTS			
Interest, 3.5%			\$ 60,700
Amortization, 40-year sinking fund at 3.5%			20,500
Operation and maintenance			<u>7,500</u>
TOTAL			\$ 88,700

ESTIMATED COST OF SAN MIGUELITO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 130,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,285 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 130,000 acre-feet
Elevation of crest of spillway: 1,268 feet	Capacity of spillway with 5-foot freeboard: 38,600 second-feet
Height of dam to spillway crest, above stream bed: 158 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 35,000
Diversion of stream and dewatering of foundation		lump sum	25,000
Stripping topsoil	125,900 cu.yd.	\$ 0.90	113,300
Excavation for embankment			
Foundation	134,700 cu.yd.	1.30	175,100
From borrow pits	497,600 cu.yd.	0.75	373,200
From stream bed	642,000 cu.yd.	0.50	321,000
Embankment			
Impervious	423,000 cu.yd.	0.16	67,700
Pervious	642,000 cu.yd.	0.12	77,000
Pervious, salvage	208,500 cu.yd.	0.20	41,700
Rock riprap	24,800 cu.yd.	2.50	62,000
Drilling grout holes	7,560 lin.ft.	3.00	22,700
Pressure grouting	5,040 cu.ft.	4.00	<u>20,200</u>
			\$1,333,900
Auxiliary Dam			
Stripping	118,700 cu.yd.	0.90	106,800
Excavation for embankment	475,000 cu.yd.	0.30	142,500
Embankment	403,800 cu.yd.	0.20	80,800
Rock riprap	26,900 cu.yd.	2.50	<u>67,200</u>
			397,300
Spillway			
Excavation, unclassified	68,900 cu.yd.	1.00	68,900
Concrete			
Weir and cutoff	1,120 cu.yd.	35.00	39,200
Floor	180 cu.yd.	30.00	5,400
Walls	260 cu.yd.	40.00	10,400
Reinforcing steel	110,200 lbs.	0.15	<u>16,500</u>
			140,400
Outlet Works			
Excavation			
Inlet and outlet structures	2,000 cu.yd.	2.00	4,000
Conduit	5,440 cu.yd.	3.00	16,300
Backfill	870 cu.yd.	1.50	1,300

ESTIMATED COST OF SAN MIGUELITO DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 130,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Concrete			
Conduit and collars	1,670 cu.yd.	\$50.00	\$ 83,500
Inlet structure	150 cu.yd.	60.00	9,000
Gate chamber and valve house	300 cu.yd.	50.00	15,000
Reinforcing steel	212,000 lbs.	0.15	31,800
Miscellaneous metalwork	14,000 lbs.	0.40	5,600
Steel pipe, 36-inch dia.	78,000 lbs.	0.25	19,500
High pressure slide gate	30,000 lbs.	0.50	15,000
Howell-Bunger valve, 30-inch dia.		lump sum	<u>9,200</u>
			\$ 210,200
Reservoir			
Land and improvements		lump sum	38,000
Clearing reservoir lands	3,440 ac.	60.00	206,400
Access road		lump sum	<u>40,000</u>
			<u>284,400</u>
Subtotal			\$2,366,200
Administration and engineering, 10%			\$ 236,600
Contingencies, 15%			354,900
Interest during construction			<u>59,200</u>
TOTAL			\$3,016,900
ANNUAL COSTS			
Interest, 3.5%			\$ 105,600
Amortization, 40-year sinking fund at 3.5%			35,700
Operation and maintenance			<u>14,300</u>
TOTAL			\$ 155,600

ESTIMATED COST OF JARRETT SHUT-IN DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 30,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 1,063 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 30,000 acre-feet
Elevation of crest of spillway: 1,044 feet	Capacity of spillway with 3-foot freeboard: 75,000 second-feet
Height of dam to spillway crest, above stream bed: 144 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Arch Dam			
Exploration		lump sum	\$ 30,000
Diversion of stream and dewatering of foundation		lump sum	40,000
Excavation, rock			
Channel	2,600 cu.yd.	\$ 3.00	7,800
Abutments	6,500 cu.yd.	5.00	32,500
Concrete, arch	17,800 cu.yd.	20.00	356,000
Cooling concrete	17,800 cu.yd.	0.50	8,900
Drilling grout holes	4,800 lin.ft.	3.00	14,400
Pressure grouting	3,200 cu.ft.	4.00	12,800
			\$ 502,400
Auxiliary Slab and Buttress Dam			
Excavation, rock	6,200 cu.yd.	4.00	24,800
Concrete	650 cu.yd.	45.00	29,200
Reinforcing steel	71,500 lbs.	0.15	10,700
			64,700
Spillway			
Excavation, unclassified	80,000 cu.yd.	1.50	120,000
Concrete			
Weir and cutoff	3,770 cu.yd.	35.00	132,000
Floor	3,180 cu.yd.	30.00	95,400
Walls	940 cu.yd.	40.00	37,600
Reinforcing steel	591,000 lbs.	0.15	88,600
			473,600
Outlet Works			
Miscellaneous metalwork	30,500 lbs.	0.40	12,200
Steel pipe, 36-inch dia.	3,900 lbs.	0.25	1,000
High pressure slide gate		lump sum	14,500
Howell-Bunger valve, 30-inch dia.		lump sum	9,200
			36,900

ESTIMATED COST OF JARRETT SHUT-IN DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 30,000 ACRE-FEET
 (continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Reservoir			
Land and improvements		lump sum	\$ 10,000
Clearing reservoir lands	760 ac.	\$180.00	136,800
Road relocation		lump sum	50,000
Access road		lump sum	<u>87,500</u>
Subtotal			<u>\$1,361,900</u>
Administration and engineering, 10%			136,200
Contingencies, 15%			204,300
Interest during construction			<u>34,000</u>
TOTAL			<u>\$1,736,400</u>
ANNUAL COSTS			
Interest, 3.5%			\$ 60,800
Amortization, 40-year sinking fund at 3.5%			20,500
Operation and maintenance			<u>5,500</u>
TOTAL			<u>\$ 86,800</u>

**ESTIMATED COST OF JARRETT SHUT-IN DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 75,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of arch dam: 1,113 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 75,000 acre-feet
Elevation of crest of spillway: 1,093 feet	Capacity of spillway with freeboard of 3 feet at arch and 5 feet at
Height of arch dam to spillway crest, above stream bed: 193 feet	auxiliary dams: 71,600 sec.-feet

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Arch Dam			
Exploration		lump sum	\$ 40,000
Diversion of stream and dewatering of foundation		lump sum	40,000
Excavation, rock			
Channel	2,400 cu.yd.	\$ 3.00	7,200
Abutments	13,500 cu.yd.	5.00	67,500
Concrete, arch	45,000 cu.yd.	20.00	900,000
Cooling concrete	45,000 cu.yd.	0.50	22,500
Drilling grout holes	5,600 lin.ft.	3.00	16,800
Pressure grouting	3,700 cu.ft.	4.00	<u>14,800</u>
			\$1,108,800
Auxiliary Earthfill Dam			
Excavation for embankment			
Foundation	98,000 cu.ft.	0.60	58,800
From borrow pits	301,000 cu.yd.	0.45	135,400
From stream bed	151,800 cu.yd.	0.40	60,700
Embankment			
Impervious	261,000 cu.yd.	0.16	41,800
Pervious	132,000 cu.yd.	0.12	15,800
Pervious, salvage	158,000 cu.yd.	0.20	31,600
Rock riprap	25,000 cu.yd.	2.30	<u>57,500</u>
			401,600
Auxiliary Gravity Dam			
Excavation, rock	2,100 cu.yd.	2.00	4,200
Concrete	3,000 cu.yd.	20.00	<u>60,000</u>
			64,200
Spillway			
Excavation, unclassified	138,000 cu.yd.	1.50	207,000
Concrete			
Weir and cutoff	4,690 cu.yd.	35.00	164,200
Floor	6,110 cu.yd.	30.00	183,300
Walls	1,510 cu.yd.	40.00	60,400
Reinforcing steel	952,000 lbs.	0.15	<u>142,800</u>
			757,700

ESTIMATED COST OF JARRETT SHUT-IN DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 75,000 ACRE-FEET
(continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works			
Miscellaneous metalwork	69,000 lbs.	\$ 0.40	\$ 27,600
Steel pipe, 30-inch dia.	6,500 lbs.	0.25	1,600
High pressure slide gates		lump sum	23,500
Howell-Bunger valves, 24-inch dia.		lump sum	15,600
			\$ 68,300
Reservoir			
Land and improvements		lump sum	20,000
Clearing reservoir lands	1,850 ac.	160.00	296,000
Road relocation		lump sum	75,000
Access road		lump sum	87,500
			<u>478,500</u>
Subtotal			\$2,879,100
Administration and engineering, 10%			\$ 287,900
Contingencies, 15%			431,900
Interest during construction			<u>144,000</u>
TOTAL			\$3,742,900
ANNUAL COSTS			
Interest, 3.5%			\$ 131,000
Amortization, 40-year sinking fund at 3.5%			44,300
Operation and maintenance			<u>10,000</u>
TOTAL			\$ 185,300

ESTIMATED COST OF JARRETT SHUT-IN DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 110,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of arch dam: 1,113 feet, Capacity of reservoir to crest of
U.S.G.S. datum spillway: 110,000 acre-feet
Elevation of crest of spillway: 1,114 feet Capacity of spillway with freeboard
Height of arch dam to spillway crest, above of 3 feet at arch and 5 feet at
stream bed: 214 feet auxiliary dams: 70,000 sec.-feet

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Arch Dam			
Exploration		lump sum	\$ 50,000
Diversion of stream and dewatering of foundation		lump sum	40,000
Excavation, rock			
Channel	3,200 cu.yd.	\$ 3.00	9,600
Abutments	16,600 cu.yd.	5.00	83,000
Concrete, arch	54,000 cu.yd.	20.00	1,080,000
Cooling concrete	54,000 cu.yd.	0.50	27,000
Drilling grout holes	6,200 lin.ft.	3.00	18,600
Pressure grouting	4,200 cu.ft.	4.00	16,800
			<u>\$1,325,000</u>
Auxiliary Earthfill Dam			
Excavation for embankment			
Foundation	150,000 cu.yd.	0.60	90,000
From borrow pits	535,000 cu.yd.	0.60	321,000
From stream bed	550,800 cu.yd.	0.55	302,900
Embankment			
Impervious	465,000 cu.yd.	0.16	74,400
Pervious	479,000 cu.yd.	0.12	57,500
Pervious, salvage	128,000 cu.yd.	0.20	25,600
Rock riprap	30,000 cu.yd.	2.30	69,000
			<u>940,400</u>
Spillway			
Excavation, unclassified	66,000 cu.yd.	1.50	99,000
Concrete			
Weir and cutoff	7,120 cu.yd.	35.00	249,200
Floor	3,500 cu.yd.	30.00	105,000
Walls	1,890 cu.yd.	45.00	85,000
Reinforcing steel	509,000 lbs.	0.15	76,400
			<u>614,600</u>
Outlet Works			
Miscellaneous metalwork	75,000 lbs.	0.40	30,000
Steel pipe, 30- and 36-inch dia.	7,200 lbs.	0.25	1,800

ESTIMATED COST OF JARRETT SHUT-IN DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 110,000 ACRE-FEET
 (continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
High pressure slide gates		lump sum	\$ 28,500
Howell-Bunger valves			
24-inch dia.		lump sum	7,800
30-inch dia.		lump sum	<u>9,200</u>
			77,300
Reservoir			
Land and improvements		lump sum	30,000
Clearing reservoir lands	2,610 ac.	\$140.00	365,400
Road relocation		lump sum	100,000
Access road		lump sum	<u>87,500</u>
			\$ 582,900
Subtotal			\$3,540,200
Administration and engineering, 10%			\$ 354,000
Contingencies, 15%			531,000
Interest during construction			<u>265,500</u>
TOTAL			\$4,690,700
ANNUAL COSTS			
Interest, 3.5%			\$ 164,200
Amortization, 40-year sinking fund at 3.5%			55,500
Operation and maintenance			<u>13,000</u>
TOTAL			\$ 232,700

ESTIMATED COST OF BALD TOP DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 860 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 20,000 acre-feet
Elevation of crest of spillway: 845 feet	Capacity of spillway with 5-foot freeboard: 7,600 second-feet
Height of dam to spillway crest, above stream bed: 175 feet	

Item	Quantity	Unit price	Cost
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CAPITAL COSTS

Dam

Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	10,000
Stripping topsoil	39,300 cu.yd.	0.40	15,700
Excavation for embankment			
Foundation	73,900 cu.yd.	\$ 0.80	59,100
From borrow pits	467,000 cu.yd.	0.45	210,200
From stream bed	1,130,200 cu.yd.	0.40	452,100
Embankment			
Impervious	406,100 cu.yd.	0.16	65,000
Random	982,800 cu.yd.	0.12	117,900
Random, salvage	83,000 cu.yd.	0.20	16,600
Rock riprap	43,200 cu.yd.	4.00	172,800
Drilling grout holes	5,760 lin.ft.	3.00	17,300
Pressure grouting	3,840 cu.ft.	4.00	15,400
Gravel drains	13,800 cu.yd.	3.00	41,400
			\$1,208,500

Spillway

Excavation, unclassified	37,000 cu.yd.	1.20	44,400
Concrete			
Weir and cutoff	200 cu.yd.	35.00	7,000
Floor	1,040 cu.yd.	30.00	31,200
Walls	690 cu.yd.	40.00	27,600
Reinforcing steel	160,000 lbs.	0.15	24,000
			134,200

Outlet Works

Excavation			
Inlet and outlet structures	300 cu.yd.	1.00	300
Conduit	6,100 cu.yd.	2.00	12,200
Backfill	1,000 cu.yd.	1.50	1,500
Concrete			
Conduit	1,720 cu.yd.	50.00	86,000
Inlet structure	50 cu.yd.	60.00	3,000
Gate chamber and valve house	50 cu.yd.	50.00	2,500

ESTIMATED COST OF BALD TOP DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET
(continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	182,000 lbs.	\$ 0.15	\$ 27,300
Miscellaneous metalwork	10,300 lbs.	0.40	4,100
Steel pipe, 30-inch dia.	75,600 lbs.	0.25	18,900
High pressure slide gate	16,000 lbs.	0.50	8,000
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	<u>9,600</u>
			\$ 181,200
Reservoir			
Land and improvements		lump sum	27,000
Clearing reservoir lands	250 ac.	240.00	60,000
Access road		lump sum	<u>153,000</u>
			\$ 240,000
Subtotal			\$1,763,900
Administration and engineering, 10%			\$ 176,400
Contingencies, 15%			264,600
Interest during construction			<u>44,100</u>
TOTAL			\$2,249,000
ANNUAL COSTS			
Interest, 3.5%			\$ 78,700
Amortization, 40-year sinking fund at 3.5%			26,600
Operation and maintenance			<u>6,000</u>
TOTAL			\$ 111,300

**ESTIMATED COST OF UPPER RAGGED POINT DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 30,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 320 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 30,000 acre-feet
Elevation of crest of spillway: 300 feet	Capacity of spillway with 5-foot freeboard: 15,000 second-feet
Height of dam to spillway crest, above stream bed: 230 feet	

Item	Quantity	Unit	Price	Cost
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CAPITAL COSTS

Dam

Exploration		lump sum		\$ 15,000
Diversion of stream and dewatering of foundation		lump sum		200,000
Stripping topsoil	52,800 cu.yd.	\$ 0.40		21,100
Excavation for embankment				
Foundation	188,100 cu.yd.	0.70		131,700
From borrow pits	1,440,700 cu.yd.	0.67		965,300
From stream bed	2,855,100 cu.yd.	0.50		1,427,600
Embankment				
Impervious	1,252,800 cu.yd.	0.16		200,400
Pervious	2,482,700 cu.yd.	0.12		297,900
Pervious, salvage	206,000 cu.yd.	0.20		41,200
Rock riprap	65,000 cu.yd.	3.50		227,500
Drilling grout holes	6,060 lin.ft.	3.00		18,200
Pressure grouting	4,040 cu.ft.	4.00		16,200
				\$3,562,100

Spillway

Excavation, unclassified	80,900 cu.yd.	1.50		121,400
Concrete				
Weir and cutoff	200 cu.yd.	35.00		7,000
Floor	1,300 cu.yd.	30.00		39,000
Walls	960 cu.yd.	40.00		38,400
Reinforcing steel	205,000 lbs.	0.15		30,800
				236,600

Outlet Works

Excavation				
Inlet and outlet structures	1,000 cu.yd.	1.00		1,000
Conduit	10,080 cu.yd.	2.00		20,200
Backfill	9,960 cu.yd.	1.50		14,900
Concrete				
Conduit	2,620 cu.yd.	50.00		131,000
Inlet structure	150 cu.yd.	60.00		9,000
Gate chamber and valve house	280 cu.yd.	50.00		14,000

ESTIMATED COST OF UPPER RAGGED POINT DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 30,000 ACRE-FEET
(continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	305,000 lbs.	\$ 0.15	\$ 45,800
Miscellaneous metalwork	20,000 lbs.	0.40	8,000
Steel pipe, 42-inch dia.	135,000 lbs.	0.25	33,800
High pressure slide gate	25,000 lbs.	0.50	12,500
Howell-Bunger valve, 36-inch dia.		lump sum	10,300
Needle valve, 30-inch dia.		lump sum	9,600
			\$ 310,100
Reservoir			
Land and improvements		lump sum	30,000
Clearing reservoir lands	255 ac	120.00	30,600
Relocation of utilities		lump sum	60,600
			\$4,169,400
			\$ 416,900
			625,400
			208,500
TOTAL			\$5,420,200
ANNUAL COSTS			
Interest, 3.5%			\$ 189,700
Amortization, 40-year sinking fund at 3.5%			64,100
Operation and maintenance			6,000
TOTAL			\$ 259,800

**ESTIMATED COST OF UPPER YELLOW HILL DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 150 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 20,000 acre feet
Elevation of crest of spillway: 135 feet	Capacity of spillway with 6-foot freeboard: 16,200 second-feet
Height of dam to spillway crest, above stream bed: 95 feet	

Item	Quantity	Unit	price	Cost
CAPITAL COSTS				
Dam				
Exploration		lump sum		\$ 10,000
Diversion of stream and dewatering of foundation		lump sum		5,000
Stripping topsoil	34,400 cu.yd.		\$ 0.40	13,800
Excavation for embankment				
Foundation	135,900 cu.yd.		0.70	95,100
From borrow pits	378,400 cu.yd.		0.45	170,300
From stream bed	450,700 cu.yd.		0.35	157,700
Embankment				
Impervious	329,000 cu.yd.		0.16	52,600
Random	391,900 cu.yd.		0.12	47,000
Random, salvage	104,700 cu.yd.		0.20	20,900
Rock riprap	24,200 cu.yd.		3.50	84,700
Drilling grout holes	11,760 lin.ft.		3.00	35,300
Pressure grouting	7,840 cu.ft.		4.00	31,400
Gravel drains	12,700 cu.yd.		2.50	<u>31,800</u>
Auxiliary Dam				\$ 755,600
Excavation for foundation	2,760 cu.yd.		0.70	1,900
Excavation for embankment	8,490 cu.yd.		0.45	3,800
Embankment impervious	7,380 cu.yd.		0.15	1,100
Rock riprap	750 cu.yd.		3.50	<u>2,600</u>
				9,400
Spillway				
Excavation, unclassified	40,100 cu.yd.		0.90	36,100
Concrete				
Weir and cutoff	560 cu.yd.		35.00	19,600
Floor	1,130 cu.yd.		30.00	33,900
Walls	190 cu.yd.		40.00	7,600
Reinforcing steel	149,000 lbs.		0.15	<u>22,400</u>
				119,600
Outlet Works				
Excavation				
Inlet and outlet structures	300 cu.yd.		1.00	300
Conduit	2,780 cu.yd.		2.00	5,600
Backfill	430 cu.yd.		1.50	600

ESTIMATED COST OF UPPER YELLOW HILL DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET
(continued)

Item	Quantity	Unit	price	Cost
CAPITAL COSTS				
Outlet Works (continued)				
Concrete				
Conduit	780 cu.yd.		\$50.00	\$ 39,000
Inlet structure	50 cu.yd.		60.00	3,000
Gate chamber and valve house	50 cu.yd.		50.00	25,000
Reinforcing steel	88,000 lbs.		0.15	13,200
Miscellaneous metalwork	10,300 lbs.		0.40	4,100
Steel pipe, 30-inch dia.	34,600 lbs.		0.25	8,600
High pressure slide gate	12,000 lbs.		0.50	6,000
Howell-Bunger valve, 24-inch dia.			lump sum	7,800
Needle valve, 30-inch dia.			lump sum	9,600
				\$ 100,300
Reservoir				
Land and improvements			lump sum	55,000
Clearing reservoir lands	410 ac.		180.000	73,800
				128,800
Subtotal				\$1,113,700
Administration and engineering, 10%				\$ 111,400
Contingencies, 15%				167,100
Interest during construction				27,800
TOTAL				\$1,420,000
ANNUAL COSTS				
Interest, 3.5%				\$ 49,700
Amortization, 40-year sinking fund at 3.5%				16,800
Operation and maintenance				5,000
TOTAL				\$ 71,500

**ESTIMATED COST OF YELLOW HILL DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 50,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 192 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 50,000 acre-feet
Elevation of crest of spillway: 177 feet	Capacity of spillway with 5-foot freeboard: 13,900 second-feet
Height of dam to spillway crest, above stream bed: 147 feet	

Item	Quantity	Unit price	Cost	
CAPITAL COSTS				
Dam				
Exploration		lump sum	\$ 12,500	
Diversion of stream and dewatering of foundation		lump sum	7,500	
Stripping topsoil	56,600 cu.yd.	\$ 0.40	22,600	
Excavation for embankment				
Foundation	235,900 cu.yd.	0.70	165,100	
From borrow pits	808,300 cu.yd.	0.70	565,800	
From stream bed	1,207,500 cu.yd.	0.60	724,500	
Embankment				
Impervious	702,900 cu.yd.	0.16	112,500	
Random	1,050,000 cu.yd.	0.12	126,000	
Random, salvage	322,600 cu.yd.	0.20	64,500	
Rock riprap	40,200 cu.yd.	3.50	140,700	
Drilling grout holes	12,360 lin.ft.	3.00	37,100	
Pressure grouting	8,240 cu.ft.	4.00	33,000	
Gravel drains	26,800 cu.yd.	2.50	67,000	\$2,078,800
Spillway				
Excavation, unclassified	194,300 cu.yd.	1.20	233,200	
Concrete				
Weir and cutoff	420 cu.yd.	35.00	14,700	
Floor	1,160 cu.yd.	30.00	34,800	
Walls	540 cu.yd.	40.00	21,600	
Reinforcing steel	171,800 lbs.	0.15	25,800	330,100
Outlet Works				
Excavation				
Inlet and outlet structures	300 cu.yd.	1.00	300	
Conduit	6,060 cu.yd.	2.00	12,100	
Backfill	2,390 cu.yd.	1.50	3,600	
Concrete				
Conduit	1,490 cu.yd.	50.00	74,500	
Inlet structure	200 cu.yd.	60.00	12,000	
Gate chamber and valve house	300 cu.yd.	50.00	16,500	

ESTIMATED COST OF YELLOW HILL DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 50,000 ACRE-FEET
 (continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	202,000 lbs.	\$ 0.15	\$ 30,300
Miscellaneous metalwork	23,100 lbs.	0.40	9,200
Steel pipe, 48-inch dia.	90,500 lbs.	0.25	22,600
High pressure slide gate	30,000 lbs.	0.50	15,000
Howell-Bunger valve, 36-inch dia.		lump sum	10,300
Needle valve, 42-inch dia.		lump sum	21,000
			\$ 227,400
Reservoir			
Land and improvements		lump sum	74,000
Clearing reservoir lands	625 ac.	180.00	112,500
			186,500
Subtotal			\$2,822,800
Administration and engineering, 10%			\$ 282,300
Contingencies, 15%			423,400
Interest during construction			70,600
			70,600
TOTAL			\$3,599,100
ANNUAL COSTS			
Interest, 3.5%			\$ 126,000
Amortization, 40-year sinking fund at 3.5%			42,600
Operation and maintenance			7,500
			7,500
TOTAL			\$ 176,100

ESTIMATED COST OF YELLOW HILL DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 80,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 234 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 80,000 acre-feet
Elevation of crest of spillway: 220 feet	Capacity of spillway with 5-foot freeboard: 11,900 second-feet
Height of dam to spillway crest, above stream bed: 190 feet	

Item	Quantity	Unit	price	Cost
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CAPITAL COSTS

Dam

Exploration		lump sum		\$ 15,000
Diversion of stream and dewatering of foundation		lump sum		10,000
Stripping topsoil	107,200 cu.yd.	\$ 0.40		42,900
Excavation for embankment				
Foundation	368,200 cu.yd.	0.70		257,700
From borrow pits	1,308,200 cu.yd.	0.70		915,700
From stream bed	3,025,800 cu.yd.	0.60		1,815,500
Embankment				
Impervious	1,137,600 cu.yd.	0.16		182,000
Random	2,631,100 cu.yd.	0.12		315,700
Random, salvage	346,500 cu.yd.	0.20		69,300
Rock riprap	78,900 cu.yd.	3.50		276,200
Drilling grout holes	13,560 lin.ft.	3.00		40,700
Pressure grouting	9,040 cu.ft.	4.00		36,200
Gravel drains	34,000 cu.yd.	2.50		85,000
				\$4,061,900

Spillway

Excavation, unclassified	93,700 cu.yd.	1.20		112,400
Concrete				
Weir and cutoff	410 cu.yd.	35.00		14,400
Floor	1,270 cu.yd.	30.00		38,100
Walls	510 cu.yd.	40.00		20,400
Reinforcing steel	178,000 lbs.	0.15		26,700
				212,000

Outlet Works

Excavation				
Inlet and outlet structures	500 cu.yd.	1.00		500
Conduit	11,900 cu.yd.	2.00		23,800
Backfill	6,020 cu.yd.	1.50		9,000
Concrete				
Conduit	2,620 cu.yd.	50.00		131,000
Inlet structure	320 cu.yd.	60.00		19,200
Gate chamber and valve house	430 cu.yd.	50.00		21,500

ESTIMATED COST OF YELLOW HILL DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 80,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	337,000 lbs.	\$ 0.15	\$ 50,600
Miscellaneous metalwork	38,000 lbs.	0.40	15,200
Steel pipe, 60-inch dia.	178,500 lbs.	0.25	44,600
High pressure slide gate	62,000 lbs.	0.50	31,000
Howell-Bunger valve, 48-inch dia.		lump sum	13,500
Needle valve, 54-inch dia.		lump sum	<u>55,000</u>
			\$ 411,900
Reservoir			
Land and improvements		lump sum	93,000
Clearing reservoir lands	790 ac.	180.00	<u>142,200</u>
			235,200
Subtotal			\$4,924,000
Administration and engineering, 10%			\$ 492,400
Contingencies, 15%			738,600
Interest during construction			<u>246,200</u>
TOTAL			\$6,401,200
ANNUAL COSTS			
Interest, 3.5%			\$ 224,000
Amortization, 40-year sinking fund at 3.5%			75,700
Operation and maintenance			<u>10,500</u>
TOTAL			\$ 310,200

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AM 02552

ESTIMATED COST OF SAN'SIMEON DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 60,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 237 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 60,000 acre-feet
Elevation of crest of spillway: 224 feet	Capacity of spillway with 5-foot freeboard: 6,900 second-feet
Height of dam to spillway crest, above stream bed: 169 feet	

Item	Quantity	Unit	price	Cost
CAPITAL COSTS				
Dam				
Exploration		lump sum		\$ 20,000
Diversion of stream and dewatering of foundation		lump sum		10,000
Stripping topsoil	91,700 cu.yd.		\$ 0.40	36,700
Excavation of embankment				
Foundation	303,300 cu.yd.		0.70	212,300
From borrow pits	1,507,600 cu.yd.		0.55	829,200
From stream bed	2,887,000 cu.yd.		0.53	1,530,100
Embankment				
Impervious	1,311,000 cu.yd.		0.16	209,800
Random	2,510,400 cu.yd.		0.12	301,200
Random, salvage	272,000 cu.yd.		0.20	54,400
Rock riprap	88,300 cu.yd.		3.50	309,000
Drilling grout holes	14,040 lin.ft.		3.00	42,100
Pressure grouting	9,360 cu.ft.		4.00	37,400
Gravel drains	30,000 cu.yd.		2.50	75,000
				\$3,667,200
Spillway				
Excavation, unclassified	89,400 cu.yd.		1.00	89,400
Concrete				
Weir and cutoff	240 cu.yd.		35.00	8,400
Floor	1,630 cu.yd.		30.00	48,900
Walls	780 cu.yd.		40.00	31,200
Reinforcing steel	220,000 lbs.		0.15	33,000
				210,900
Outlet Works				
Excavation				
Inlet and outlet structures	700 cu.yd.		\$ 1.00	\$ 700
Conduit	7,900 cu.yd.		2.00	15,800
Backfill	3,000 cu.yd.		1.50	4,500
Concrete				
Conduit	1,950 cu.yd.		50.00	97,500
Inlet structure	200 cu.yd.		60.00	12,000
Gate chamber and valve house	330 cu.yd.		50.00	16,500

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AM 02553

ESTIMATED COST OF SAN SIMEON DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 60,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	248,000 lbs.	\$ 0.15	\$ 37,200
Miscellaneous metalwork	29,000 lbs.	0.40	11,600
Steel pipe, 48-inch dia.	108,600 lbs.	0.25	27,200
High pressure slide gate	39,000 lbs.	0.50	19,500
Howell-Bunger valve, 36-inch dia.		lump sum	10,300
Needle valve, 36-inch dia.		lump sum	<u>14,000</u>
			\$ 266,800
Reservoir			
Land and improvements		lump sum	302,000
Clearing reservoir lands	750 ac.	100.00	75,000
Relocation of utilities		lump sum	20,000
Road relocation		lump sum	<u>315,000</u>
			<u>712,000</u>
Subtotal			\$4,856,900
Administration and engineering, 10%			\$ 485,700
Contingencies, 15%			728,500
Interest during construction			<u>242,800</u>
TOTAL			\$6,313,900
ANNUAL COSTS			
Interest, 3.5%			\$ 221,000
Amortization, 40-year sinking fund at 3.5%			74,700
Operation and maintenance			<u>8,500</u>
TOTAL			\$ 304,200

ESTIMATED COST OF SANTA ROSA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 393 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 15,000 acre-feet
Elevation of crest of spillway: 378 feet	Capacity of spillway with 6-foot freeboard: 7,400 second-feet
Height of dam to spillway crest, above stream bed: 138 feet	

Item	Quantity	Unit price	Cost
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CAPITAL COSTS

Dam

Exploration		lump sum	\$ 10,000
Diversion of stream and dewatering of foundation		lump sum	10,000
Stripping topsoil	23,000 cu.yd.	\$ 0.40	9,200
Excavation for embankment			
Foundation	50,600 cu.yd.	0.90	45,500
From borrow pits	222,000 cu.yd.	0.60	133,200
From stream bed	347,100 cu.yd.	0.50	173,600
Embankment			
Impervious	193,000 cu.yd.	0.15	30,900
Random	301,800 cu.yd.	0.12	36,200
Random, salvage	141,200 cu.yd.	0.20	28,200
Rock riprap	15,100 cu.yd.	3.50	52,800
Drilling grout holes	3,400 lin.ft.	3.00	10,200
Pressure grouting	2,300 cu.ft.	4.00	9,200
Gravel drains	8,000 cu.yd.	3.00	<u>24,000</u>
			\$ 573,000

Spillway

Excavation, unclassified	137,600 cu.yd.	1.20	165,100
Concrete			
Weir and cutoff	330 cu.yd.	35.00	11,600
Floor	400 cu.yd.	30.00	13,200
Walls	460 cu.yd.	40.00	18,400
Reinforcing steel	98,000 lbs.	0.15	<u>14,700</u>
			223,000

Outlet Works

Excavation			
Inlet and outlet structures	1,000 cu.yd.	1.00	1,000
Conduit	4,300 cu.yd.	2.00	8,600
Backfill	600 cu.yd.	1.50	900
Concrete			
Conduit	1,195 cu.yd.	50.00	59,800
Inlet structure	70 cu.yd.	60.00	4,200
Gate chamber and valve house	80 cu.yd.	50.00	4,000

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AM 02555

ESTIMATED COST OF SANTA ROSA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 15,000 ACRE-FEET
(continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	142,500 lbs.	\$ 0.15	\$ 21,400
Miscellaneous metalwork	12,800 lbs.	0.40	5,100
Steel pipe, 30-inch dia.	54,000 lbs.	0.25	13,500
High pressure slide gate	14,000 lbs.	0.50	7,000
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	<u>9,600</u>
			\$ 142,900
Reservoir			
Land and improvements		lump sum	230,000
Clearing reservoir lands	250 ac.	50.00	12,500
Relocation of utilities		lump sum	25,000
Road relocation		lump sum	<u>400,000</u>
			<u>667,500</u>
Subtotal			\$1,606,400
Administration and engineering, 10%			\$ 160,600
Contingencies, 15%			241,000
Interest during construction			<u>60,200</u>
TOTAL			\$2,068,000
ANNUAL COSTS			
Interest, 3.5%			\$ 72,400
Amortization, 40-year sinking fund at 3.5%			24,500
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 101,900

ESTIMATED COST OF SANTA ROSA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 25,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 425 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 25,000 acre-feet
Elevation of crest of spillway: 412 feet	Capacity of spillway with 5-foot freeboard: 6,900 second-feet
Height of dam to spillway crest, above stream bed: 172 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	10,000
Stripping topsoil	50,000 cu.yd.	\$ 0.40	20,000
Excavation for embankment			
Foundation	75,900 cu.yd.	0.90	68,300
From borrow pits	429,900 cu.yd.	0.70	300,900
From stream bed	938,900 cu.yd.	0.55	516,400
Embankment			
Impervious	373,800 cu.yd.	0.16	59,800
Random	816,400 cu.yd.	0.12	98,000
Random, salvage	140,300 cu.yd.	0.20	28,100
Rock riprap	36,700 cu.yd.	3.50	128,400
Drilling grout holes	4,800 lin.ft.	3.00	14,400
Pressure grouting	3,200 cu.ft.	4.00	12,800
Gravel drains	10,900 cu.yd.	3.00	<u>32,700</u>
			\$1,304,800
Spillway			
Excavation, unclassified	111,200 cu.yd.	1.00	111,200
Concrete			
Weir and cutoff	210 cu.yd.	35.00	7,400
Floor	480 cu.yd.	30.00	14,400
Walls	160 cu.yd.	40.00	6,400
Reinforcing steel	68,000 lbs.	0.15	<u>10,200</u>
			149,600
Outlet Works			
Excavation			
Inlet and outlet structures	1,100 cu.yd.	1.00	1,100
Conduit	6,500 cu.yd.	2.00	13,000
Backfill	1,100 cu.yd.	1.50	1,600
Concrete			
Conduit	1,770 cu.yd.	50.00	88,500
Inlet structure	100 cu.yd.	60.00	6,000
Gate chamber and valve house	150 cu.yd.	50.00	7,500

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AM 02557

ESTIMATED COST OF SANTA ROSA DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 25,000 ACRE-FEET
 (continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	212,000 lbs.	\$ 0.15	\$ 31,800
Miscellaneous metalwork	19,100 lbs.	0.40	7,600
Steel pipe, 36-inch dia.	106,000 lbs.	0.25	26,500
High pressure slide gate	21,000 lbs.	0.50	10,500
Howell-Bunger valve 24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	<u>9,600</u>
			\$ 211,500
Reservoir			
Land and improvements		lump sum	235,000
Clearing reservoir lands	340 ac.	50.00	17,000
Relocation of utilities		lump sum	26,000
Road relocation		lump sum	<u>425,000</u>
			703,000
Subtotal			\$2,368,900
Administration and engineering, 10%			\$ 236,900
Contingencies, 15%			355,300
Interest during construction			<u>118,400</u>
TOTAL			\$3,079,500
ANNUAL COSTS			
Interest, 3.5%			\$ 107,800
Amortization, 40-year sinking fund at 3.5%			36,400
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 149,200

**ESTIMATED COST OF SANTA ROSA DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 35,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 450 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 35,000 acre-feet
Elevation of crest of spillway: 438 feet	Capacity of spillway with 6-foot freeboard: 3,800 second-feet
Height of dam to spillway crest, above stream bed: 198 feet	

Item	Quantity	Unit	Price	Cost
CAPITAL COSTS				
Dam				
Exploration		lump sum		\$ 15,000
Diversion of stream and dewatering of foundation		lump sum		15,000
Stripping topsoil	71,500 cu.yd.		\$ 0.40	28,600
Excavation for embankment				
Foundation	95,900 cu.yd.		0.90	86,300
From borrow pits	567,300 cu.yd.		0.75	425,500
From stream bed	1,673,300 cu.yd.		0.60	1,004,000
Embankment				
Impervious	493,300 cu.yd.		0.16	78,900
Random	1,455,100 cu.yd.		0.12	174,600
Random, salvage	71,900 cu.yd.		0.20	14,400
Rock riprap	48,900 cu.yd.		3.50	171,200
Drilling grout holes	5,800 lin.ft.		3.00	17,400
Pressure grouting	3,900 cu.ft.		4.00	15,600
Gravel drains	12,200 cu.yd.		3.00	36,600
				<u>\$2,083,100</u>
Spillway				
Excavation, unclassified	35,700 cu.yd.		0.90	32,100
Concrete				
Weir and cutoff	210 cu.yd.		35.00	7,400
Floor	300 cu.yd.		30.00	9,000
Walls	80 cu.yd.		40.00	3,200
Reinforcing steel	46,000 lbs.		0.15	6,900
				<u>58,600</u>
Outlet Works				
Excavation				
Inlet and outlet structures	1,200 cu.yd.		1.00	1,200
Conduit	9,170 cu.yd.		2.00	18,300
Backfill	2,610 cu.yd.		1.50	3,900
Concrete				
Conduit	2,375 cu.yd.		50.00	118,800
Inlet structure	150 cu.yd.		60.00	9,000
Gate chamber and valve house	280 cu.yd.		50.00	14,000

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AM 02559

ESTIMATED COST OF SANTA ROSA DAM AND RESERVOIR
 - WITH STORAGE CAPACITY OF 35,000 ACRE-FEET
 (continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	305,000 lbs.	\$ 0.15	\$ 45,800
Miscellaneous metalwork	27,000 lbs.	0.40	10,800
Steel pipe, 42-inch dia.	166,000 lbs.	0.25	41,500
High pressure slide gate	25,000 lbs.	0.50	12,500
Howell-Bunger valve, 30-inch dia.		lump sum	9,200
Needle valve, 30-inch dia.		lump sum	9,600
			\$ 294,600
Reservoir			
Land and improvements		lump sum	235,000
Clearing reservoir lands	430 ac.	50.00	21,500
Relocation of utilities		lump sum	27,000
Road relocation		lump sum	450,000
			733,500
Subtotal			\$3,169,800
Administration and engineering, 10%			\$ 317,000
Contingencies, 15%			475,500
Interest during construction			158,500
TOTAL			\$4,120,800
ANNUAL COSTS			
Interest, 3.5%			\$ 144,200
Amortization, 40-year sinking fund at 3.5%			48,700
Operation and maintenance			6,000
TOTAL			\$ 198,900

**ESTIMATED COST OF WHALE ROCK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET**

(Based on prices prevailing in 1954)

Elevation of crest of dam: 177 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 20,000 acre-feet
Elevation of crest of spillway: 164 feet	Capacity of spillway with 5-foot freeboard: 8,600 second-feet
Height of dam to spillway crest, above stream bed: 124 feet	

Item	Quantity	Unit	price	Cost
CAPITAL COSTS				
Dam				
Exploration		lump sum		\$ 10,000
Diversion of stream and dewatering of foundation		lump sum		5,000
Stripping topsoil	220,700 cu.yd.		\$ 0.40	8,300
Excavation for embankment				
Foundation	97,700 cu.yd.		0.80	78,200
From borrow pits	338,000 cu.yd.		0.40	135,200
From stream bed	113,000 cu.yd.		0.35	39,600
Embankment				
Impervious	293,400 cu.yd.		0.16	46,900
Random	98,800 cu.yd.		0.12	11,900
Random, salvage	215,000 cu.yd.		0.20	43,000
Rock riprap	15,500 cu.yd.		3.50	54,200
Drilling grout holes	3,440 lin.ft.		3.00	10,300
Pressure grouting	2,280 cu.ft.		4.00	9,100
Gravel drains	7,600 cu.yd.		3.00	22,800
				\$ 474,500
Spillway				
Excavation, unclassified	187,800 cu.yd.		1.00	187,800
Concrete				
Weir and cutoff	260 cu.yd.		35.00	9,100
Floor	690 cu.yd.		30.00	20,700
Walls	900 cu.yd.		40.00	36,000
Reinforcing steel	152,000 lbs.		0.15	22,800
				276,400
Outlet Works				
Excavation				
Inlet and outlet structures	500 cu.yd.		1.00	500
Conduit	4,000 cu.yd.		2.00	8,000
Backfill	2,000 cu.yd.		1.50	3,000
Concrete				
Conduit	1,055 cu.yd.		50.00	52,800
Intake structure	100 cu.yd.		60.00	6,000
Gate chamber and valve house	100 cu.yd.		50.00	5,000

ESTIMATED COST OF WHALE ROCK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	125,500 lbs.	\$ 0.15	\$ 18,800
Miscellaneous metalwork	8,800 lbs.	0.40	3,500
Steel pipe, 30-inch dia.	57,200 lbs.	0.25	14,300
High pressure slide gate	10,600 lbs.	0.50	5,300
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	9,600
			\$ 134,600
Reservoir			
Land and improvements		lump sum	250,000
Clearing reservoir lands	420 ac.	25.00	10,500
Relocation of utilities		lump sum	60,000
Road relocation		lump sum	318,000
			<u>638,500</u>
Subtotal			\$1,524,000
Administration and engineering, 10%			\$ 152,400
Contingencies, 15%			228,600
Interest during construction			<u>38,100</u>
TOTAL			\$1,943,100
ANNUAL COSTS			
Interest, 3.5%			\$ 68,000
Amortization, 40-year sinking fund at 3.5%			23,000
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 96,000

ESTIMATED COST OF WHALE ROCK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 40,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 215 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 40,000 acre-feet
Elevation of crest of spillway: 203 feet	Capacity of spillway with 5-foot freeboard: 7,100 second-feet
Height of dam to spillway crest, above stream bed: 163 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	5,000
Stripping topsoil	32,000 cu.yd.	\$ 0.40	12,800
Excavation for embankment			
Foundation	213,600 cu.yd.	\$ 0.80	170,900
From borrow pits	729,100 cu.yd.	0.51	371,800
From stream bed	419,400 cu.yd.	0.42	176,100
Embankment			
Impervious	630,400 cu.yd.	0.16	100,900
Random	364,700 cu.yd.	0.12	43,800
Random, salvage	277,000 cu.yd.	0.20	55,400
Rock riprap	24,800 cu.yd.	3.50	86,800
Drilling grout holes	4,320 lin.ft.	3.00	13,000
Pressure grouting	2,880 cu.ft.	4.00	11,500
Gravel drains	16,300 cu.yd.	3.00	48,900
			<u>\$1,111,900</u>
Spillway			
Excavation, unclassified	155,900 cu.yd.	1.00	155,900
Concrete			
Weir and cutoff	270 cu.yd.	35.00	9,400
Floor	750 cu.yd.	30.00	22,500
Walls	740 cu.yd.	40.00	29,600
Reinforcing steel	114,800 lbs.	0.15	21,600
			<u>239,000</u>
Outlet Works			
Excavation			
Inlet and outlet structures	500 cu.yd.	1.00	500
Conduit	5,000 cu.yd.	2.00	10,000
Backfill	1,500 cu.yd.	1.50	2,200
Concrete			
Conduit	1,300 cu.yd.	50.00	65,000
Inlet structure	150 cu.yd.	60.00	9,000
Gate chamber and valve house	280 cu.yd.	50.00	14,000

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ESTIMATED COST OF WHALE ROCK DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 40,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COST			
Outlet Works (continued)			
Reinforcing steel	173,000 lbs.	\$ 0.15	\$ 26,000
Miscellaneous metalwork	18,200 lbs.	0.40	7,300
Steel pipe, 42-inch dia.	63,000 lbs.	0.25	15,800
High pressure slide gate	26,500 lbs.	0.50	13,200
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Needle valve, 42-inch dia.		lump sum	<u>21,000</u>
			\$ 191,800
Reservoir			
Land and improvements		lump sum	270,000
Clearing reservoir lands	620 ac.	25.00	15,500
Relocation of utilities		lump sum	70,000
Road relocation		lump sum	<u>364,000</u>
			719,500
Subtotal			\$2,262,200
Administration and engineering, 10%			\$ 226,200
Contingencies, 15%			339,300
Interest during construction			<u>56,600</u>
TOTAL			\$2,884,300
ANNUAL COSTS			
Interest, 3.5%			\$ 101,000
Amortization, 40-year sinking fund at 3.5%			34,100
Operation and maintenance			<u>6,500</u>
TOTAL			\$ 141,600

ESTIMATED COST OF WITTENBERG DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 550 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 20,000 acre-feet
Elevation of crest of spillway: 535 feet	Capacity of spillway with 5-foot freeboard: 9,600 second-feet
Height of dam to spillway crest, above stream bed: 111 feet	

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Dam			
Exploration		lump sum	\$ 15,000
Diversion of stream and dewatering of foundation		lump sum	5,000
Stripping topsoil	22,100 cu.yd.	\$ 0.40	8,800
Excavation for embankment			
Foundation	82,400 cu.yd.	0.70	57,700
From borrow pits	341,200 cu.yd.	0.45	153,500
From stream bed	307,700 cu.yd.	0.40	123,100
Embankment			
Impervious	296,700 cu.yd.	0.16	47,500
Random	267,600 cu.yd.	0.12	32,100
Rock riprap	18,300 cu.yd.	3.50	64,000
Drilling grout holes	7,900 lin.ft.	3.00	23,700
Pressure grouting	5,300 cu.ft.	4.00	21,200
Gravel drains	10,800 cu.yd.	2.50	<u>27,000</u>
			\$ 578,600
Spillway			
Excavation, unclassified	104,700 cu.yd.	0.90	94,200
Concrete			
Weir and cutoff	160 cu.yd.	35.00	5,600
Floor	590 cu.yd.	30.00	17,700
Walls	650 cu.yd.	40.00	26,000
Reinforcing steel	115,800 lbs.	0.15	<u>17,400</u>
			160,900
Outlet Works			
Excavation			
Inlet and outlet structures	1,000 cu.yd.	1.00	1,000
Conduit	3,800 cu.yd.	2.00	7,600
Backfill	900 cu.yd.	1.50	1,400
Concrete			
Conduit	1,010 cu.yd.	50.00	50,500
Inlet structure	100 cu.yd.	60.00	6,000
Gate chamber and valve house	150 cu.yd.	50.00	7,500

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AM 02565

ESTIMATED COST OF WITTENBERG DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 20,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	126,000 lbs.	\$ 0.15	\$ 18,900
Miscellaneous metalwork	14,400 lbs.	0.40	5,800
Steel pipe, 36-inch dia.	41,600 lbs.	0.25	10,400
High pressure slide gate	18,000 lbs.	0.50	9,000
Howell-Bunger valve			
24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	<u>9,600</u>
			\$ 135,500
Reservoir			
Land and improvements		lump sum	100,000
Clearing reservoir lands	540 ac.	100.00	54,000
Relocation of utilities		lump sum	1,500
Road relocation		lump sum	<u>360,000</u>
			<u>515,500</u>
Subtotal			\$1,390,500
Administration and engineering, 10%			\$ 139,000
Contingencies, 15%			208,600
Interest during construction			<u>34,800</u>
TOTAL			\$1,772,900
ANNUAL COSTS			
Interest, 3.5%			\$ 62,000
Amortization, 40-year sinking fund at 3.5%			21,000
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 88,000

ESTIMATED COST OF WITTENBERG DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 36,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 575 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 36,000 acre-feet
Elevation of crest of spillway: 560 feet	Capacity of spillway with 5-foot freeboard: 8,800 second-feet
Height of dam to spillway crest, above stream bed: 136 feet	

Item	Quantity	Unit price	Cost	
CAPITAL COSTS				
Dam				
Exploration		lump sum	\$ 15,000	
Diversion of stream and dewatering of foundation		lump sum	5,000	
Stripping topsoil	30,000 cu.yd.	\$ 0.40	12,000	
Excavation for embankment				
Foundation	110,700 cu.yd.	0.70	77,500	
From borrow pits	555,000 cu.yd.	0.53	294,200	
From stream bed	660,000 cu.yd.	0.45	297,000	
Embankment				
Impervious	485,700 cu.yd.	0.16	77,700	
Random	576,300 cu.yd.	0.12	69,200	
Rock riprap	23,800 cu.yd.	3.50	83,300	
Drilling grout holes	10,200 lin.ft.	3.00	30,600	
Pressure grouting	6,800 cu.ft.	4.00	27,200	
Gravel drains	15,700 cu.yd.	2.50	<u>39,200</u>	\$1,027,900
Spillway				
Excavation, unclassified	74,800 cu.yd.	0.90	67,300	
Concrete				
Weir and cutoff	160 cu.yd.	35.00	5,600	
Floor	480 cu.yd.	30.00	14,400	
Walls	625 cu.yd.	40.00	25,000	
Reinforcing steel	104,000 lbs.	0.15	<u>15,600</u>	127,900
Outlet Works				
Excavation				
Inlet and outlet structures	1,000 cu.yd.	1.00	1,000	
Conduit	5,100 cu.yd.	2.00	10,200	
Backfill	1,500 cu.yd.	1.50	2,200	
Concrete				
Conduit	1,320 cu.yd.	50.00	66,000	
Inlet structure	150 cu.yd.	60.00	9,000	
Gate chamber and valve house	275 cu.yd.	50.00	13,800	

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AM 02567

ESTIMATED COST OF WITTENBERG DAM AND RESERVOIR
 WITH STORAGE CAPACITY OF 36,000 ACRE-FEET
 (continued)

Item	Quantity	Unit Price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	174,500 lbs.	\$ 0.15	\$ 26,200
Miscellaneous metalwork	19,400 lbs.	0.40	7,800
Steel pipe, 42-inch dia.	58,200 lbs.	0.25	14,600
High pressure slide gate	26,000 lbs.	0.50	13,000
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	9,600
			\$ 181,200
Reservoir			
Land and improvements		lump sum	134,000
Clearing reservoir lands	760 ac.	100.00	76,000
Relocation of utilities		lump sum	1,600
Road relocation		lump sum	390,000
			601,600
Subtotal			\$1,938,600
Administration and engineering, 10%			\$ 193,900
Contingencies, 15%			290,800
Interest during construction			48,500
			443,200
TOTAL			\$2,471,800
ANNUAL COSTS			
Interest, 3.5%			\$ 86,500
Amortization, 40-year sinking fund at 3.5%			29,200
Operation and maintenance			6,600
			122,300
TOTAL			\$ 122,300

ESTIMATED COST OF LOPEZ DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 25,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 505 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 25,000 acre-feet
Elevation of crest of spillway: 485 feet	Capacity of spillway with 5-foot freeboard: 17,700 second-feet
Height of dam to spillway crest, above stream bed: 110 feet	

Item	:	Quantity	:	Unit	:	price	:	Cost
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CAPITAL COSTS

Dam

Exploration				lump sum				\$ 20,000
Diversion of stream and dewatering of foundation				lump sum				7,500
Stripping topsoil	31,200	cu.yd.		\$ 0.40				12,500
Excavation for embankment								
Foundation	247,800	cu.yd.		0.70				173,500
From borrow pits	687,600	cu.yd.		0.53				364,400
From stream bed	337,900	cu.yd.		0.45				152,100
Embankment								
Impervious	597,900	cu.yd.		0.16				95,700
Random	293,800	cu.yd.		0.12				35,300
Random, salvage	236,300	cu.yd.		0.20				47,300
Rock riprap	26,100	cu.yd.		3.00				78,300
Drilling grout holes	10,400	lin.ft.		3.00				31,200
Pressure grouting	6,920	cu.ft.		4.00				27,700
Gravel drains	15,700	cu.yd.		2.50				<u>39,200</u>
								\$1,084,700

Spillway

Excavation, unclassified	67,400	cu.yd.		0.90			60,700
Concrete							
Weir and cutoff	160	cu.yd.		35.00			5,600
Floor	850	cu.yd.		30.00			25,500
Walls	520	cu.yd.		40.00			20,800
Reinforcing steel	127,000	lbs.		0.15			<u>19,000</u>
							131,600

Outlet Works

Excavation							
Inlet and outlet structures	500	cu.yd.		1.00			500
Conduit	3,640	cu.yd.		2.00			7,300
Backfill	780	cu.yd.		1.50			1,200
Concrete							
Conduit	970	cu.yd.		50.00			48,500
Intake structure	100	cu.yd.		60.00			6,000
Gate chamber and valve house	150	cu.yd.		50.00			7,500

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AM 02569

ESTIMATED COST OF LOPEZ DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 25,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Outlet Works (continued)			
Reinforcing steel	122,000 lbs.	\$ 0.15	\$ 18,300
Miscellaneous metalwork	13,900 lbs.	0.40	5,600
Steel pipe, 36-inch dia.	57,700 lbs.	0.25	14,400
High pressure slide gate	16,000 lbs.	0.50	8,000
Howell-Bunger valve, 24-inch dia.		lump sum	7,800
Needle valve, 30-inch dia.		lump sum	<u>9,600</u>
			\$ 134,700
Reservoir			
Land and improvements		lump sum	180,000
Clearing reservoir lands	570 ac.	150.00	88,500
Relocation of utilities		lump sum	25,000
Road relocation		lump sum	<u>763,000</u>
			<u>1,056,500</u>
Subtotal			\$2,407,500
Administration and engineering, 10%			\$ 240,800
Contingencies, 15%			361,100
Interest during construction			<u>60,200</u>
TOTAL			\$3,069,600
ANNUAL COSTS			
Interest, 3.5%			\$ 107,400
Amortization, 40-year sinking fund at 3.5%			36,300
Operation and maintenance			<u>5,000</u>
TOTAL			\$ 148,700

ESTIMATED COST OF LOPEZ DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 50,000 ACRE-FEET

(Based on prices prevailing in 1954)

Elevation of crest of dam: 534 feet, U.S.G.S. datum	Capacity of reservoir to crest of spillway: 50,000 acre-feet
Elevation of crest of spillway: 518 feet	Capacity of spillway with 5-foot freeboard: 13,800 second-feet
Height of dam to spillway crest, above stream bed: 143 feet	

Item	Quantity	Unit	price	Cost
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CAPITAL COSTS

Dam

Exploration		lump sum		\$ 15,000
Diversion of stream and dewatering of foundation		lump sum		10,000
Stripping topsoil	45,600 cu.yd.	\$ 0.40		18,200
Excavation for embankment				
Foundation	314,800 cu.yd.	0.70		220,400
From borrow pits	1,002,500 cu.yd.	0.60		601,500
From stream bed	632,000 cu.yd.	0.51		322,300
Embankment				
Impervious	871,800 cu.yd.	0.16		139,500
Random	549,600 cu.yd.	0.12		66,000
Random, salvage	349,000 cu.yd.	0.20		69,800
Rock riprap	37,100 cu.yd.	3.00		111,300
Drilling grout holes	11,800 lin.ft.	3.00		35,400
Pressure grouting	7,900 cu.ft.	4.00		31,600
Gravel drains	20,900 cu.yd.	2.50		<u>52,200</u> \$1,693,200

Spillway

Excavation, unclassified	151,800 cu.yd.	0.70		106,300
Concrete				
Weir and cutoff	200 cu.yd.	35.00		7,000
Floor	1,030 cu.yd.	30.00		30,900
Walls	520 cu.yd.	40.00		20,800
Reinforcing steel	145,600 lbs.	0.15		<u>21,800</u> 186,800

Outlet Works

Excavation				
Inlet and outlet structures	500 cu.yd.	1.00		500
Conduit	5,600 cu.yd.	2.00		11,200
Backfill	2,100 cu.yd.	1.50		3,200
Concrete				
Conduit	1,380 cu.yd.	50.00		69,000
Intake structure	200 cu.yd.	60.00		12,000
Gate chamber and valve house	320 cu.yd.	50.00		16,000

ESTIMATED COST OF LOPEZ DAM AND RESERVOIR
WITH STORAGE CAPACITY OF 50,000 ACRE-FEET
(continued)

Item	Quantity	Unit price	Unit	Cost
CAPITAL COSTS				
Outlet Works (continued)				
Reinforcing steel	239,600 lbs.	\$ 0.15		\$ 35,900
Miscellaneous metalwork	23,800 lbs.	0.40		9,500
Steel pipe, 48-inch dia.	94,500 lbs.	0.25		23,600
High pressure slide gate	43,000 lbs.	0.50		21,500
Howell-Bunger valve, 30-inch dia.			lump sum	9,200
Needle valve, 30-inch dia.			lump sum	<u>9,600</u>
				\$ 221,200
Reservoir				
Land and improvements			lump sum	188,000
Clearing reservoir lands	940 ac.	150.00		141,000
Relocation of utilities			lump sum	35,000
Road relocation			lump sum	<u>851,000</u>
				<u>1,215,000</u>
Subtotal				\$3,316,200
Administration and engineering, 10%				\$ 331,600
Contingencies, 15%				497,400
Interest during construction				<u>82,900</u>
TOTAL				\$4,228,100
ANNUAL COSTS				
Interest, 3.5%				\$ 148,000
Amortization, 40-year sinking fund at 3.5%				50,000
Operation and maintenance				<u>7,500</u>
TOTAL				\$ 205,500

ESTIMATED COST OF WHALE ROCK CONDUIT
 WHALE ROCK DAM TO MORRO BAY

Capacity of conduit: 16 second-feet Length of conduit: 37,000 lineal feet
 Annual yield: 8,900 acre-feet

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Excavation	40,200 cu.yd.	\$ 1.50	\$ 60,300
Backfill	36,500 cu.yd.	0.75	27,400
Pipe, reinforced concrete, furnish and install 27-inch diameter	37,000 lin.ft.	10.20	377,400
Valves, furnish and install			
Air-release, 4-inch dia.	4 each	365.00	1,500
Blowoff, 6-inch dia.	4 each	1,450.00	5,800
Gate, 24-inch dia.	2 each	2,200.00	4,400
Meter and equipment	1 each	7,500.00	7,500
Fittings		lump sum	18,900
Road resurfacing	2,000 tons	5.00	10,000
River crossings	440 lin.ft.	20.00	8,800
Pumping plant and equipment	1 each	21,600.00	21,600
Right of way		lump sum	<u>2,000</u>
Subtotal			\$545,600
Administration and engineering, 10%			\$ 54,600
Contingencies, 15%			81,800
Interest during construction			<u>13,600</u>
TOTAL			\$695,600
ANNUAL COSTS			
Interest, 3.5%			\$ 24,300
Amortization, 40-year sinking fund at 3.5%			8,200
Replacement			300
Electrical energy			12,300
Operation and maintenance			<u>3,500</u>
TOTAL			\$ 48,600

ESTIMATED COST OF WHALE ROCK CONDUIT
MORRO BAY TO SAN LUIS OBISPO

Capacity of conduit: 11.5 second-feet Length of conduit: 57,000 lineal feet
Annual yield: 6,000 acre-feet

Item	Quantity	Unit price	Cost
CAPITAL COSTS			
Excavation	56,700 cu.yd.	\$ 1.50	\$ 85,000
Backfill	51,000 cu.yd.	0.75	38,200
Pipe, reinforced concrete, furnish and install 24-inch diameter	57,000 lin.ft.	9.10	518,700
Valves, furnish and install			
Air-release, 2-inch dia.	8 each	200.00	1,600
Blowoff, 4-inch dia.	8 each	1,200.00	9,600
Gate, 18-inch dia.	2 each	1,500.00	3,000
Meter and equipment	1 each	7,500.00	7,500
Fittings		lump sum	25,900
River crossings	320 lin.ft.	19.00	6,100
Pumping plants and equipment	2 each	25,500.00	51,000
Regulating reservoir		lump sum	25,000
Right of way		lump sum	<u>4,000</u>
Subtotal			\$775,600
Administration and engineering, 10%			\$ 77,600
Contingencies, 15%			116,300
Interest during construction			<u>19,400</u>
TOTAL			\$988,900
ANNUAL COSTS			
Interest, 3.5%			\$ 34,600
Amortization, 40-year sinking fund at 3.5%			11,700
Replacement			600
Electrical energy			34,000
Operation and maintenance			<u>4,900</u>
TOTAL			\$ 85,800

ESTIMATED COST OF WHALE ROCK CONDUIT
MORRO BAY TO LOS OSOS

Capacity of conduit: 5 second-feet Length of conduit: 26,400 lineal feet
Annual yield: 2,900 acre-feet

Item	Quantity	Unit	price	Cost
CAPITAL COSTS				
Excavation	20,600 cu.yd.	\$	1.20	\$ 24,700
Backfill	18,100 cu.yd.		0.60	10,900
Pipe, reinforced concrete, furnish and install 18-inch diameter	26,400 lin.ft.		6.80	179,500
Valves, furnish and install				
Air-release, 2-inch dia.	4 each		200.00	800
Blowoff, 4-inch dia.	5 each		1,200.00	6,000
Gate, 18-inch dia.	2 each		1,500.00	3,000
Meter and equipment	1 each		4,000.00	4,000
Fittings			lump sum	9,000
Road resurfacing	1,000 tons		4.00	4,000
River crossings	600 lin.ft.		15.00	9,000
Pumping plant and equipment	1 each		5,700.00	5,700
Regulating reservoir			lump sum	10,000
Right of way			lump sum	<u>5,000</u>
Subtotal				\$271,600
Administration and engineering, 10%				\$ 27,200
Contingencies, 15%				40,700
Interest during construction				<u>6,800</u>
TOTAL				\$346,300

ANNUAL COSTS

Interest, 3.5%	\$ 12,100
Amortization, 40-year sinking fund at 3.5%	4,100
Replacement	100
Electrical energy	2,100
Operation and maintenance	<u>1,700</u>
TOTAL	\$ 20,100

APPENDIX M

ALTERNATIVE PLAN OF DEVELOPMENT FOR
NACIMIENTO AND SAN ANTONIO RIVERS
PROPOSED BY SAN LUIS OBISPO COUNTY

AM 02576

Nacimiento-Shandon Conduit described earlier in this bulletin. As described by Mr. Lee, the operation of the foregoing plan would consist of diversion of flood waters from Nacimiento Reservoir at rates up to 5,000 second-feet, only at times when water would be spilling from that reservoir or being released for flood control purposes, and storage in San Antonio River of these diverted flows as well as the flows of San Antonio River at times when the flow of the latter river is less than the flow of Salinas River at Spreckels.

Mr. Lee prepared estimates of the safe yield of the proposed plan from mass curves of seasonal runoff of the San Antonio and Nacimiento Rivers for the period 1894-95 to 1955-56 based upon two different assumptions with regard to the existing Nacimiento Reservoir; (1) diversion of floodwaters of Nacimiento Reservoir during periods when the 350,000 acre-foot reservoir is full and spilling; and (2) diversion of floodwaters of Nacimiento River during periods when the reservoir is filled to 200,000 acre-feet of storage and spilling in order to maintain a flood control storage reservation of 150,000 acre-feet. Mr. Lee estimated the safe yield for assumption (1) to be 53,000 acre-feet per season and for assumption (2) 63,000 acre-feet per season.

Mr. Lee estimates the capital cost of the proposed works to be \$9,665,900. A detailed breakdown of this cost estimate was not made available to this Department.

Applications to the State Division of Water Resources (succeeded by the State Water Rights Board) for appropriation of unappropriated water were filed on the San Antonio River by the Monterey County Flood Control and Water Conservation District and the San Luis Obispo County Flood Control and Water Conservation District. On December 2, 1955, Monterey County Flood Control and Water Conservation District filed Application No. 16761 for "irrigation and related domestic, municipal, industrial, and recreational uses with

incidental flood control" for a water conservation development at Pleyto "B" site. On December 9, 1955, the San Luis Obispo County Flood Control and Water Conservation District filed Application No. 16778 for "irrigation and related domestic, municipal, industrial, and recreational uses with incidental flood control" and conservation of the waters of the San Antonio River, and on the same date filed Application No. 16779 for diversion of flood waters from Nacimiento River to San Antonio Reservoir. No permits have been issued by the State Water Rights Board in connection with any of these filings.

During the course of the investigation of San Luis Obispo County, no consideration was given to water supply developments on the San Antonio River because, with the exception of three small tributaries, that stream is located outside the boundaries of the county. However, in the state-wide water resources investigation leading to the preparation of The California Water Plan, reported upon in Bulletin No. 3 of the Department of Water Resources, consideration was given to plans for conservation of the waters of the San Antonio River. Bulletin No. 3 describes two storage developments on the San Antonio River and estimates of cost thereof are set forth in the following tabulation:

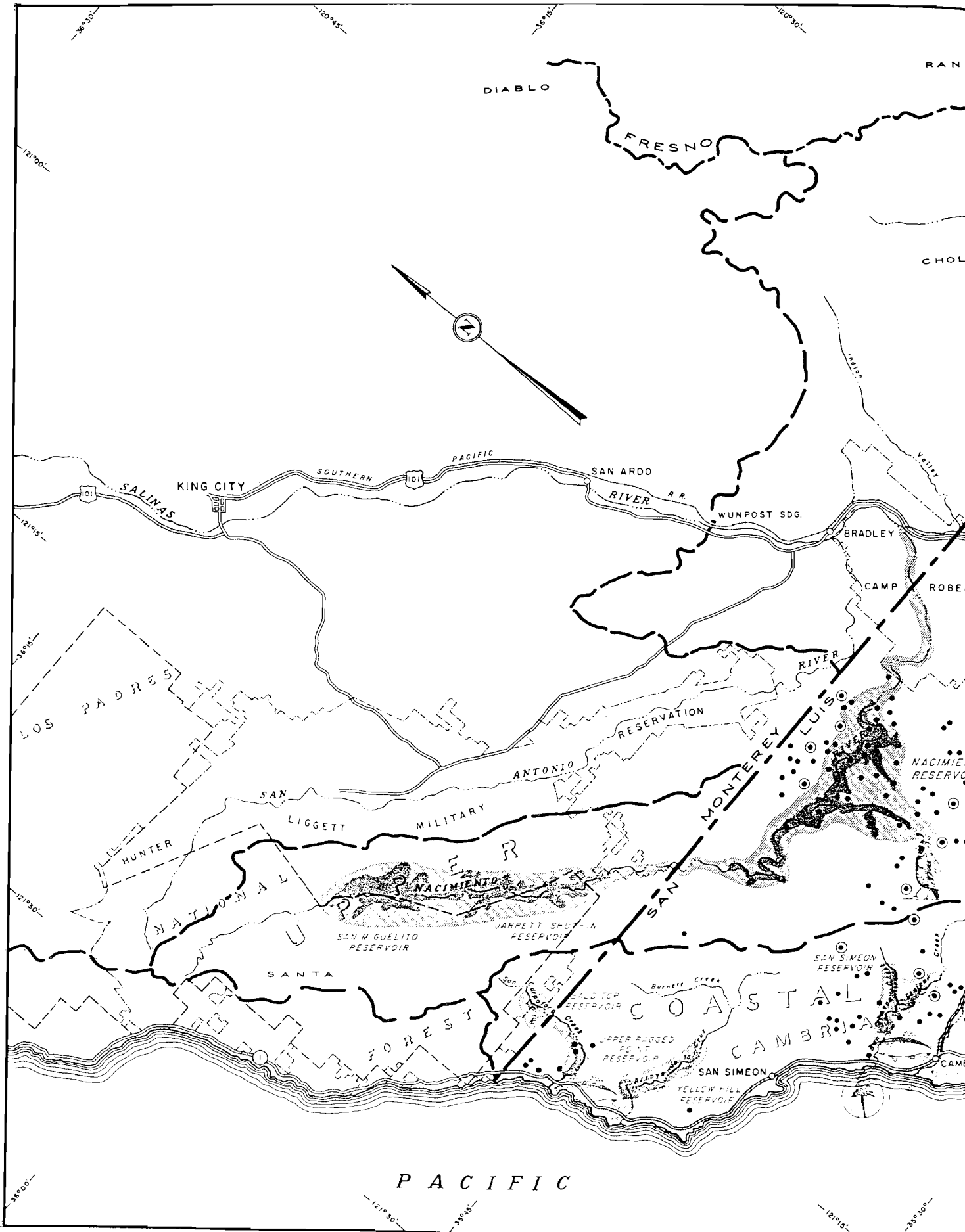
<u>Dam and reservoir</u>	<u>Storage capacity, in acre-feet</u>		<u>Net safe seasonal yield, in acre- feet</u>	<u>Capital cost at 1955 price levels</u>
	<u>Gross</u>	<u>Net</u>		
Milpitas "B"	175,000	174,000	18,500	\$8,139,000
Pleyto "B"	200,000	197,000	21,000	4,667,000

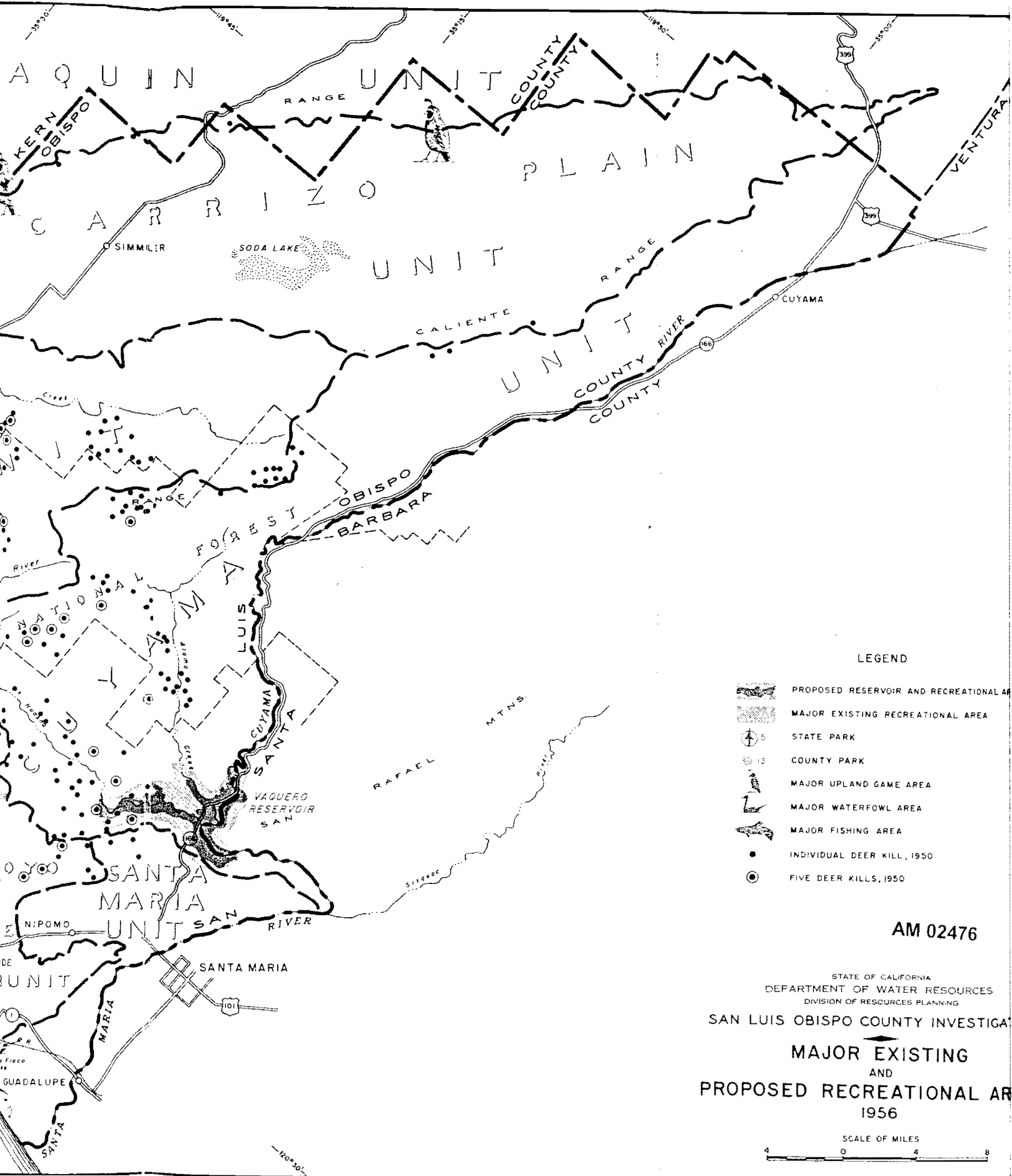
The Milpitas "B" site is located on the San Antonio River at a point about 40 miles upstream from its confluence with the Salinas River and could provide supplemental water for the lands in Lockwood Valley which

extend along the San Antonio River downstream to the Pleyto "B" Site. The Pleyto "B" dam site is located about one mile upstream from the site selected by Mr. Lee, designated Pleyto "A" Site. As indicated in Bulletin No. 3, water conserved by these developments could be made available to Lockwood and Hames Valley and to other portions of the Salinas River Valley area.

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AM 02579





AM 02476

STATE OF CALIFORNIA
 DEPARTMENT OF WATER RESOURCES
 DIVISION OF RESOURCES PLANNING
 SAN LUIS OBISPO COUNTY INVESTIGATION
**MAJOR EXISTING
 AND
 PROPOSED RECREATIONAL AREAS
 1956**

